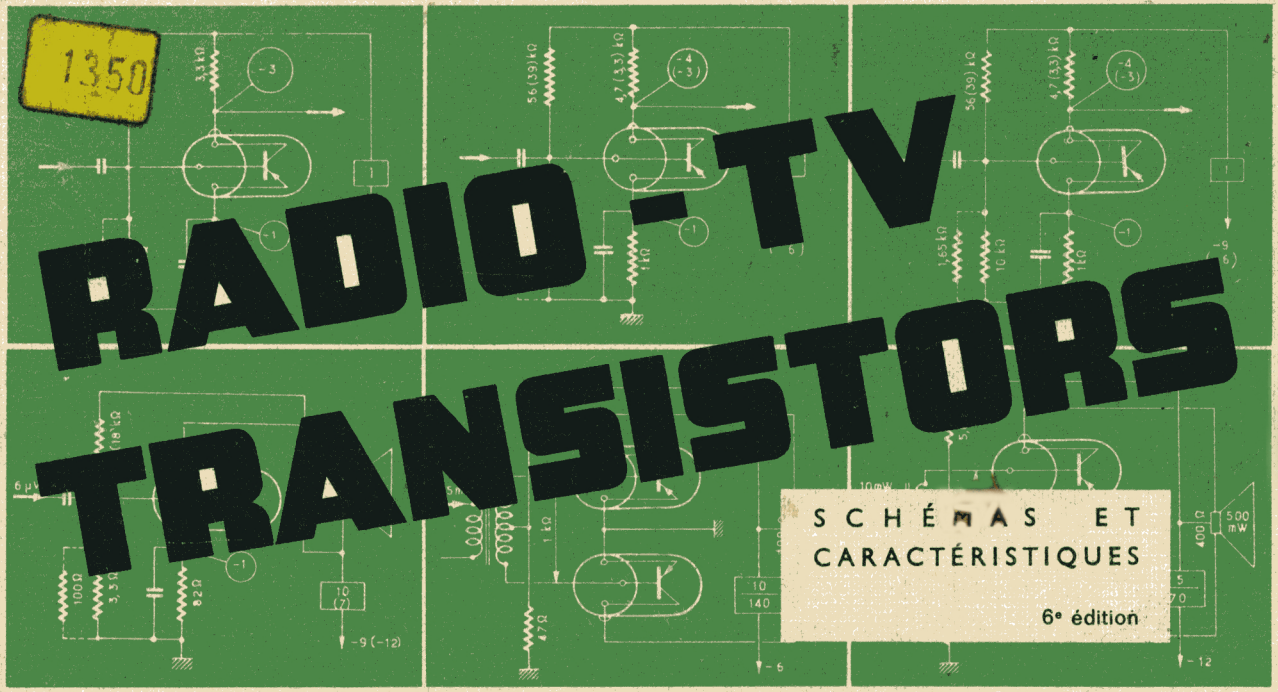
H. SCHREIBER



RADIO-TV TRANSISTORS

SCHÉMAS ET CARACTÉRISTIQUES

6e édition

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Caracteristicas esenciales y esquemas de utilizacion

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Technique et Applications des Transistors

Réparation des récepteurs à transistors

Les montages à transistors au laboratoire et dans l'industrie

Editeur n° 529 - Imprimé en France par LES PROCEDES DOREL - Paris - N° 54.547.

Préface

RADIO-TRANSISTORS ne supplante pas les recueils de caractéristiques tels que le GUIDE MONDIAL DES TRANSISTORS (principales caractéristiques limites et de fonctionnement de tous les transistors) ou la collection des CARACTÉRISTIQUES UNIVERSELLES DES TRANSISTORS (courbes et données détaillées sur les transistors les plus courants). Mais, étant de conception tout à fait différente, il les complète harmonieusement.

RADIO-TRANSISTORS est une collection de schémas d'utilisation de tous les transistors employés actuellement en radio. Ces schémas sont classés par ordre alphanumérique de l'appellation du transistor; *les lettres ont priorité sur les chiffres*. Ils indiquent, avec les valeurs des éléments essentiels d'utilisation, certaines caractéristiques importantes, tels que les gains en courant et en puissance, facteur de bruit, fréquence de travail, etc. Un coup d'œil rapide sur un petit schéma permet de connaître immédiatement toutes les données pratiques d'utilisation.

Dans *RADIO-TRANSISTORS*, seuls des signes conventionnels et bien connus ont été utilisés. Tout le monde doit donc pouvoir comprendre les renseignements contenus dans cet ouvrage, et cela sans avoir lu la présente introduction... ou après l'avoir oubliée. Malgré cela, et pour la tranquillité de sa conscience, l'auteur préfère rappeler le principe des notations utilisées.

■ Le branchement des transistors est présenté vu par en dessous.

■ Pour faciliter la lecture des schémas, des flèches indiquent l'entrée et la sortie des signaux à amplifier.

■ L'appellation du transistor est indiquée au coin supérieur gauche de chaque schéma. Elle peut être suivie d'une autre appellation; cela signifie que les deux transistors mentionnés ont des caractéristiques suffisamment voisines pour que le même schéma d'utilisation soit valable. Si la deuxième appellation est mise entre parenthèses, les valeurs correspondantes du schéma apparaissent également entre parenthèses. De la même façon, la parenthèse peut encore être utilisée pour caractériser différentes conditions de fonctionnement dans un même montage (valeur des éléments pour différentes tensions d'alimentation, etc.). En dessous de l'appellation du transistor, se trouve l'indication de la *fonction* suivant les symboles classiques :

Osc : Oscillateur.
HF : Haute fréquence.
Conv : Conversion de fréquence.
MF : Moyenne fréquence.
BF : Basse fréquence.
P : Amplification de puissance (étage de sortie).
VHF : Transistor utilisable aux très hautes fréquences.

■ En haut de chaque schéma. sont indiqués les caractéristiques essentielles du transistor et du montage :

β	:	Gain de courant (en basse fréquence, sauf indication spéciale).
F_b	:	Facteur de bruit.
GP	:	Gain en puissance du montage.
GC	:	Gain de conversion.
f_t	:	Fréquence de transition (à laquelle $\beta = 1$).
		Dans le cas des transistors à effet de champ (F.E.T.), on trouve les notations :
I_{DSS}	:	Courant de drain à tension de gate nulle.
s	:	Pente, transconductance, ou conductance mutuelle.
V_{GSO}	:	Tension de blocage ou de cut-off du gate.
ρ	:	Résistance interne de sortie.

■ La *fréquence de travail* est indiquée dans le cas des montages amplificateurs HF ou MF. ainsi que dans certains *quadripôles* dont les éléments dépendent de la fréquence. Ces dessins de quadripôles contiennent également la mention de la tension de collecteur (V_c) et du courant de collecteur (I_c) correspondant aux valeurs indiquées.

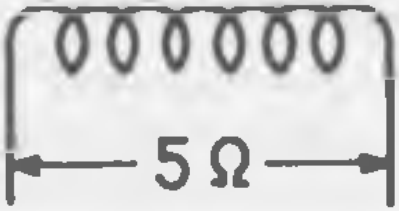
■ Plusieurs schémas peuvent être consacrés à un même transistor lorsque celui-ci peut avoir plusieurs fonctions ou travailler sous différentes conditions d'utilisation.

■ Les chiffres enfermés dans des cercles indiquent, *en volts*, les *tensions continues* qui existent entre le point d'attache du cercle et la masse. La polarité est exprimée par les signes + ou —.

■ Les intensités continues sont indiquées dan des carrés intercalés dans les circuits comm des appareils de mesure; elles sont toujou exprimées en *milliampères*. Dans le cas d amplificateurs classe AB, les intensités min male et maximale sont indiquées l'une e dessous de l'autre, dans le même carré.

■ Les chiffres enfermés dans des *triangles* ind quent des *tensions alternatives*.

■ Le dessin du *haut-parleur* contient des ch fres exprimant l'*impédance de charge* et *puissance* maximale de *sortie*. Cette dernié n'est pas la valeur théorique extrême, m celle qu'on peut obtenir avec un transform teur de sortie de faibles pertes.



■ La valeur ohmique apparaissant entre les b nes de sortie ou d'entrée d'un transformate indique l'*impédance d'adaptation* de l'enr lement correspondant.

■ Les éléments dessinés en *pointillé* indiqu les résistances ou capacités *internes* que p sède le montage entre les points corresp dants.

Preface

RADIO-TRANSISTORS does not replace the handbooks such as the GUIDE MONDIAL DES TRANSISTORS (principal characteristics and applications of all transistors) or the manual CARACTÉRISTIQUES UNIVERSELLES DES TRANSISTORS (graphs and complete data on the main types). But being of a conception totally different, *RADIO-TRANSISTORS* completes them harmoniously.

RADIO-TRANSISTORS is a collection of schematic diagrams of all the transistors used at present in radio. These diagrams are classified by the alphabetical and numerical designation of the transistors *letters having priority over the numbers*. They indicate, along with the values of the components used, certain important characteristics, such as gain in current and power, noise factor, working frequency, etc. A glance at the diagram gives all the practical details.

In *RADIO-TRANSISTORS* only usual and well-known symbols are used. Everyone should therefor be able to grasp the information contained in this handbook even without having read the present introduction or after having forgotten it. Nevertheless to sooth his conscience, the author prefers enumerating the following notations.

■ The connections of the transistors are as seen from below.

■ To facilitate the comprehension of the diagrams, the arrows indicate the input and output of the signals being amplified.

■ The designation of the transistor is indicated in the upper left-hand corner of each diagram. It may be followed by another; this means that both transistors mentioned are sufficiently similar so that the same diagram can be used. If the second designation is between parenthesis, the corresponding values of the diagram are similarly indicated between parentheses. In a like manner, the parenthesis can be used to indicate different conditions of operation in the same layout (values for different voltages applied, etc.). Below the designation of the transistor, will be found the classic indication of the *function* :

OSC : Oscillator.
HF : High-frequency.
Conv : Frequency converter.
MF : Intermediate frequency.
BF : Audio frequency.
P : Power amplification (output stage).
VHF : Very high frequency application.

- At the top of each diagram, the main indications of the transistor and its allied components are indicated.

β	:	Current gain (at audio frequencies except special indication).
F_b	:	Noise factor.
GP	:	Power gain of the set-up.
GC	:	Conversion gain.
f_t	:	Transition frequency (at which $\beta = 1$).
		In the case of field effect transistors (F.E.T.), the following indications are given :
I_{DSS}	:	Drain current at null gate voltage.
s	:	Slope, transconductance, or mutual conductance.
V_{GSO}	:	Gate blockage or cut-off voltage.
ρ	:	Internal output resistance.

- The *working frequency* is indicated in the case of high or intermediate frequency amplifiers as well as in certain *four-pole units* of which the elements are dependent on the frequency. These drawings of the four-pole units also contain the mention of the collector voltage (V_c) and collector current (I_c) corresponding to the values indicated.

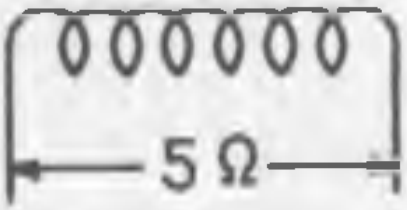
- Several diagram may be devoted to the same transistor when it has several functions or can work under different conditions of utilisation.

- The figures in the circles indicate *in volts. the D.C. voltages*, that exist between the point where the circle is attached and the bus. Polarity is expressed by the signs + or —.

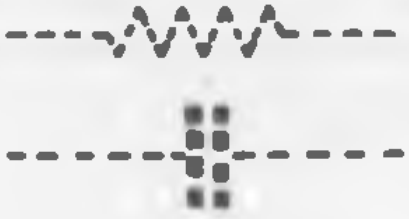
■ The *D.C. currents* are indicated in the squares that are intercalated in the circuits as so many measuring instruments; they are always expressed in *milliamps*. In the case of class AB amplifiers, the minimum and maximum currents are indicated one below the other in the same box.

■ The figures enclosed in the *triangles* indicate *A.C. voltages*.

■ The drawing of the loud-speaker contains the figures expressing the *impedance load* and maximum *power output*, the latter not being the extreme theoretical value but the one that can be obtained with a low-loss output transformer.



■ The ohms value that appears at the input or output lugs of a transformer indicate the *adaptation impedance* of the corresponding winding.



■ The elements drawn in *dotted lines* indicate the internal resistances or capacities that exist between the corresponding points.

Vorwort

RADIO-TRANSISTORS ergänzt harmonisch zwei bereits gut bekannte Sammlungen von Transistor-Kenndaten : GUIDE MONDIAL DES TRANSISTORS (wichtigste Grenz- und Betriebswerte aller Transistoren) und CARACTÉRISTIQUES UNIVERSELLES DES TRANSISTORS (Kennlinien und Parameter der gebräuchlichsten Transistoren).

RADIO-TRANSISTORS ist eine Schaltungssammlung mit Anwendungsbeispielen aller zur Zeit in der Rundfunk- und Niederfrequenztechnik verwendeten Transistoren. Die Schaltungen sind alphanummerisch nach den Bezeichnungen der Transistoren eingeordnet: die *Buchstaben sind den Ziffern vorangesetzt*. Neben den Werten der hauptsächlichsten Schaltelemente enthalten diese Zeichnungen Angaben über einige wichtige Daten, wie Strom- und Leistungsverstärkung, Rauschfaktor, Betriebsfrequenz, usw. Ein kurzer Blick auf die kleine Schaltung genügt, um sofort alle praktischen Angaben über die Verwendung des Transistors zur Verfügung zu haben.

RADIO-TRANSISTORS enthält nur allgemein bekannte und gebräuchliche Zeichen und Symbole. Somit kann jeder ohne weiteres die in dieser Broschüre enthaltenen Angaben verstehen, und das selbst, wenn er diese Einführung nicht gelesen... oder bereits wieder vergessen hat.

Trotzdem möchte der Verfasser, auch in Hinsicht auf sein ruhiges Gewissen, das Prinzip der verwendeten Bezeichnungen kurz erläutern.

■ Die *Anschlüsse* der Transistoren sind von der *unteren* (Anschluss-) Seite aus gesehen.

■ Das Lesen der Schaltungen wird durch *Pfeile* vereinfacht, die Ein- und Ausgang der zu verstarkenden Signale angeben.

■ Die Typenbezeichnung des Transistors ist in der linken oberen Ecke jeder Schaltung angegeben. Eine zweite Bezeichnung kann darauf folgen; es handelt sich dann um zwei Transistoren deren Kennwerte so ähnlich sind, dass ein gleiches Anwendungsbeispiel für beide gültig ist. Wenn die zweite Bezeichnung in Klammern steht, dann erscheinen die entsprechenden Angaben im Schaltbild ebenfalls in Klammern. Ähnlich werden die Klammern auch verwendet, um in einer Schaltung mehrere Betriebsbedingungen anzugeben (Dimensionierung für verschiedene Speisespannungen, usw.). Unter der Typenbezeichnung wird die *Funktion* wie folgt angegeben:

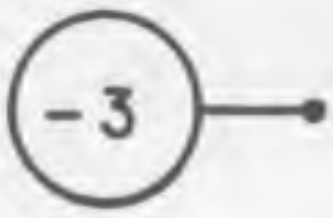
Osc : Oszillator.
HF : Hochfrequenzverstärker.
Conv : Mischstufe.
MF : Zwischenfrequenzverstärker.
BF : Niederfrequenzverstärker.
P : Leistungs- (End-) Stufe.
VHF : Bei sehr hohen Frequenzen verwendbarer Transistor.

■ Boven elk schema zijn de belangrijkste gegevens van de transistor en van de schakeling aangeduid :

β	:	**Stroomversterking (op lage frekwenties, behoudens speciale aanduiding).**
F_b	:	**Ruisfaktor.**
GP	:	**Energieversterking van de schakeling.**
GC	:	**Conversieversterking.**
f_t	:	**Overgangsfrequentie (waarbij $\beta = 1$).**
		In het geval van transistors met veld effect (F.E.T.) treft men de volgende noteringen aan :
I_{DSS}	:	**Draineerstroom zonder gate spanning.**
s	:	**Helling, transconductantie, of onderling geleidingsvermogen.**
V_{GSO}	:	**Blokkeringsspanning of gate afsluitingsspanning.**
ρ	:	**Inwendige uitgangsweerstand.**

■ De *werkfrekwentie* is aangeduid in geval van HF of MF versterkerschakelingen, zoals ook in zekere *vierpolen* waarvan de elementen van de frekwentie afhangen. Deze tekeningen van vierpolen bevatten eveneens de vermelding van de kollektorspanning (V_c) en van de kollektorstroom (I_c) overeenkomstig de aangegeven waarden.

■ Verschillende schemas kunnen gebruikt worden voor een zelfde transistor, wanneer deze verschillende funkties kan hebben of onder verschillende voorwaarden kan werken.

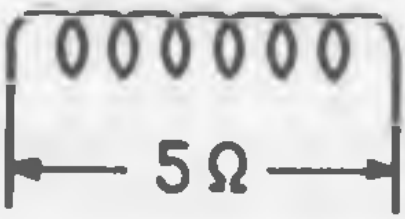


■ Door de cijfers in cirkels worden aangeduid, *in volts*, de *gelijkspanningen* tussen het aansluitpunt van de cirkel en de massa. De polariteit is aangeduid door de tekens + of —.

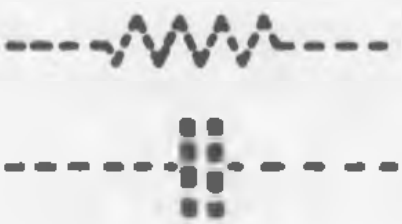
■ De gelijkstroomwaarden zijn aangeduid in vierkanten welke als meetinstrumenten in de stroomkring ingelast zijn; zij zijn steeds uitgedrukt in *milliampères*. In het geval van klasse AB versterkers, worden de minimale en maximale waarden onder elkander in hetzelfde vierkant aangeduid.

■ De cijfers in de *driehoeken* geven de *wisselspanningen*.

■ De tekening van de *luidspreker* bevat cijfers welke de *belastingsimpedantie* en het maximale *uitgangsvermogen* weergeven. Dit laatste is niet de theoretisch uiterste waarde, maar die welke men met een uitgangstransformator met zwakke verliezen kan verkrijgen.



■ De tussen de uitgangs- of ingangsaansluitingen van een transformator genoemde ohmse waarde geeft de *aanpassingsimpedantie* van de betreffende wikkeling.

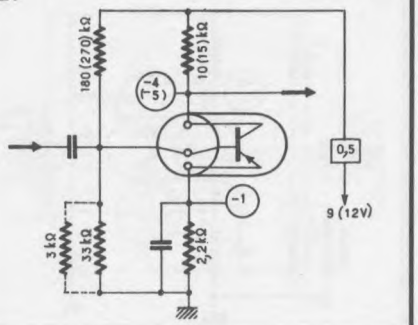


■ Door de met een stippellijn getekende elementen worden de *inwendige* weerstande of kapaciteiten van de schakeling tussen d betreffende punten aangegeven.

AC107

BF

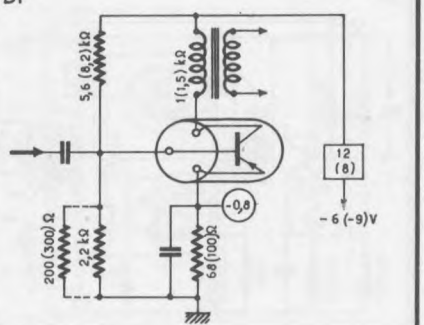
β = 40
F_b = 1,8 dB



AC116

BF

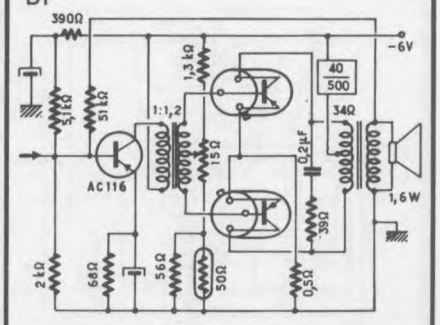
β = 85
GP = 30 dB



AC117

BF

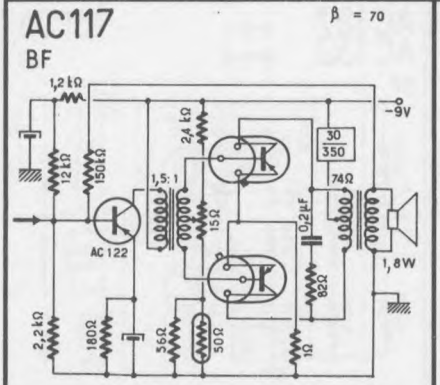
β = 70



AC117

BF

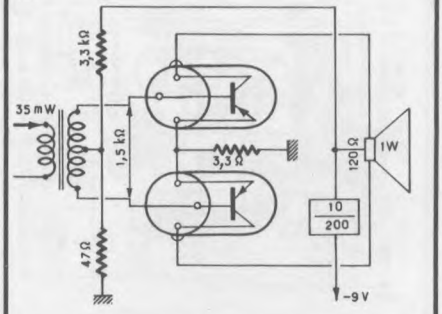
β = 70



AC121

BF

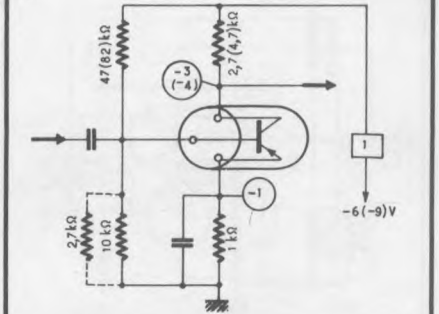
β = 30 ... 250
GP = 15 ... 20 dB



AC122

BF

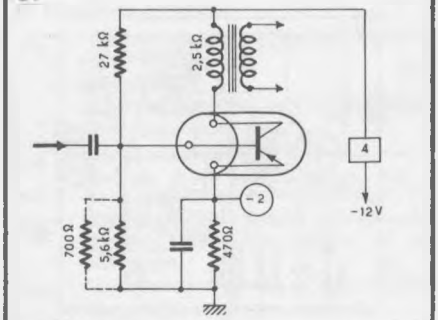
β = 85
F_b = 5,5 dB



AC123

BF

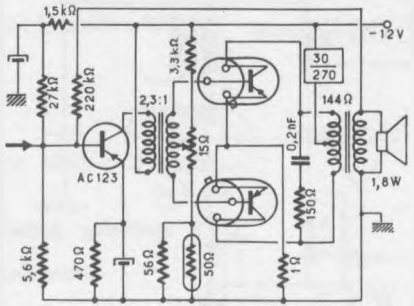
β = 85
GP = 32 dB



AC124

BF

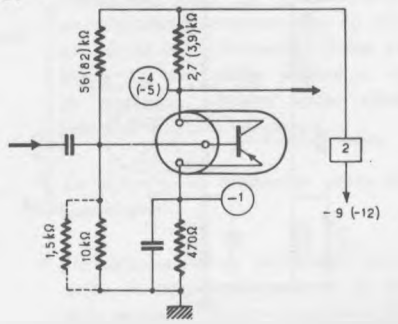
β = 50



AC125

BF

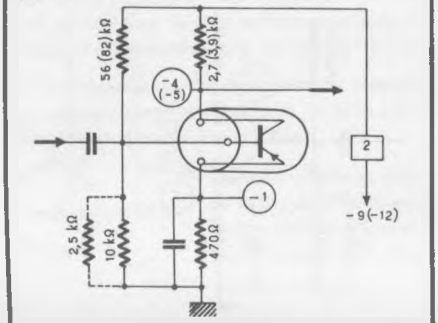
β = 80...160



AC126

BF

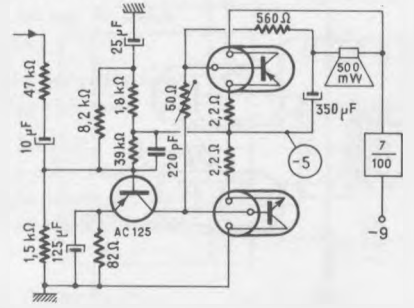
β = 130...300



AC 127 / AC 128

n-p-n
p-n-p

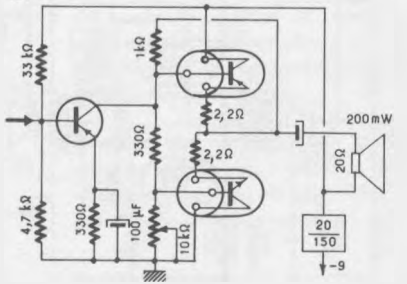
β = 115
β = 55... 175



AC 127 / AC 132

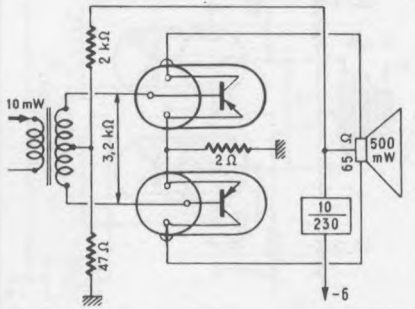
n-p-n
p-n-p

β = 115



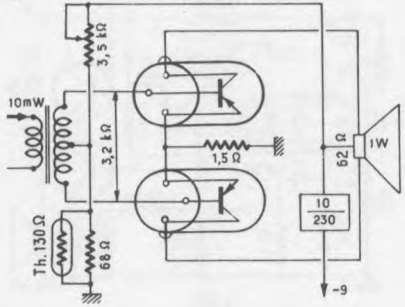
AC 128
BF

β = 50... 175
GP = 11.... 14 dB



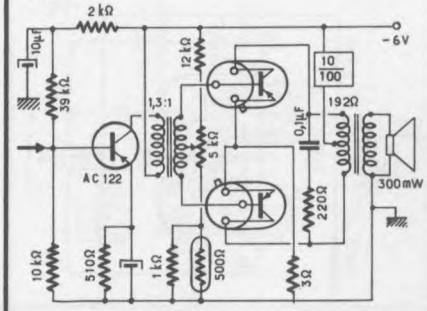
AC 128
BF

β = 50...175
GP = 18...21 dB



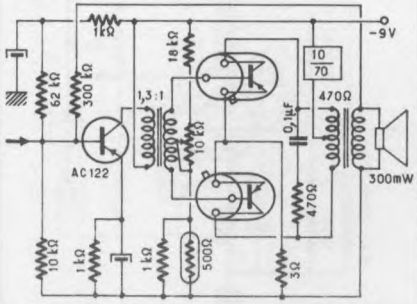
AC131
BF

β = 67



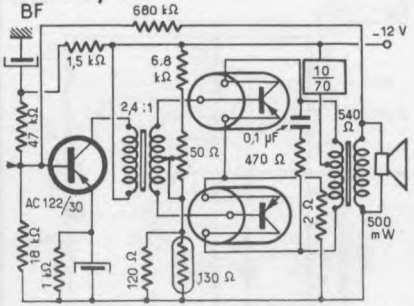
AC131
BF

β = 67



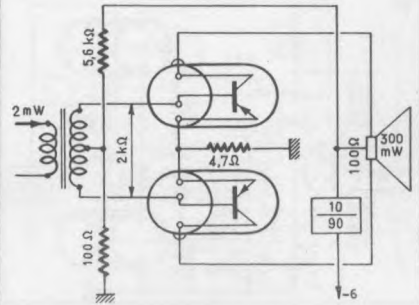
AC 131/30
BF

β = 67



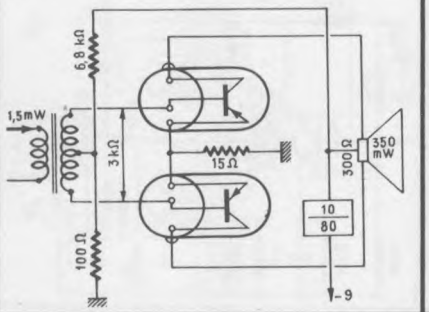
AC 132
BF

β = 115
GP = 22 dB



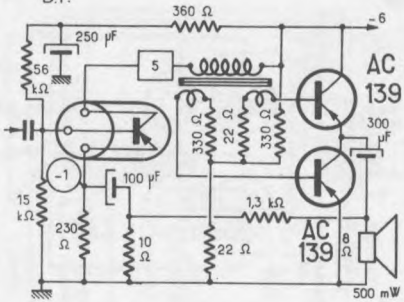
AC 132
BF

β = 115
GP = 25 dB



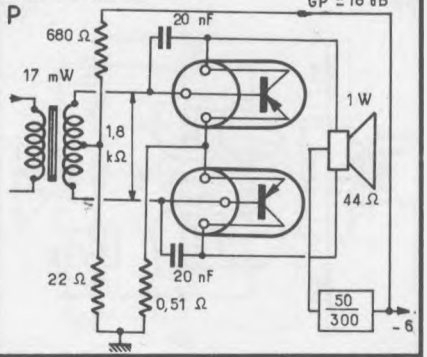
AC 138
B.F.

β = 100



AC 139
P

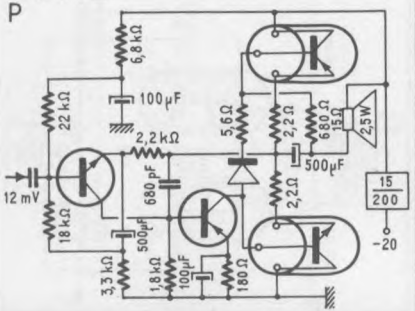
β = 85
GP = 18 dB



AC 141
AC 142
P

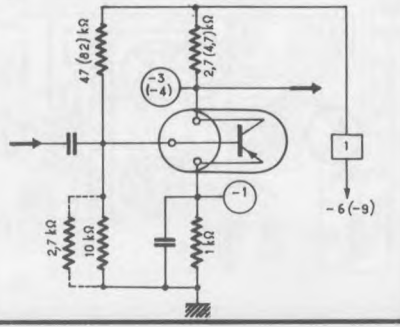
n-p-n
p-n-p

β = 40...180



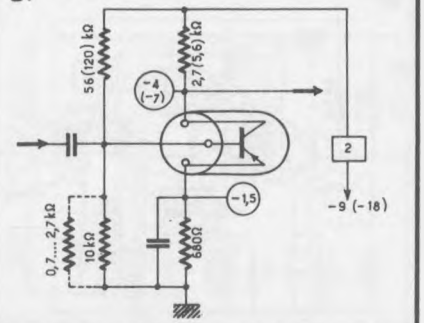
AC150
BF

β = 85
F_b = <5 dB



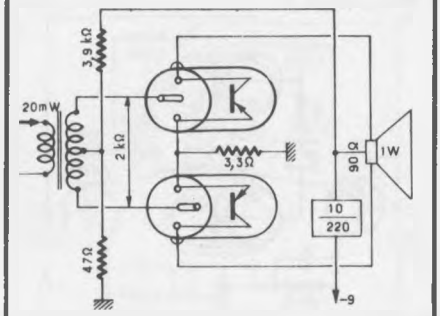
AC151
BF

β = 45...170



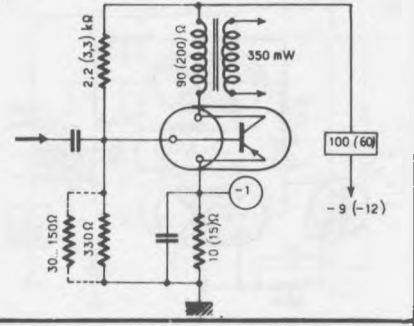
AC152
BF

β = 30...150
GP = 18 dB



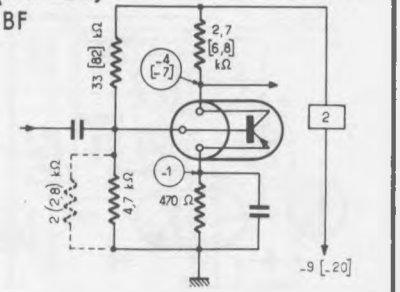
AC153
BF

β = 50...250
GP = 35...45dB



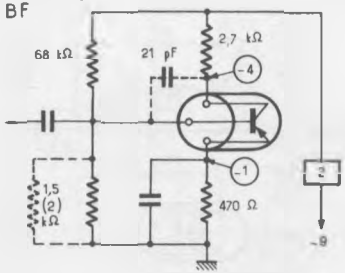
AC 162 (AC 163)
BF

β = 80...170 (130...300)
F_b = 4 dB



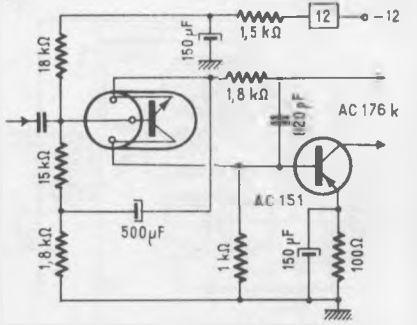
AC 170 (AC 171)
BF

β = 80...170 (130...300)
F_b = 5 dB



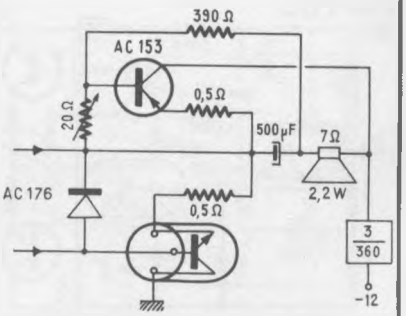
AC176
n-p-n
BF

β = 100 (>50)



AC 176 k
n-p-n
P

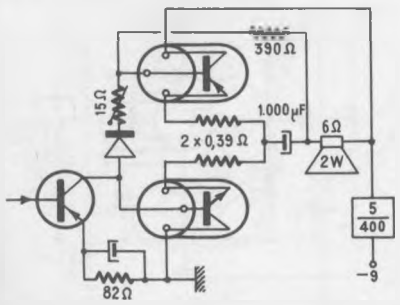
β = 100 (>50)



AC178 / AC179

p-n-p / n-p-n

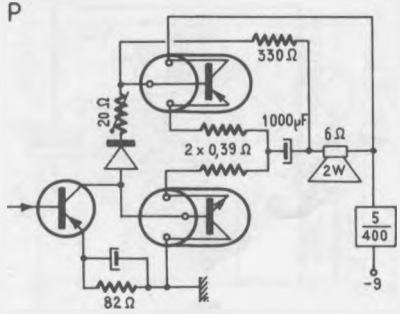
β = 60...400



AC180 / AC181 P

p-n-p / n-p-n

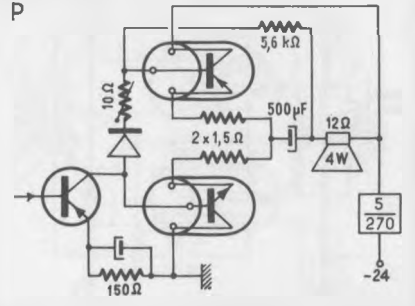
β = 50...250



AC180 k / AC181 k P

p-n-p / n-p-n

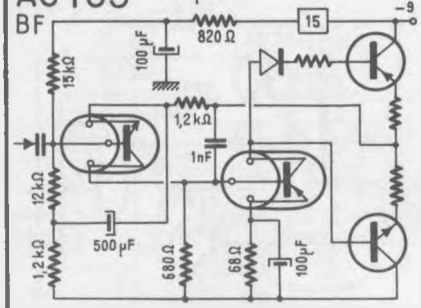
β = 50...250



AC182 / AC183 BF

p-n-p / n-p-n

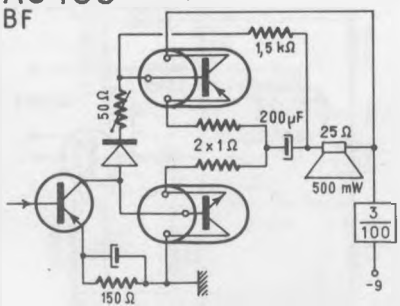
β = 50...250



AC184 / AC185 BF

p-n-p / n-p-n

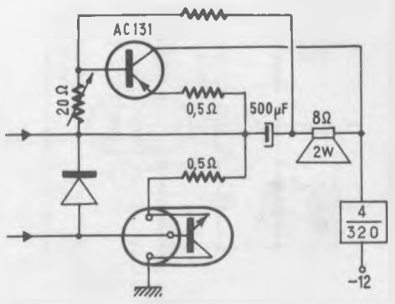
β = 50...250



AC186 P

n-p-n

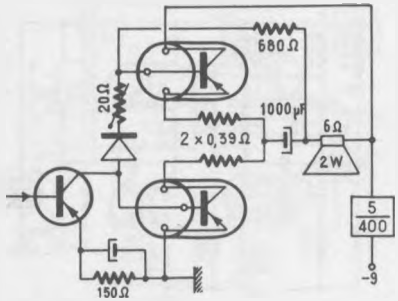
β = 120 (>60)



AC 187
AC 188

n-p-n
p-n-p

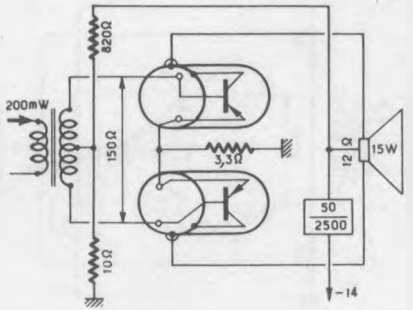
$\beta > 100$



AD 130

P

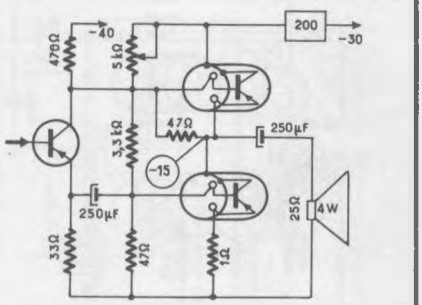
$\beta = 20 \ldots 100$
$GP = 16 \ldots 19$ dB



AD 131

P

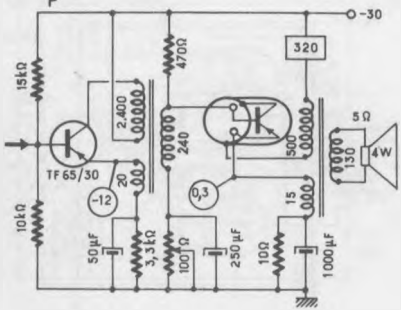
$\beta = 20 \ldots 40$ (III)
$30 \ldots 60$ (IV)
$50 \ldots 100$ (V)



AD 132

P

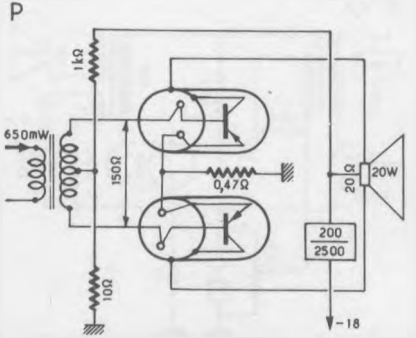
$\beta = 15 \ldots 60$



AD 133

P

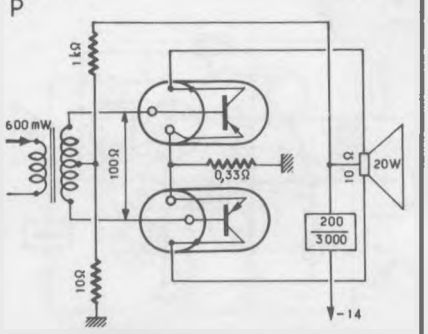
$\beta = 20 \ldots 60$
$GP = 15$ dB



AD 136

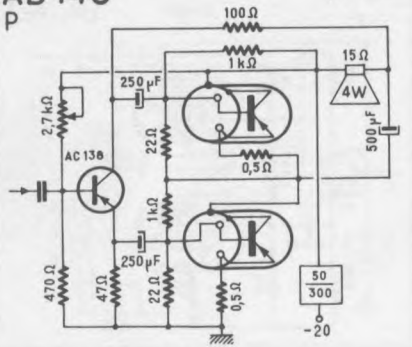
P

β 20...100
$GP > 16$ dB



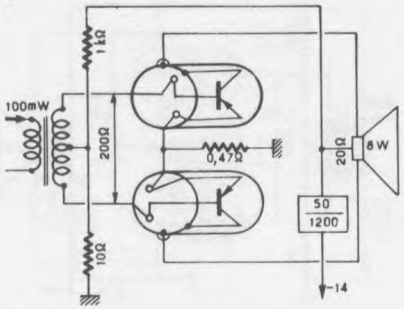
AD 145
P

β > 30



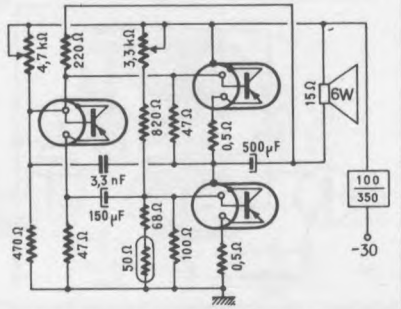
AD 148
P

β = 30...100
GP = 19 dB



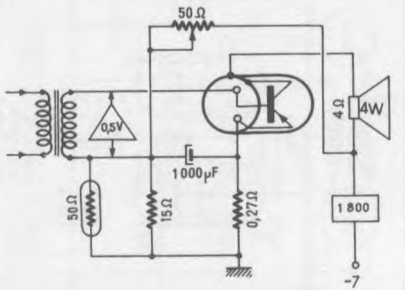
AD 148
P

β = 30... 100



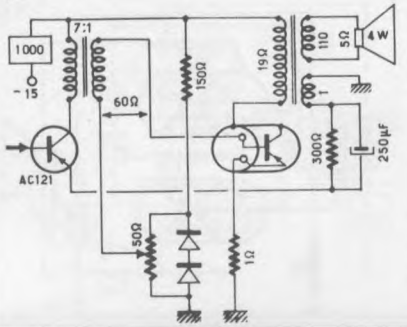
AD 149
P

β = 30...100
GP = 15... 18dB



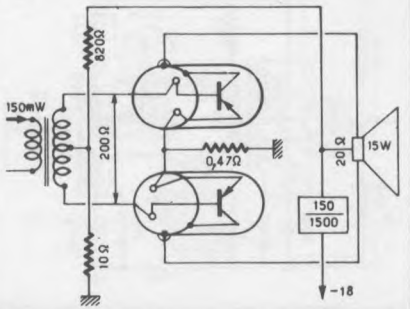
AD 149
P

β = 30...100
GP = 20 dB



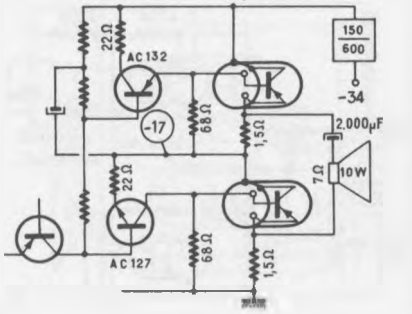
AD 149
P

β = 30...100
GP = 20 dB



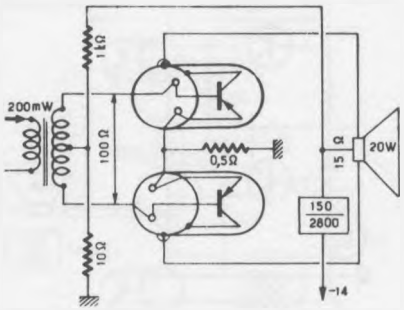
AD 149
P

β = 30... 100



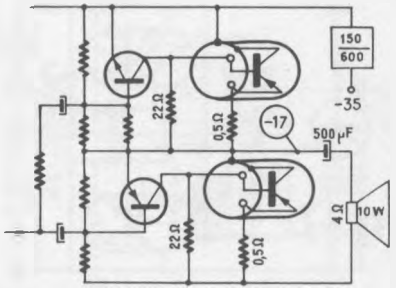
AD 150
P

β = 30...100
GP = 20 dB



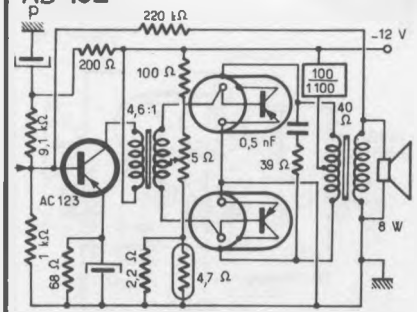
AD 150
P

β = 30 100



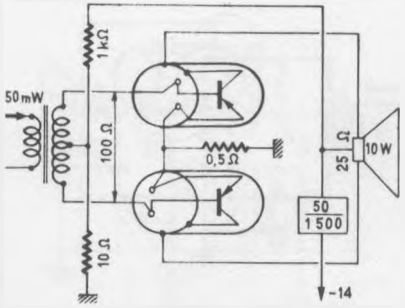
AD 152
P

β = 50 150



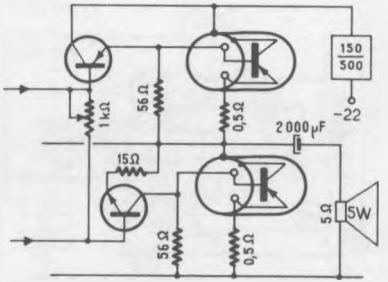
AD 153
P

β = 50
GP = 23 dB



AD 155
P

β = 115(>40)

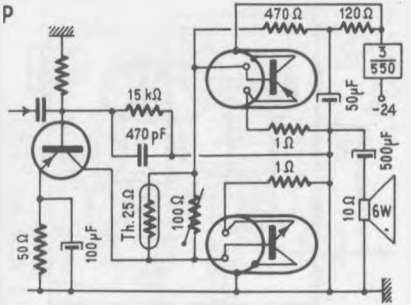


AD 161
AD 162

n-p-n
p-n-p

β = 50 ... 250

P

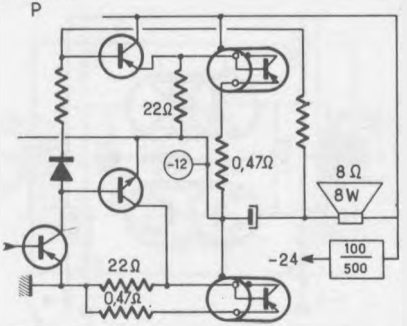


AD 162 (AD164)

p-n-p

P

β = 50 ... 250 (>60)

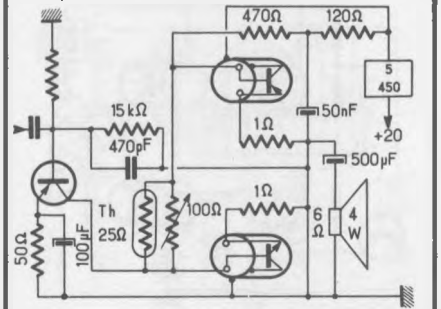


AD 164
AD 165

p-n-p
n-p-n

P

β = 185 (>60)

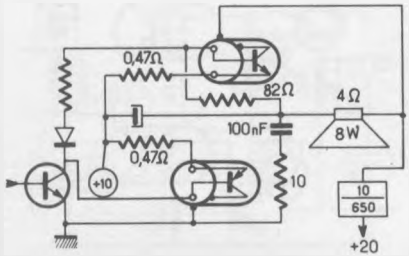


AD 262
BD 162

p-n-p Ge
n-p-n Si

P

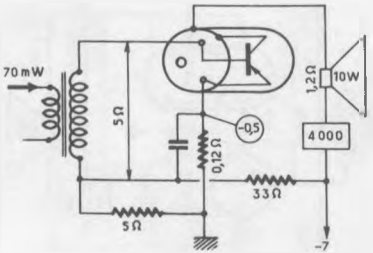
β > 30



ADZ 11

P

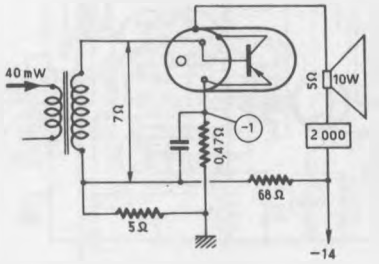
β = 35
GP = 22 dB



ADZ 11

P

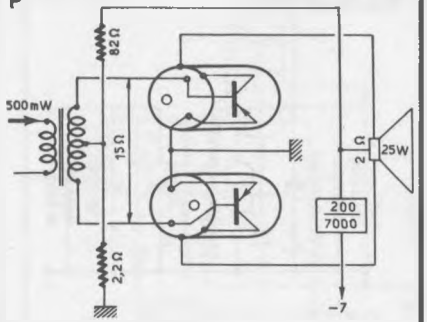
β = 35
GP = 24 dB



ADZ11

P

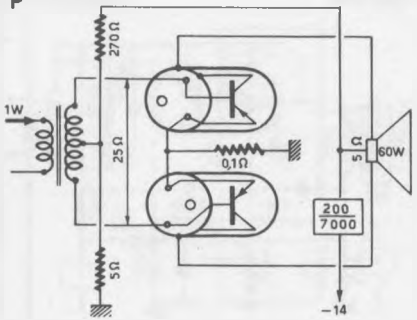
β = 35
GP = 17 dB



ADZ11

P

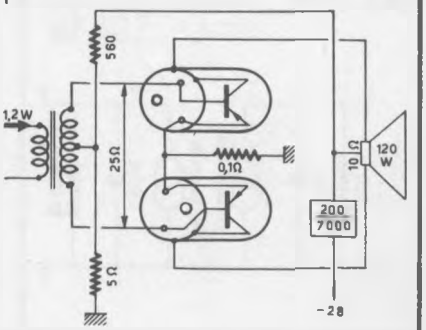
β = 35
GP = 18 dB



ADZ 12

P

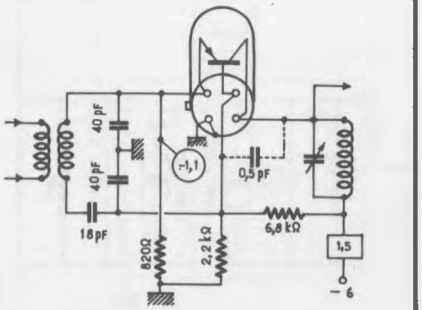
β > 15
GP = 20 dB



AF106

100 MHz

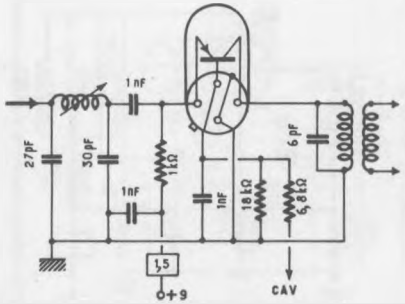
β = 50...120
Fb = 5,5 dB



AF106 (AF109)

200 MHz

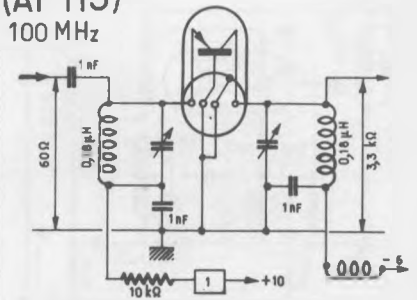
β = 50...120
Fb = 5,5 dB
GP = 14 (13) dB



AF 114 (AF 115)

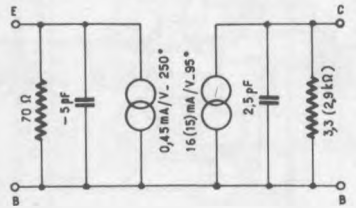
100 MHz

β = 150
Fb = 8 dB (100 MHz)
GP = 14 (13) dB



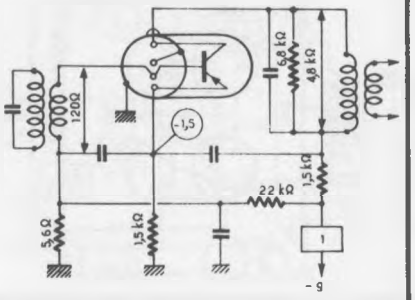
AF 114 (AF 115)

Vc = 6 V
Ic = 1 mA
f = 100 MHz



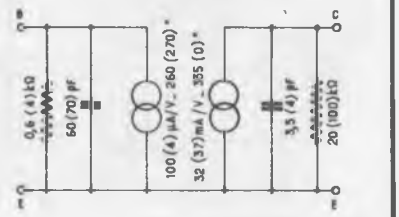
AF 116
10,7 MHz

β = 150
Fb = 3dB 10 (MHz)
GP = 25 dB



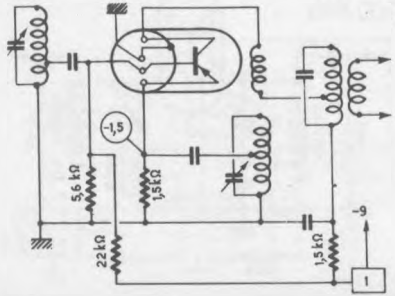
AF 116
10,7 (0,45) MHz

Vc = 6V
Ic = 1mA



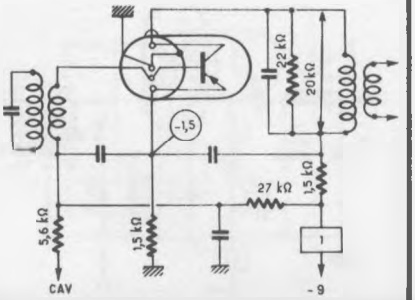
AF 117
Conv. < 2 MHz

β = 150
Fb = 4 dB (Conv.)



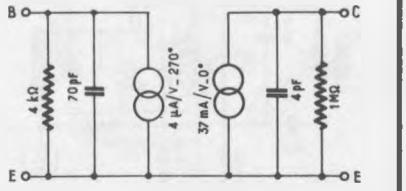
AF 117
MF 450 kHz

β = 150
Fb = 1,5 dB (1 MHz)
GP = 42 dB



AF 117

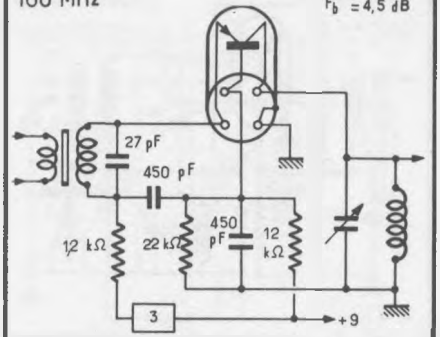
Vc = 6V
Ic = 1 mA
f = 450 kHz



AF 121

100 MHz

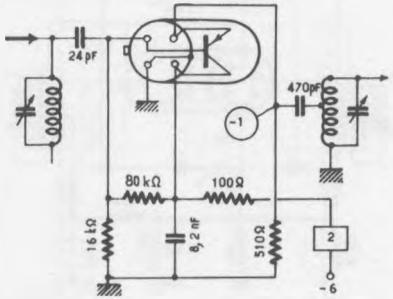
β = 80
GP = 19 dB
F_b = 4,5 dB



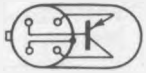
AF124 (= AF 114)

100 MHz

β = 150
F_b = 6 dB
GP = 14 dB



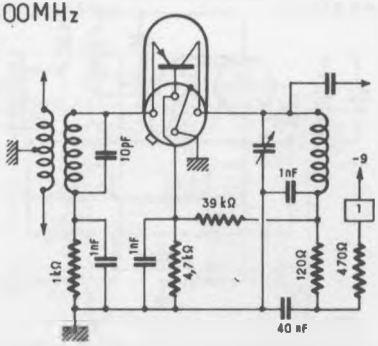
AF125 = AF115
AF126 = AF116
AF127 = AF117



AF134

100MHz

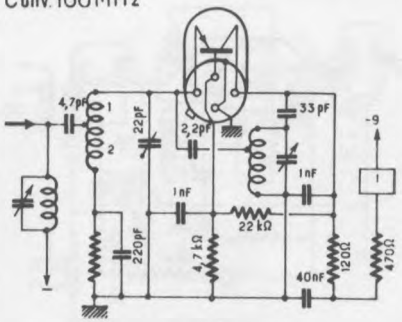
β = 110



AF135

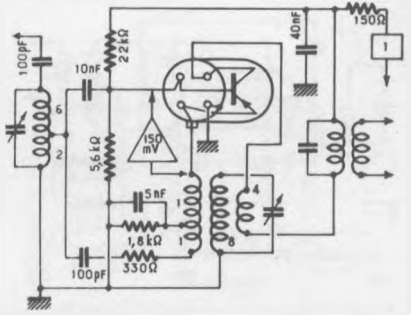
Conv. 100MHz

β = 100



AF136

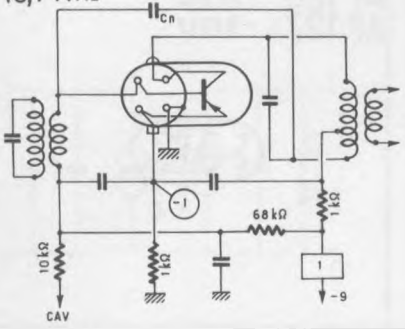
Conv <23 MHz



AF 137

10,7 MHz

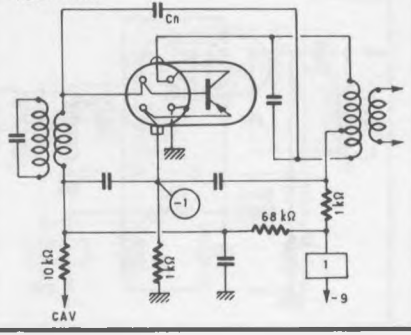
β = 60



AF138

455 kHz

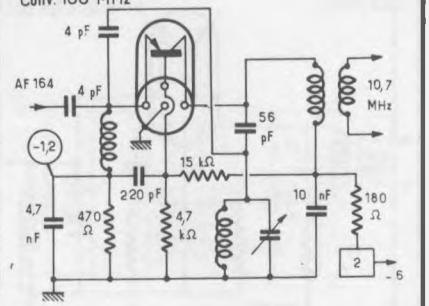
β = 80



AF 165

Conv. 100 MHz

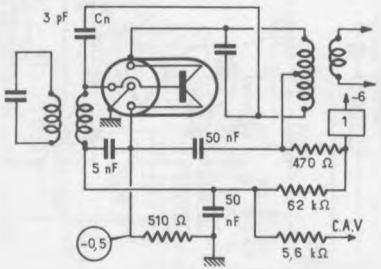
β = 85



AF 166

10,7 MHz

β = 85

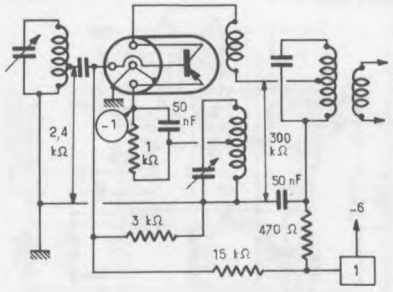


AF 170

Conv.< 2 MHz

β = 80

GP = 33 dB

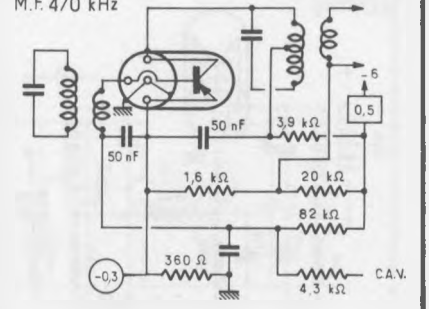


AF 172

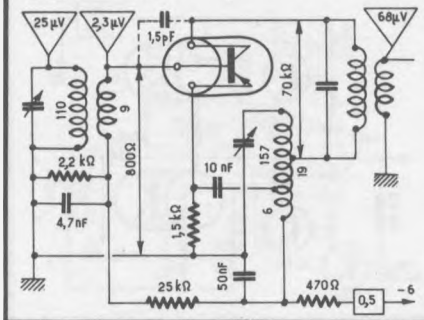
M.F. 470 kHz

β = 70

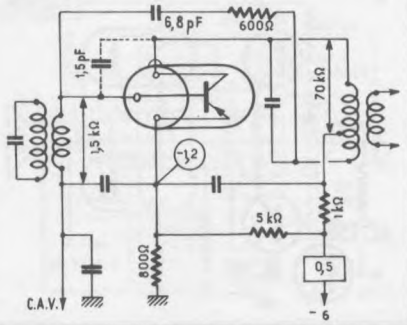
GP = 27 dB



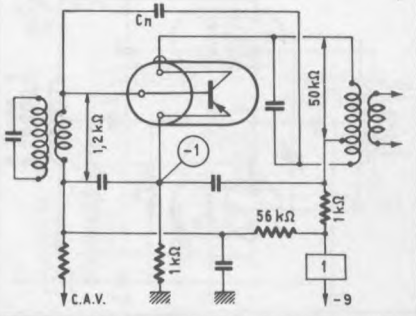
AF 185
Conv.< 2MHZ



AF 185
MF 470 kHz

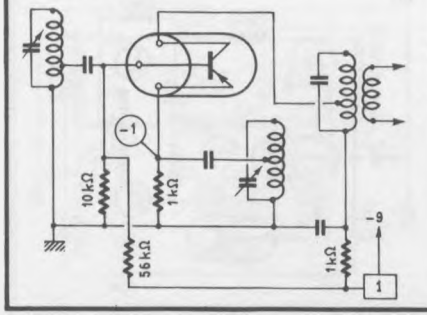


AF 187
MF 470kHz



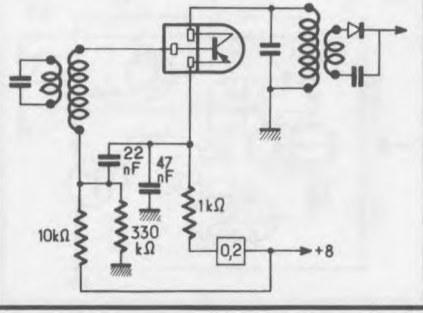
AF 188
Conv.< 2 MHz

β = 70



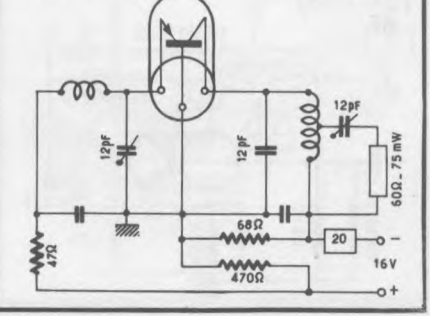
AF256
455 kHz

n=30 (>10)
f_t>170 MHz



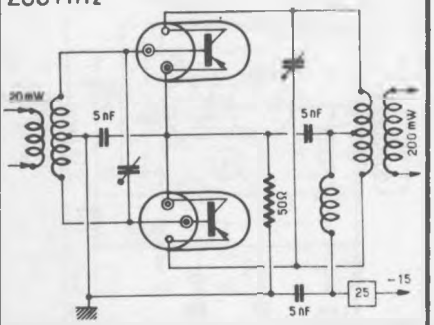
AFY10
Osc. 200 MHz

β = 60
β = 1 (250MHz)



AFY11
200 MHz

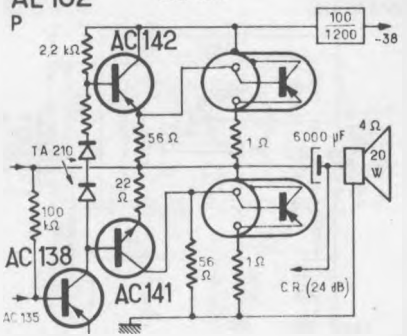
β = 60
β = 1 (300MHz)
GP = 10dB



AL102
P

Base diff.

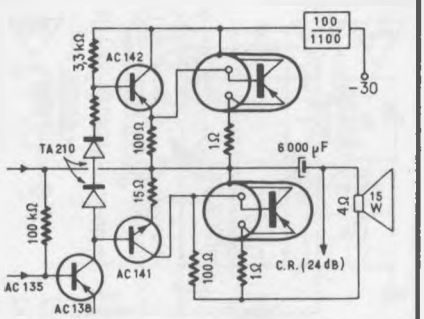
β=150 à Ic=1A



AL103
P

Base diff.

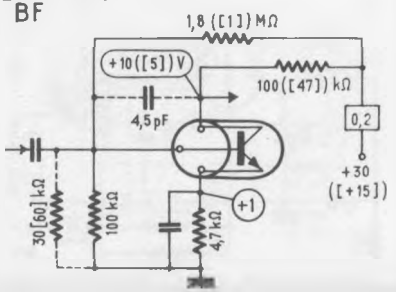
β = 40....250



BC107
(BC108)
[BC109]
BF

n-p-n
Si

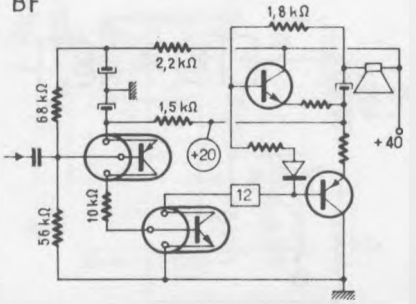
β = 125 . 500
[240 900]
Fb = <6 [<4] dB



BC 107
BC 177
BF

n-p-n
p-n-p
Si

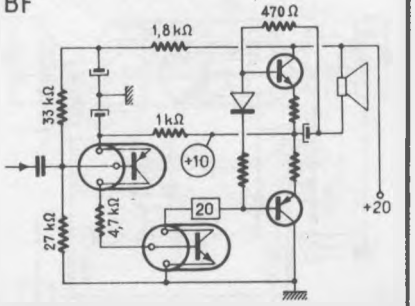
β = 20...300



BC 108
BC 178
BF

n-p-n
p-n-p
Si

β = 80...500

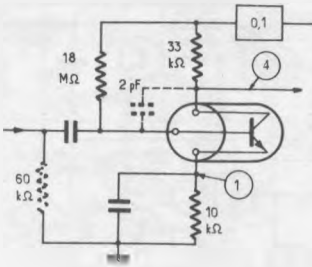


BC 113 [BC 114]

n-p-n Si Planar

β = 200 ... 1000 (à I_C = 1 mA)

F_b = 1,5 dB

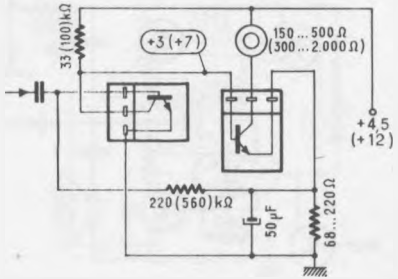


BC 121 (BC 122)

BF

n-p-n Si

β = 70 . 600



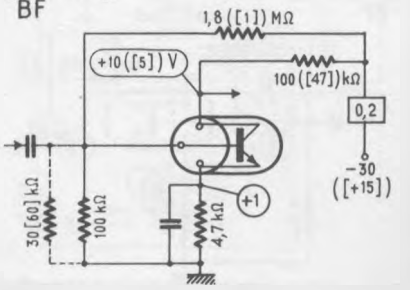
BC 129 (BC 130) [BC 131]

BF

n-p-n Si

β = 125 ... 500 [240 ... 900]

F_b = <6 [4] dB



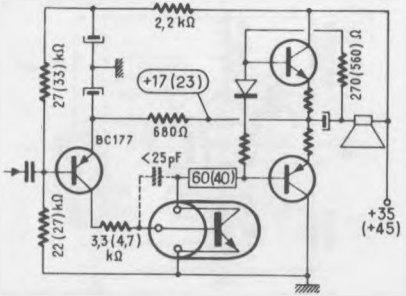
BC 140 (BC 141)

BF

n-p-n Si

β = 40 ... 120

f_t > 60 MHz



BC 147 (BC 148) [BC 149]

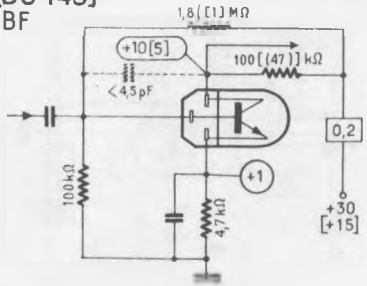
BF

n-p-n Si

β = 125 ... 500 [240 ... 900]

F_b < 10 [<4] dB

f_t > 150 MHz



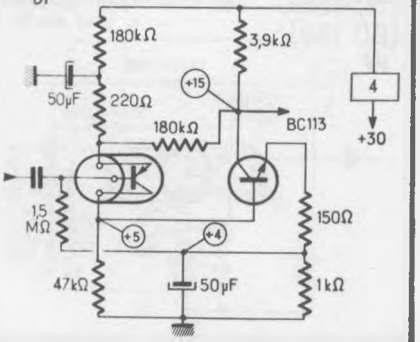
BC 154

BF

p-n-p Si

β = 200

F_b < 2,5 dB

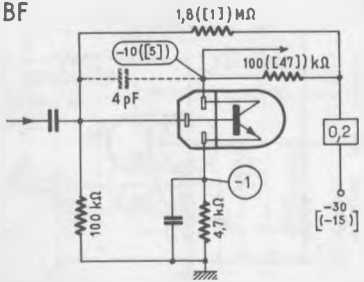


BC 157 (BC 158) [BC 159]

p-n-p Si

β = 50...350 [150...350]
F_b < 10 [<4] dB
f_t = 200 MHz

BF

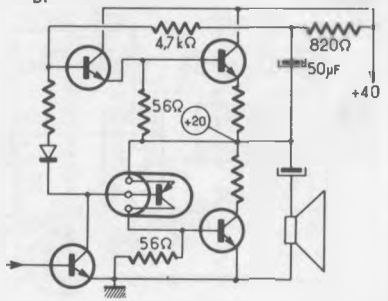


BC 160-6 (BC160-10)(BC160-16)

p-n-p Si

ß=40....100
(63....160)
[100....250]

BF

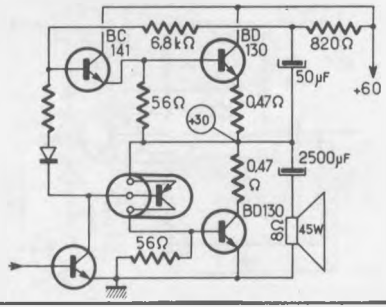


BC161-6 (BC161-10)(BC161-16)

p-n-p Si

ß=40....100
(63....160)
[100....250]

BF

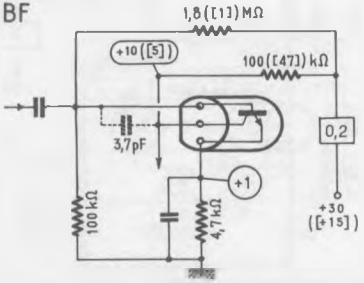


BC 167 (BC 168) [BC 169]

n-p-n Si

β = 125... 500 [240... 900]
F_b <10 [<4] dB
f_t >150 MHz

BF

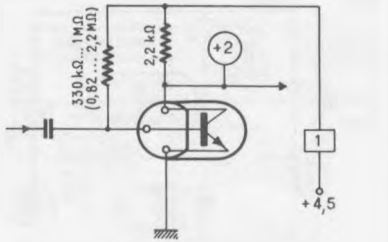


BC 170 A (BC 170 B)

n-p-n Si

ß = 80.... 250
(200...600)

BF

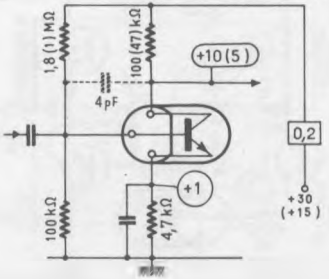


BC 171 (BC 172)

n-p-n Si

β = 125...260[A]
= 240...500[B]
= 450...900[C]
F_b < 6 dB
f_t > 150 MHz

BF



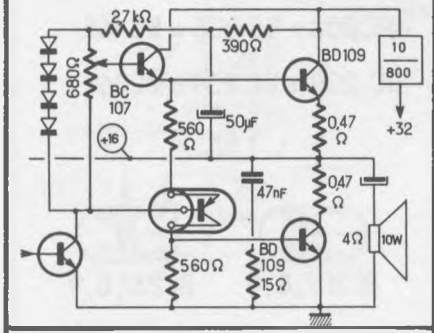
BC177

p-n-p Si

BF

B=75...260

f_T=130MHz



BC179

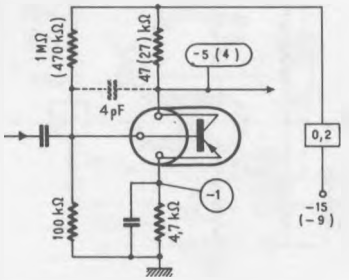
p-n-p Si

BF

β = 240...500

F_b = <4 dB

f_t = 200 MHz

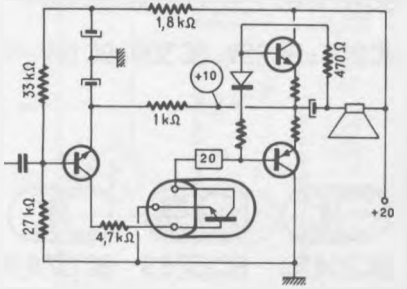


BC 181 (BC 181 A)

n-p-n Si

BF

β > 60 (>100)



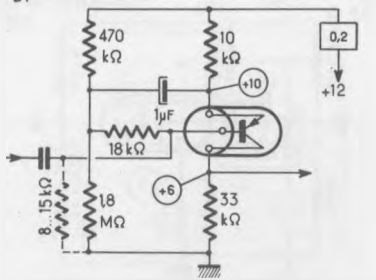
BC 181 A (BC181B)(BC181C)

p-n-p Si

BF

B=50.....200 (100.....300)(150.....600)

F_b = 1 (0,8) (0,7) dB



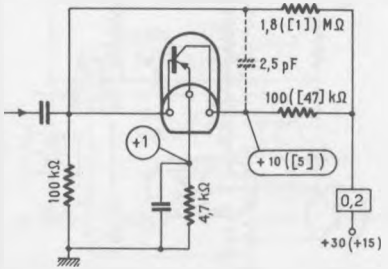
BC 182 (BC 183) [BC 184]

n-p-n Si

β = 100....480 (100...850) [> 250]

F_b <10 [<4] dB

f_t >150 MHz



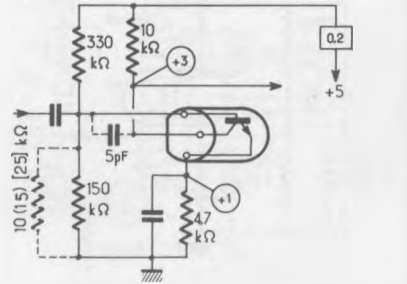
BC 200-01 (BC200-02)(BC200-03)

n-p-n Si

BF

B=50....100 (85...200)(165...400)

F_b = 2 (1,5) (2) dB



BC 204 = BC 257 = BC 307 = BC 157

BC 205 = BC 258 = BC 308 = BC 158

BC 206 = BC 259 = BC 309 = BC 159

p-n-p

BC 204,5,6 BC 257,8,9 BC 157,8,9

BC 206

p-n-p

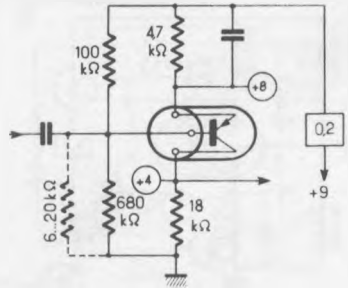
BF

Si

B = 50 ... 500

F_b < 4 dB

f_T = 200 MHz



BC 207 = BC 237 = BC 167

BC 208 = BC 238 = BC 168

BC 209 = BC 239 = BC 169

n-p-n

BC 207, 8, 9 BC 237, 8, 9

BC 209

n-p-n

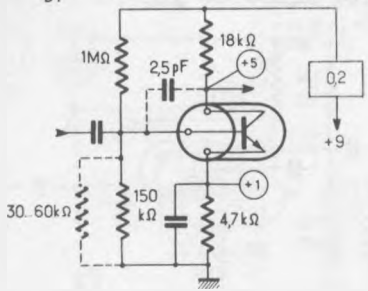
BF

Si

B = 240 ... 900

F_b < 4 dB

f_T = 300 MHz



BC 211

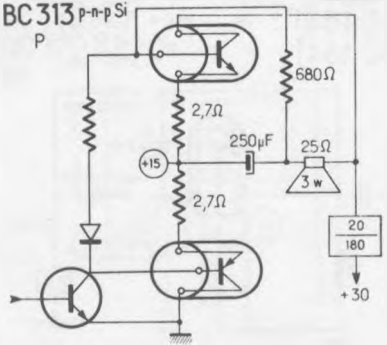
n-p-n Si

BC 313

p-n-p Si

P

B > 50



BC 212 (BC 213) [BC 214]

p-n-p

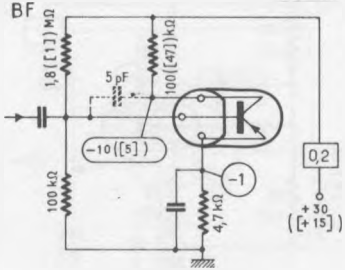
Si

B = 60 ... 300 (50 ... 400) [140 ... 400]

F_b = 2,5 [>2] dB

f_t > 200 MHz

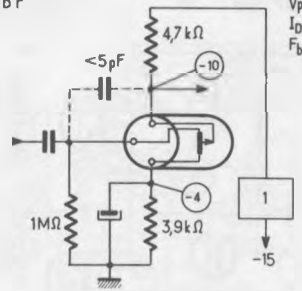
BF



BC 219

FET Si
Canal P
BF

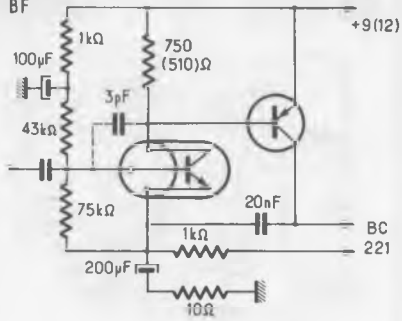
s = 2...8 mA/V
ρ > 10 kΩ
V_p > 10 V
I_{DSS} = 3...30 mA
F_b = 0,1 dB



BC 220

n-p-n Si
BF

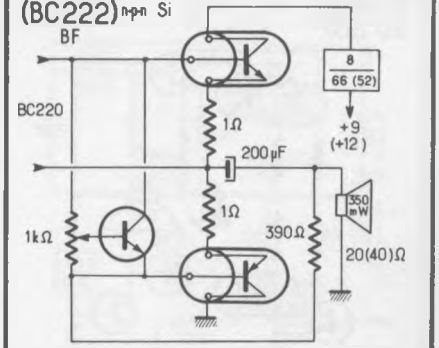
β = 225 (>100)



BC 221 (BC 222)

p-n-p Si
n-p-n Si
BF

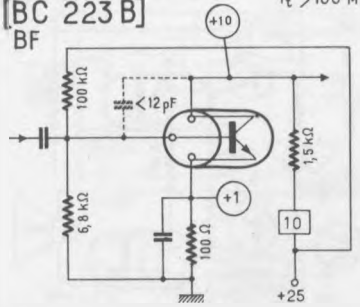
β = 115 (>50)



BC 223 (BC 223A) [BC 223B]

n-p-n Si
BF

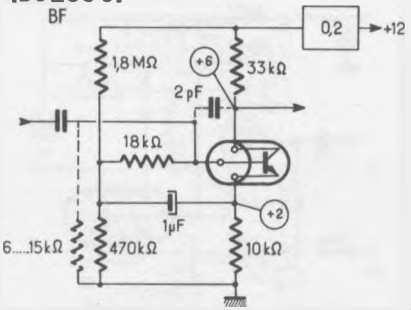
β = 100... 400 (100... 300) [200... 450]
f_t > 100 MHz



BC 280A (BC 280B) [BC 280C]

n-p-n Si
BF

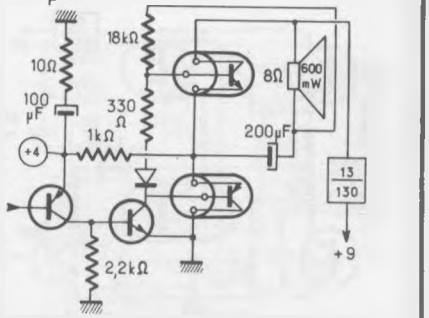
β = 100....300 [(200...600)]
F_b = 2,5 (2) [1,5] dB



BC 282 BC 283

n-p-n Si
p-n-p Si
P

β = 40....300

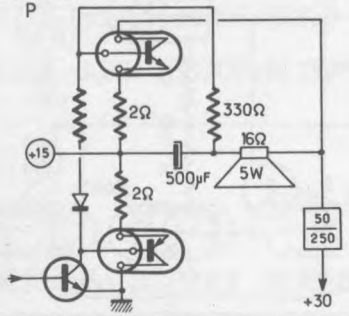


BC 237,8,9 = BC 207, 8, 9

BC 257,8,9 = BC 204, 5, 6

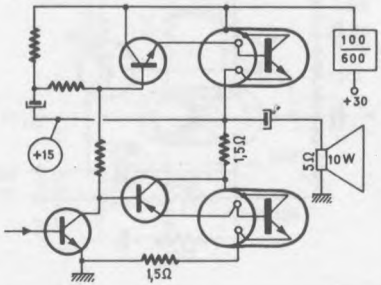
BC 286 / BC 287

n-p-n Si
p-n-p Si
P
β = 20 200



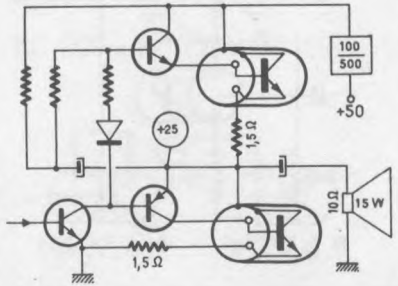
BD 106A (BD 106B)

n-p-n
Si
P
β = 50 .... 150 (100 ... 300)
f_t = 100 MHz



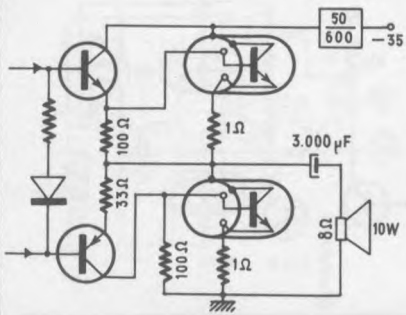
BD 107A (BD 107B)

n-p-n
Si
P
β = 50 ... 150 (100 ... 300)
f_t = 100 MHz



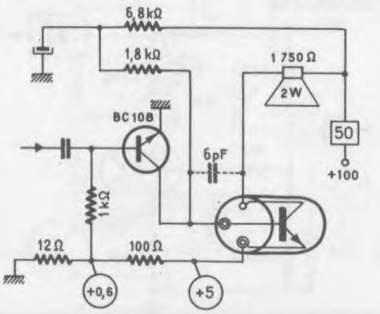
BD 109

n-p-n
Si
P
β = 20 ... 120



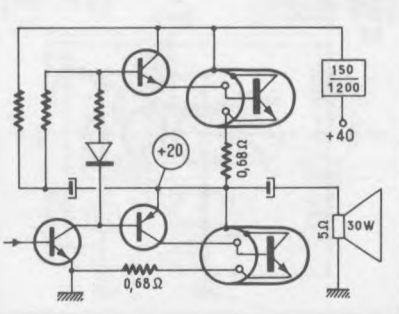
BD 115

n-p-n
Si
P
β = 50 (> 20)
f_t = 120 MHz

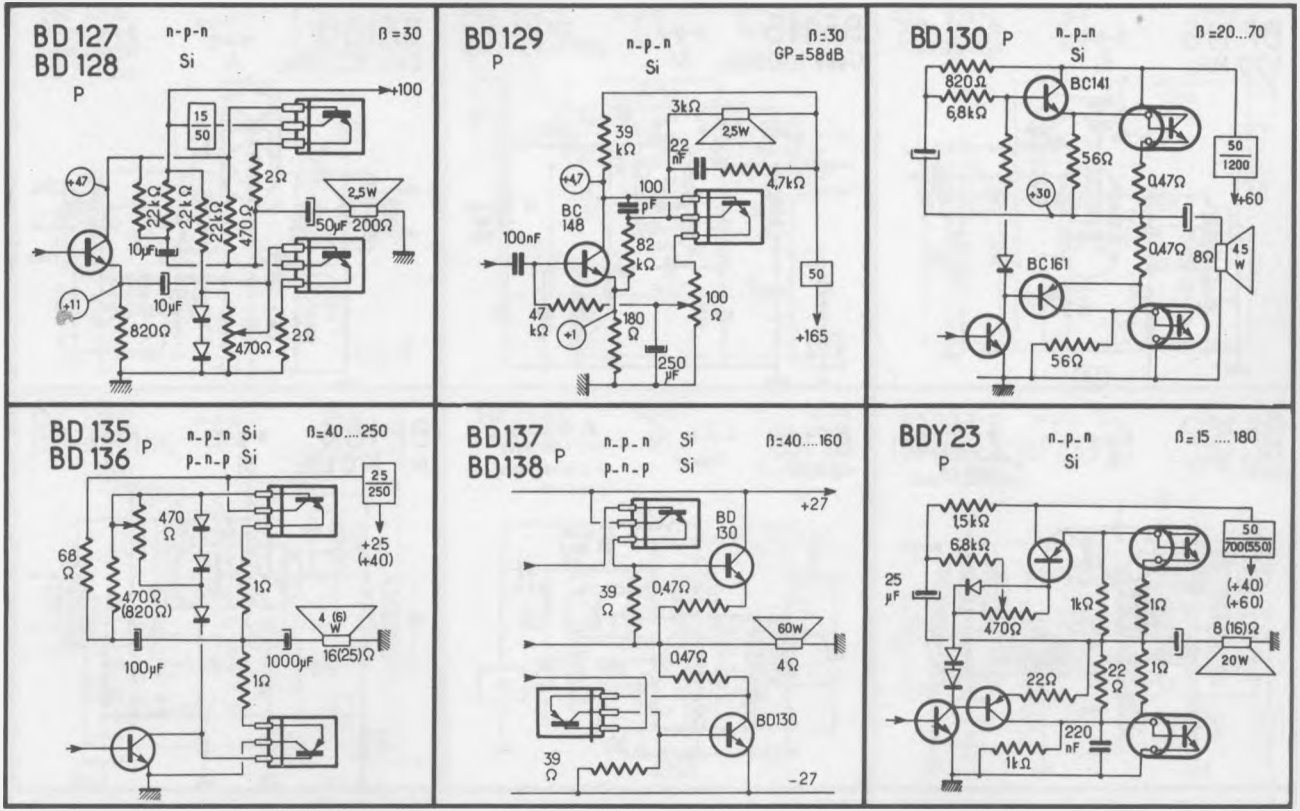


BD 117

n-p-n
Si
P
β = 20 ... 100
f_t > 50 MHz



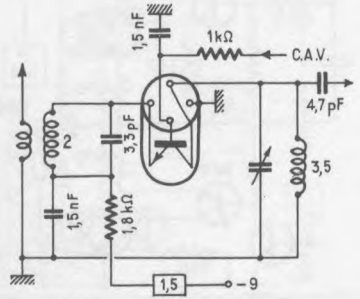
BC 307,8,9 = BC 204,5,6 BC 313 = BC 211



BD 130 = 2 N 3055

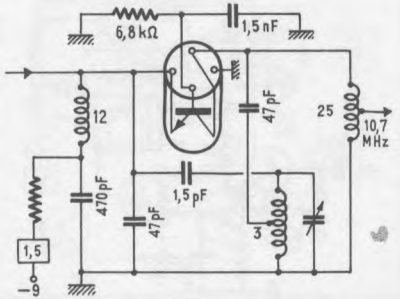
BF 115
100 MHz n-p-n Si

β = 45...165
F_b = 3,5 dB



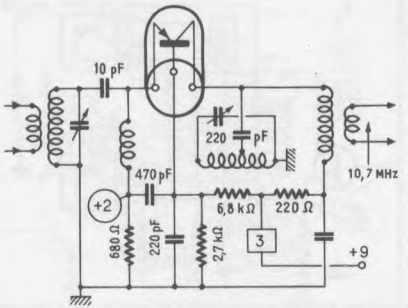
BF 115
Conv. 100 MHz n-p-n Si

β = 45...165



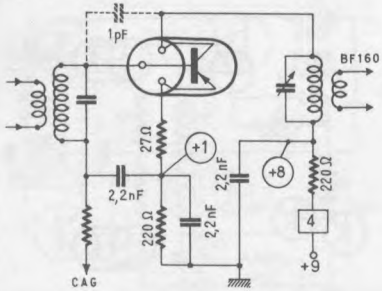
BF160
Conv. 100 MHz n-p-n Si

β = 50 (>20)
f_t >400 MHz



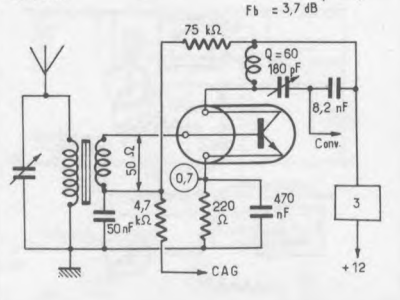
BF162
100 MHz n-p-n Si

β = 70 (>30)
f_t >400 MHz
F_b = 4 bB



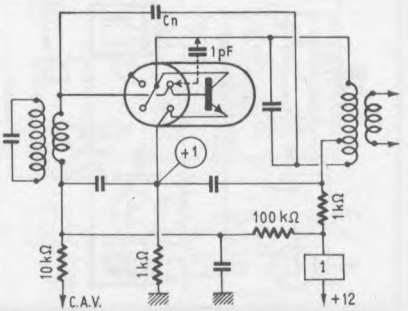
BF 165
< 2 MHz n-p-n Si Planar

β = 35 (>20)
(>2 à 100 MHz)
GP = 42 dB (1 MHz)
F_b = 3,7 dB



BF 184
MF 470 kHz n-p-n Si

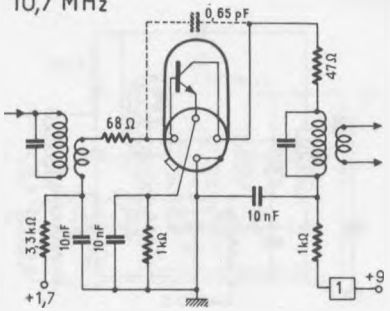
β = 90...650



BF 184 (BF 185) 10,7 MHz

n-p-n Si

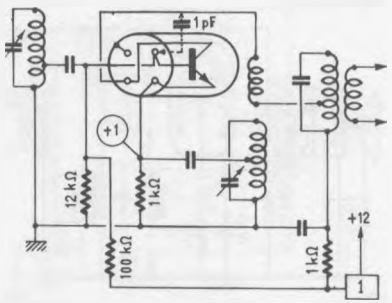
β 75 ... 750 (40 ... 125)
f_t = 300 (220 MHz)



BF 185 Conv. < 20 MHz

n-p-n Si

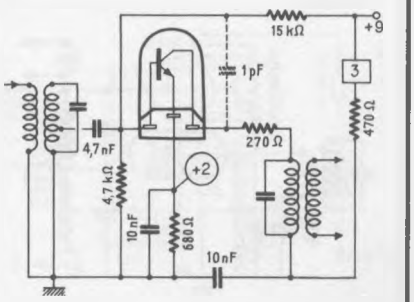
β = 40...125
F_b = 4 dB (5 MHz)



BF 194 10,7 MHz

n-p-n Si

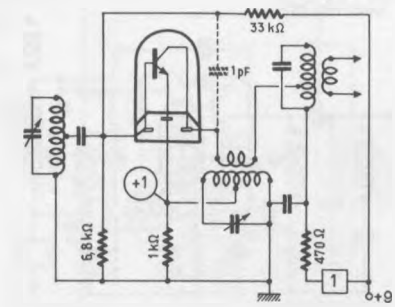
β = 115
f_t = 300 MHz



BF 195 Conv. < 20 MHz

n-p-n Si

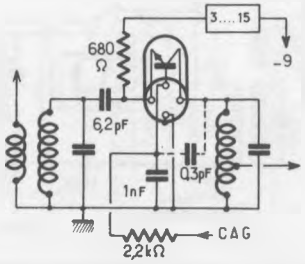
β = 67
f_t = 220 MHz
F_b = 2,5 dB



BF 200 100 MHz

n-p-n Si

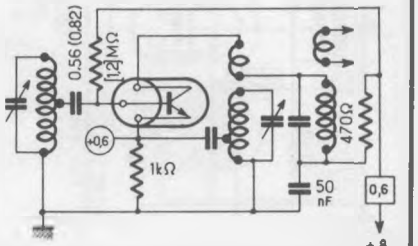
β > 15
GP = 28 dB
F_b = 2 dB
f_T = 650 MHz



BF 233-2 (BF 233-3) (BF 233-4) Conv. < 20 MHz

n-p-n Si

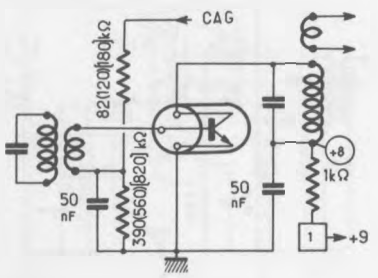
β = 40 70 (60 ... 100) (90 ... 150)
F_b = 3,5 dB



BF 233–3 (BF233-4)(BF233-5)

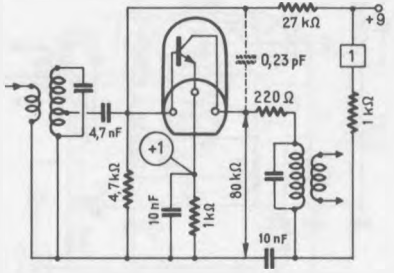
n-p-n Si ß = 60 ... 100 (90 ... 150)(140 ... 220)

455 kHz



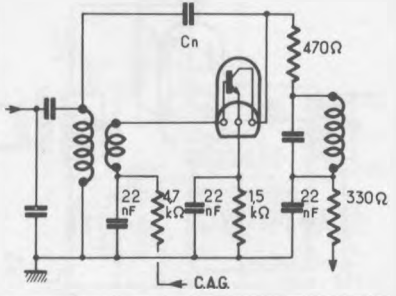
BF 237 (BF 238) 10,7 MHz

n-p-n Si β > 30 (>70)



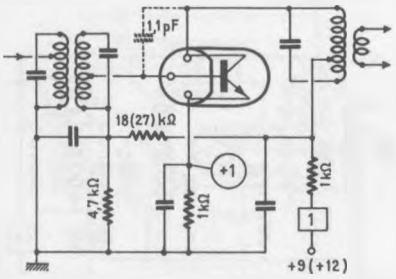
BF 241 10,7 MHz

n-p-n Si ß > 35 f_T = 400 MHz



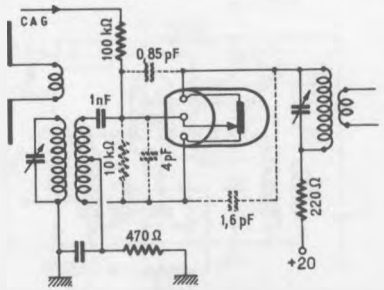
BF 243 455 kHz

n-p-n Si β > 30 f_T > 80 GP = 35 dB F_b = 1 dB



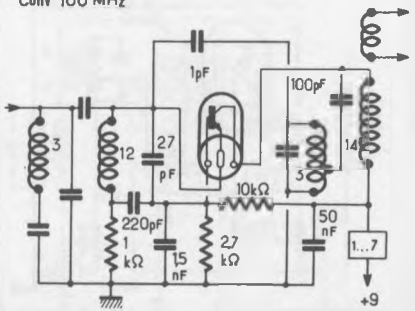
BF 245 100 MHz

F.E.T. Si Canal N Δ = 3 ... 6,5 mA/V I_{DSS} = 2 ... 25 mA



BF 255 (≃BF195)

Conv 100 MHz ß = 67 (>30) f_T = 200MHz F_b = 4 dB



BF 314

100 MHz

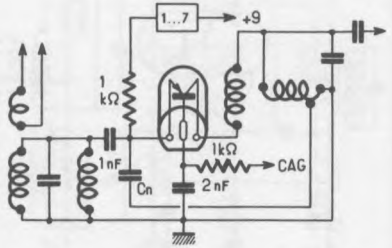
n-p-n

Si

$\beta > 30$

$f_T = 450$ MHz

$F_b < 2$ dB

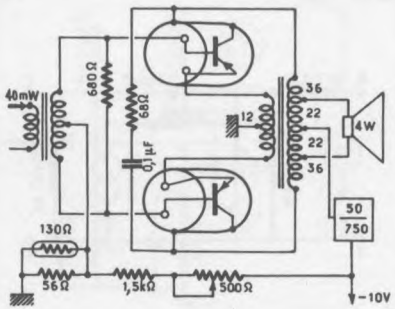


OC 22

P

$\beta = 150$

GP = 20 dB

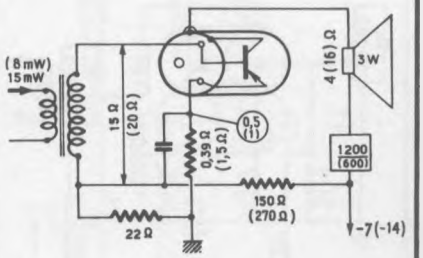


OC 26

P

$\beta = 30$

GP = 23 dB (26 dB)

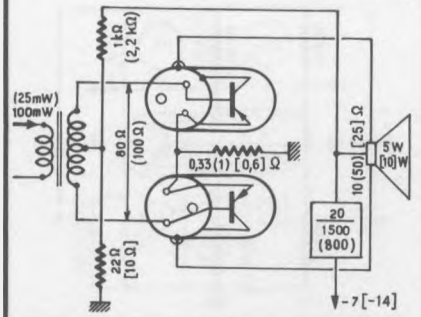


OC 26

P

$\beta = 30$

GP = 17 dB (23 dB) [20 dB]

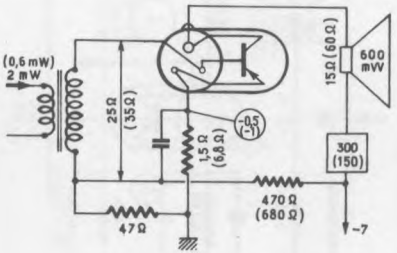


OC 30

P

$\beta = 30$

GP = 25 dB (30 dB)

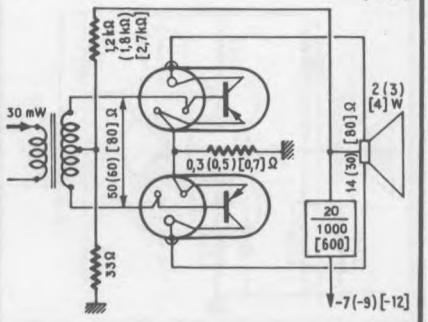


OC 30

P

$\beta = 30$

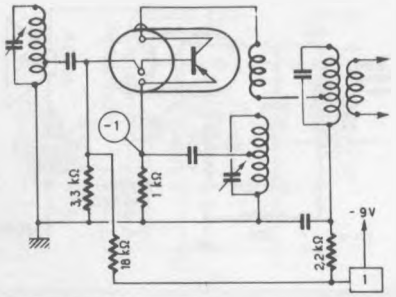
GP = 18 dB (20 dB) [22 dB]



OC 44

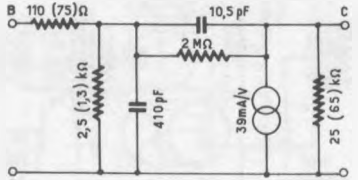
Conv. < 2 MHz

β = 100
GC = 28dB



OC44 (OC45)

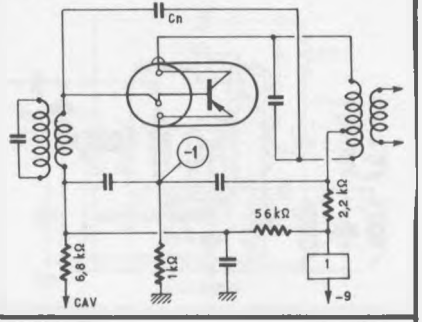
Vc = 6V
Ic = 1mA



OC 45

MF 470 kHz

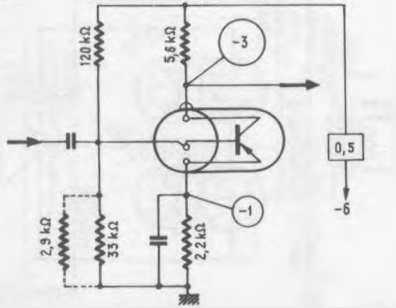
β = 50
GP = 38 dB



OC 57

BF

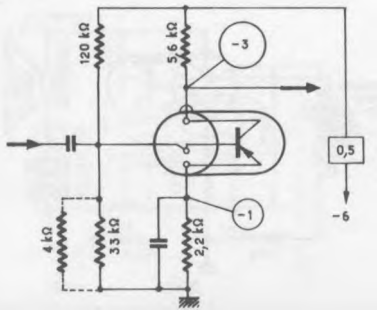
β = 35
Fb = 10 dB



OC 58

BF

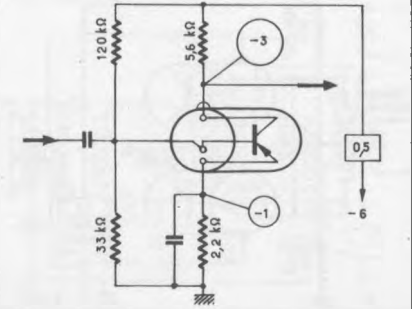
β = 55
Fb = 10 dB



OC 59

BF

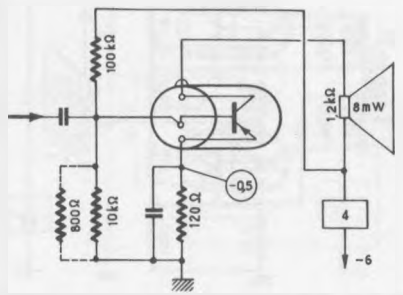
β = 80
Fb = 10dB



OC 60

BF

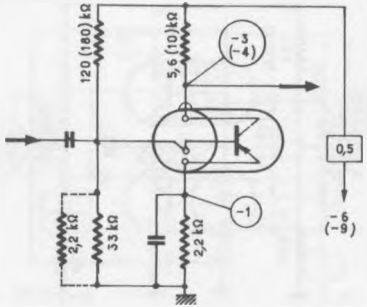
β = 60



OC 70

BF

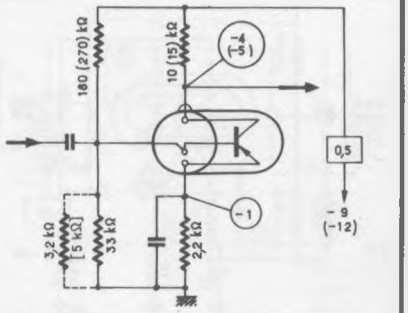
β = 30
Fb = 10 dB



OC 71 [OC 75]

BF

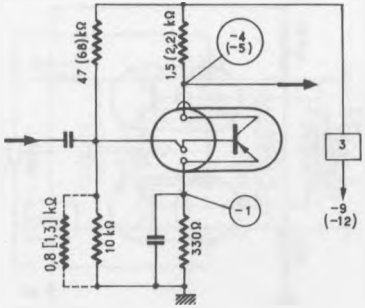
β = 50 [90]
Fb = 10 dB



OC 71 [OC 75]

BF

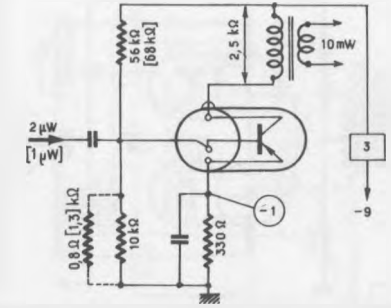
β = 50 [90]
Fb = 10 dB



OC 71 [OC 75]

BF

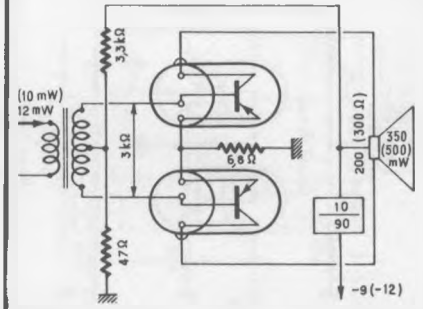
β = 50 [90]
GP = 37 dB [40 dB]



OC 72

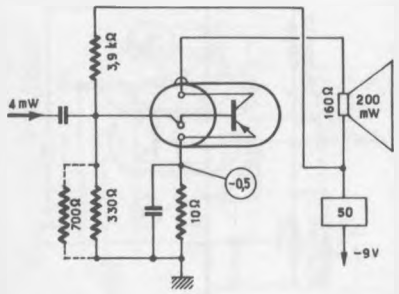
BF

β = 70
GP = 15 dB (17 dB)



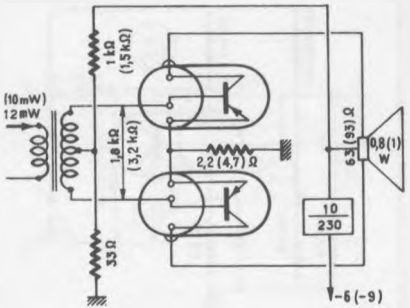
OC 74
BF

β = 100
GP = 27dB



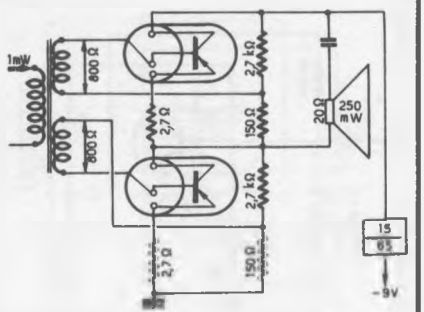
OC 74
BF

β = 100
GP = 18dB (20dB)



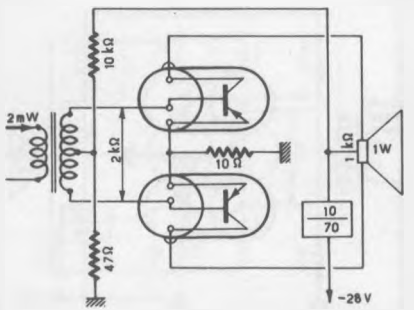
OC 74
BF

β = 100
GP = 24dB



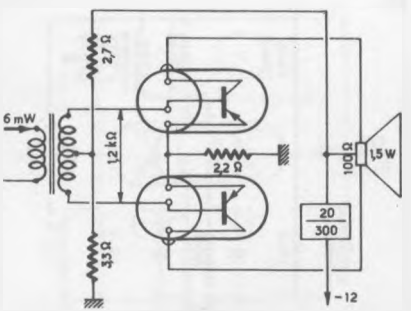
OC 77
BF

β = 50
GP = 27dB



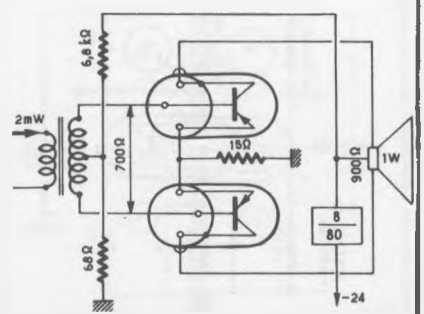
OC 80
BF

β = 85
GP = 24dB



SFT234
BF

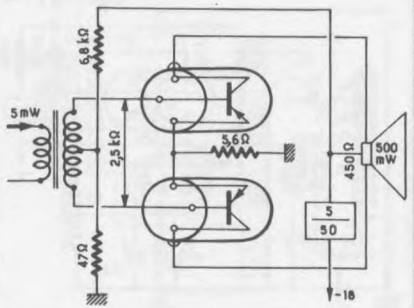
β = 40
GP = 27dB



OC 75 → OC 72

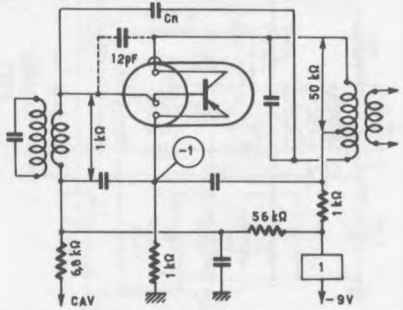
SFT243
BF

β = 30...60
GP = 20 dB



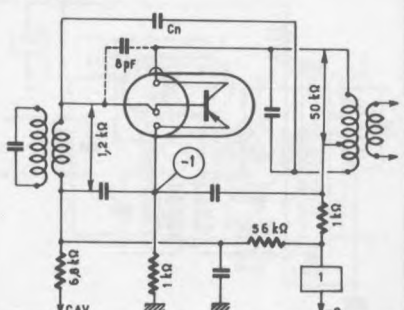
SFT306
MF-470 kHz

β = 30
GP = 36dB



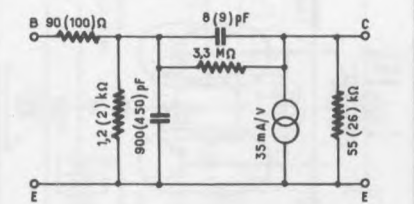
SFT307
MF-470 kHz

β = 40
GP = 36 dB



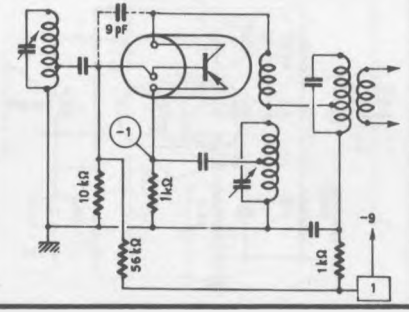
SFT307
(SFT 308)

Vc = 6V
Ic = 1mA



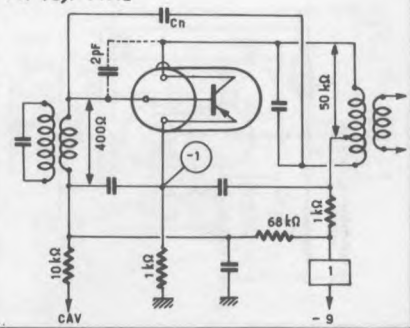
SFT308
Conv. <2 MHz

β = 70



SFT316
MF 10,7 MHz

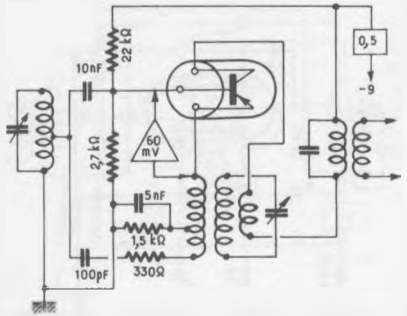
β = 120
GP = 25 dB



SFT317

Conv.<18 MHz

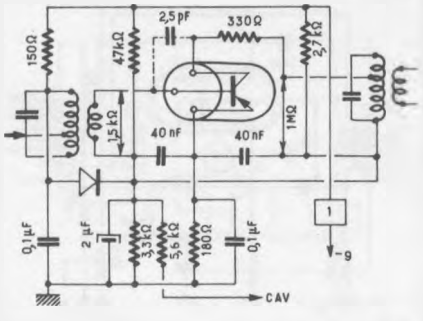
β = 20 ..100



SFT319

MF 470 kHz

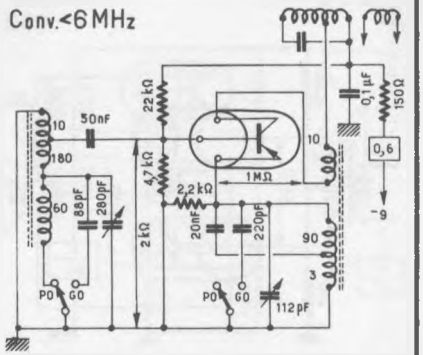
β => 20
GP = 30dB



SFT320

Conv.<6 MHz

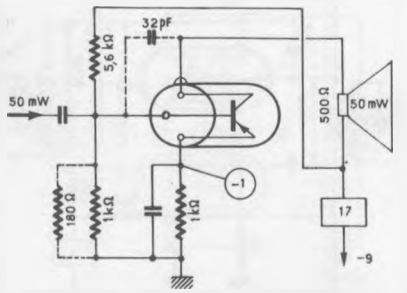
β = 80



SFT321

BF

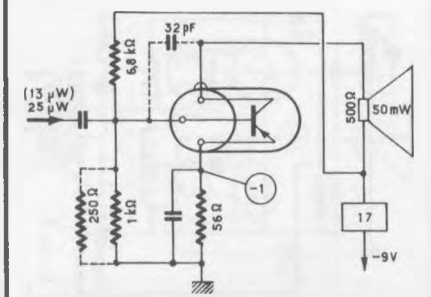
β = 30
GP = 30dB



SFT322 (SFT 323)

BF

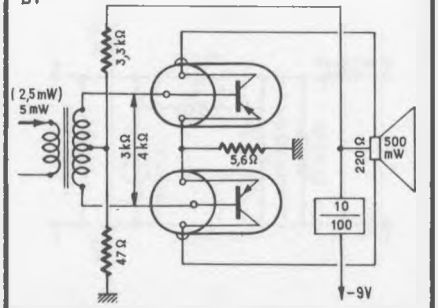
β = 50 (80)
GP = 33 dB
(36 dB)



SFT322 (SFT323)

BF

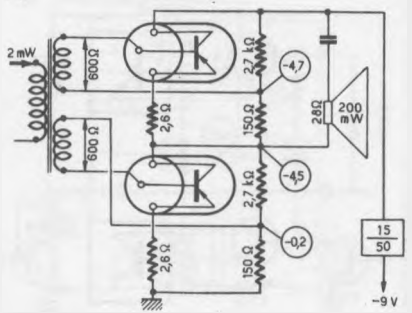
β = 50(80)
GP = 20dB
(23dB)



SFT 322

BF

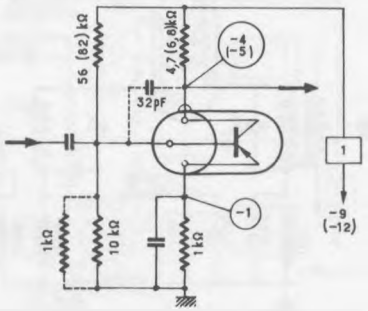
β = 50
GP = 20 dB



SFT 351

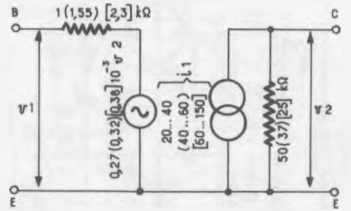
BF

β = 30
Fb = 8 dB



SFT 351 (SFT 352) (SFT 353)

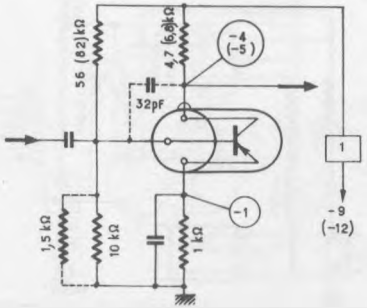
Vc = ~6 V
Ic = 1 mA
f = 1 kHz
Fb = 8 dB



SFT 352

BF

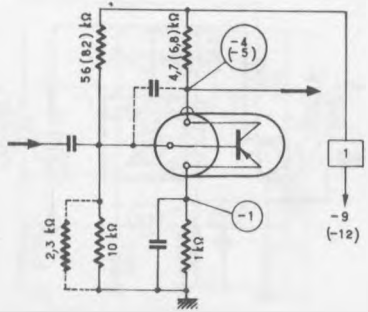
β = 50
Fb = 8 dB



SFT 353

BF

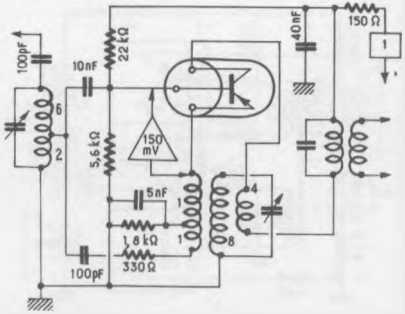
β = 80
Fb = 8 dB



SFT 354

Conv. < 23 MHz

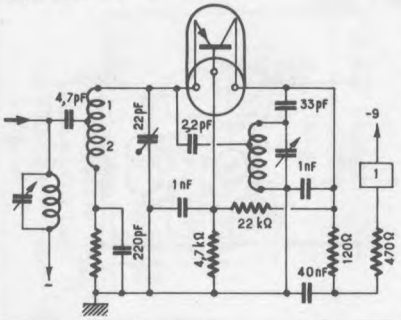
β = 100



SFT357

Conv.100MHz

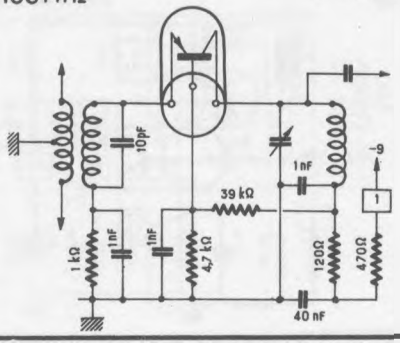
β = 100



SFT358

100 MHz

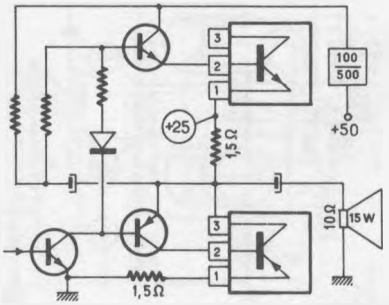
β = 150
GP = 14 dB
Fb = 7dB



TIP 14,24

P n-p-n Si

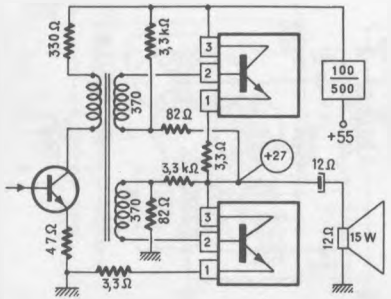
β > 20
f_t > 40 MHz



TIP 24

P n-p-n Si

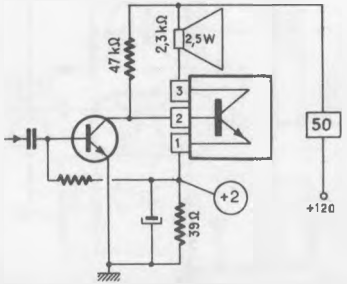
β > 20



TIP 27

P n-p-n Si

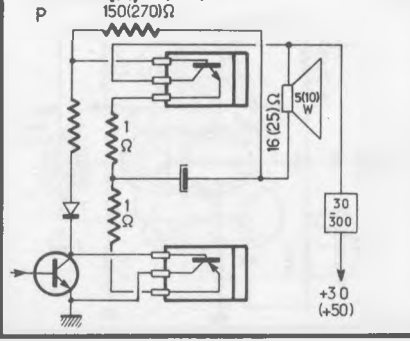
β = 25...150



TIP 29(A) / TIP 30(A)

P n-p-n Si / p-n-p Si

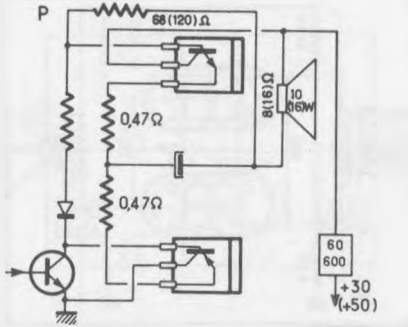
β = 40.....200



TIP 31 (A) n-p-n Si
TIP 32(A) p-n-p Si

P

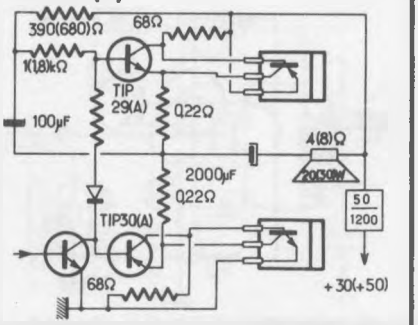
β=20.....100



TIP 33(A) n-p-n Si
TIP 34(A) p-n-p Si

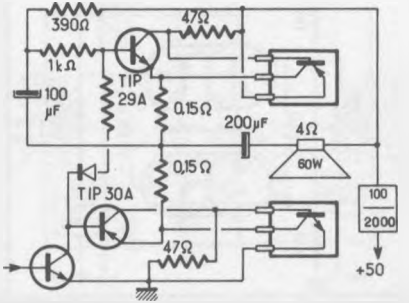
P

β=25...125



TIP 35 A n-p-n Si
TIP 36 A p-n-p Si

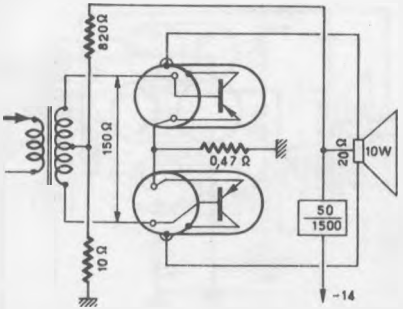
P



2 N 155

P

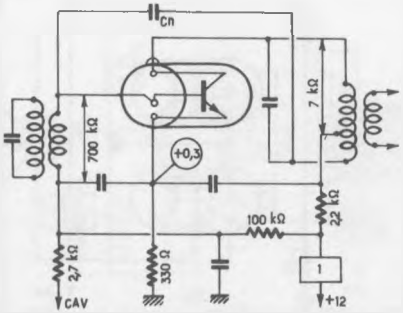
β > 24
GP = 17dB



2N 169 A n-p-n

MF 470 kHz

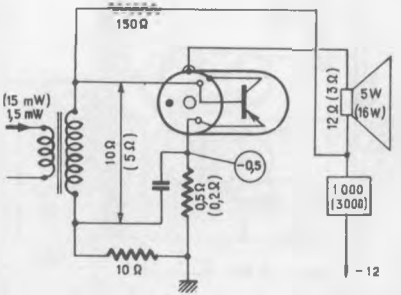
β = 72
GP = 24dB



2N 173

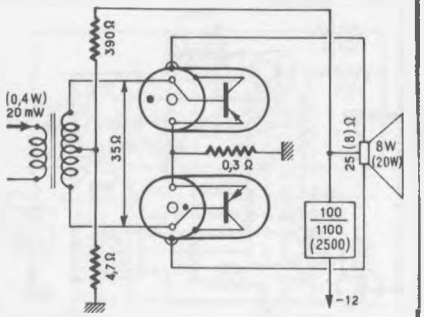
P

β = 85
GP = 36dB
(30dB)



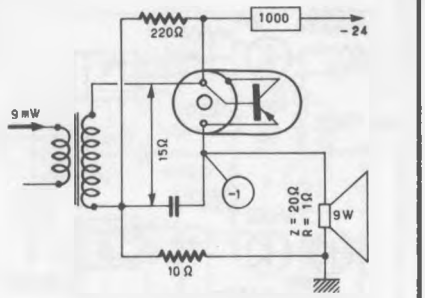
2N 173
P

β = 50...85
GP = 27dB (17dB)



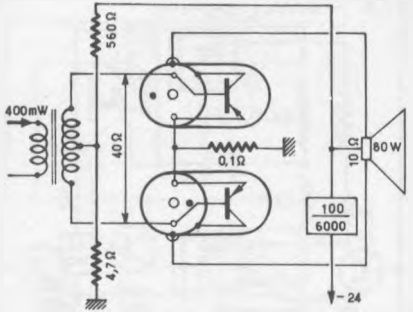
2N174
P

β = 40
GP = 30dB



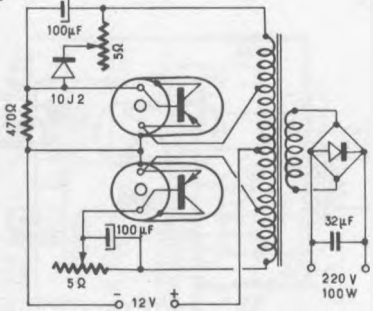
2N 174
P

β = 40
GP = 23dB



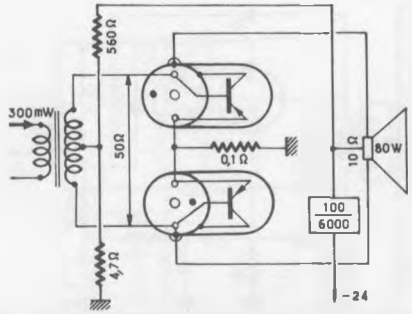
2N174
P

β = 40



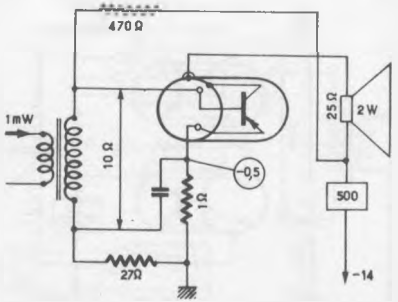
2N 174 A

β = 50
GP = 24dB



2N 176
P

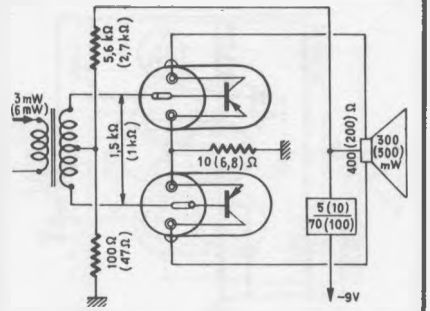
β = 63
GP = 35dB



2N 186,(A)

BF

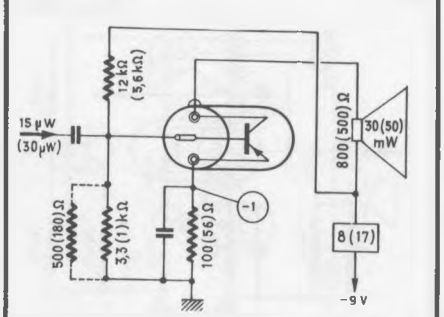
β = 24
GP = 20(18)dB



2N 187,(A)

BF

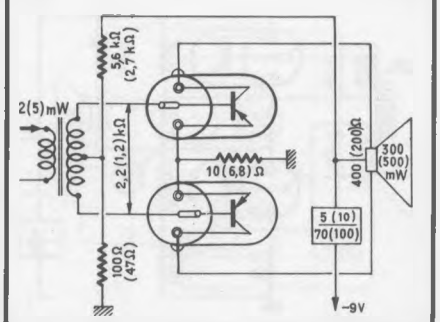
β = 36
GP = 33(30)



2N 187,(A)

BF

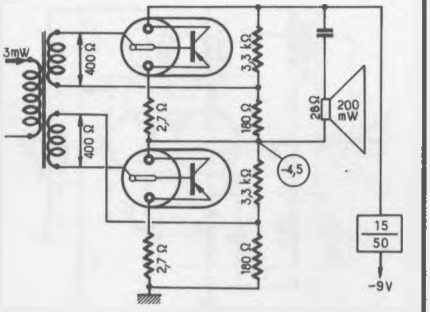
β = 36
GP = 22(20)dB



2N 187A

BF

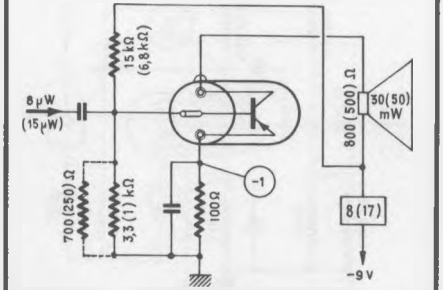
β = 36
GP = 16 dB



2N 188,(A)

BF

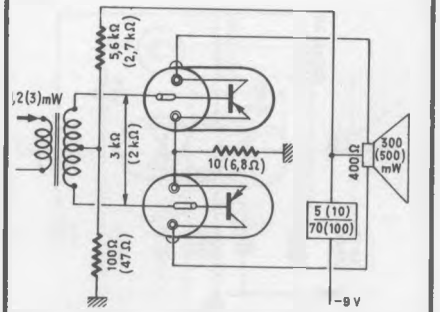
β = 54
GP = 36(24)dB



2N 188,(A)

BF

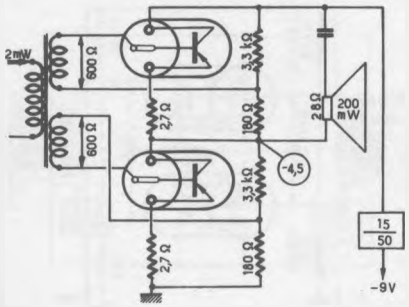
β = 54
GP = 24(22)dB



2N 188A

BF

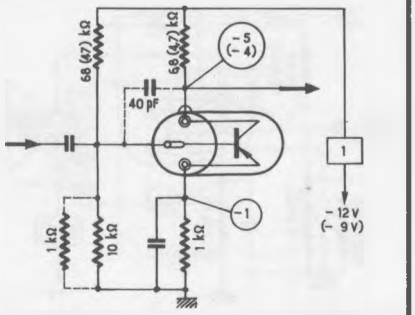
β = 54
GP = 20 dB



2N 189

BF

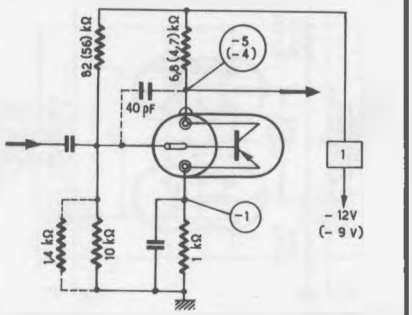
β = 24
GP = 15 dB



2N 190

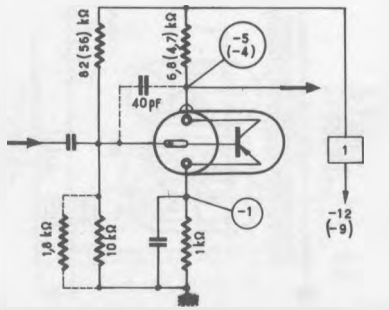
BF

β = 38
Fb = 15 dB



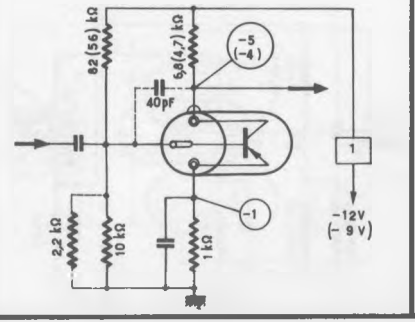
2N 191

β = 54
Fb = 15 dB



2N 192

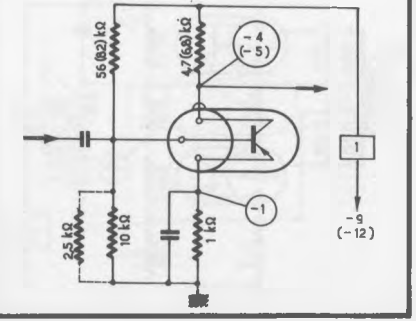
β = 75
Fb = 15 dB



2N 217

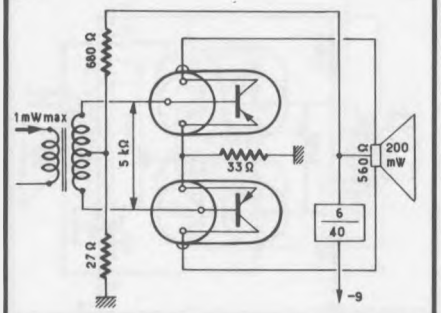
BF

β = 75



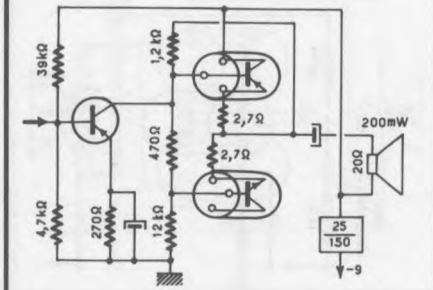
2N 217
BF

β = 75
GP = 30 dB max



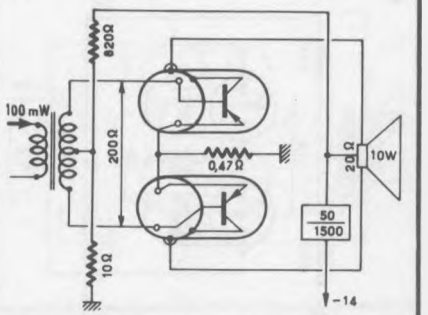
2N229
2N226
n-p-n
p-n-p

β = 25...100



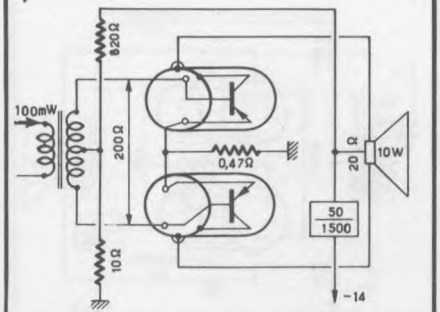
2N 235 A,B
P

β = 50
GP = 20 dB



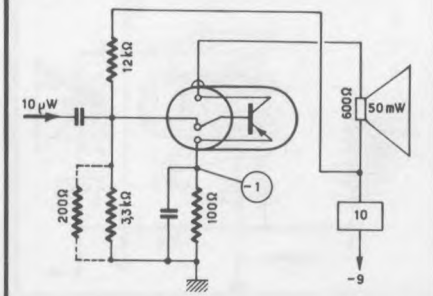
2N 236 B
P

β = 60
GP = 20 dB



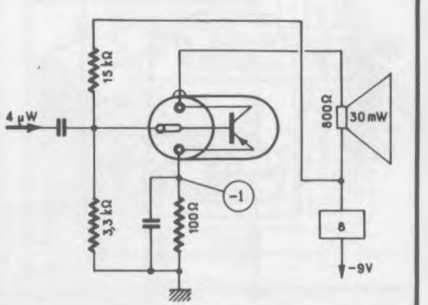
2N 238
BF

β = 50
GP = 33 dB



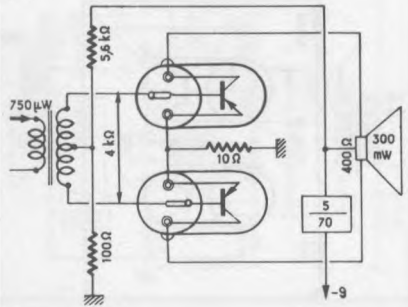
2N 241
BF

β = 73
GP = 39 dB



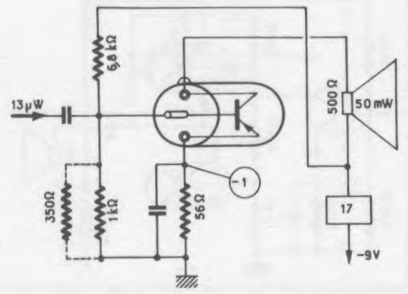
2N 241
BF

β = 73
GP = 26 dB



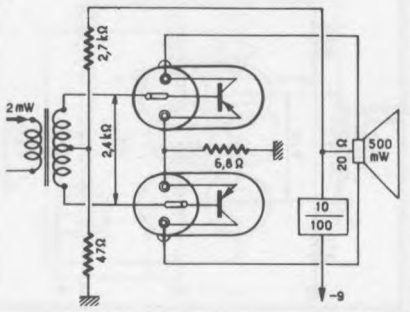
2N 241 A
BF

β = 73
GP = 36 dB



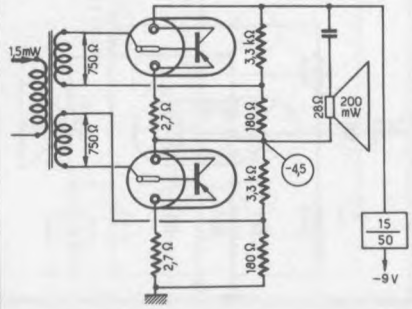
2N 241 A
BF

β = 73
GP = 24 dB

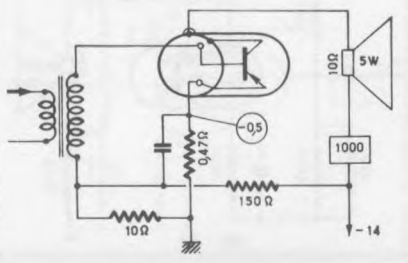


2N 241 A
BF

β = 73
GP = 22 dB

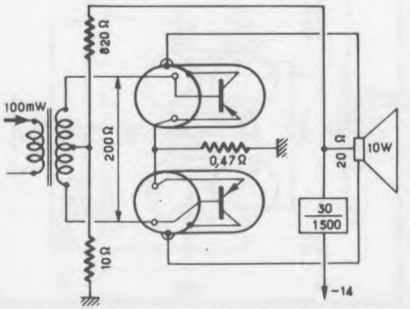


2N 242
P



2N 250
P

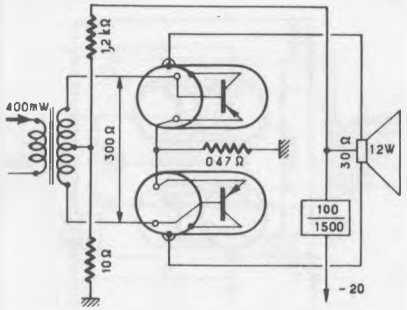
β = 50
GP = 20dB



2N 251

P

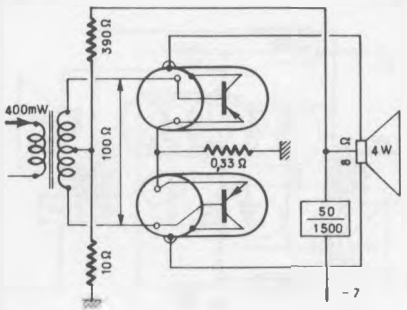
β = 30
GP = 15 dB



2N 255

P

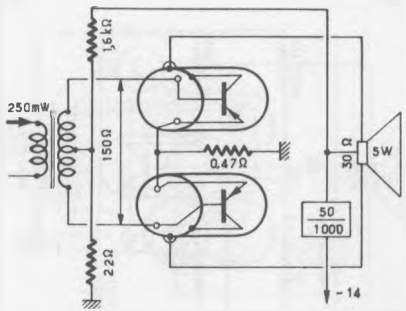
β > 15
GP > 10 dB



2N 256

P

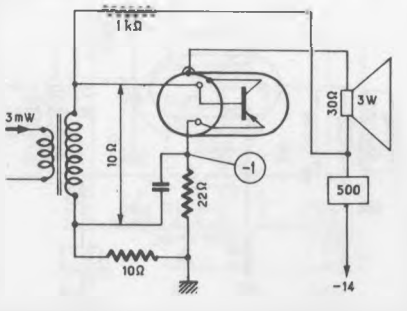
β > 15
GP > 13 dB



2N 257

P

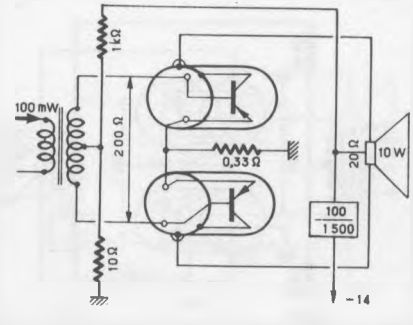
β = 50
GP = 30 dB



2N 257

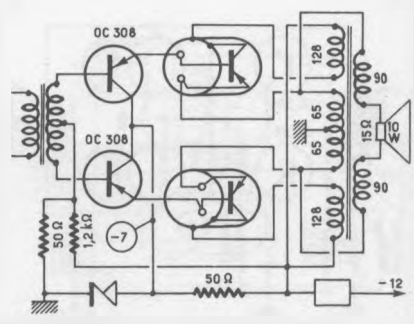
P

β = 50
GP = 20 dB



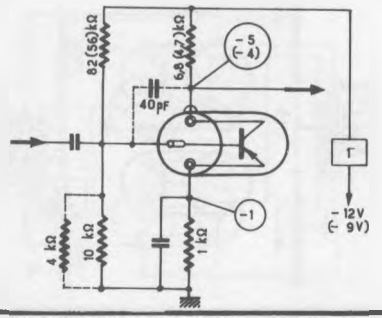
2N 257

P



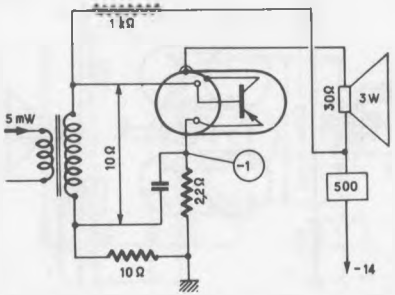
2 N 265
BF

β = 110
F = 15 dB



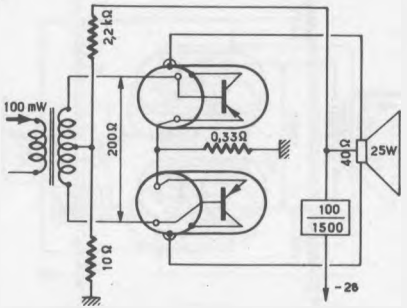
2N 268
P

β = 50
GP = 28 dB

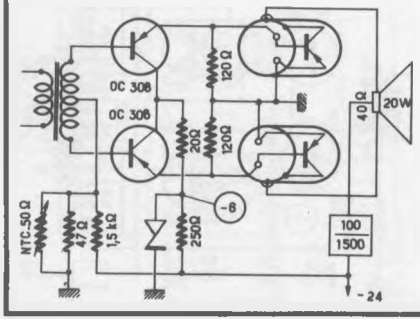


2N 268
P

β = 50
GP = 25 dB

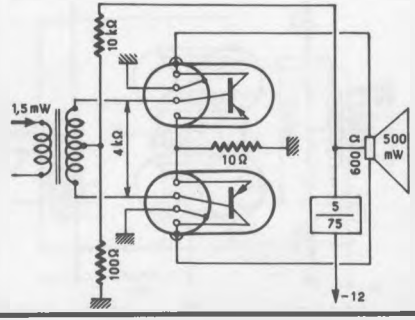


2N 268
P



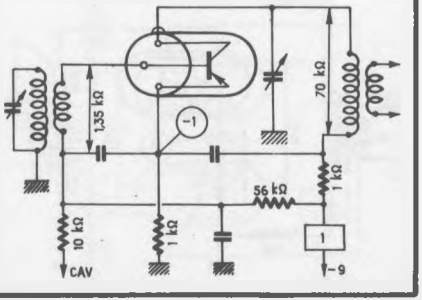
2N 270
BF

β = 70
GP = 25 dB



2N 274
H.F. 0,5... 1,6 MHz

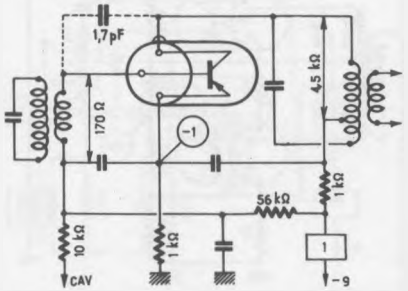
β = 60
GP = 37 dB



2N 274

MF_10 MHz

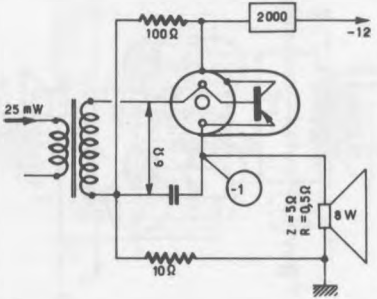
β=80



2N277

P

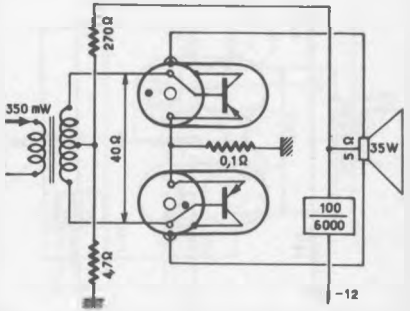
β = 40
GP = 25dB



2N 277

P

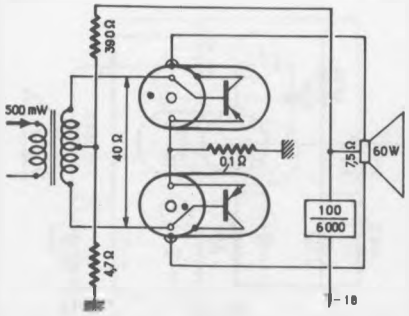
β = 40
GP = 20dB



2N 278

P

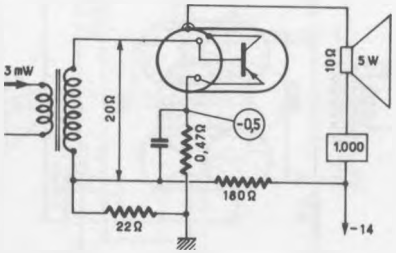
β = 40
GP = 21dB



2N 285 A

P

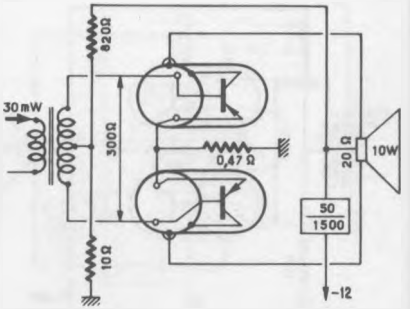
β = 150
GP = 33dB



2N 285 A

P

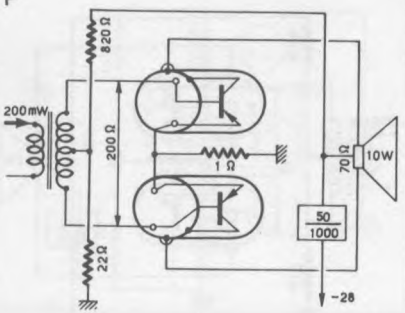
β = 150
GP = 28dB



2N 296

P

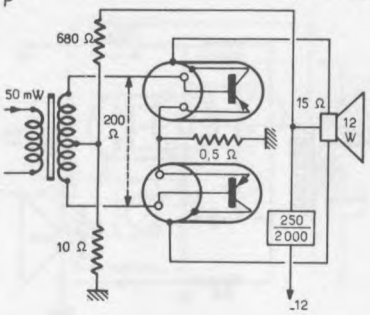
β > 20
GP > 17 dB



2N 297A

P

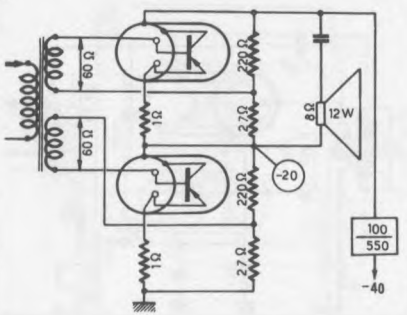
β = 40 . . . 100
GP = 24 dB



2N 301

P

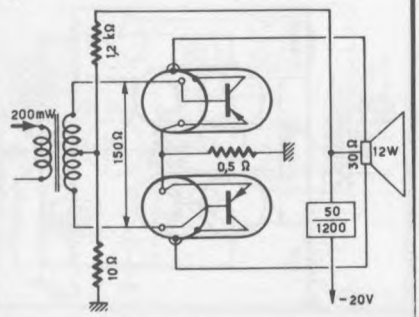
β = 70



2N 301,A

P

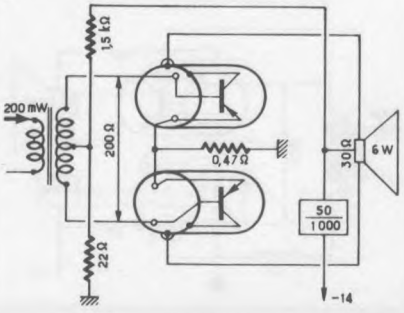
β = 70
GP = 18 dB



2N 307, A

P

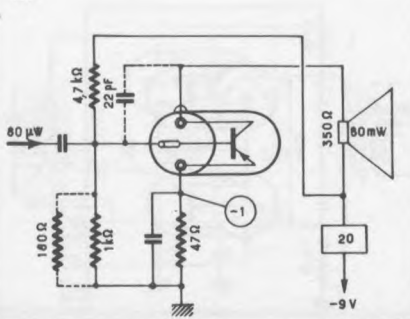
β > 20
GP > 15 dB



2N 319

BF

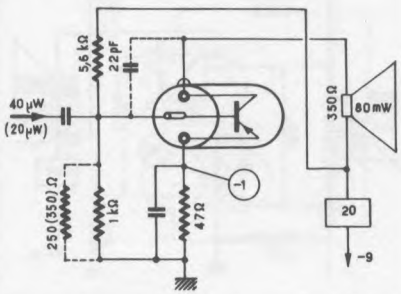
β = 16...41
GP = 30 dB



2N 320,(21)

BF

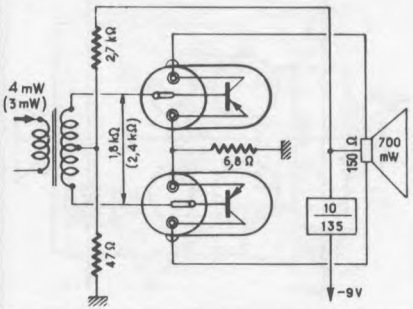
β = 30...64 (44...80)
GP = 33 (36)dB



2N 320,(21)

BF

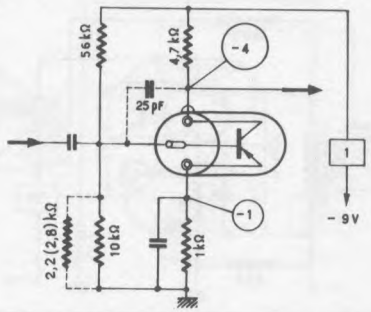
β = 30...64 (44...80)
GP = 22.(24) dB



2N 322,(3)

BF

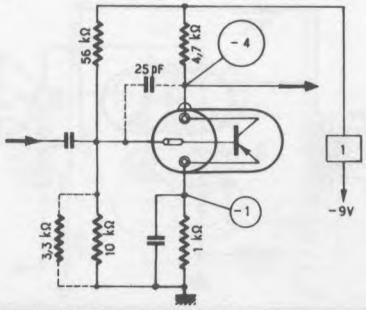
β = 48 (70)
Fb = 6 dB



2N 324

BF

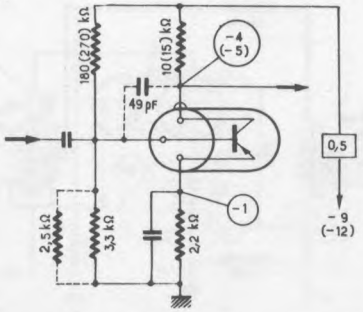
β = 90
Fb = 6 dB



2N 331

BF

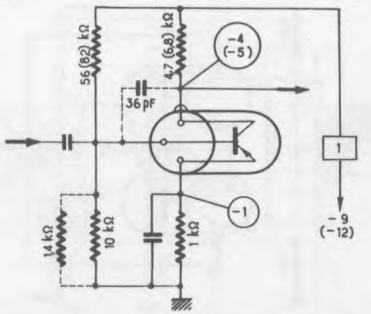
β = 50
Fb = 9 dB



2N 331

BF

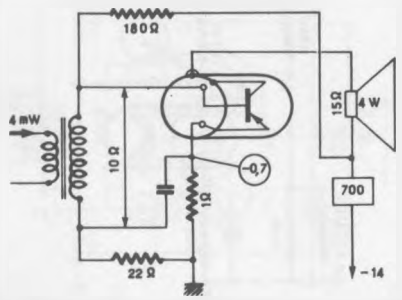
β = 50
Fb = 9 dB



2 N 350A

P

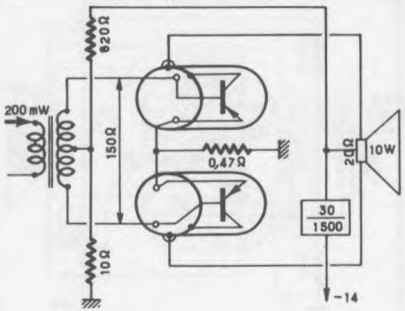
β = 30
GP = 31 dB



2 N 350 A

P

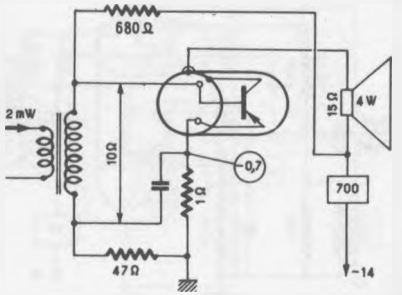
β = 30
GP = 17 dB



2 N 351, A

P

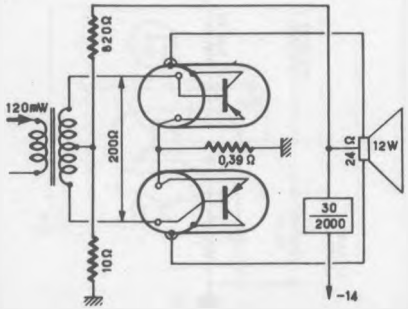
β = 65
GP = 33,5 dB



2 N 351A

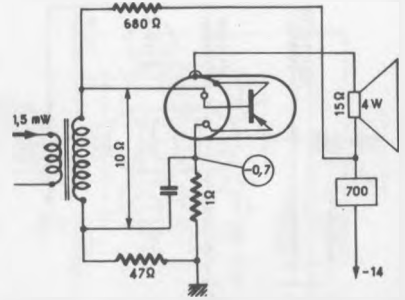
P

β = 45
GP = 20 dB



2 N 376

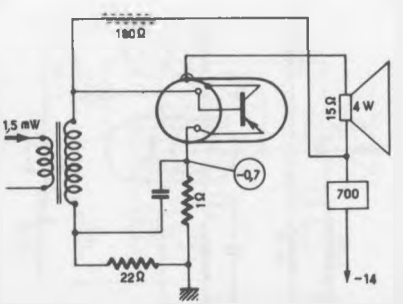
β = 78
GP = 35 dB



2 N 376 A

P

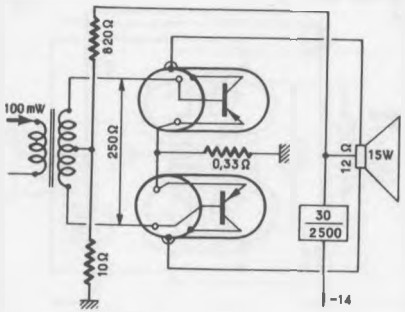
β = 80
GP = 35 dB



2N 376 A

P

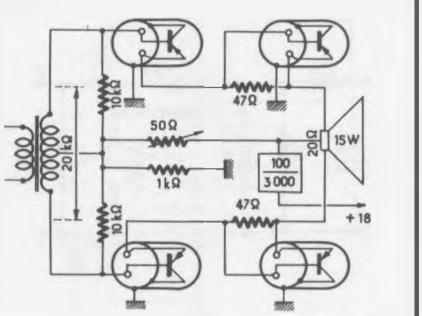
β = 80
GP = 22 dB



2N 376 A

P

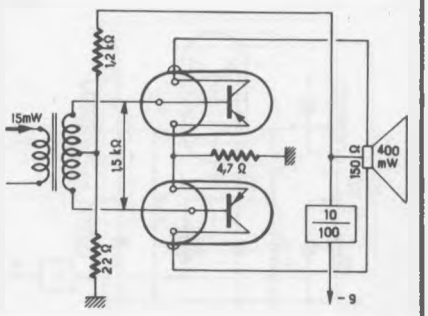
β = 65
GP tot = 26 dB



2N 381

BF

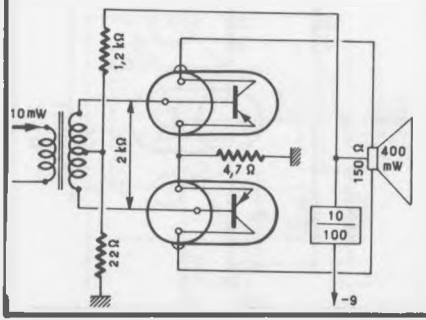
β = 24... 45
GP > 15 dB



2N 382

BF

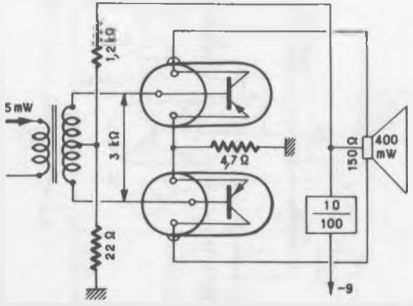
β = 40... 76
GP > 17 dB



2N 383

BF

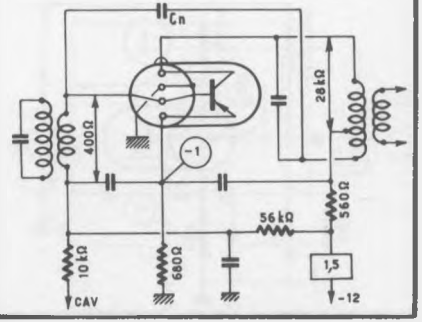
β = 55... 110
GP > 20 dB



2N 384

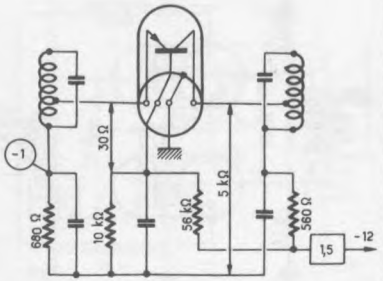
10 MHz

β = 80
GP = 34



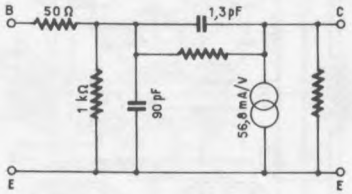
2N 384
VHF_50 MHz

α = 0,984
GP = 15 dB



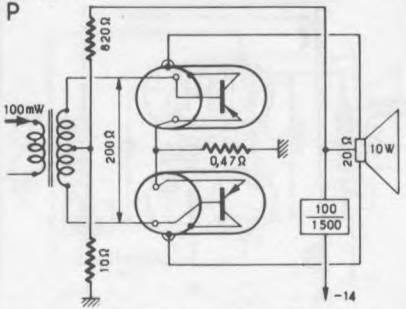
2N 384
VHF

V_C = -12 V
I_C = 1,5 mA



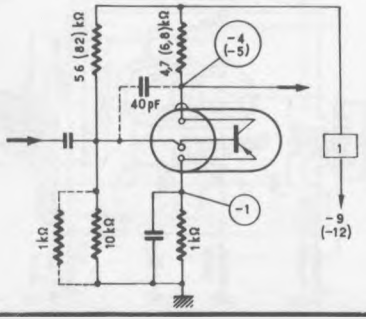
2 N 399
2 N 401
P

β = 40
GP = 20 dB



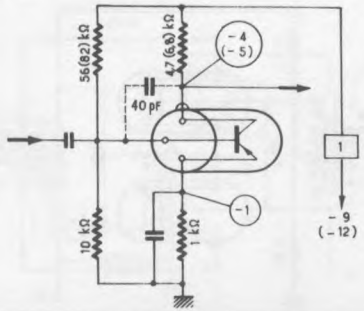
2 N 405
BF

β = 35



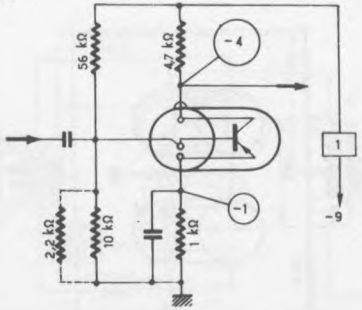
2 N 406
BF

β = 35



2 N 407
BF

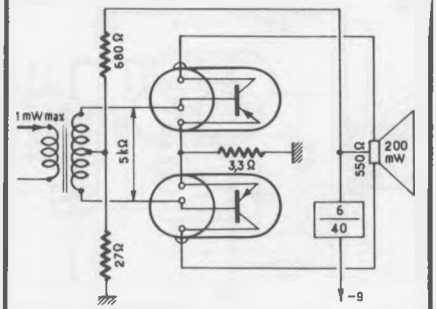
β = 65



2 N 407

BF

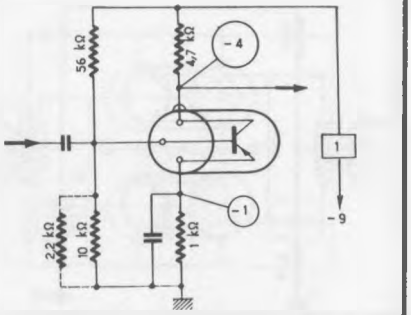
β = 65
GP = 30dB max



2 N 408

BF

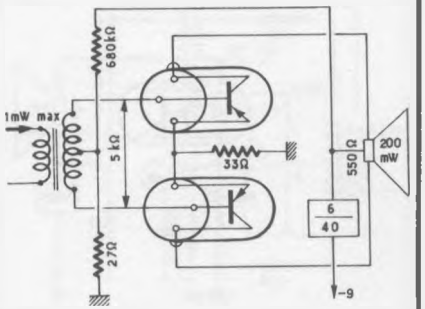
β = 65



2 N 408

BF

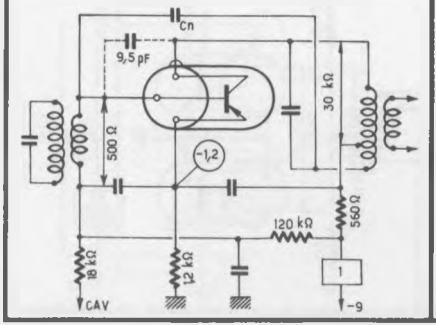
β = 65
GP = 30 dB max



2N 410

MF_470 kHz

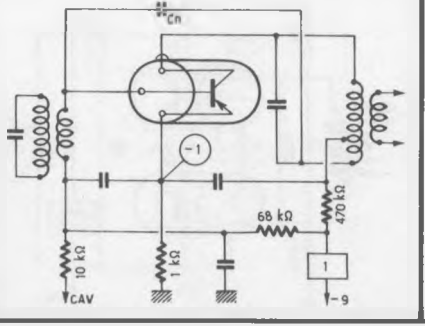
β = 48
GP = 31 dB



2N 413 A

MF_470 kHz

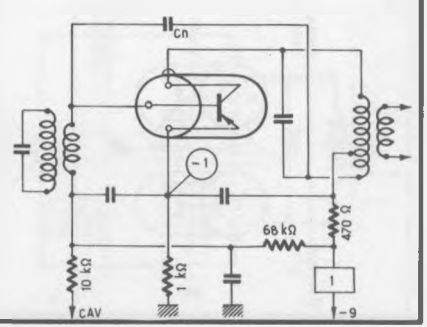
β = 30
GP = 30 dB



2N 414 A

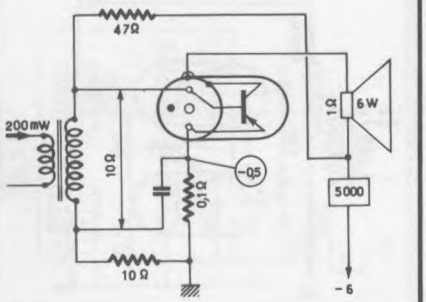
MF_470 kHz

β = 60
GP = 32 dB



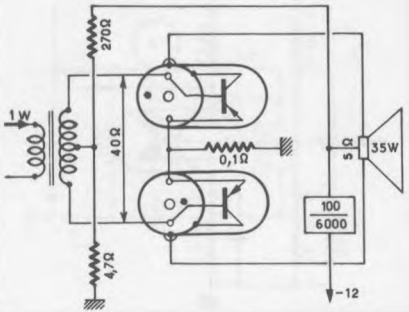
2 N 441
P

β = 30
GP = 16 dB



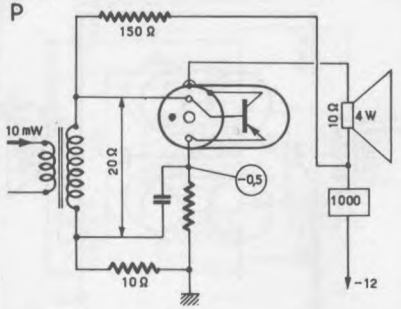
2 N 441
P

β = 30
GP = 16 dB



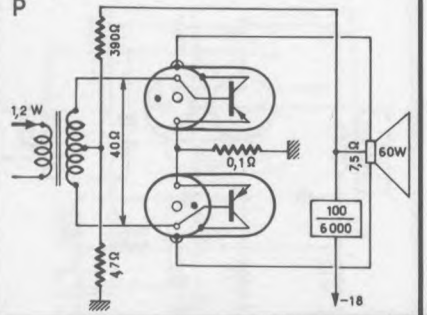
2 N 442
2 N 443
P

β = 35
GP = 27 dB



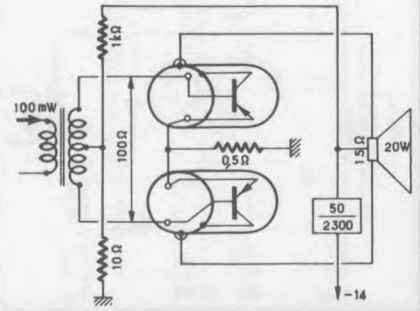
2 N 442
2 N 443
P

β = 30
GP = 17 dB



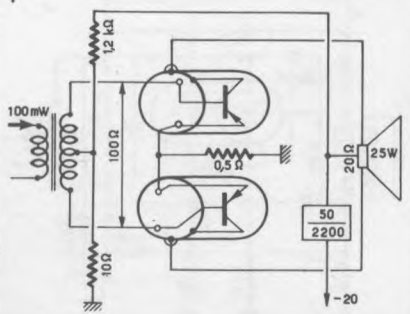
2 N 456
P

β = 52
GP = 23 dB



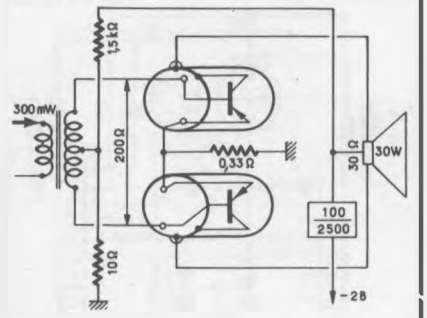
2 N 457
P

β = 52
GP = 24 dB



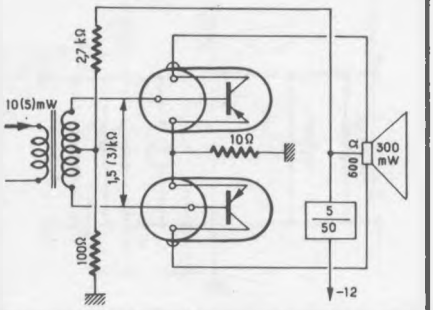
2N458
P

β = 40... 200
GP = 20 dB



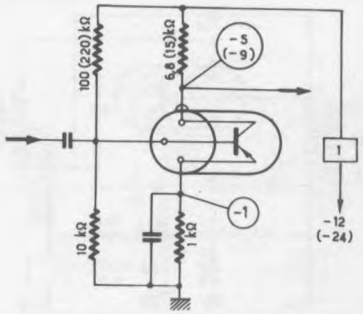
2N460
2N461

β = 24 (49)
GP = 15 (18)dB



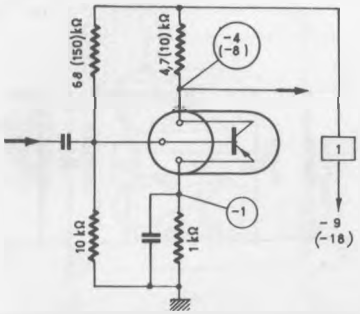
2N464
BF

β = 22
Fb = 12 dB



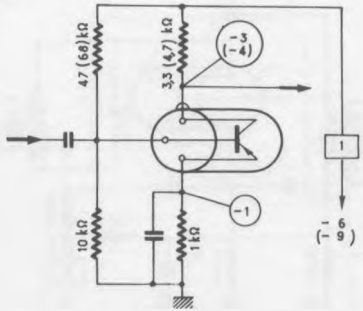
2N465
BF

β = 45
Fb = 12 dB



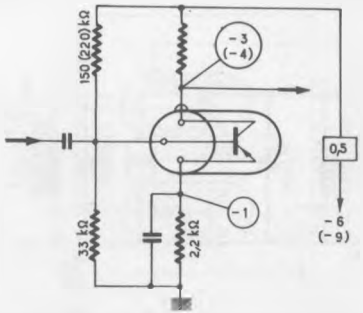
2N466
BF

β = 90
Fb = 12 dB



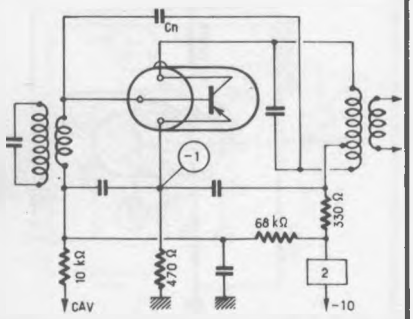
2N467
BF

β = 180
Fb = 12 dB



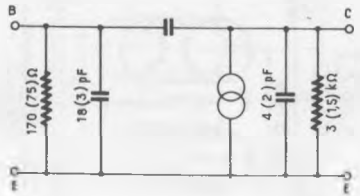
2N 499
VHF

β = 8,5 / 20 MHz
GP = 10 dB/100 MHz



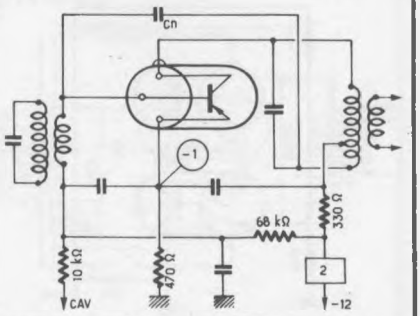
2N 499
30 (100) MHz

Vc = 10 V
Ic = 3 mA
GP = 20 (10) dB



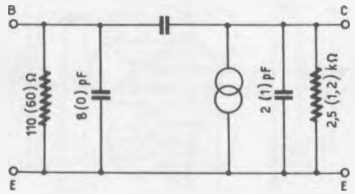
2N 502,A
VHF

β = 5,5 / 40 MHz
GP = 10 dB / 200 MHz
Fb = 5 dB / 10 MHz



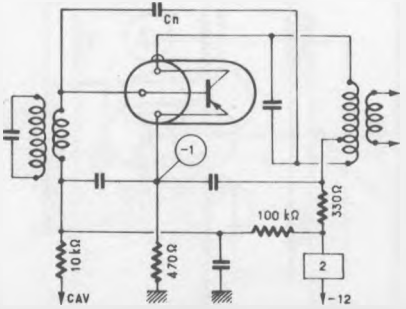
2N 502 A
70 (200) MHz

Vc = 12 V
Ic = 3 mA



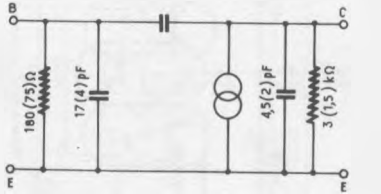
2N 503
VHF_100 MHz

β = 4,2 / 40 MHz
GP = 12,5 dB / 100 MHz



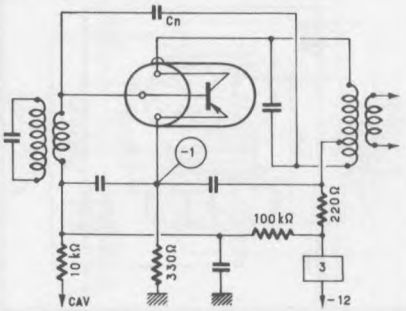
2N 503
30 (100) MHz

Vc = 10 V
Ic = 2 mA
GP = 23 (12,5) dB



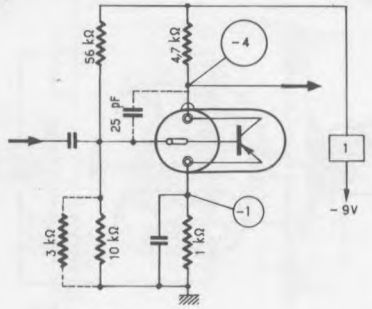
2N 504
MF 470 kHz

β > 16
GP = 43 dB



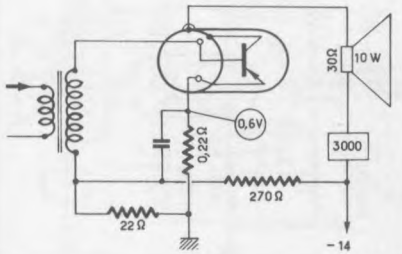
2N 508
BF

β = 112
Fb = 6 dB



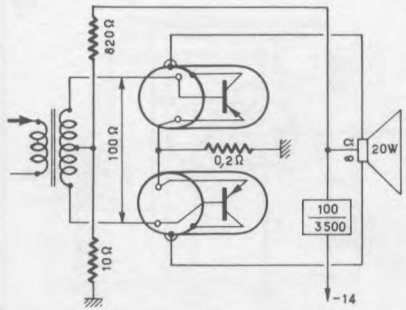
2N 511
P

β > 10

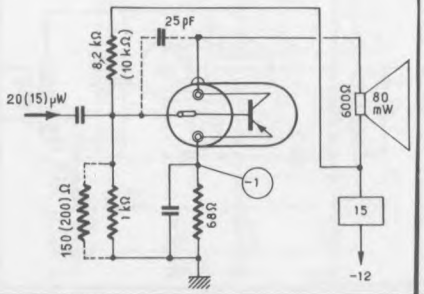


2N 511
P

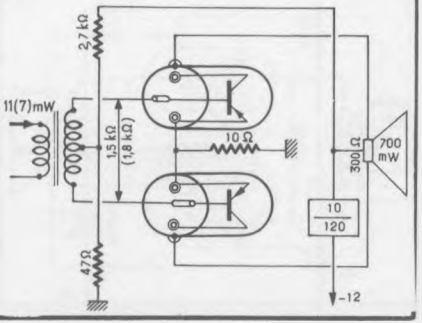
β > 10
GP > 10 dB



2N524,(25)
BF



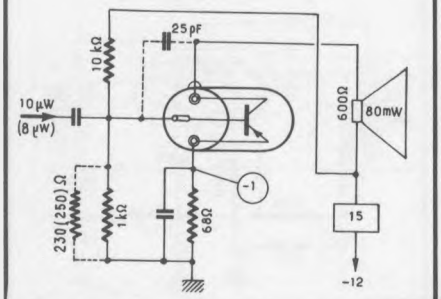
2N524,(25)
BF



2 N 526,(27)

BF

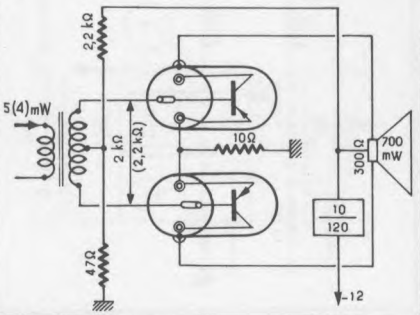
β = 44...88 (60...120)



2 N 526,(27)

BF

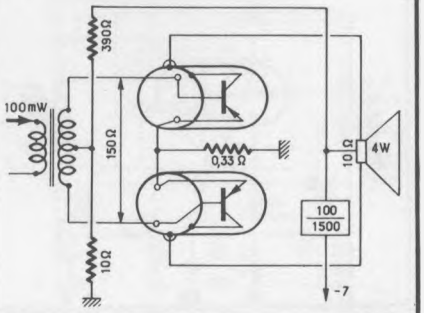
β = 44...88 (60...120)
GP = 21 (22 dB)



2 N 554

P

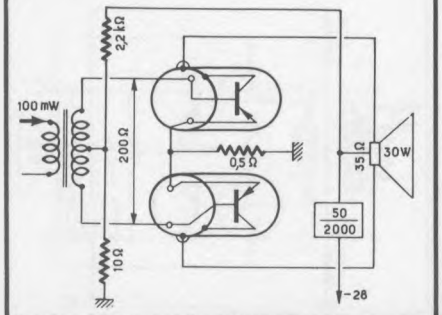
β = 30
GP = 16 dB



2 N 561

P

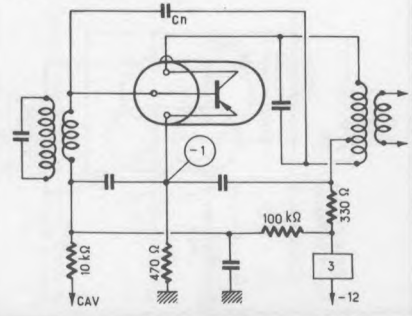
β = 75
GP = 25 dB



2 N 588

VHF 30 MHz

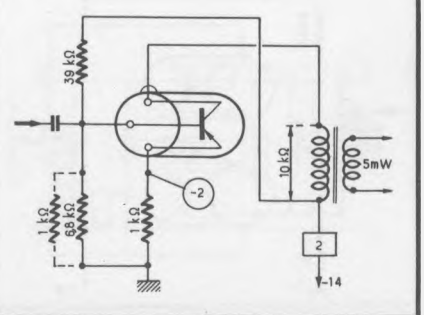
GP = 18 dB
Fb = 5 dB/10 MHz



2 N 591

BF

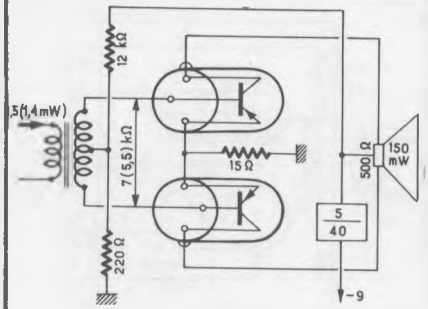
β = 70
GP = 40 dB



2 N 632, (33)

BF

β = 100 (60)
GP = 25 dB (21 dB)

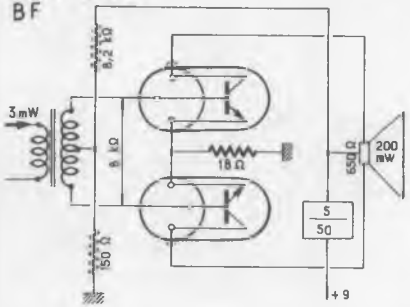


2 N 647
2 N 649

n-p-n

BF

β = 70
GP = 17 dB

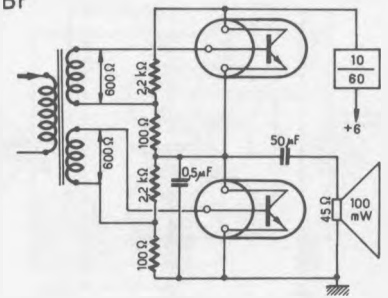


2 N 647
2 N 649

n-p-n

BF

β = 70

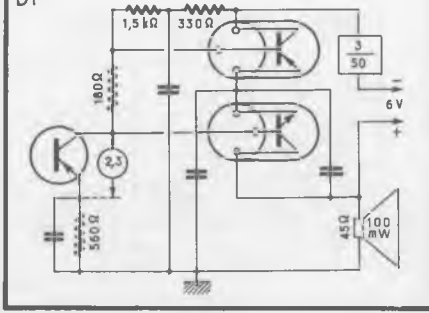


2 N 647
2 N 217

n-p-n
p-n-p

BF

β = 70

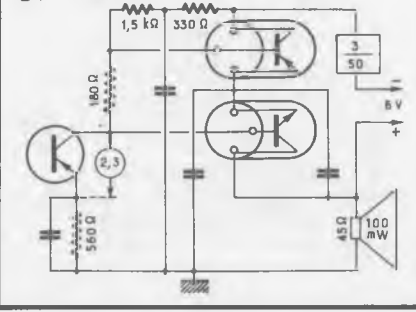


2 N 649
2 N 408

n-p-n
p-n-p

BF

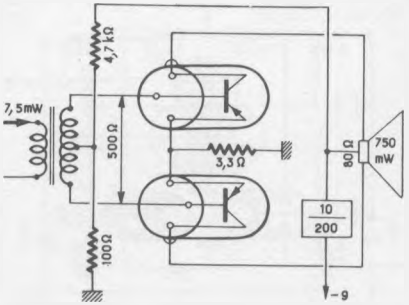
β = 65



2 N 650

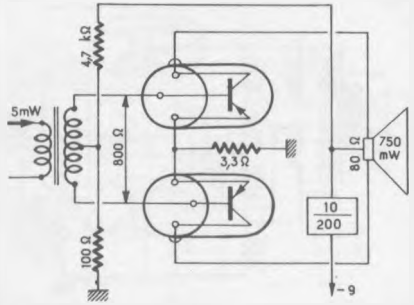
BF

β = 45
GP = 20 dB



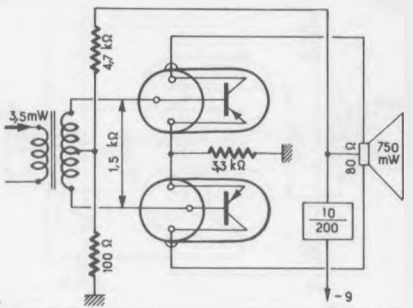
2 N 651
BF

β = 70
GP = 22 dB



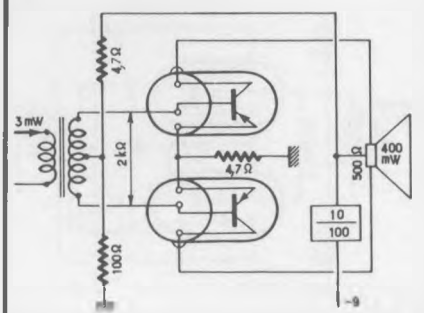
2 N 652
BF

β = 120
GP = 24 dB



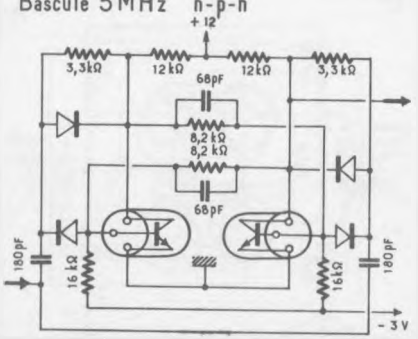
2 N 680
BF

β = 35
GP = 21 dB



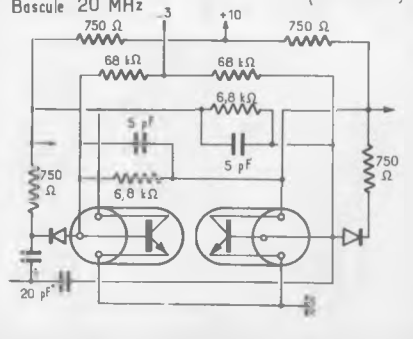
2N702 (753) Si
Bascule 5MHz n-p-n

β = 20...60



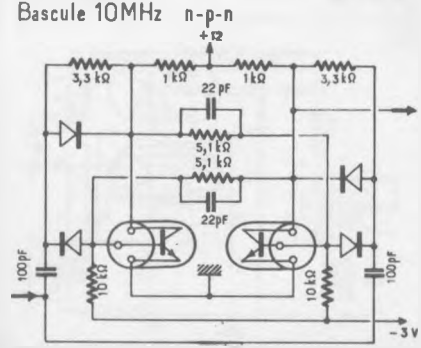
2N 706 n-p-n Si
Bascule 20 MHz Planar

β > 20
(>2 à 100 MHz)



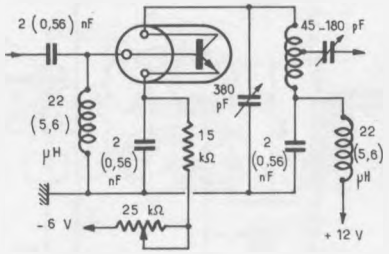
2N 706A Si
Bascule 10MHz n-p-n

β = 20...6



2N743 n-p-n Si β=20 60

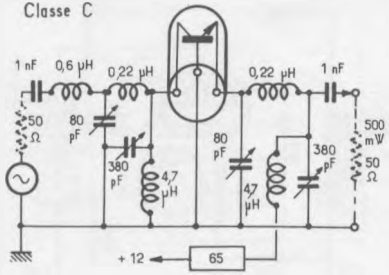
Amplif. 30 (60) MHz



2N743 n-p-n Si β=20 60 G_p=8 dB

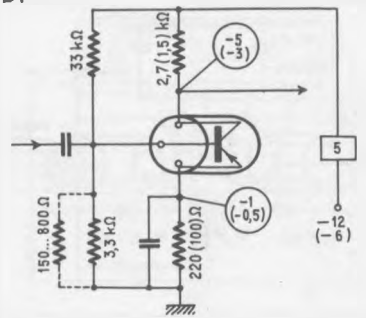
Amplif. 70 MHz

Classe C



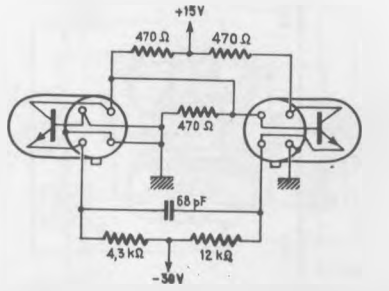
2N 863, (64) β = 20...100

BF



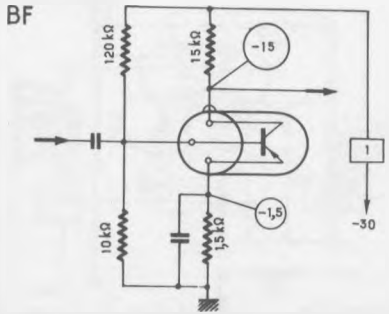
2N918 Si β < 20

Multiv. 2 MHz n-p-n



2N923 (2N924) Si β = 21 (47)

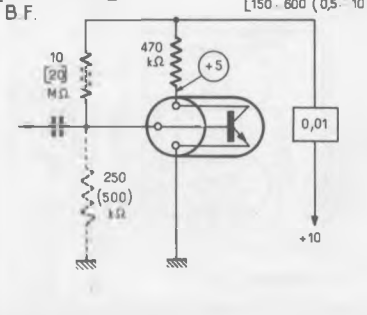
BF



2N 929 [2N 930] n-p-n Si Planar

β = 40...120 (10 µA)
60...350 (0,5...10 mA)
[100...300 (10 µA)]
[150...600 (0,5...10 mA)]

B.F.

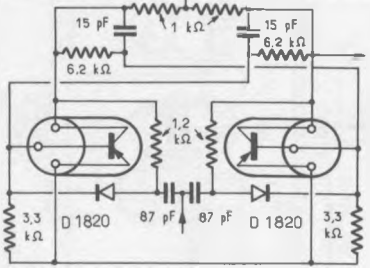


2 N 964

Mésa

β = 70
t_r = 6 ns
t_f = 12 ns

Bascule 30 MHz -12

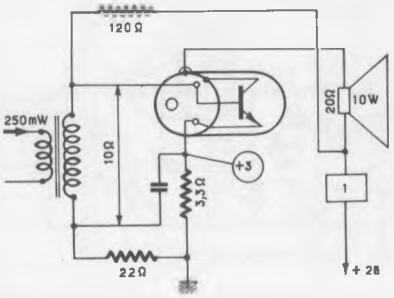


2 N 1015 B

n-p-n Si

P

β > 10
GP= 16dB

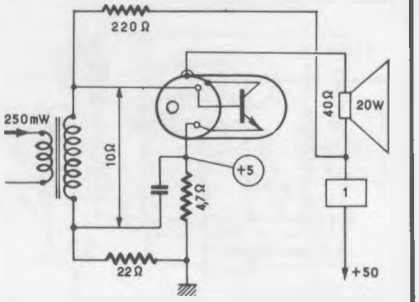


2 N 1015 C

n-p-n Si

P

β > 10
GP = 19dB

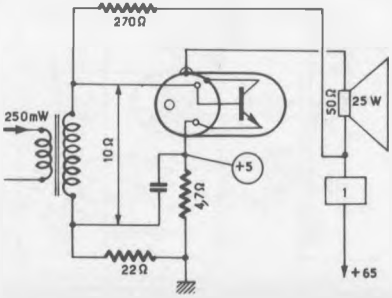


2 N 1015 D

n-p-n Si

P

β > 10
GP = 20dB

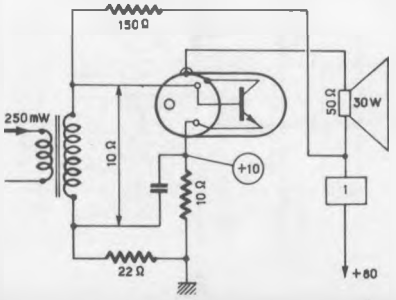


2 N 1015 E

n-p-n Si

P

β > 10
GP = 21dB

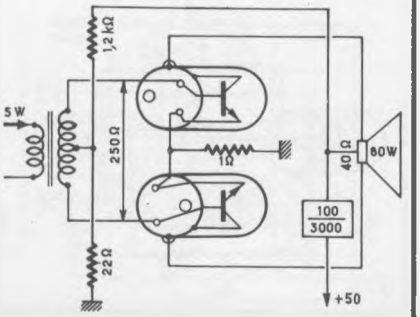


2 N 1016 C

n-p-n Si

P

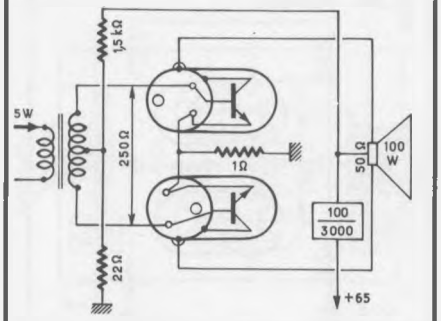
β > 10
GP = 12dB



2N1016D

n-p-n Si

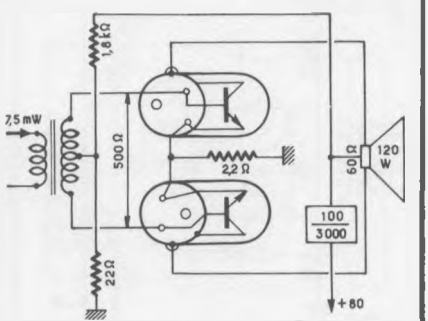
$\beta > 10$ GP = 13dB



2N1016E

P n-p-n Si

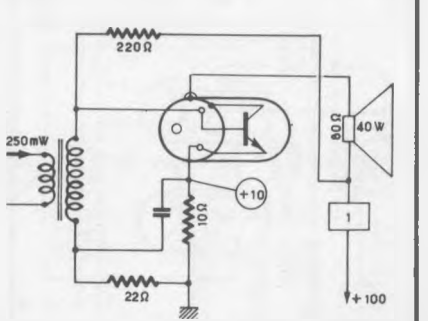
$\beta > 10$ GP = 12dB



2N1016F

P n-p-n Si

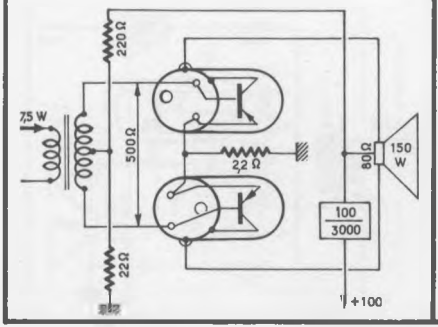
$\beta > 10$ GP = 22dB



2N1016F

P n-p-n Si

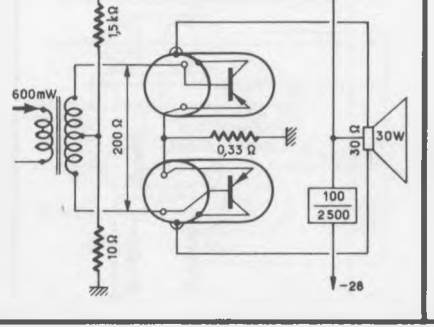
$\beta > 10$ GP = 13dB



2N1021

P

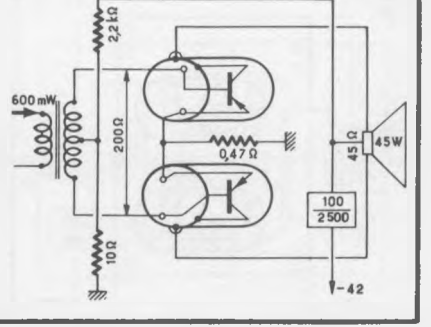
$\beta = 23$ GP = 17dB



2N1022

P

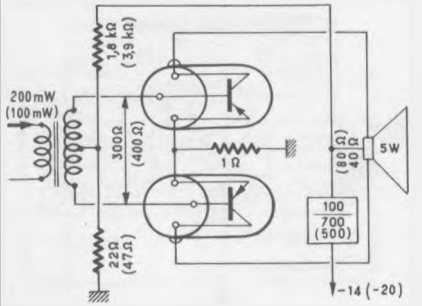
$\beta = 23$ GP = 19dB



2 N 1038, (39)

P

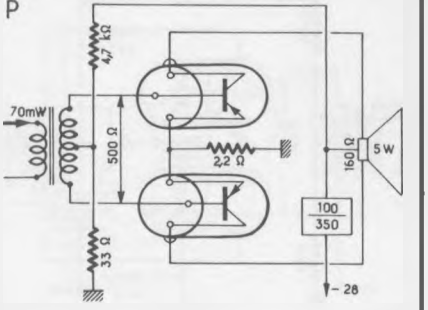
β = 20...60
GP = 15 dB (17 dB)



2 N 1040
2 N 1041

P

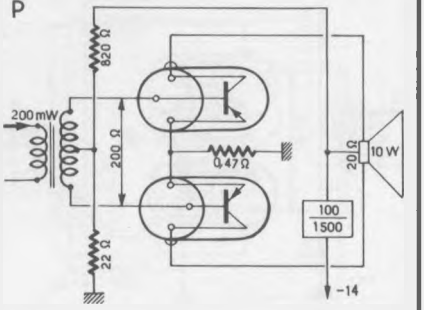
β = 20...60
GP = 19 dB



2 N 1042
2 N 1043

P

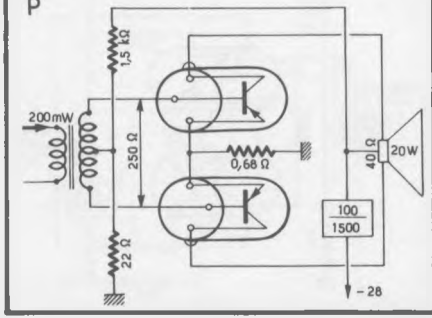
β = 20...60
GP = 17 dB



2 N 1044
2 N 1045

P

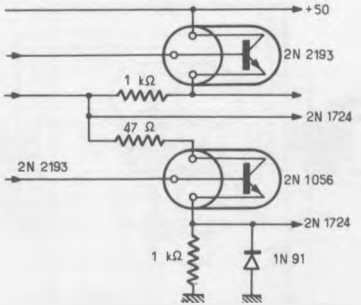
β = 20...60
GP = 20 dB



2N 1056

B.F.

β = 25
F_b < 20 dB

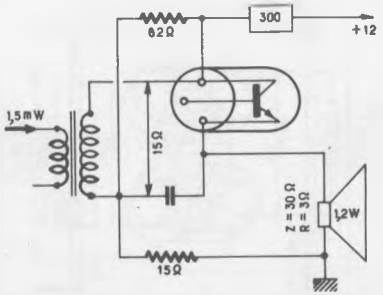


2N1067

P

n-p-n
Si

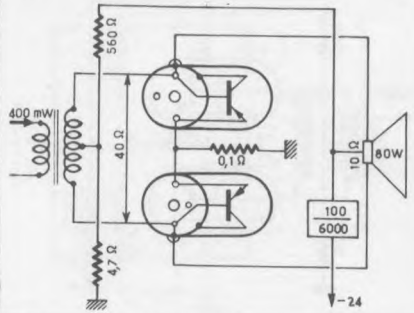
β = 15...75
GP = 29 dB



2N 1099

P

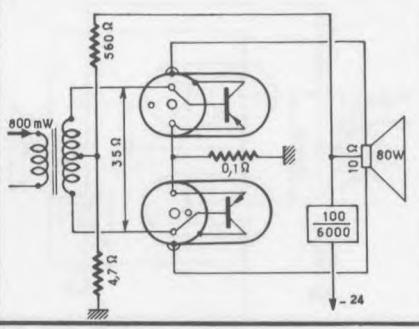
β = 40
GP = 23 dB



2N 1100

P

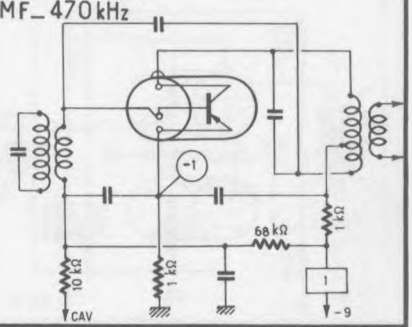
β = 30
GP = 20 dB



2N 1109 (2N 1110)

MF = 470 kHz

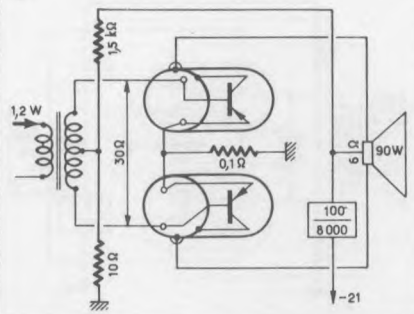
GP = 30 (29) dB



2N 1146 A

P

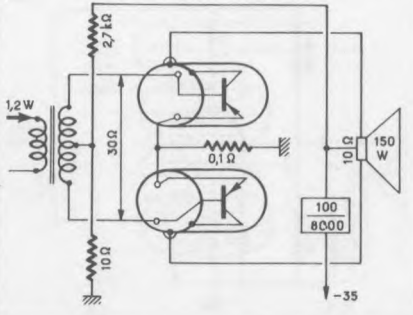
β = 30...200
GP = 18 dB



2N 1146 C

P

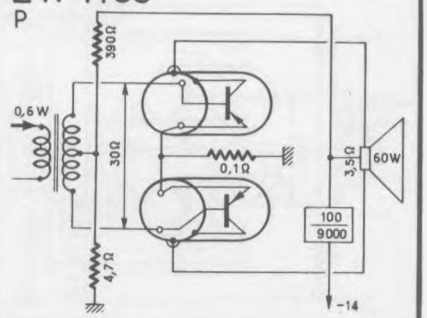
β = 30...200
GP = 21 dB



2N 1162 2N 1163

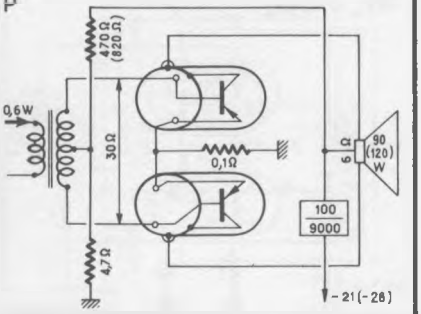
P

β = 65
GP = 20 dB



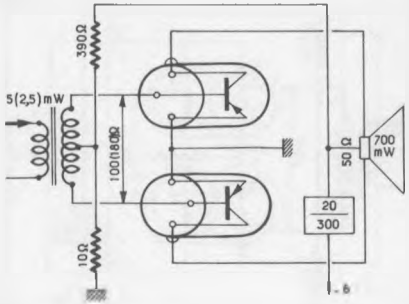
2N 1164, (66)
2N 1165, (67)
P

β = 65
GP = 22 dB (23 dB)



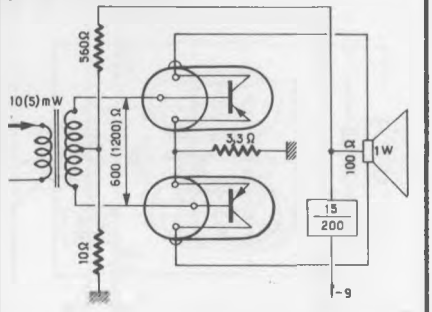
2N1183 (2N1184)

β => 20 (> 40)
GP = 21 (24) dB



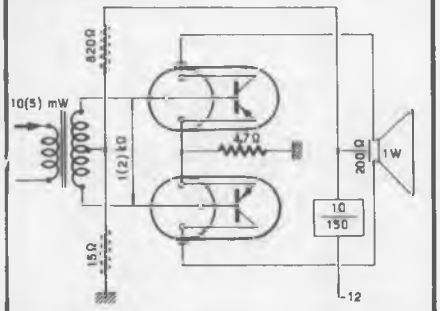
2N1183 A (2N1184 A)

β > 20 (>40)
GP = 20 (23) dB



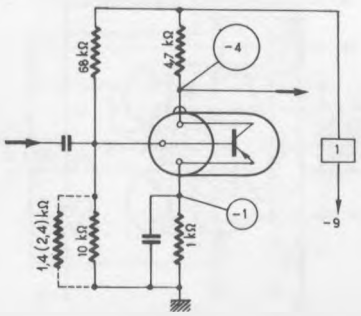
2N1183 B (2N1184 B)

β > 20 (> 40)
GP = 20 (23) dB



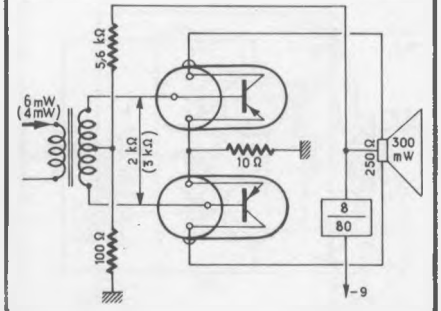
2N 1191, (92)
BF

β = 40 (75)
Fb = 10 dB



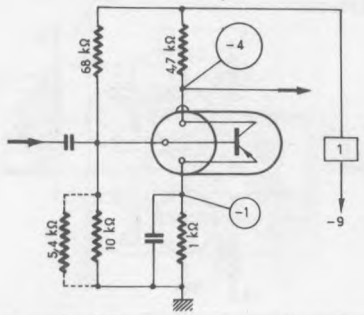
2N 1191, (92)
BF

β = 40 (75)
GP = 17 dB (19 dB)



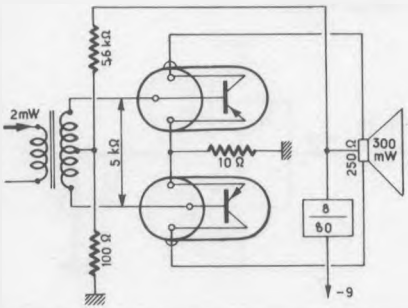
2 N 1193
BF

β = 160
Fb = 10 dB



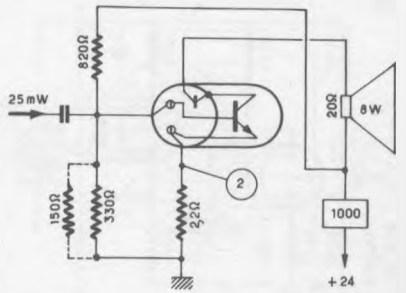
2 N 1193
BF

β = 160
GP = 22 dB



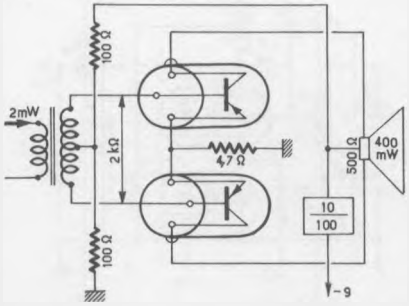
2N1208
n-p-n
Si

β = 40
GP = 25 dB



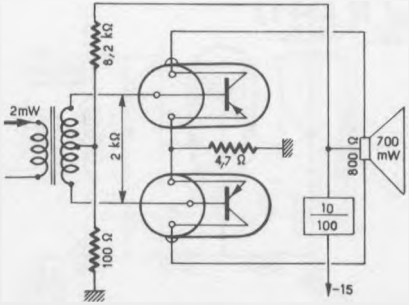
2 N 1273
BF

β = 50
GP = 24 dB



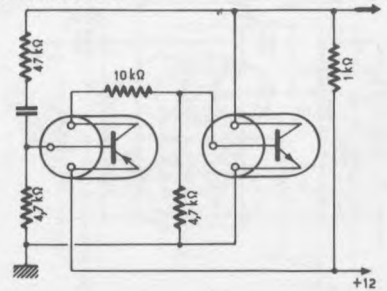
2 N 1274
BF

β = 50
GP = 26 dB



2N1302
2N1303
n-p-n
p-n-p
Multivibrateur

β > 20

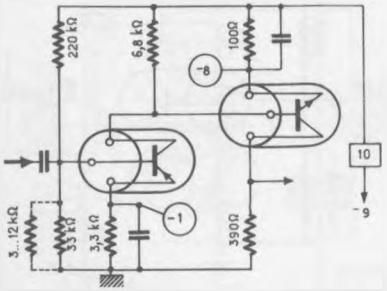


2N1304 / 2N1305

n-p-n / p-n-p

β = 40...200

BF

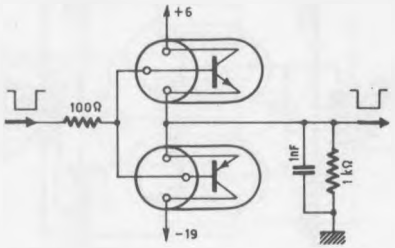


2N1306 / 2N1307

n-p-n / p-n-p

β = 60...300

Adapt. impéd.

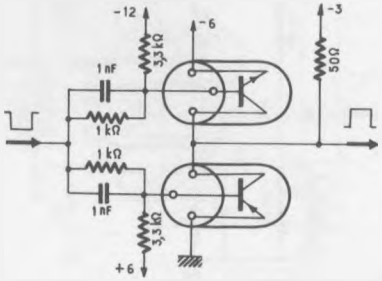


2N1308 / 2N1309

n-p-n / p-n-p

β > 80

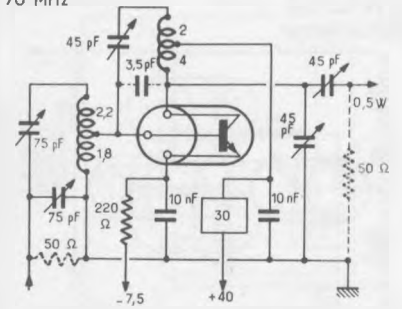
Inverseur



2N 1338

70 MHz

GP = 10 dB

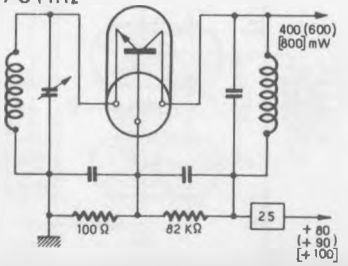


2 N 1339 (2 N 1340) [2 N 1341]

n-p-n Si

β = 15

Osc. 70 MHz

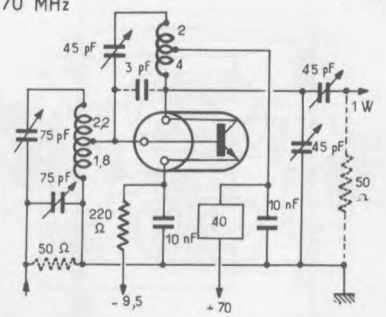


2 N 1342

70 MHz

β = 15

GP = 10 dB

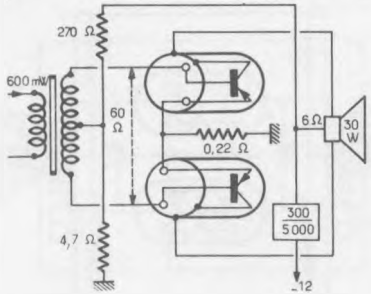


2N 1358

P

$\beta = 50$

GP = 23 dB

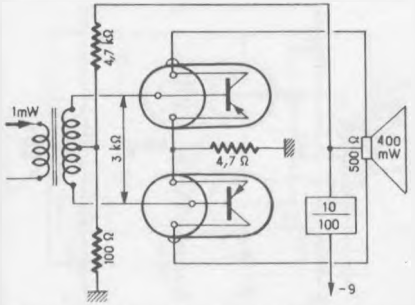


2N 1370

BF

$\beta = 80$

GP = 26 dB

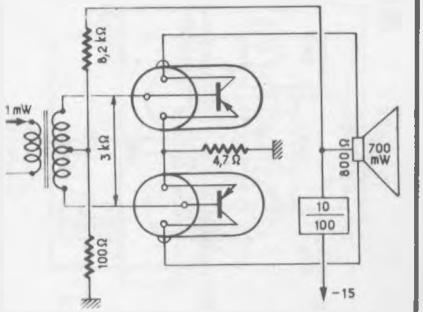


2 N 1371

BF

$\beta = 80$

GP = 28 dB

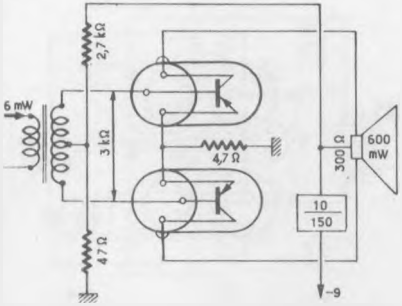


2 N 1372

BF

$\beta = 45$

GP = 20 dB

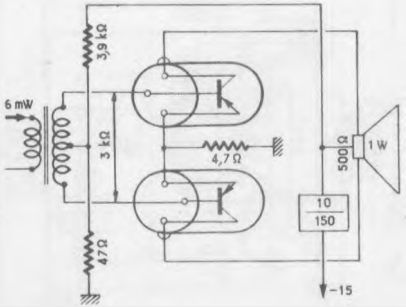


2 N 1373

BF

$\beta = 45$

GP = 22 dB

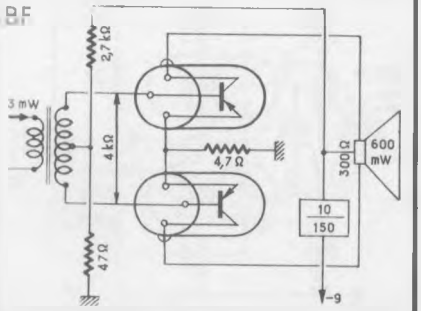


2 N 1374 (2 N 1376)

BF

$\beta = 80\ (95)$

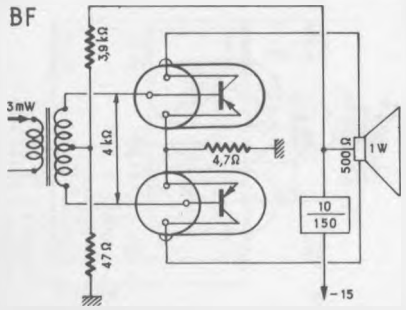
GP = 23 dB



2N 1375 (2N 1377)

BF

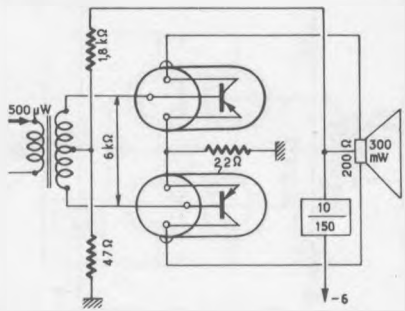
β = 80 (95)
GP = 25 dB



2N 1378

BF

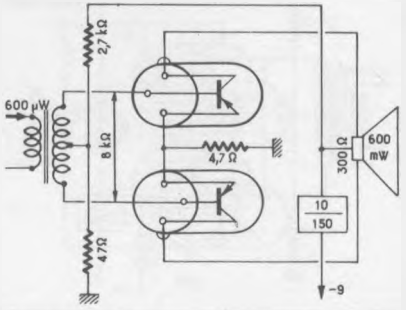
β = 200
GP = 28 dB



2N 1379

BF

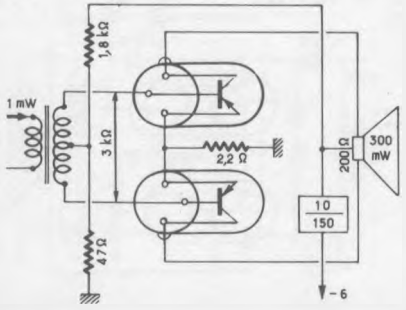
β = 200
GP = 22 dB



2N 1380

BF

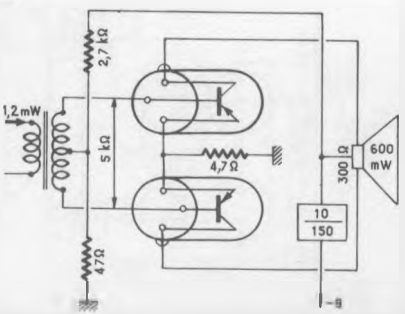
β = 100
GP = 25 dB



2N 1381

BF

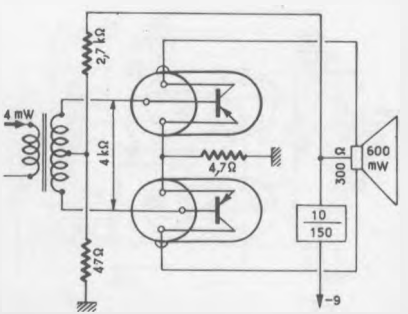
β = 100
GP = 27 dB



2N 1382

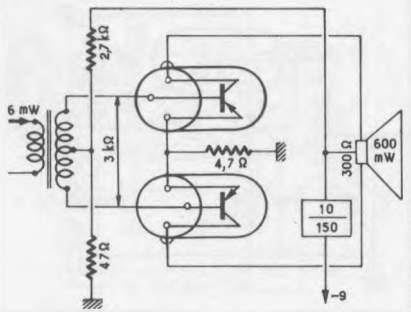
BF

β = 80
GP = 22 dB



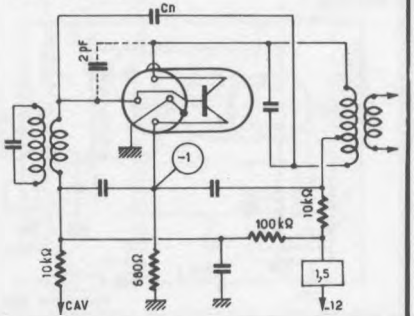
2N 1383
BF

β = 50
GP = 20 dB



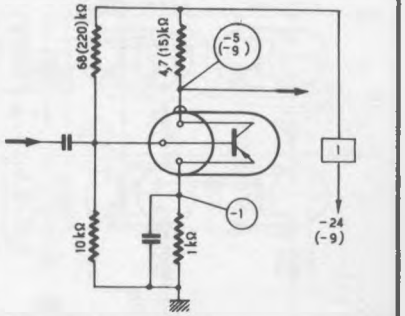
2N1395
MF470 kHz

β = 90
GP = 45 dB



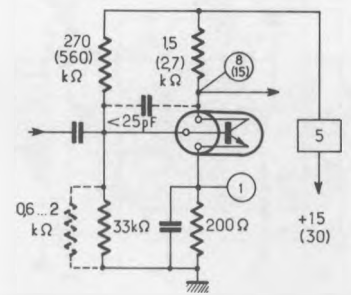
2N1413,14,15

β = 30,44,64



2N1420
BF-HF

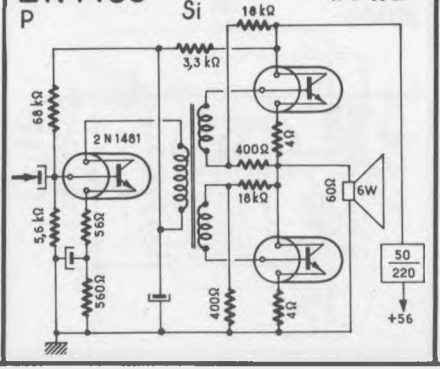
n = 100.....300
f_T = 100 MHz



2N1485
P

n-p-n
Si

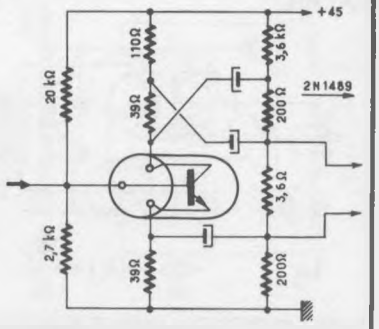
β => 35
GP = 60 dB



2N1485
BF

n-p-n
Si

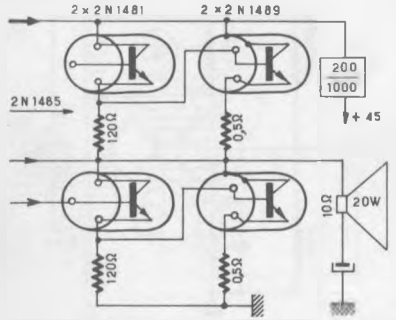
β =>35



2N1489

n-p-n
Si
P

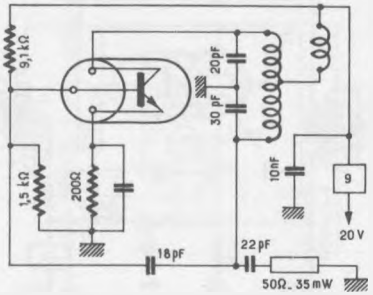
β = > 25
GP = 36 dB



2N1491

n-p-n
Si
HF Osc.
70 MHz

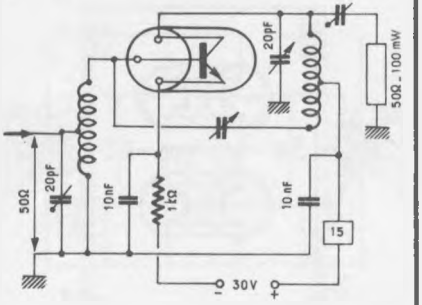
β = 50



2N1492

n-p-n
Si
HF 70 MHz

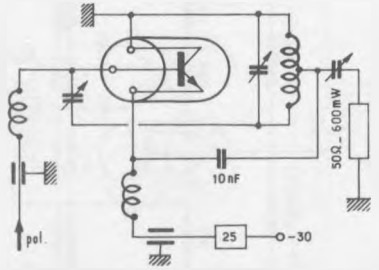
β = 50
GP = 15 dB



2N1493

n-p-n
Si
P. Osc.
70 MHz

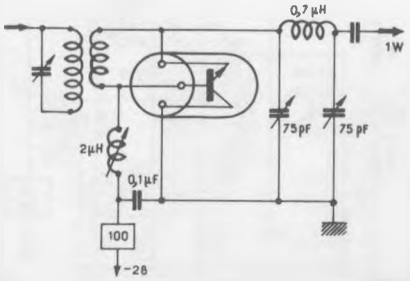
β = 50



2N1506

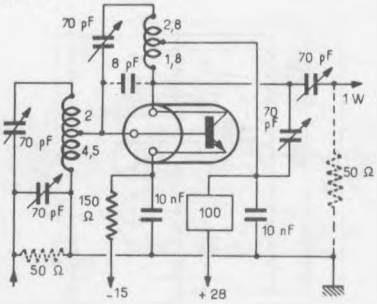
n-p-n
Si
30 MHz

β = 10 .. 50
GP = 18 dB



2N 1506

β > 15
GP = 9..12 dB
70 MHz

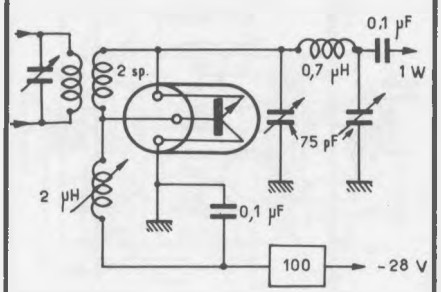


2N 1506 A

30 MHz

n-p-n Si
triple diffusion

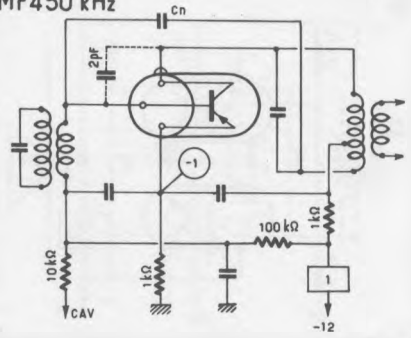
β = 40
GP = 18 dB



2N 1524

MF450 kHz

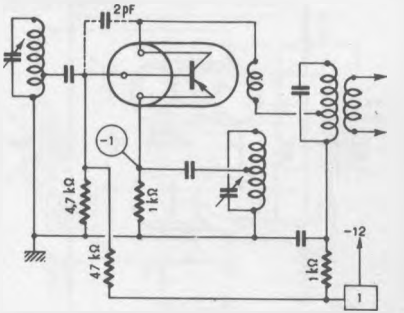
β = 60
GP = 33 dB



2N 1526

Conv.6 MHz

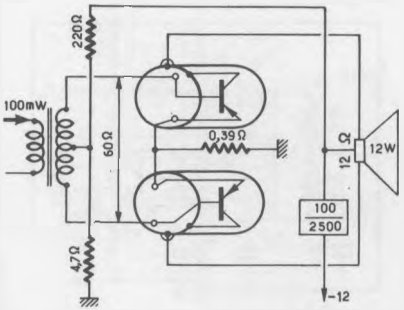
β = 130
GC = 31dB



2N1529,30A

P

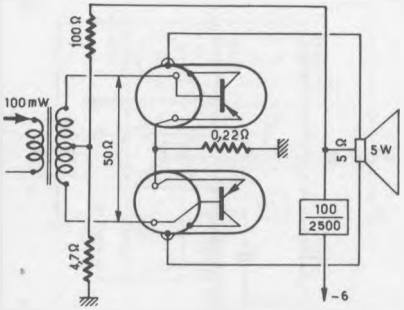
β = 20...40
GP = 21 dB



2N1529A

P

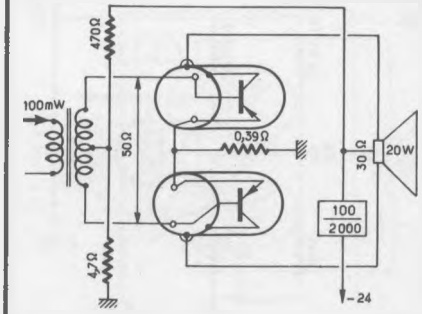
β = 20...40
GP = 17 dB



2N1531

P

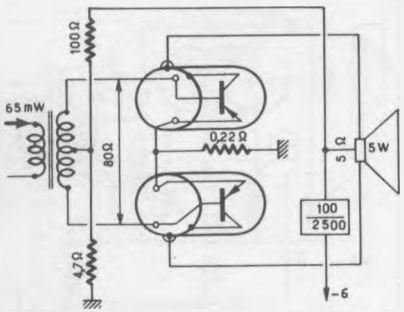
β = 20...40
GP = 23dB



2N1534,A

P

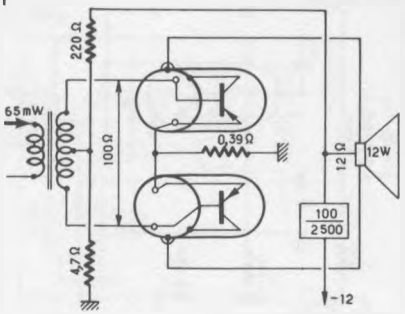
β = 35...70
GP = 19 dB



2N1535,A

P

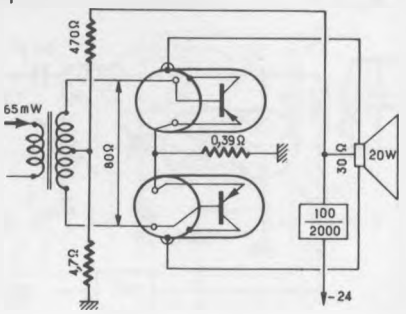
β = 35...70
GP = 23 dB



2N1536

P

β = 35...70
GP = 25 dB

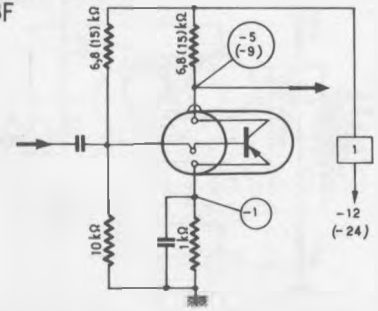


2N1592 (2N1593)

Si

β = 140

BF

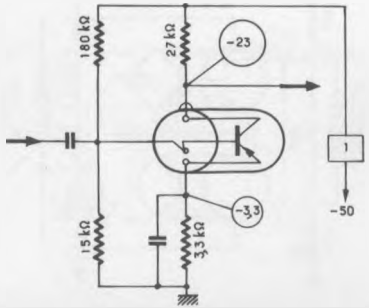


2N1594

Si

β = 140

BF

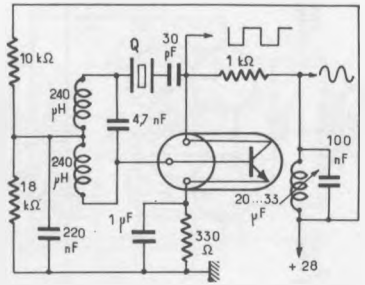


2N1613

Osc. 100 kHz

n-p-n Si
Planar

β = 40...120



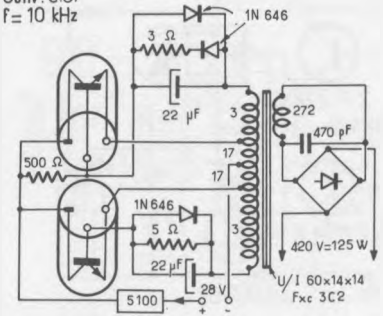
2N 1618

n-p-n Si $\beta = 15 \ldots 75$

Mesa

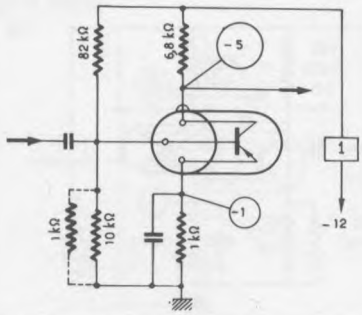
Conv. C.C.

f = 10 kHz



2N1623

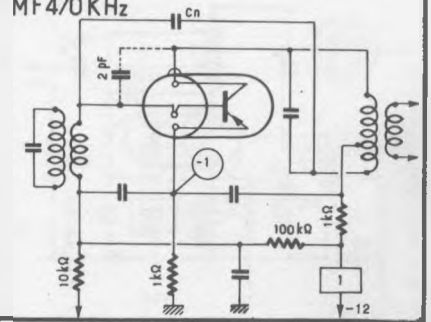
Si $\beta = 25$ Fb < 18 dB



2N1632 (2N1634)

$\beta = 80(75)$ GP = 48(38) dB

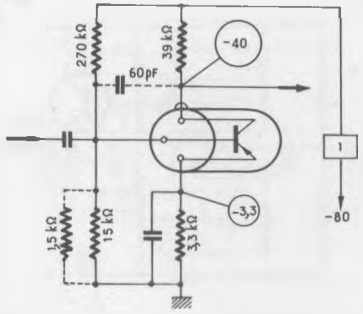
MF 470 KHz



2N1654

Si $\beta = 30$

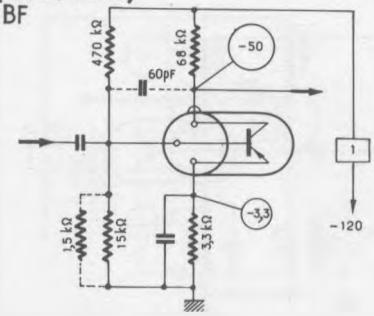
BF



2N1655 (2N1656)

Si $\beta = 15(30)$

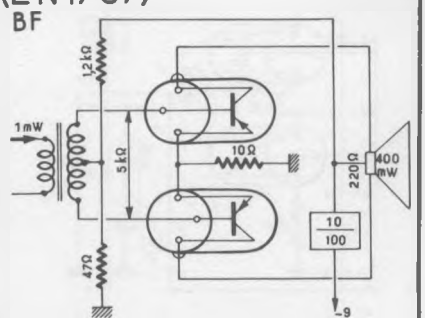
BF



2N1706 (2N1707)

$\beta = 90(95)$ GP = 26 dB

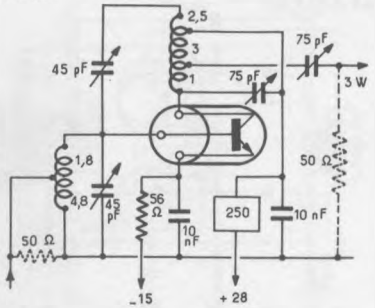
BF



2N 1709

70 MHz

β = 75...75

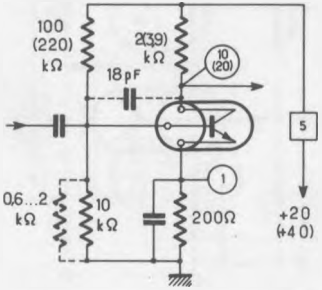


2N1711

BF-HF

n-p-n Si

ß=100.....300
f_T = 100MHz

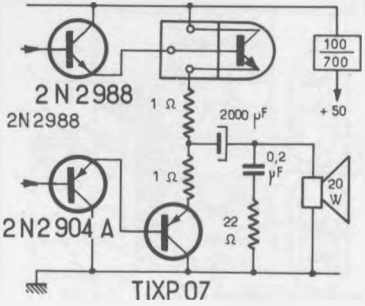


2N1722

n-p-n Si

mesa

β = 20...90



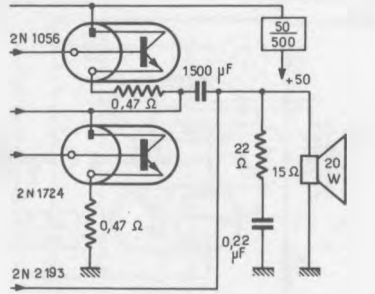
2N 1724

P

n-p-n Si

Mesa

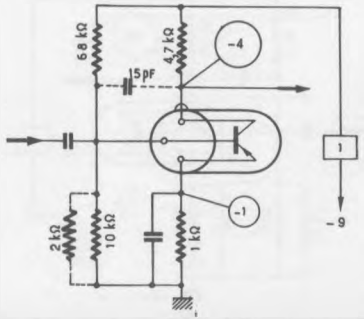
β = 20...90



2N1808

BF

β = 60

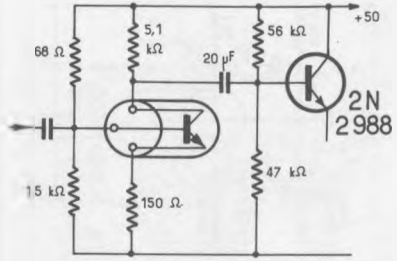


2N1893

BF

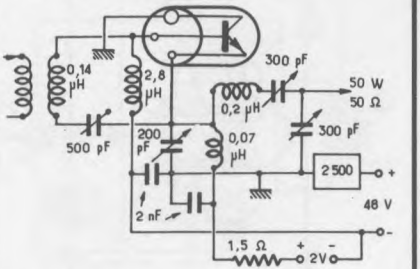
n-p-n Si

β = 40...120



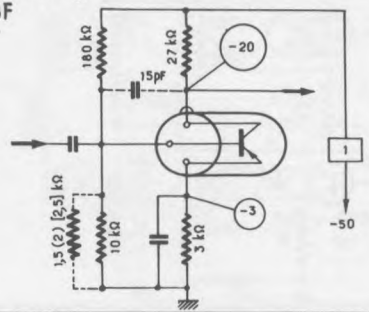
2N 1900,03

30 MHz n-p-n Si β > 8



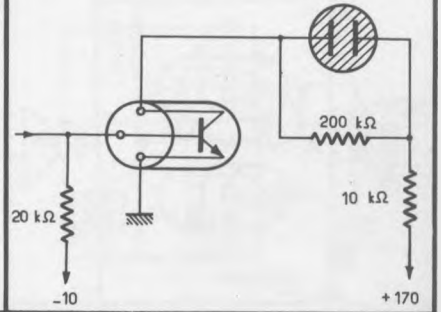
2N 1924 (2N 1925) [2N 1926]

BF β = 45(65)[80]



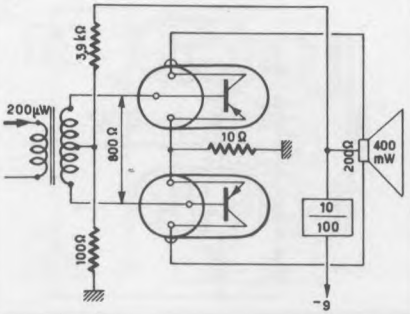
2N 1990

Commande Néon n-p-n Si Planar β > 20



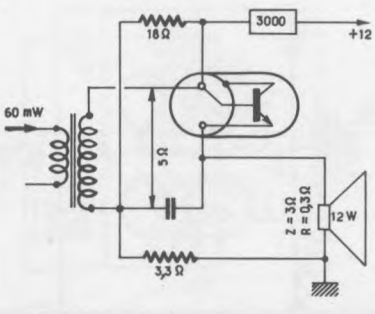
2N 2000

BF β = 150 GP = 33 dB



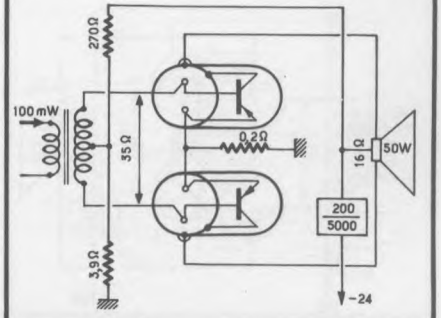
2N 2015

n-p-n Si P β = 15...50 GP = 23 dB



2N2080,A

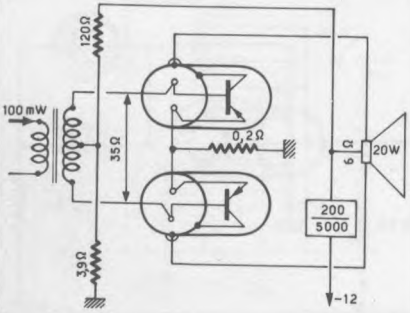
P β = 35...70 GP = 27 dB



2N 2082,A

P

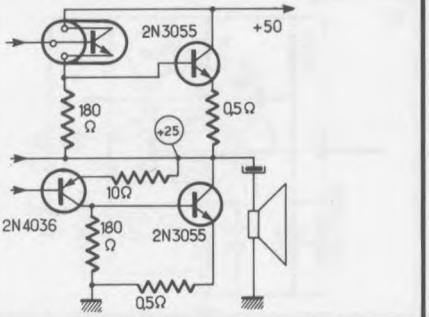
β = 35...70
GP = 23dB



2N2102

BF n-p-n Si

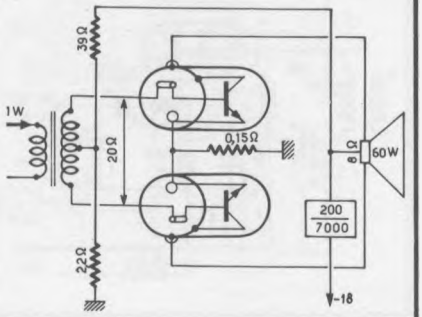
n= 40...120
f_T = 60 MHz



2N 2109

P n-p-n Si

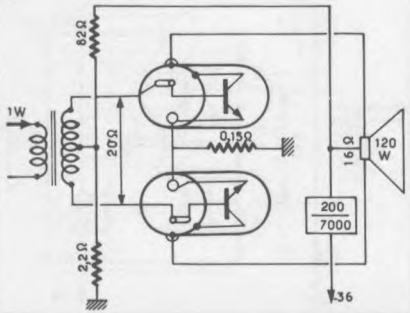
β = 14
GP = 18 dB



2N 2110

P n-p-n Si

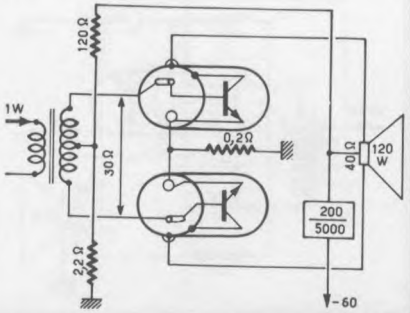
β = 14
GP = 21 dB



2N 2111

P n-p-n Si

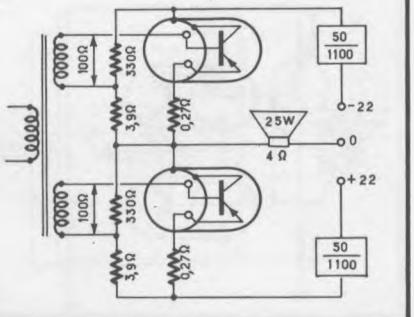
β = 14
GP = 21dB



2N2147

P

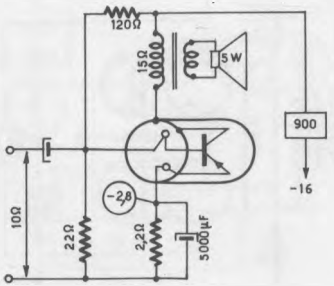
β = 75...300
GP = 32 dB



2N2148

P

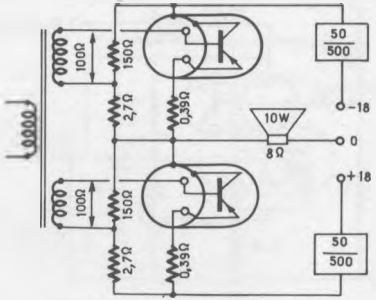
β = 30...100
GP = 36 dB



2N2148

P

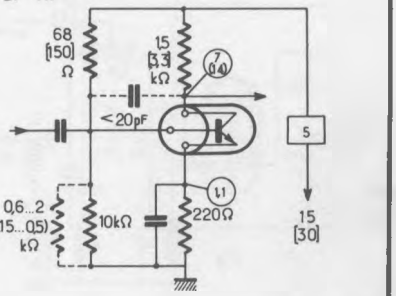
β = 30...100
GP = 29 dB



2N2192 (2N2194)

n-p-n
Si
BF-HF

β = 100.....300
(20.....60)
f_T = 50MHz

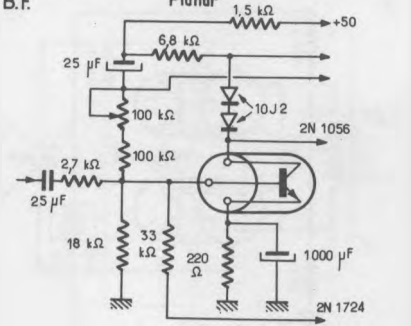


2N 2193

B.F.

n-p-n Si
Planar

β = 20...120

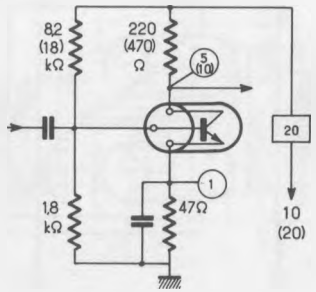


2N2195

BF-HF

n-p-n
Si

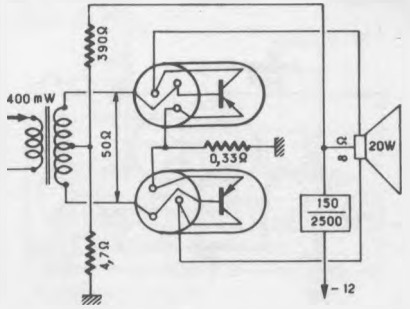
β > 20



2N2266...69

P

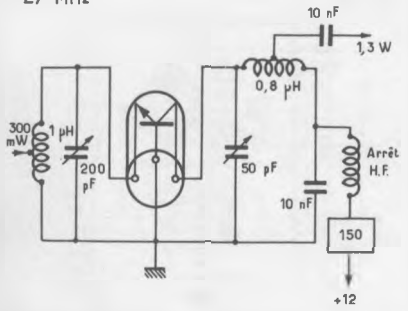
β = 25...75
GP = 17 dB



2N2297

n-p-n Si Planar Epitax. β = 40 ... 120 GP = 6,5 dB

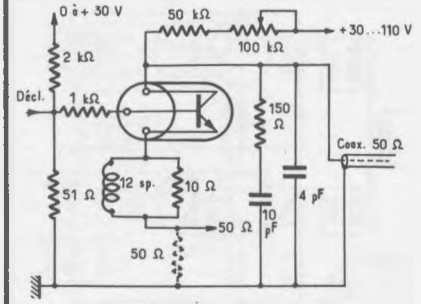
27 MHz



2N2369

Gen. Avalanche

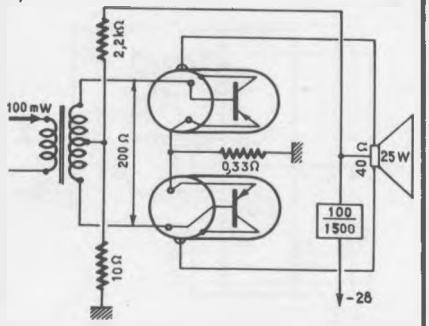
n-p-n Si Planar Epitax. β = 40...120 t_r < 1 ns



2N2423

P

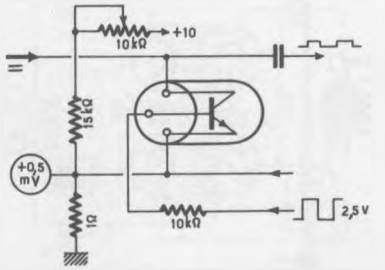
β = 20...100 GP = 25 dB



2N2432

Si Chopper n-p-n

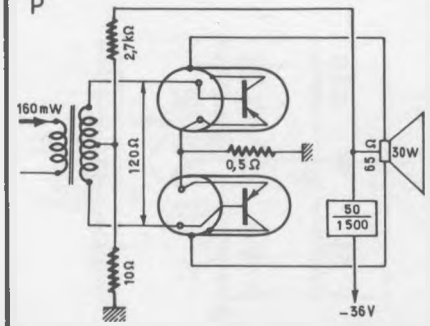
β > 2



2N2526, 27

P

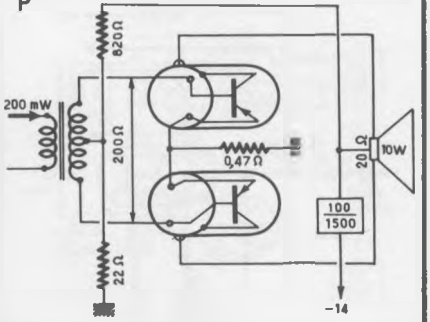
β = 20...30



2N2552, 53

P

β = 20 60 GP = 17 dB

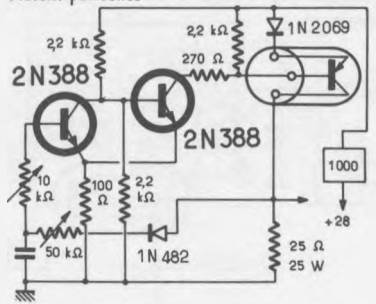


2 N 2410 ⟶ 2 N 2904

2 N 2557

Multiv. puissance

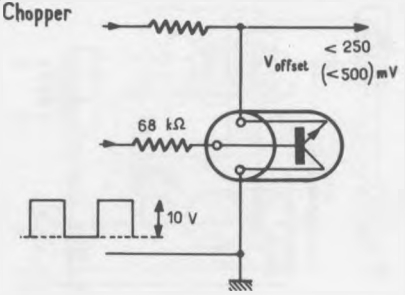
β = 20.... 60



2N 2569 (2N 2570)

n-p-n Si β = 50
Planar Epitaxial β_{inv} = 4...10

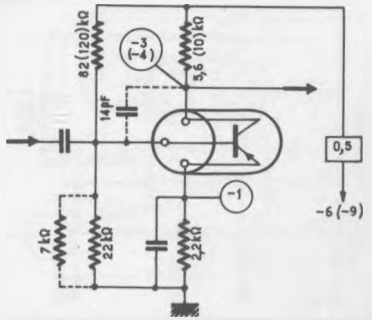
Chopper



2N2613

BF

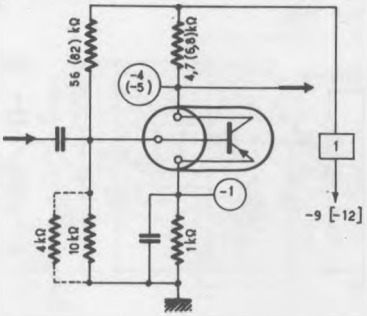
β = 125
F_b < 5 dB



2N2614

BF

β = 160

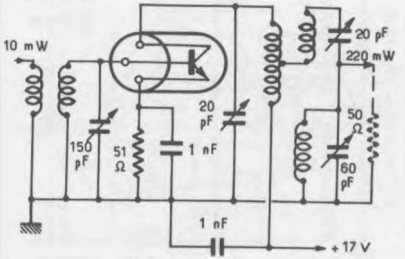


2N 2656

Doubleur 130 - 260 MHz

n-p-n Si
planar épitaxial

β = 65
GP = 3,5 dB

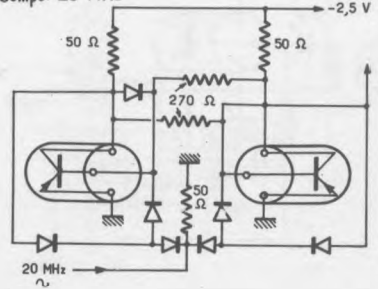


2 N 2695
2 N 2696

p-n-p Si
Planar Epitax

β = 30...130

Compt. 20 MHz



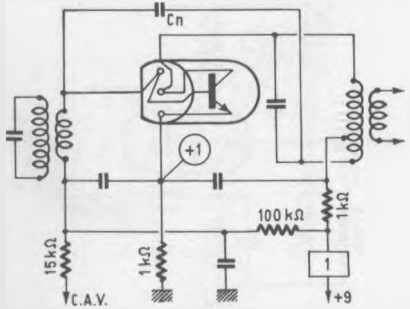
2 N 2711

MF 470 kHz

n-p-n Si

β = 30...90

GP = 37 dB



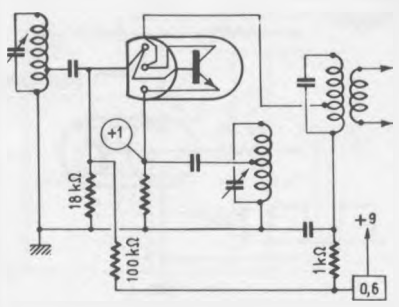
2 N 2712

Conv. < 10 MHz

n-p-n Si

β = 75 ..225

GP = > 20 dB (6 MHz)

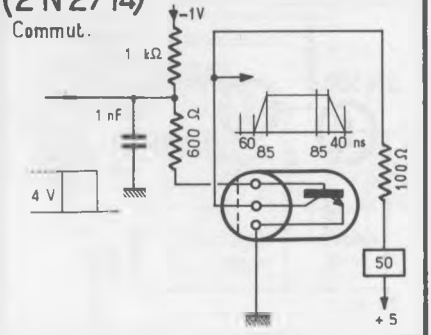


2 N 2713 (2 N 2714)

Commut.

n-p-n Si Planar

β = 30 ..90 (75...225)



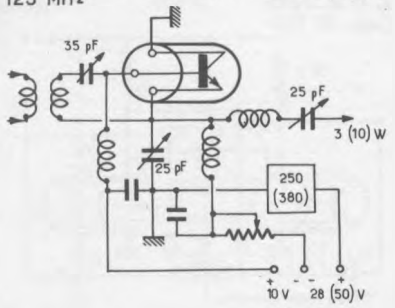
2 N 2781, 2, 3

125 MHz

n-p-n Si

β = 40

GP = 4,8 (5,2) dB



2 N 2784

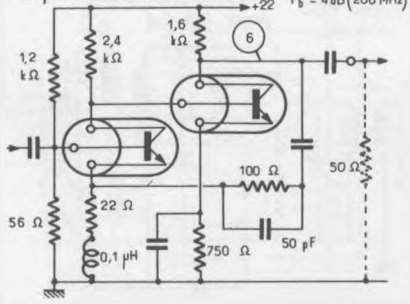
Amplif. < 150 MHz

n-p-n Si

β = 40....120

GV = 13,5 dB

F_b = 4 dB (200 MHz)

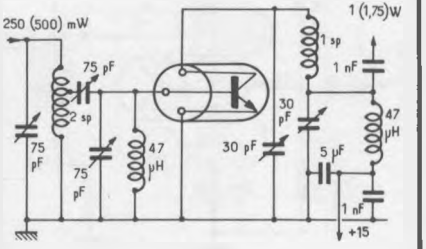


2 N 2883 2 N 2884

200 MHz

n-p-n Si Planar Epitax.

β > 20 (> 4 à 100 MHz)



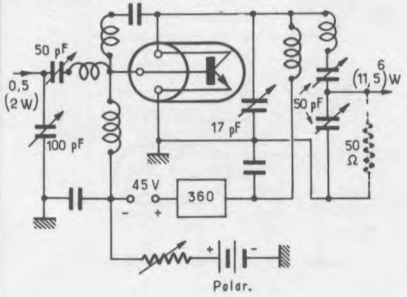
2N 2887

n-p-n Si

100 MHz triple diffusion

β = 50

GP = 9 dB



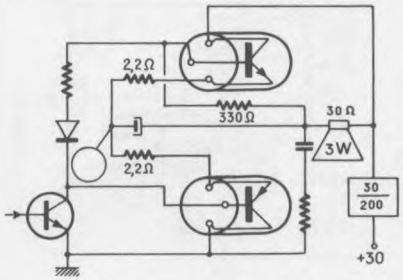
2 N 2904 / 2 N 2218

P

p-n-p / n-p-n Si

β = 40...120

f_t > 200 MHz

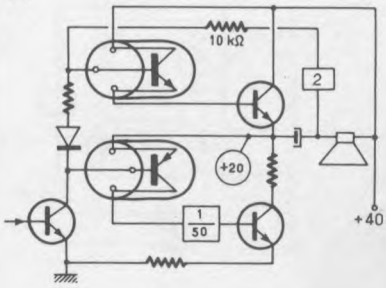


2 N 2904 / 2 N 2410

BF

p-n-p / n-p-n

β = 40...120

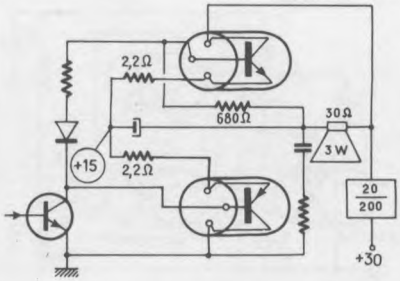


2 N 2905 / 2 N 2219

P

p-n-p / n-p-n Si

β = 100...300

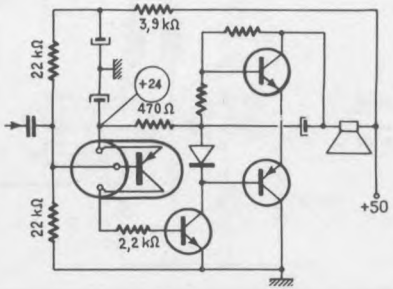


2 N 2906 (2 N 2907)

BF

p-n-p Si

β = 40.... 120 (100...300)



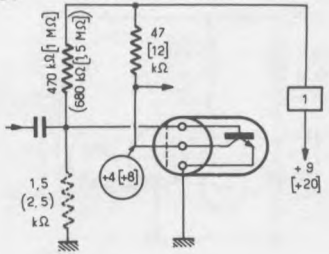
2N2921 (2 N 2922)

B.F

n-p-n Si Planar

β = 35...70 (55...110)

F_b = 2,8 dB



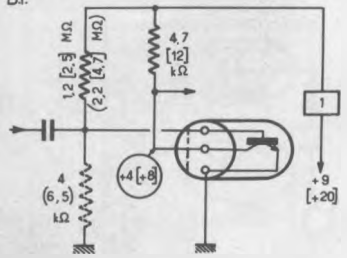
2N2923 (2N2924)

n-p-n Si Planar

β = 90...180 (150...300)

F_b = 2,8 dB

B.F.



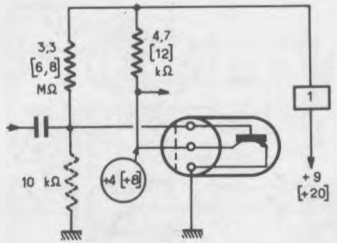
2N2925

n-p-n Si Planar

β = 235... 470

F_b = 2,8 dB

B.F.



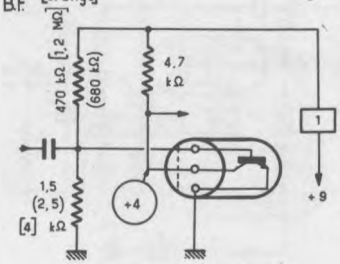
2N2926

marron (rouge) [orange]

n-p-n Si Planar

β = 35...70 (55...110) [90...180]

B.F.



2N2926

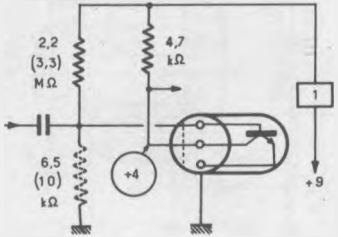
jaune (vert)

n-p-n Si Planar

β = 150...300 (235...470)

F_b = 2,8 dB

B.F.



2N2927

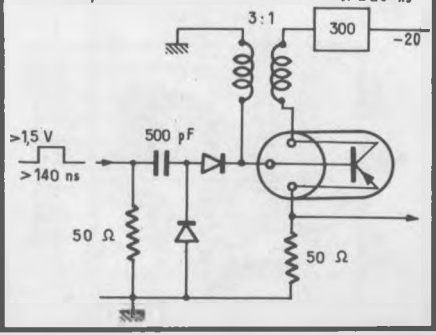
Osc. bloqué

p-n-p Si Planar Epitax.

β = 30...130

t_r = 40 ns

t_f = 20 ns

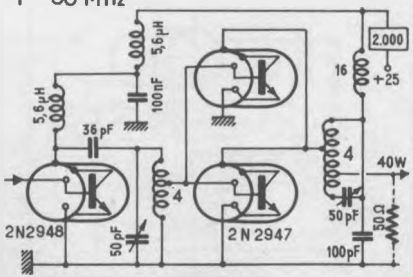


2N 2947 (2N 2948)

n-p-n Si

β = 25.... 35 (2,5.... 100)

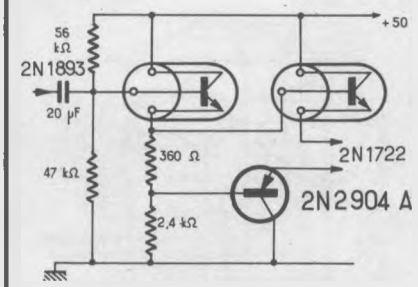
P 50 MHz



2N2988

n-p-n Si β = 25...75

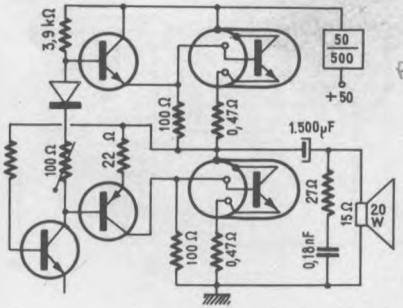
BF



2N 3055

n-p-n Si β = 20....70

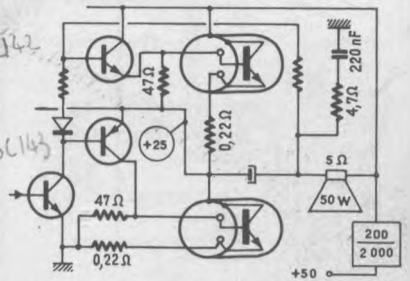
P



2N 3055

n-p-n Si β = 20... 70

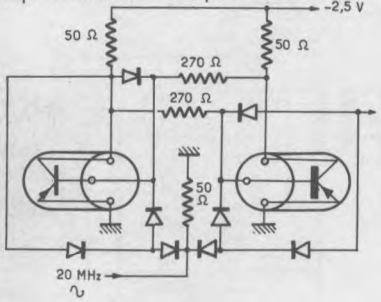
P



2N 3073

p-n-p Si β = 30 ... 130 ($>$1,3 à 100 MHz)

Compt. 20 MHz Planar Epitax.

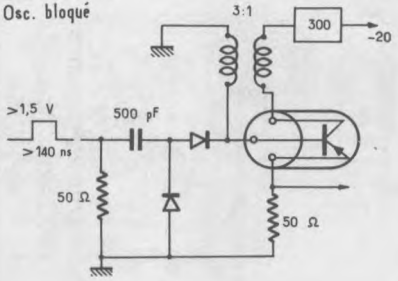


2N 3120
2N 3121

p-n-p Si β = 30...130 t_r = 40 ns t_f = 20 ns

Planar Epitax.

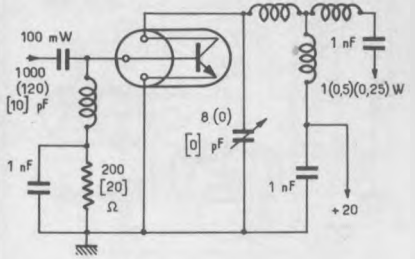
Osc. bloqué



2N 3137

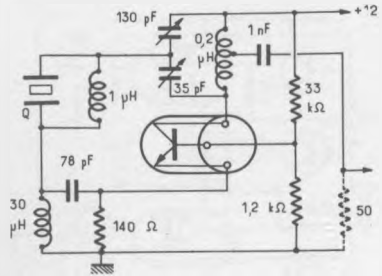
n-p-n Si β = 20...120 ($>$5 à 100 MHz)

125 (250) [500] MHz Planar Epitax. GP = 10 (7) [4] dB



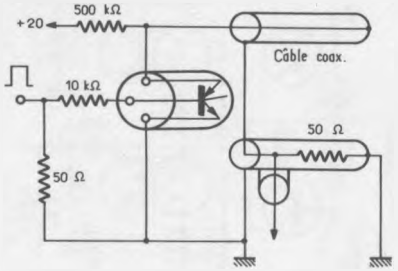
2 N 3137

Osc. 80 MHz — n-p-n Si Planar Epitax — β = 20 .. 120 (>5 à 100 MHz)



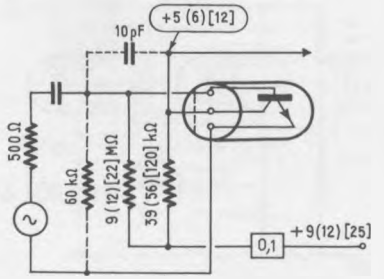
2 N 3255

Gén. impuls. — t_r = 18 .. 28 ns



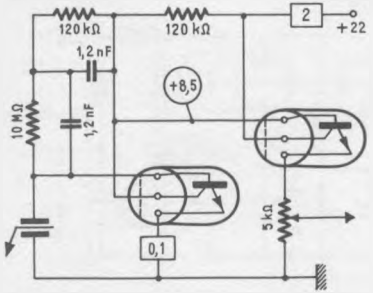
2 N 3391

BF — n-p-n Si — β = 170 à Ic= 0,1 mA — Fb = 1,9 dB



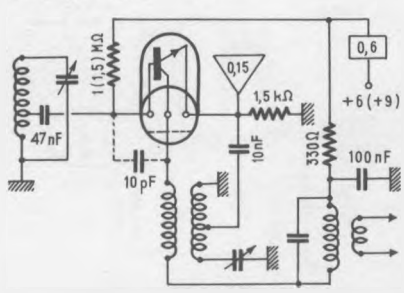
2 N 3392 (95), [96]

P.U. Piézoél. n-p-n Si — β = 150...500 (150...800) [90 ..800]



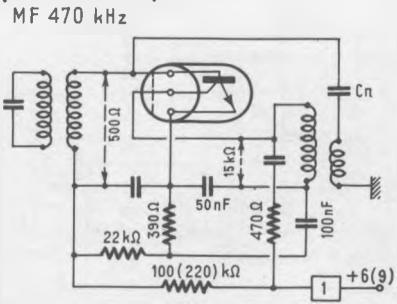
2N3393

Conv. <2 MHz — n-p-n Si — β = 90..400 — GP= 30...35 dB



2N3393 (2N3394)

MF 470 kHz — n-p-n Si — β = 90..400 (55..300) — GP= 37...41 dB

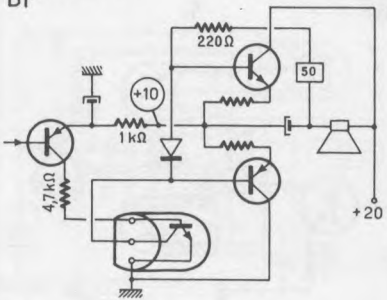


2N3402 (2N3403)

n-p-n Si

β = 75....225 (180...540)

BF

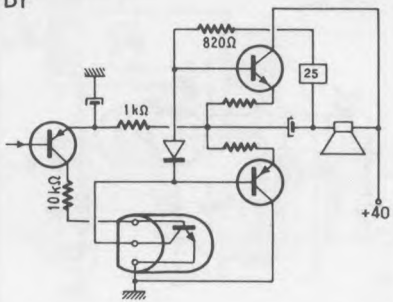


2N3404 (2N3405)

n-p-n Si

β = 75....225 (180...540)

BF

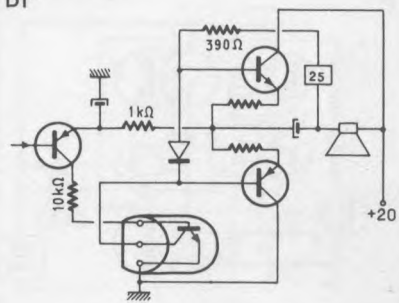


2N3414 (2N3415)

n-p-n Si

β = 75....225 (180...540)

BF

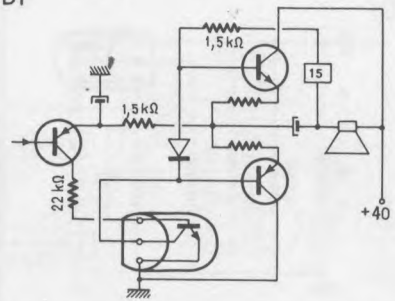


2N3416 (2N3417)

n-p-n Si

β = 75....225 (180...540)

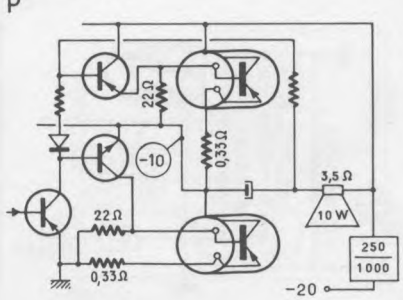
BF



2N3611 (2N3613)

β = 40...100 (60...150)

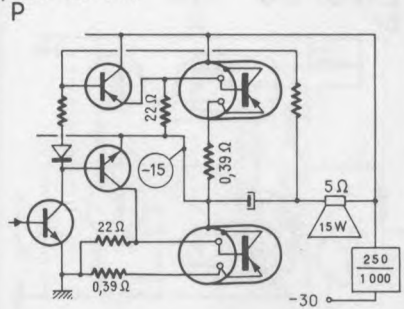
P



2N3612 (2N3614)

β = 40...100 (60...150)

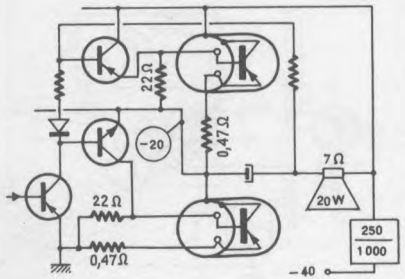
P



2 N 3615 (2 N 3617)

P

β = 40...100 (60...150)

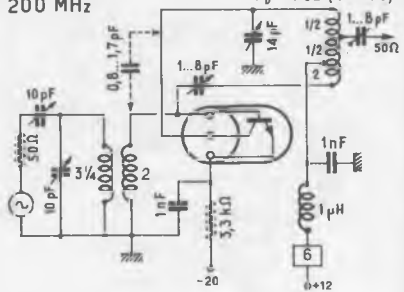


2 N 3662 (2 N 3663)

200 MHz

n-p-n Si

β = 20... 75
f_t = 0,7... 2,1 GHz
GP = 16 (19 dB)
F_b = 4 dB (60 MHz)

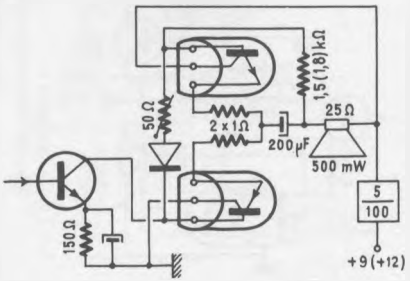


2 N 3702 2 N 3704

BF

p-n-p n-n-p Si

β = 60... 300

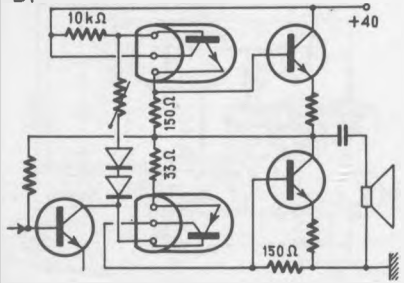


2 N 3703 2 N 3705

BF

p-n-p n-n-p Si

β = 30....150

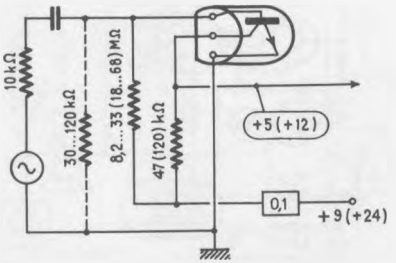


2 N 3707

BF

n-p-n Si

β = 100....550
F_b = 1,9 dB

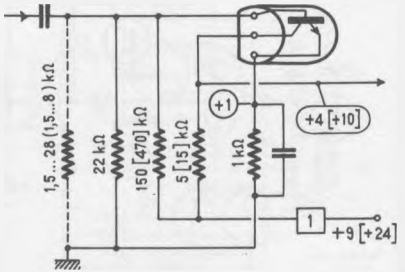


2 N 3708 (2 N 3709)

BF

n-p-n Si

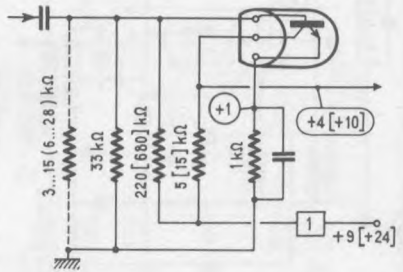
β = 45...800 (45...250)



2N 3710 (2N 3711)

n-p-n Si

β = 90...450 (180...800)

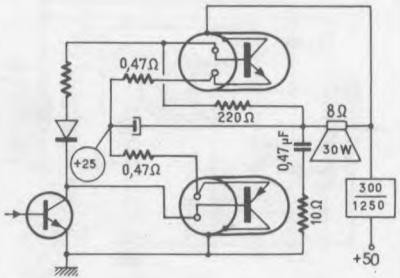


2N 3715 2N 3791 P

n-p-n p-n-p Si

β > 30 à I_c = 3A

f_t > 4 MHz

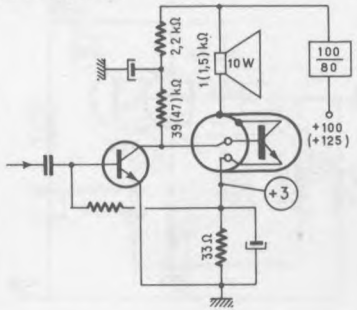


2N 3738 (2N 3739)

n-p-n Si

β = 40...200

r_b > 15 MHz

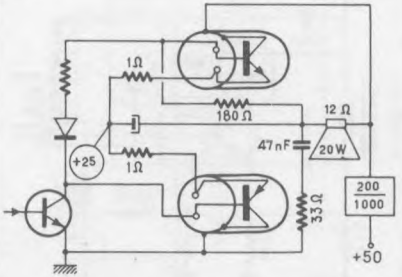


2N 3740 2N 3766 P

p-n-p n-p-n Si

β = 30...100

f_t > 15 MHz

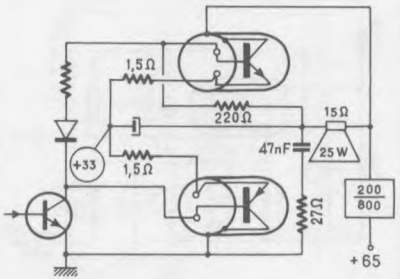


2N 3741 2N 3767 P

p-n-p n-p-n Si

β = 30... 100

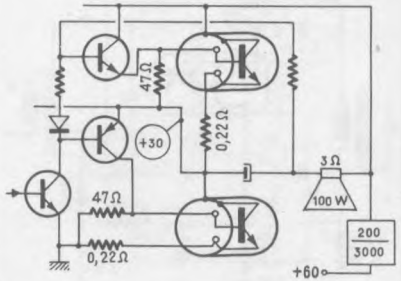
f_t > 15 MHz



2N 3772 P

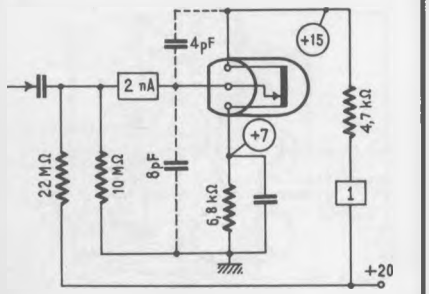
n-p-n Si

β = 15... 60



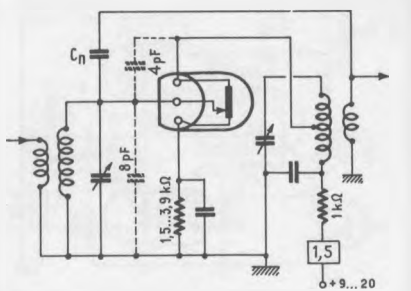
2N 3819 FET BF Canal N

Δ = 2...6,5mA/V
V_{GSO} < 8 V
ρ < 20 kΩ



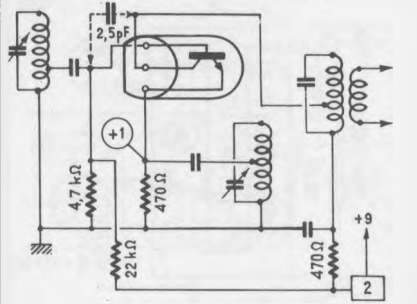
2N 3819 FET Si HF Canal N

Δ = 2...6,5mA/V
V_{GSO} < − 8 V
I_{DSS} = 2...20 mA
ρ < 20 kΩ



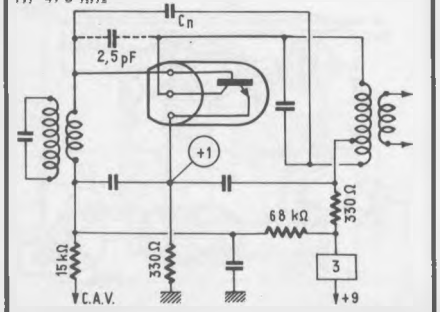
2N 3825 n-p-n Si Conv. < 2 MHz

β > 20 (2...8 à 100 MHz)
F_b < 5,5 dB



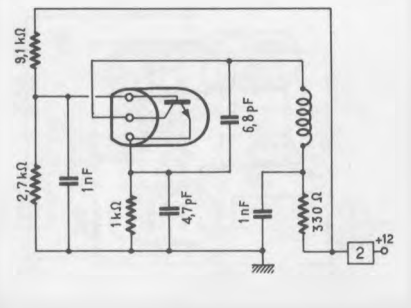
2N 3826 (2 N 3827) n-p-n Si MF 470 kHz

β = 40...160 (100...400)
GP = 42 (45) dB



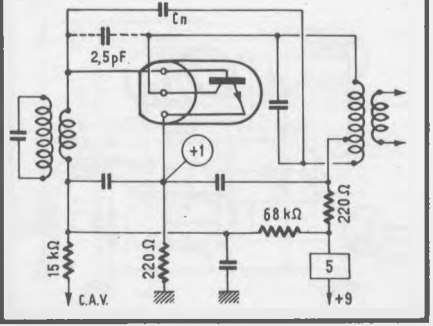
2N 3826 n-p-n Osc. 100 MHz Si

β = 40...160
f_t = 200...800 MHz



2N 3827 n-p-n 10,7 MHz Si

β = 100...400
GP = 34 dB



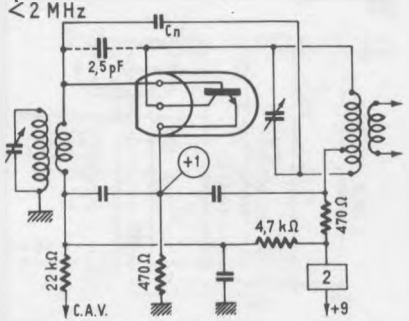
2 N 3791 → 2 N 3715

2N3843A (2N3845A)

n-p-n Si

β = 20...40 (60...120)

<2 MHz

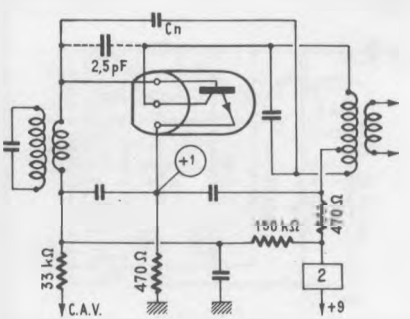


2N3860

MF 470 kHz

n-p-n Si

β = 150...300

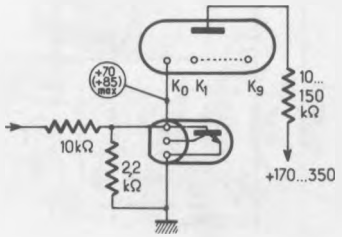


2N3877 (2N3877A)

n-p-n Si

β > 20.....250

Néon



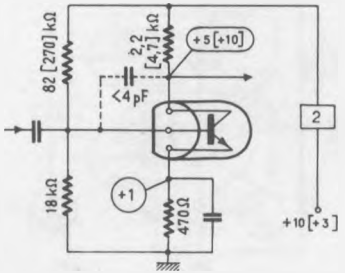
2N3903 (2N3904)

n-p-n Si

β = 50.... 150 (100...300)

f_t > 250 MHz

BF



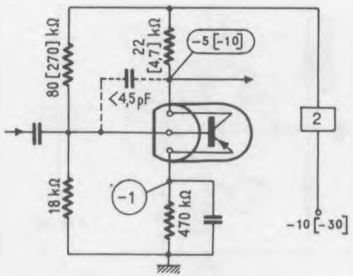
2N3905 (2N3906)

p-n-p Si

β = 50.... 150 (100...300)

f_t > 250 MHz

BF



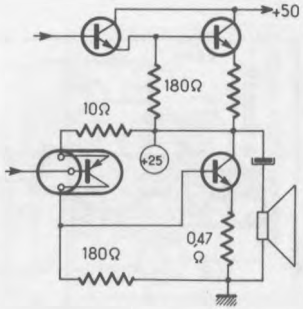
2N4036

BF

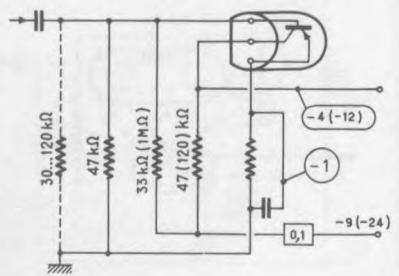
n-p-n Si

β = 14...140

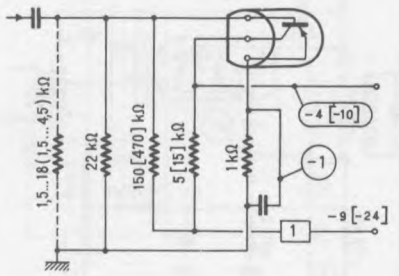
f_T > 60MHz



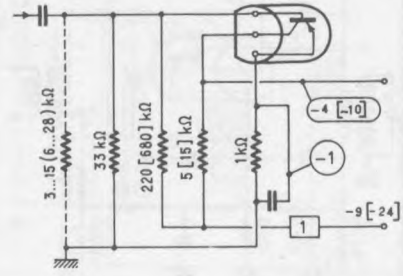
2N4058
BF
p-n-p
Si
β = 100...400
F_b = 1,7 (<5) dB



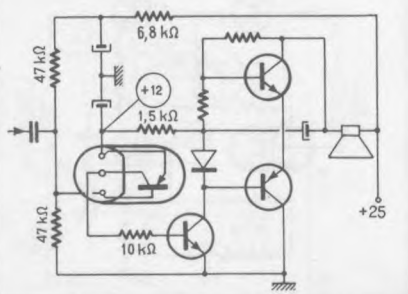
2N4059 (2N4060)
BF
p-n-p
Si
β = 45... 660 (45...165)



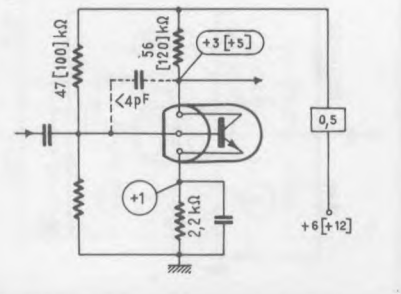
2N4061 (2N4062)
BF
p-n-p
Si
β = 90.... 450 (180...800)



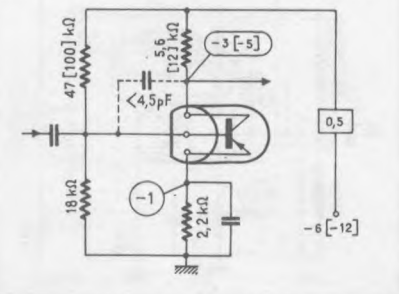
2N4061
BF
p-n-p
Si
β = 90...450



2N4123 (2N4124)
BF
n-p-n
Si
β = 50.... 150 (120...360)
F_b < 6 dB



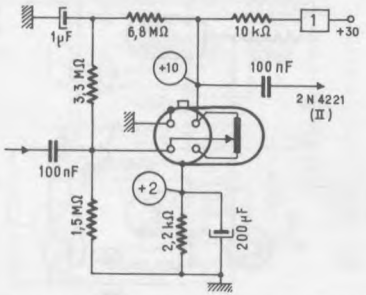
2N4125 (2N4126)
B
p-n-p
Si
β = 50...150 (120...360)
f_t > 200 MHz
F_b < 5 dB



2N 4221
BF(I)

FET Si
Canal N

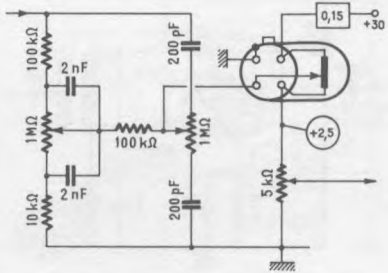
$\mathcal{A}$ = 2...5 mA/V
ρ = 50 kΩ
I_{DSS} = 2...6 mA



2N 4221
BF(II)

FET Si
Canal N

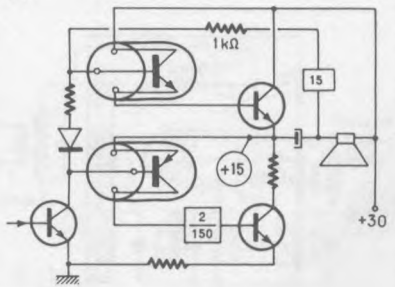
$\mathcal{A}$ = 2...5 mA/V
ρ > 50 kΩ
I_{DSS} = 2...6 mA



2N 4234
2N 4237
BF

p-n-p
n-p-n
Si

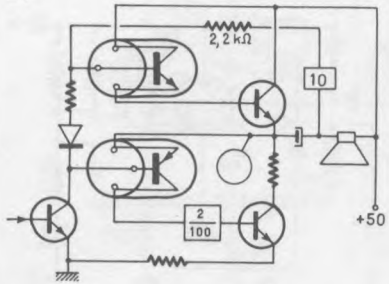
β = 30...150
f_t > 3 MHz



2N 4235
2N 4238
BF

p-n-p
n-p-n
Si

β = 30...150
f_t = 3 MHz

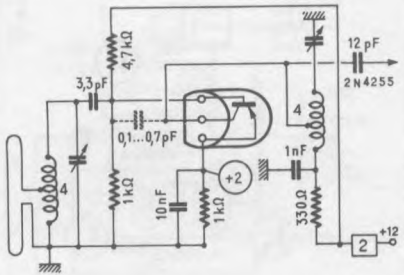


2N 4252 = 2N 4254
2N 4253 = 2N 4255

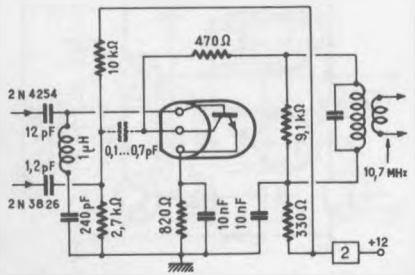
2N 4254
100 MHz

n-p-n
Si

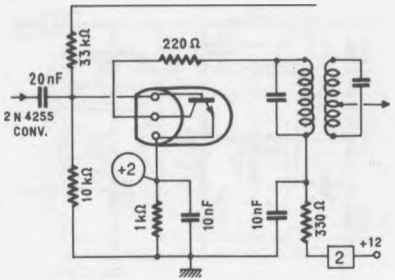
β > 50
f_t = 0,6...1,4 GHz
F_b = 2,5 dB



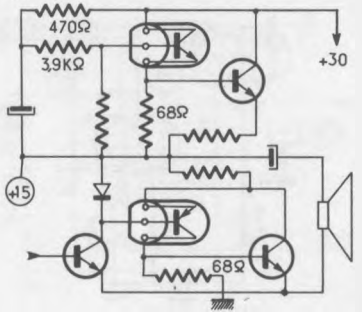
2 N 4255
n-p-n Si
Conv. 100 MHz
β = 30... 150
f_t = 0,6... 1,4 GHz
GP (2N4254 + 2N4255) = 25 dB



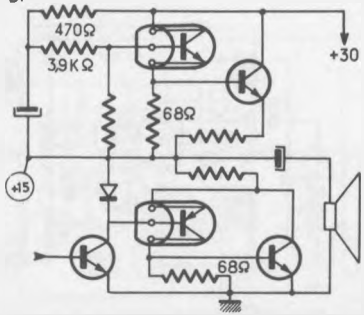
2 N 4255
10,7 MHz
β = 30... 150
f_t = 0,6...1,4 GHz



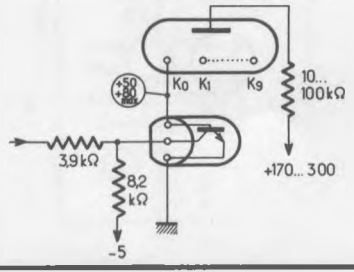
2N4400 / 2N4402
n-p-n Si
p-n-p Si
BF
β = 50....150
f_T > 150 MHz



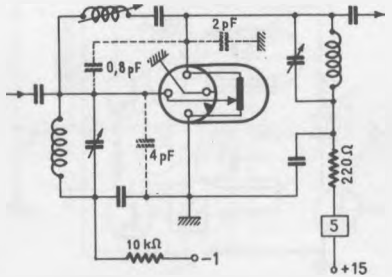
2N4401 / 2N4403
n-p-n Si
p-n-p Si
BF
β = 100.....300
f_T > 200MHz



2N4409 (2N4410)
n-p-n Si
Néon
β = 60...400



2 N 4416
VHF
FET Si
Canal N
$\mathcal{G}$ = 4,5...7,5 mA/V
I_{DSS} < 15 mA



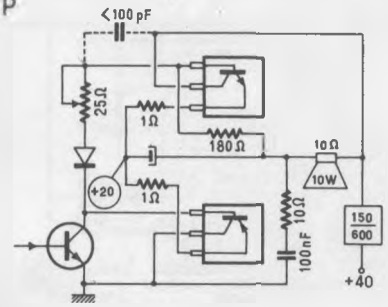
2 N 4918 / 2 N 4921

p-n-p / n-p-n Si

P

$\beta = 20...100$

$f_t > 3$ MHz



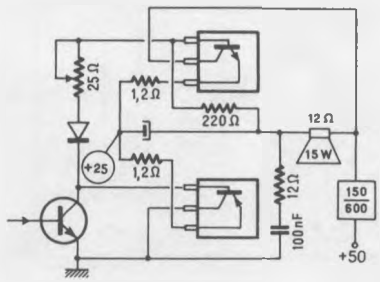
2 N 4919 / 2 N 4922

p-n-p / n-p-n Si

P

$\beta = 20...100$

$f_t > 3$ MHz



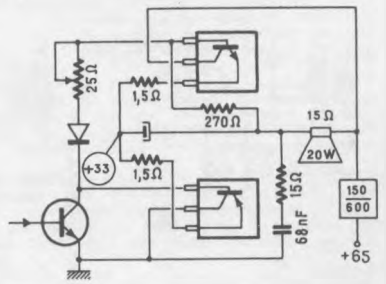
2 N 4920 / 2 N 4923

p-n-p / n-p-n

P

$\beta = 20...100$

$f_t > 3$ MHz



2N4994 (2N4995)

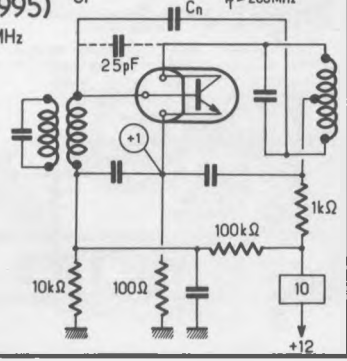
n-p-n Si

10,7 MHz

GP = 42 (45) dB (470 kHz)

GP = 34 dB (10,7 MHz)

$f_T > 200$ MHz



2N4996

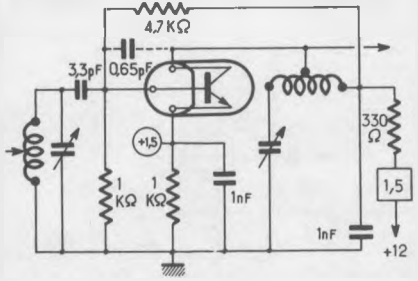
n-p-n Si

100MHz

$\beta > 50$

$f_T > 600$ MHz

$F_b = 2.5$ dB



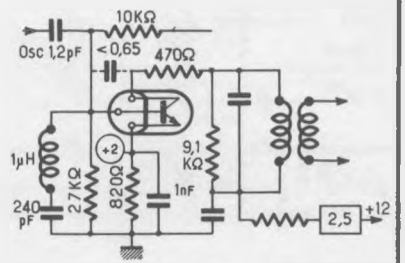
2N4997

Conv. 100MHz

n-p-n Si

$\beta = 30.....150$

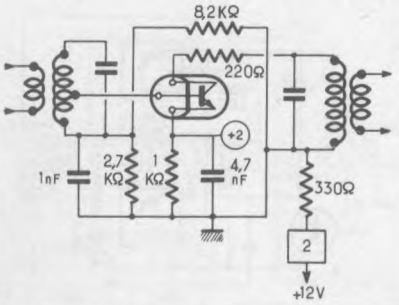
$f_T > 600$ MHz



2N4997

10,7 MHz

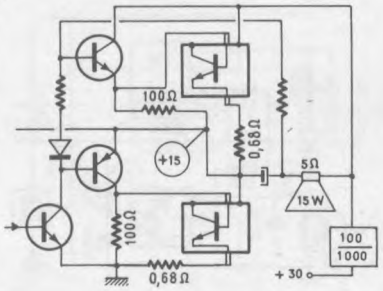
β=30.....150
f_T >600MHz
GP=23 dB



2N5034
2N5035
P

n-p-n Si

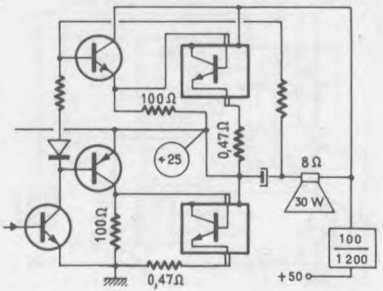
β>20



2N5036
2N5037
P

n-p-n Si

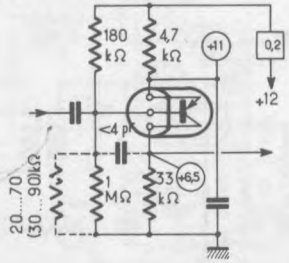
β>20



2N5086
(2N5087)
BF

p-n-p Si

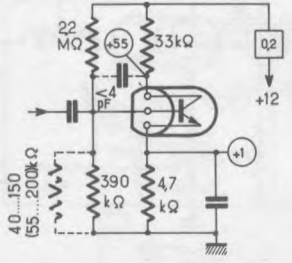
β=150.....500
(250.....800)
F_b>3(2)dB



2N5088
(2N5089)
BF

n-p-n Si

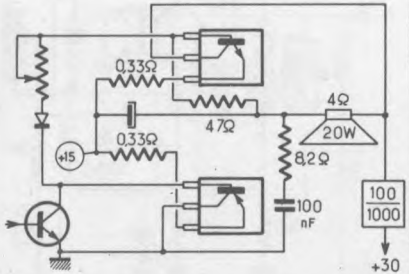
β=350.....1400
(450.....1800)
F_b<3(2)dB



2N5190
2N5193
P

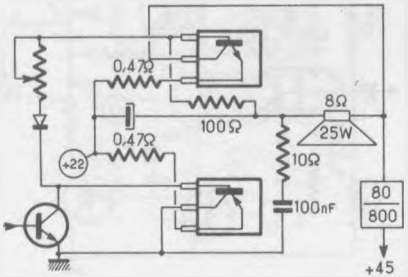
n-p-n Si
p-n-p Si

β=25.....100
f_T>2 MHz



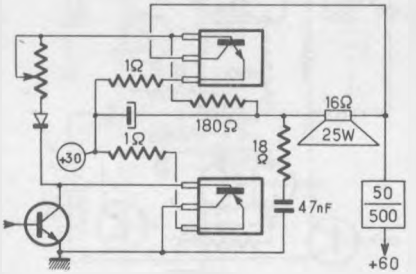
2N5191 n-p-n Si
2N5194 p-n-p Si
P

ß = 25.....100
f_T > 2 MHz



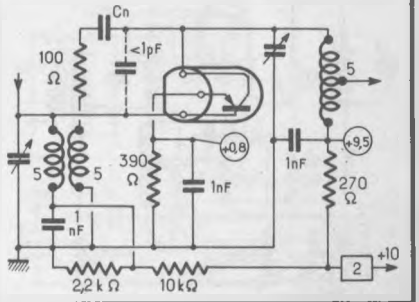
2N5192 n-p-n Si
2N5195 p-n-p Si
P

ß = 20.....80
f_T > 2 MHz



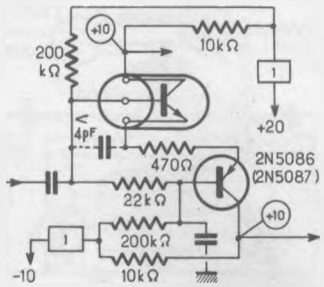
2N5208 p-n-p Si
100 MHz

ß = 20.....120
f_T > 300 MHz
F_b < 3 dB
GP > 22 dB



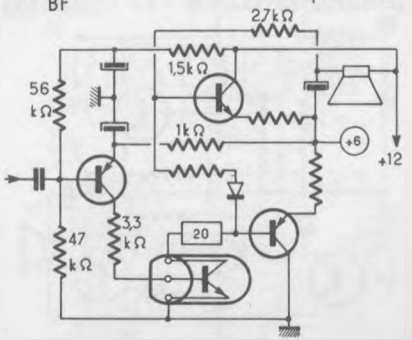
2N5209 n-p-n Si
(2N5210)
BF

ß = 150.....600
(250.....900)
f_T > 30MHz
F_b < 4 (≈ 3) dB



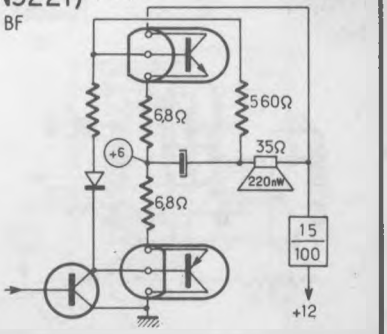
2N5219 n-p-n Si
BF

ß = 35.....500
F_T > 150MHz



2N5220 n-p-n Si
(2N5221) p-n-p Si
BF

ß = 35.....500
F_T > 150MHz



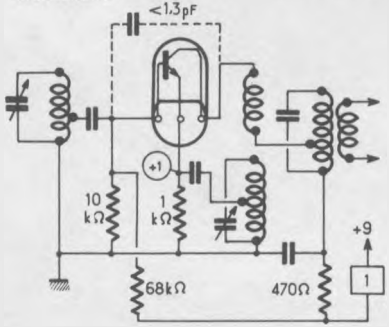
2N5222

n-p-n Si

Conv.<30MHz

β=20.....1500

f_T>400 MHz



2N5225 2N5226

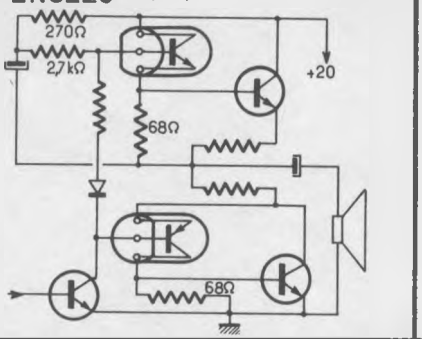
BF

n-p-n Si

p-n-p Si

β=30.....600

f_T>50 MHz



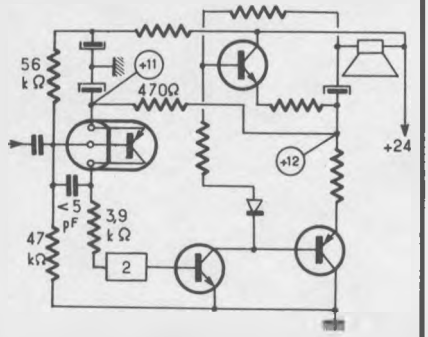
2N5227

BF

p-n-p Si

β=50.....700

f_T>100MHz



2N5245

100 MHz

FET Si

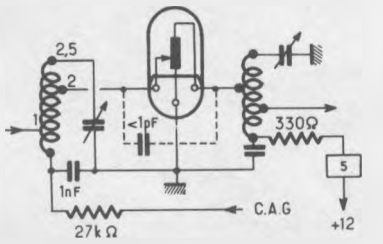
Canal N

s = 4,5 7,5mA/V

Vp=1....6mA/V

GP>18dB

F_b<2 dB

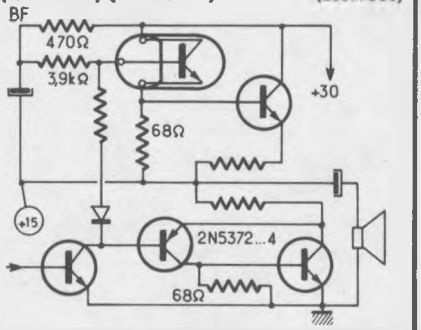


2N5368 (2N5369) (2N5370)

n-p-n Si

β=60.....200 (100....300) (200....600)

BF

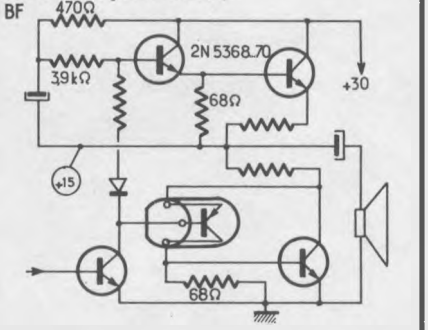


2N5372 (2N5373) (2N5374)

p-n-p Si

β=40....120 (100....300) (200....400)

BF



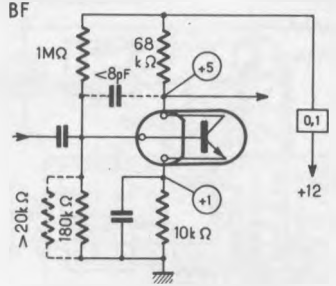
2N5376 (2N5377)

n-p-n Si

BF

β=120.....600 (100.....500)

F_b<2 (<3) dB



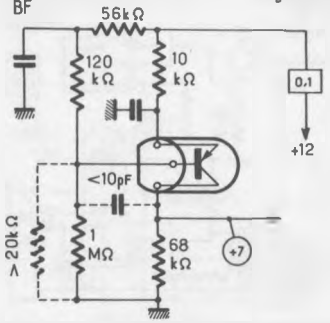
2N5378 (2N5379)

p-n-p Si

BF

β=150.....600 (100.....500)

F_b<2 (<3) dB

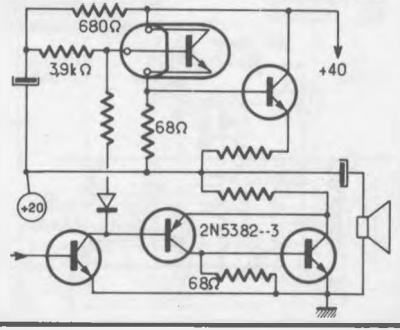


2N5380 (2N5381)

n-p-n Si

BF

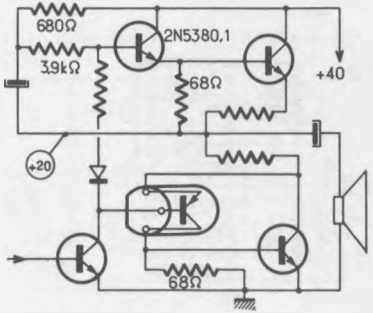
β=50.....150 (100.....300)



2N5382 2N5383

BF p-n-p Si

β=50.....150 (100.....300)



2N5447 2N5449

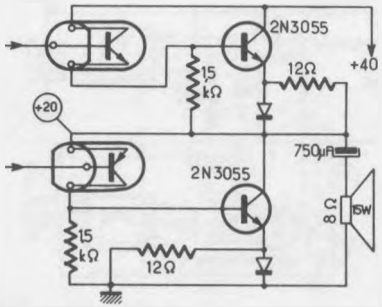
p-n-p Si

n-p-n Si

BF

β=100.....300

f_T>100MHz



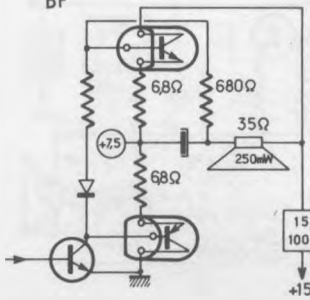
2N5447 2N5451

p-n-p Si

n-p-n Si

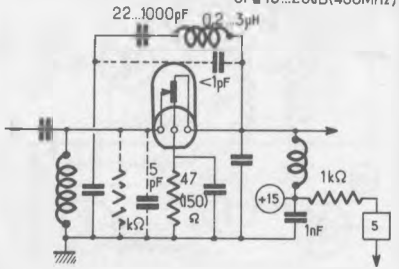
BF

β=30.....600



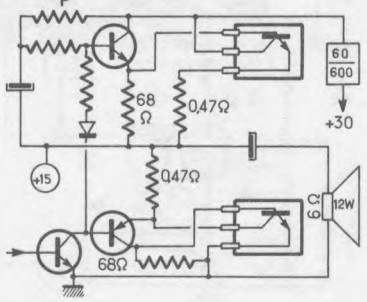
2N5485 (2N5486)

FET Si
Canal N
100--- 400 MHz
s = 3,5...7(4...8)mA/V
I_{DSS} = 4...10(8...20)mA
F_b = 2...4dB(max)
G_P = 18...30dB(100MHz)
G_P = 10...20dB(400MHz)



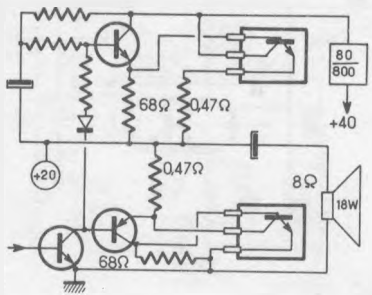
2N5490 2N5491

P
n-p-n
Si
ß = 20.....100
f_T = 1 MHz



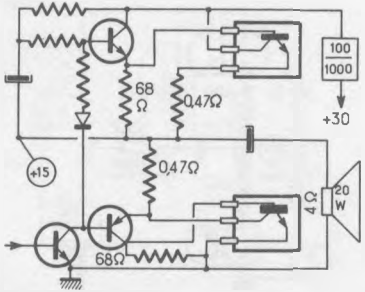
2N5492 2N5493

P
n-p-n
Si
ß = 20.....100
f_T = 1 MHz



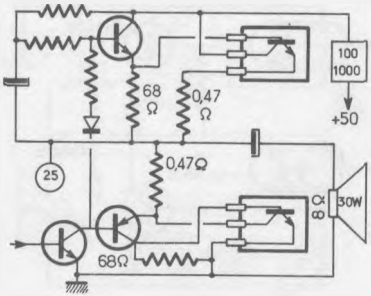
2N5494 2N5495

P
n-p-n
Si
ß = 20.....100
f_T = 1 MHz



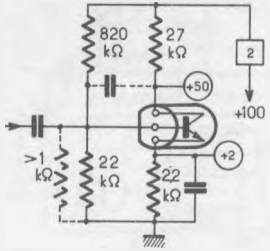
2N5496 2N5497

P
n-p-n
Si
ß = 20.....100
f_T = 1 MHz



2N5550 (2N5551)

BF
n-p-n
Si
ß = 60.....250
(80.....250)
f_T >100 MHz



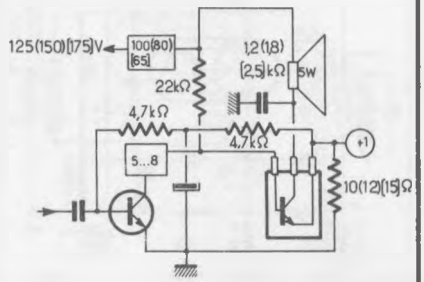
2N5655 (2N5656)(2N5657)

n-p-n Si

P

$\beta = 25 \ldots 250$

$f_T > 10\,MHz$



2N5668 (2N5669)(2N5670)

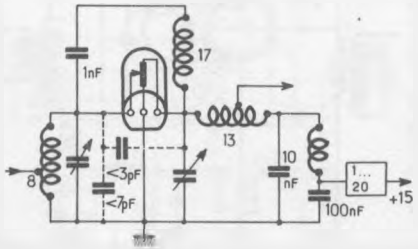
FET Si Canal N

100 MHz

$s = 1,5 \ldots 6,5$ (2...6,5)(3...7,5)mA/V

$GP > 16\,dB$

$F_b < 2,5\,dB$



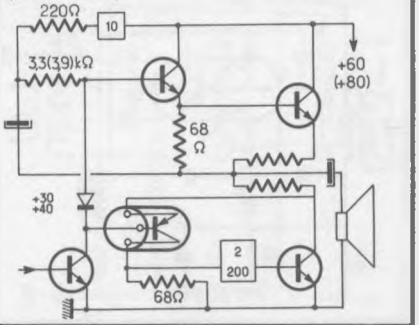
2N5855 (2N5857)

BF

p-n-p Si

$\beta = 50 \ldots 300$

$f_T > 15\,MHz$



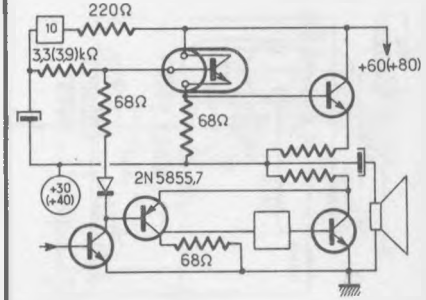
2N5856 (2N5858)

BF

n-p-n Si

$\beta = 50 \ldots 300$

$f_T > 200\,MHz$



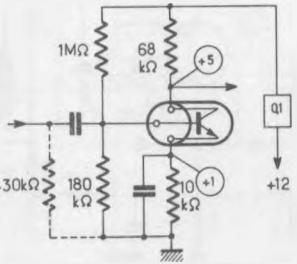
2N5961 (2N5962)(2N5963)

BF

n-p-n Si

$\beta = 150 \ldots 950$ (600...1500) [1200...2200]

$F_b = 2,5\,dB$



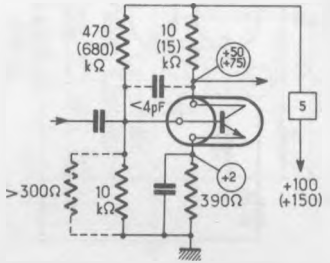
2N5964 (2N5965)

BF

n-p-n Si

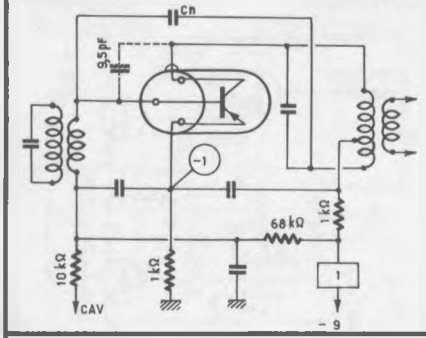
$\beta = 50 \ldots 250$

$f_T > 100\,MHz$



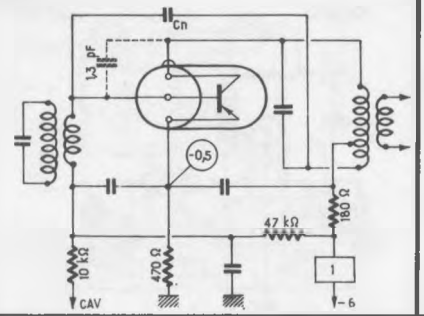
2 SA 31,36
MF 470 kHz

β = 50
GP = 37 dB



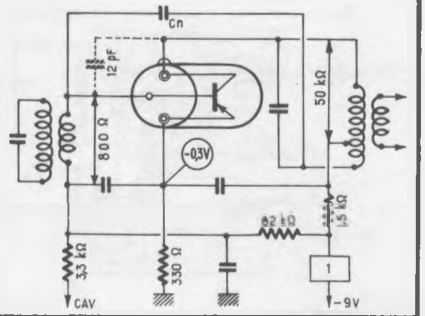
2 SA 121
(2 SA 122) [2 SA 123]
10 MHz

β = 9...82
GP = 24 (30) [35] dB



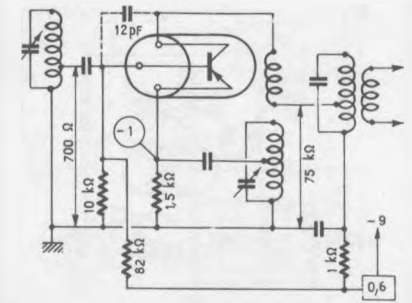
2 SA 141
MF 470 KHz

β = 70
GP = 33 dB



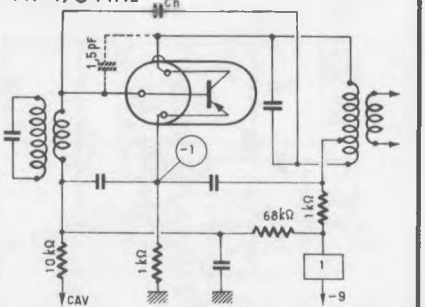
2 SA 142
Conv. < 2 MHz

β = 75



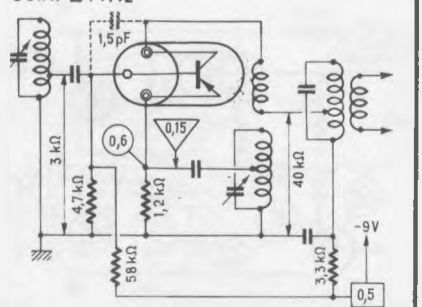
2 SA 155
(2 SA 156)
MF 470 MHz

β = 30 (50)
GP = 39 (42) dB



2 SA 159
(2 SA 160)
Conv. 2 MHz

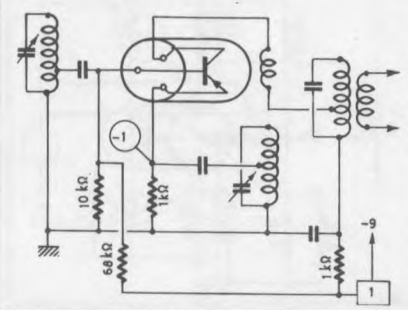
β = 50 (60)
GC = 36 (39) dB



2SA188,189

Conv.<2 MHz

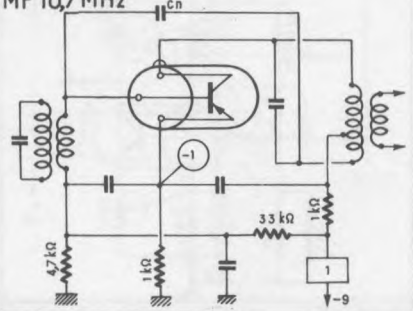
β = 65
GC = 30 dB



2SA 201 (2SA 202)

MF 10,7 MHz

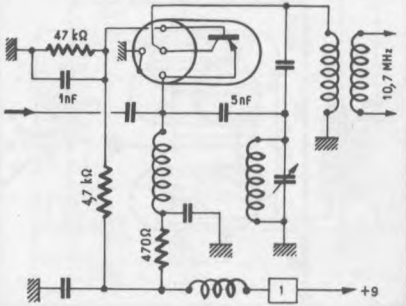
β = 50
GP = 24(27)dB



2SA 444

Conv. 100 MHz

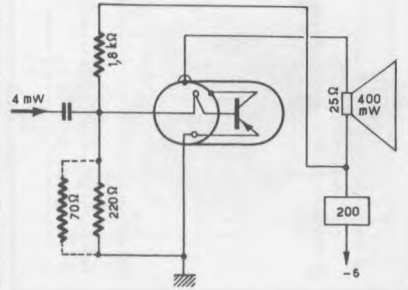
β = 80



2SB 27

P

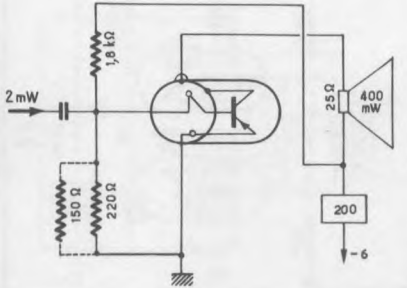
β = 29
GP = 20dB



2SB 28

P

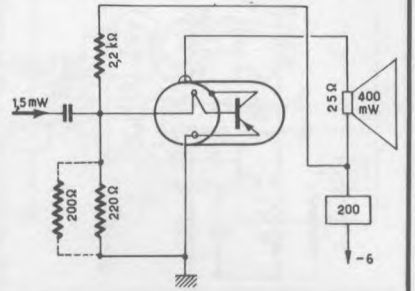
β = 68
GP = 23 dB



2SB 29

P

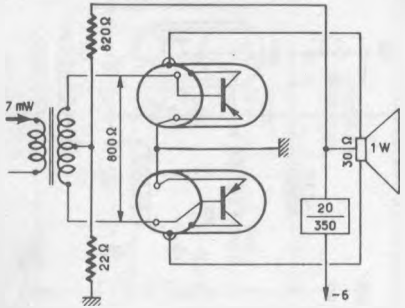
β = 115
GP = 25dB



2SB31

BF

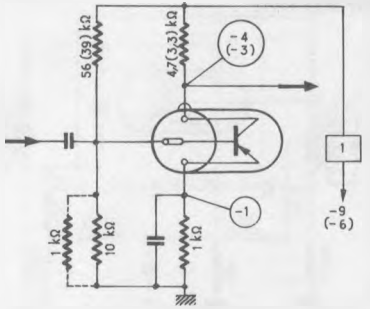
β = 115
GP = 22dB



2SB48

BF

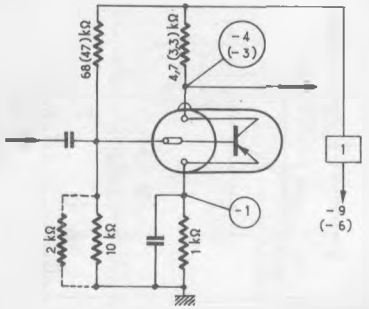
β = 36
rb = 6dB



2SB49

BF

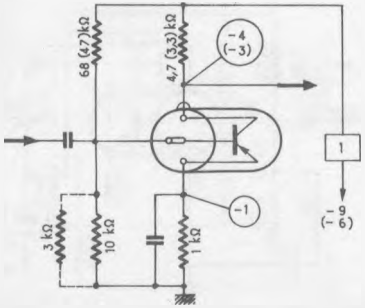
β = 66
rb = 6dB



2SB50

BF

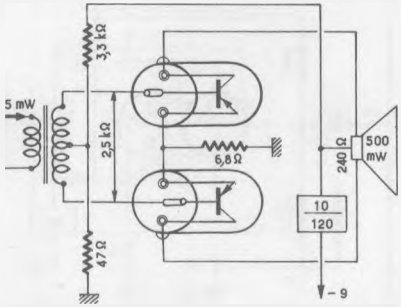
β = 100
rb = 6dB



2SB51

BF

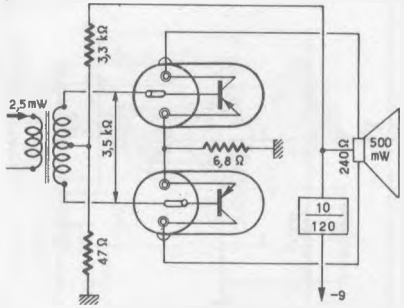
β = 36
GP = 20dB



2SB52

BF

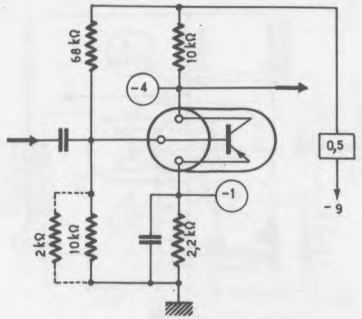
β = 66
GP = 23dB



2SB56,59,60A

β = 60...90

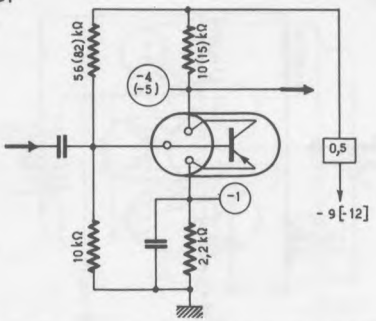
BF



2SB61

β = 50

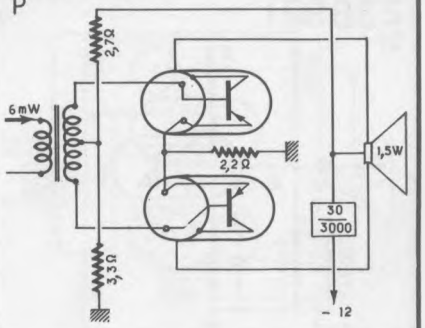
BF



2SB62,63

β = 30...120
GP = 24 dB

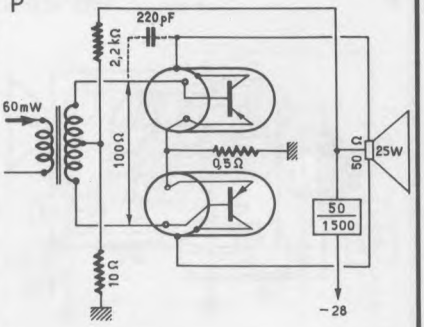
P



2SB64

β = 60
GP = 26 dB

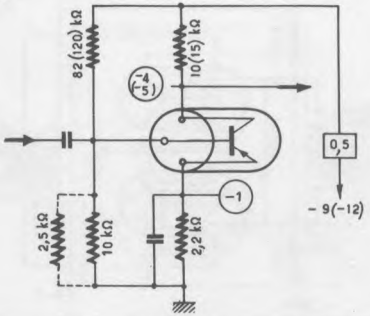
P



2SB66

β = 75

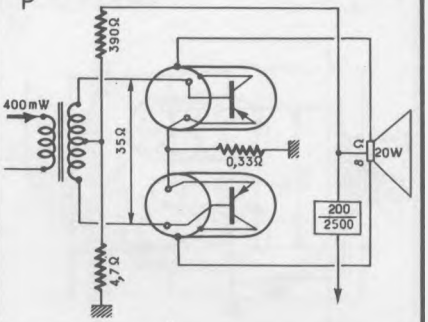
BF



2SB69

β = 60
GP = 17 dB

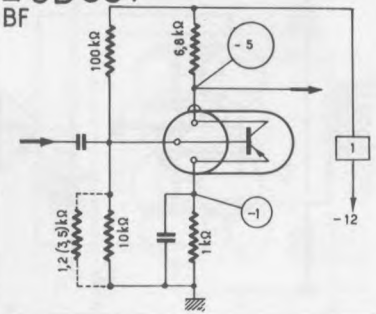
P



2SB98 (2SB99)

BF

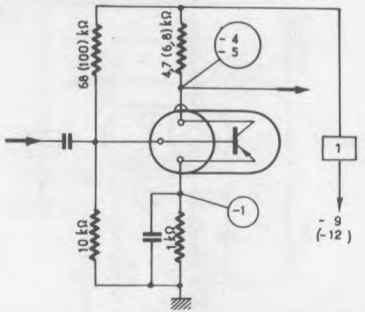
β = 40 (120)



2SB110, 11, 12, 13

BF

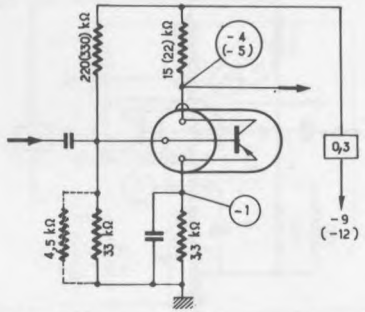
β=30,45, 60, 80



2SB134

BF

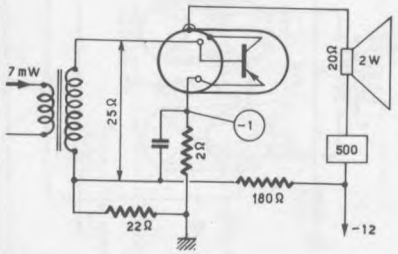
β = 70
Fb = 4 dB



2SB 142

P

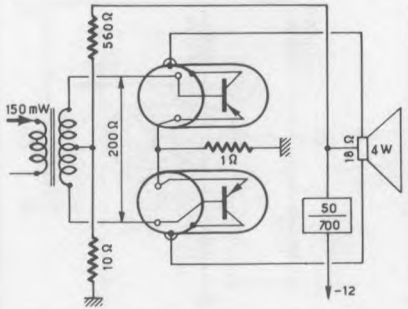
β = 24
GP = 25 dB



2SB 142

P

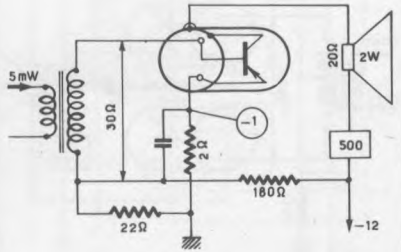
β = 24
GP = 15 dB



2SB 143

P

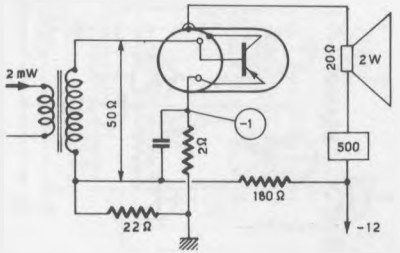
β = 37
GP = 27dB



2 SB 144

P

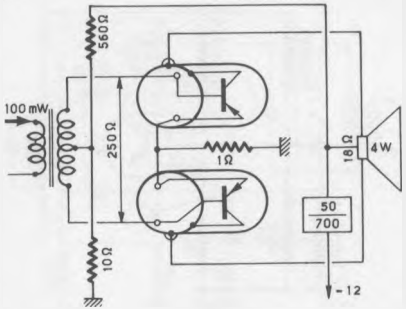
β = 75
GP = 30 dB



2 SB 145

P

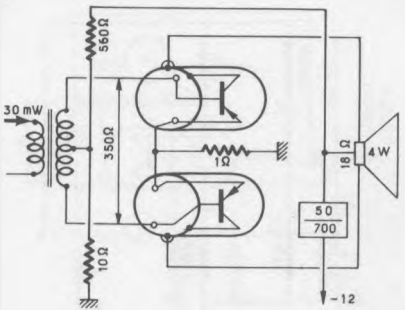
β = 37
GP = 18 dB



2 SB 146

P

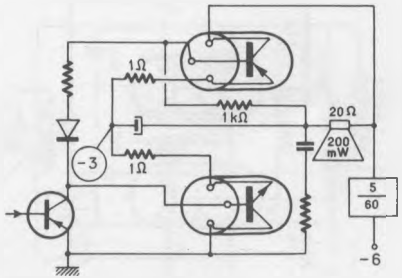
β = 75
GP = 21 dB



2 SB 181
2 SD 181

p-n-p
n-p-n

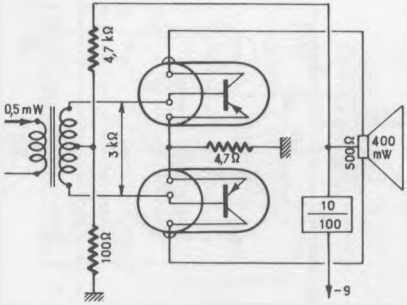
β = 100



2 SB 221
(2 SB 222)

BF

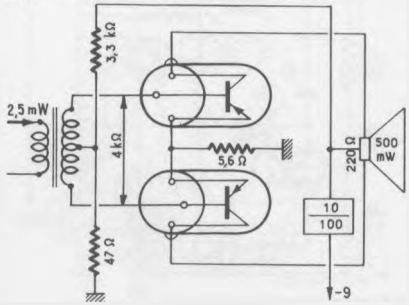
β = 50...90
(70...120)
GP = 29 dB



2 SB 221A
(2 SB 222A)

BF

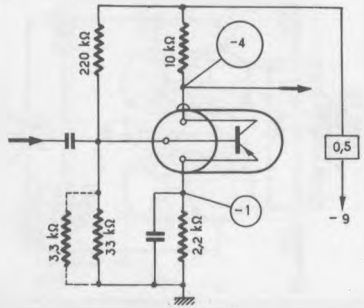
β = 50...90
(70...120)
GP = 23 dB



2SB 264

BF

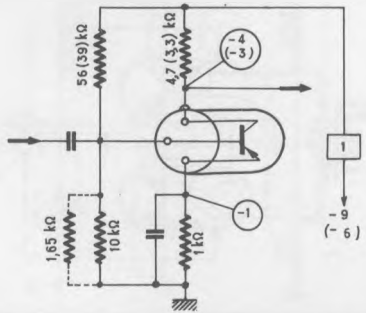
β = 45....100
F_b = 3 dB



2SB 400

BF

β = 120

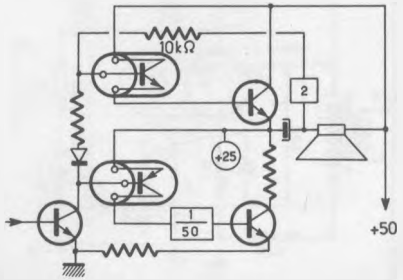


2SB 421
2SC 292

p-n-p Ge
n-p-n Si

BF

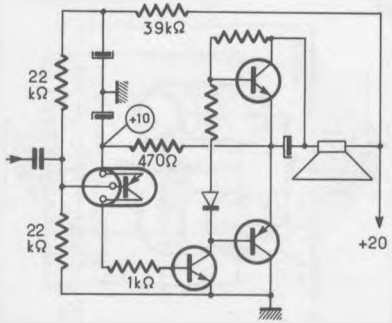
β = 70



2SB 439
(2SB440)

BF

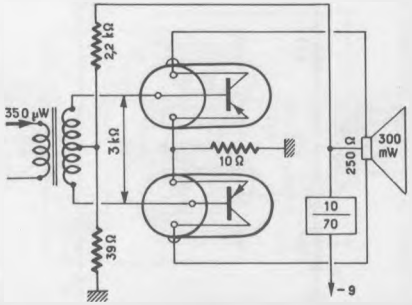
β = 70....270
F_b < 7 (< 5) dB



2SB 457

BF

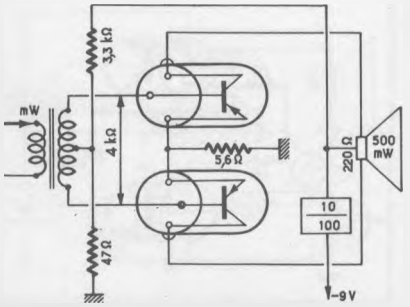
β = 110
GP = 29 dB



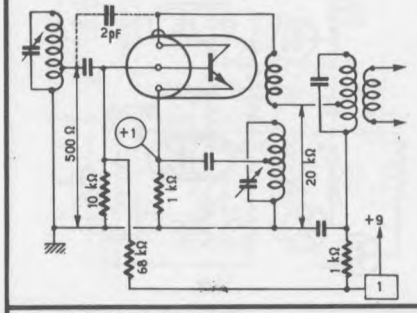
2SB 494

BF

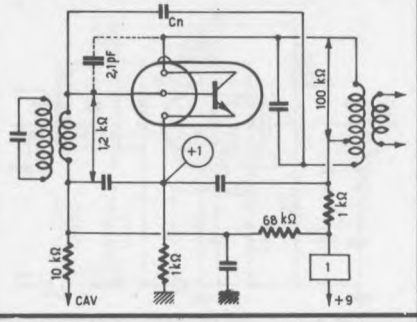
β = 0
GP = dB



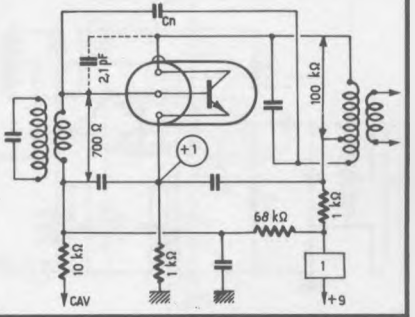
2 SC 73
n-p-n
Conv. <2 MHz
β = 41
GC = 27dB



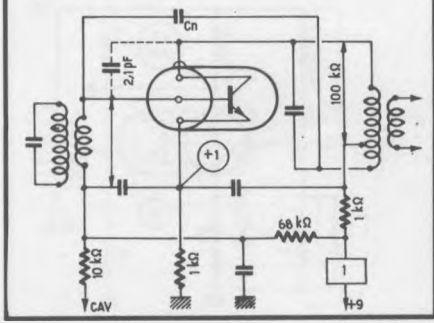
2 SC 75
n-p-n
MF-470 kHz
β = 9...82
GP = 41dB



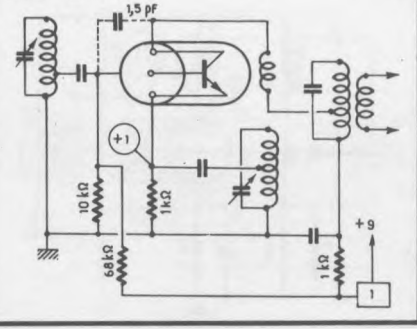
2 SC 76
n-p-n
MF-470 kHz
β = 9...82
GP = 37dB



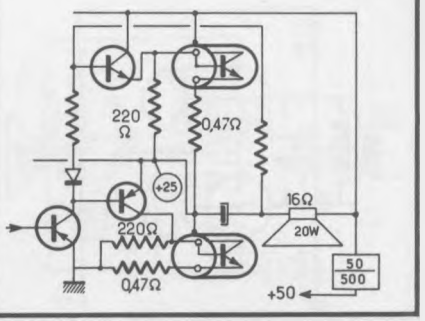
2 SC 77
n-p-n
MF-470 kHz
β = 9...82
GP = 32dB



2 SC 78
n-p-n
Conv. <2 MHz
β = 49
GC = 26dB

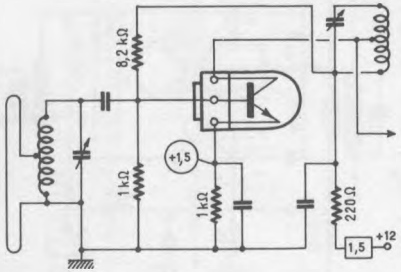


2 SC 245
P
n-p-n
Si
n = 40(>15)
f_T = 35MHz

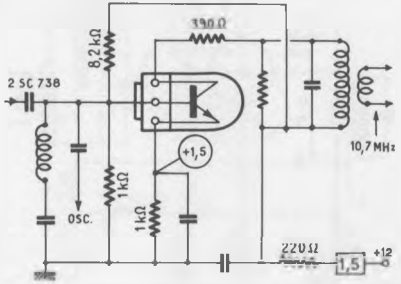


2 SC 292 → 2 SB 421

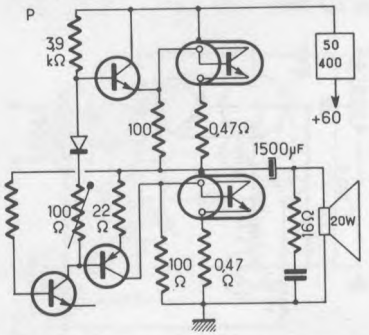
2 SC 738
n-p-n
100 MHz
Si
β=20...300
f_t=400 MHz



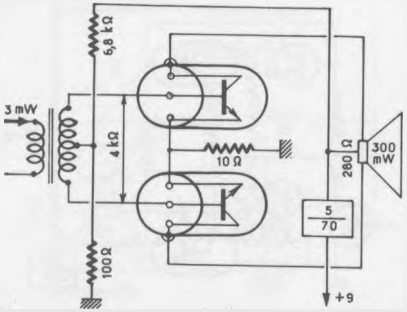
2 SC 739
n-p-n
Conv. 100 MHz
Si
β=20...300
f_t=350 MHz



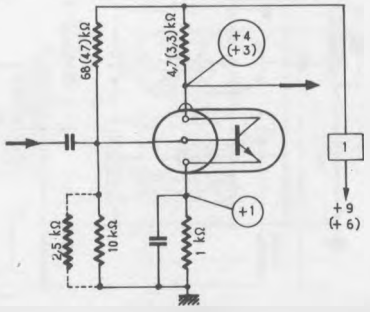
2 SD45
n-p-n Si
n=12...120
P



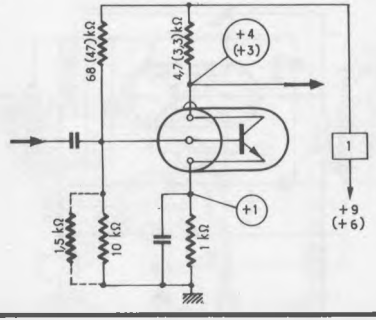
2 SD 63
n-p-n
BF
β = 50
GB= 20dB



2 SD 64
n-p-n
BF
β = 76
Fb = 8dB



2 SD 65
n-p-n
BF
β = 43
Fb = 8dB



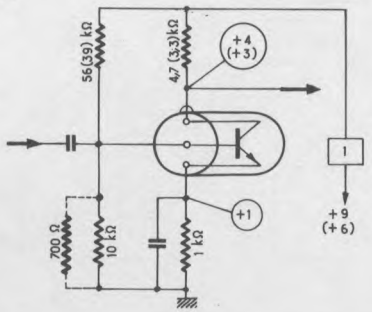
2 SD 66

n-p-n

BF

β = 23

Fb = 8dB

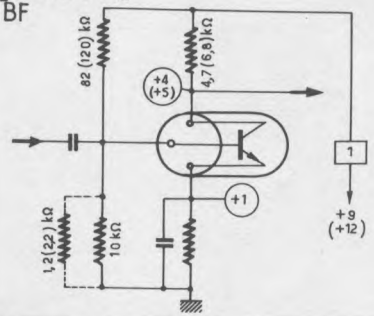


2 SD75 [2 SD 77]

n-p-n

BF

β = 40 [70]

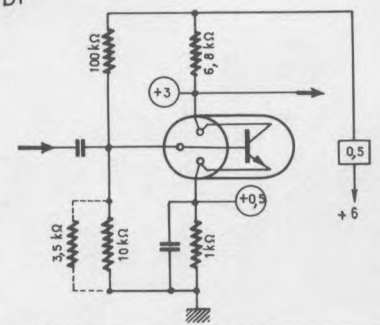


2 SD162

n-p-n

BF

β = 60



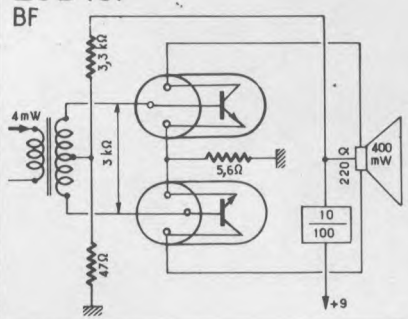
2SD186 2SD187

n-p-n

BF

β = 150

GP = 20 dB



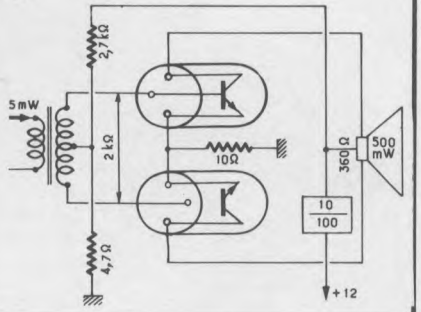
2 SD 193

n-p-n

BF

β = 100

GP = 20dB



3N142

FET Si

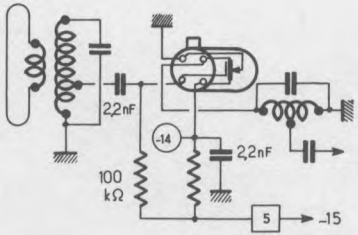
Canal N

100MHz

S = 7,5(>4) mA/V

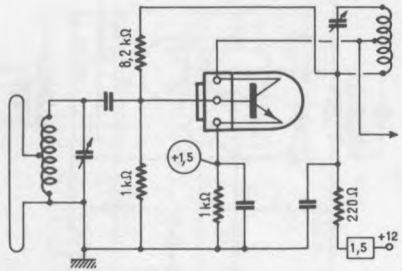
GP = 14 dB

Fb < 5dB

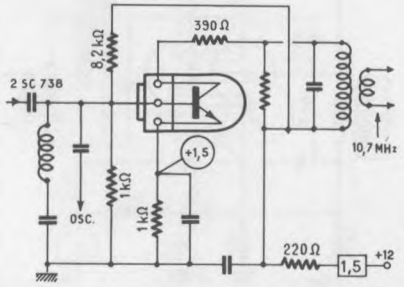


2 SD 181 → 2 SB 181

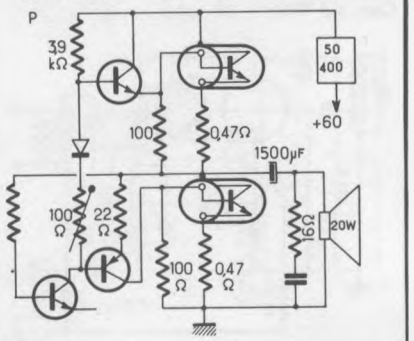
2 SC 738
n-p-n Si
100 MHz
β = 20... 300
f_t = 400 MHz



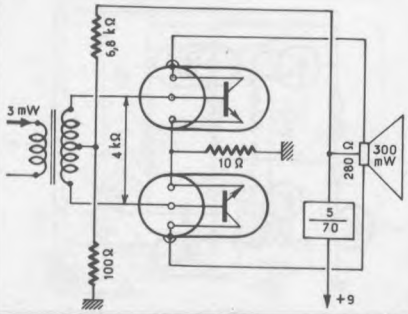
2 SC 739
n-p-n Si
Conv. 100 MHz
β = 20... 300
f_t = 350 MHz



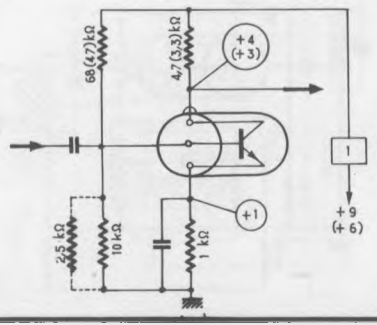
2 SD45
n-p-n Si
β = 12 120
P



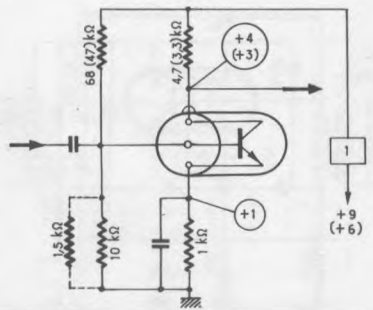
2 SD 63
n-p-n
BF
β = 50
GB = 20dB



2 SD 64
n-p-n
BF
β = 76
Fb = 8dB



2 SD 65
n-p-n
BF
β = 43
Fb = 8dB



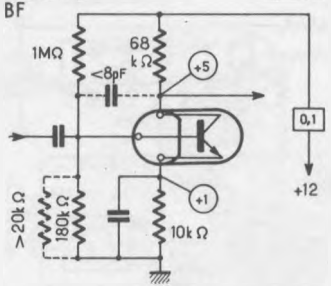
2N5376 (2N5377)

n-p-n Si

BF

B=120.....600 (100.....500)

F_b<2 (<3) dB



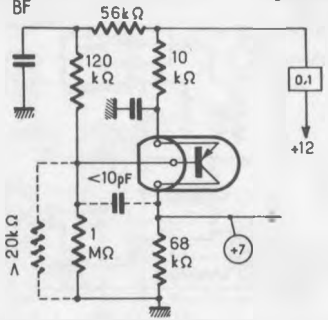
2N5378 (2N5379)

p-n-p Si

BF

B=150.....600 (100.....500)

F_b<2 (<3) dB

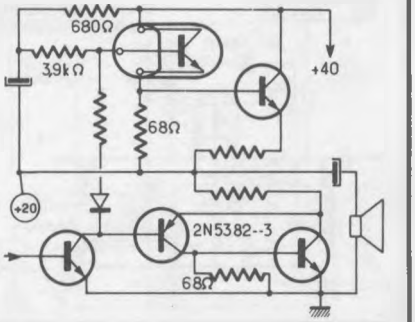


2N5380 (2N5381)

n-p-n Si

BF

B=50.....150 (100.....300)

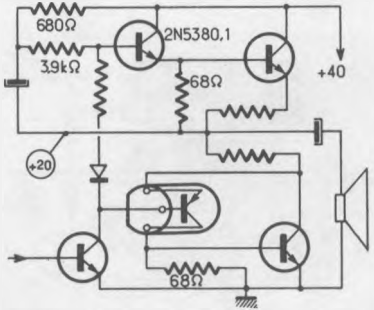


2N5382 2N5383

p-n-p Si

BF

B=50.....150 (100.....300)



2N5447 2N5449

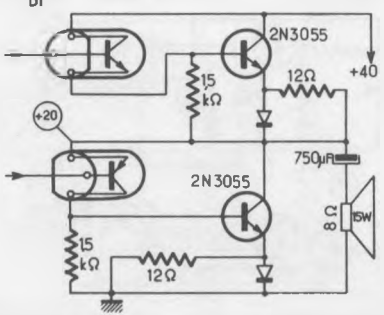
2N5447 p-n-p Si

2N5449 n-p-n Si

BF

B=100.....300

f_T>100MHz



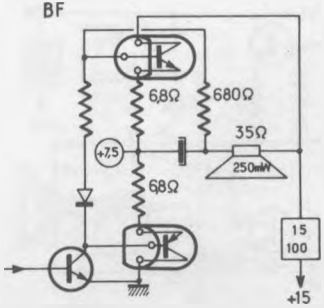
2N5447 2N5451

2N5447 p-n-p Si

2N5451 n-p-n Si

BF

B=30...600



TV - TRANSISTORS

ABREVIATIONS

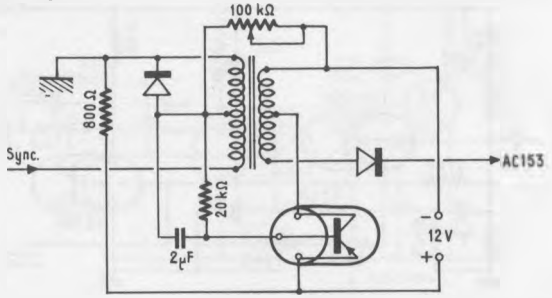
Alim.	Alimentation	Power Supply	Speiseeinheit	Alimentación	Voeding
All.	Alliage	Alloy	Legierungstransistor	Aleación	Legering
A.M.	Modulation d'amplitude	Amplitude Modulation	Amplitudenmodulation	Modulacion de amplitud	Geluidsterkte modulator
Amplif.	Amplificateur	Amplifier	Verstärker	Amplificador	Versterker
Ant.	Antenne	Antenna	Antenne	Antena	Antenne
Arrêt	Bobine d'arrêt	Stop reel	Drosselspule	Bobina de parada	Regelingsspoel
Attaque	Etage d'attaque	Attack Stage	Treiberstufe	Fase de ataque	Aanvangverdiep
Bal.	Balayage	Scanning	Ablenkung	Exploración	Wegdrijven
Bande	Bande de fréquence	Frequency band	Frequenzband	Faja de frecuencia	Frequentie band
BC	Base commune	Common Base	Basisschaltung	Base común	Grondbasis
Blank.	Blanking	Blanking	Austastimpuls	Supresión de haz	Blanking
Câble	Câble coaxial	Coaxial cable	Koaxialkabel	Cable coaxial	Co-axiale kabel
CAF	Commande automatique de fréquence	Automatic Frequency Control	Automatische Frequenzreglung	Mando automático de frecuencia	Automatische frekwentieregeling
CAG	Commande automatique de gain	Automatic Gain Control	Automatische Verstärkungsregelung	Mando automático de ganancia	Automatische versterkingsregeling
C.V.	Capacité variable	Variable capacity	Veränderliche Kapazität	Capacidad variable	Veranderlijke kracht
Comp.	Comparateur	Comparator	Vergleichsstufe	Comparador	Vergelijker
Contr.	Contraste	Contrast	Kontrast	Contraste	Contrast
Conv.	Conversion	Conversion	Mischstufe	Conversión	Omzetting
Corr.	Correction	Correction	Korrektur	Corrección	Correctie

CRT	Tube cathodique	Cathode Tube	Katodenstrahlröhre	Tubo catódico	Katodische buis
Défl.	Bobine de déflexion	Déflection coil	Ablenkspule	Bobina de deflección	Deflectie Spoelen
Diff.	Base diffusée	Diffused Base	Diffudierte Basis	Base difundida	Verspreide basis
E.C.	Emetteur commun	Common Transmitter	Emitterschaltung	Emisor común	Gemene uitzender
Epitax.	Epitaxial	Epitaxial	Epitaxial	Epitaxial	Epitaxial
Entrée	Etage d'entrée	Input Stage	Eingangsstufe	Fase de entrada	Ingangsverdiep
F_b	Facteur de bruit	Noise factor	Rauschfaktor	Factor de ruido	Geruchtsfactor
f_t	Fréquence de transition	Transition frequency	Transitfrequenz	Frecuencia de transición	Transitie frequentie
FI	Fréquence intermédiaire	Intermediate Frequency	Zwischenfrequenz	Frecuencia intermedia	Tussenfrekwentie
Ge	Germanium	Germanium	Germanium	Germanio	Germanium
GP	Gain en puissance	Power gain	Leistungsverstärkung	Ganancia de potencia	Krachtversterking
GV	Gain en tension	Voltage Gain	Spannungsverstärkung	Ganancia en tensión	Spanningsversterking
Hauteur	Hauteur d'image	Image height	Bildhöhe	Altura de imagen	Beeldhoogte
I_C	Courant de collecteur	Collector current	Kollektorstrom	Corriente de colector	Collectorstroom
Im.	Image	Image	Bild	Imagen	Beeld
L, Lig.	Ligne	Line	Zeile	Linea	Lijn
Lin.	Linéarité	Linearity	Linearität	Linearidad	Lijnvorming
Osc.	Oscillateur	Oscillator	Oszillator	Oscilador	Oscillator
Osc.bloqué	Oscillateur bloqué	Blocked Oscillator	Sperrschwinger	Oscilador bloqueado	Vastgelegde oscillator
Pl.	Planar	Planar	Planar	Planar	Planar
Préamplif.	Préamplificateur	Pre-amplifier	Vorverstärker	Preamplificador	Voorversterker
Redr.	Redresseur	Rectifier	Gleichrichter	Rectificador	Gelijkrichter
Retour	Ligne de retour	Feedback line	Rückführung	Linea de regreso	Terugvoerlijn
Sép.	Séparateur	Separatur	Impulstrennung	Separador	Onderscheider
Si	Silicium	Silicon	Silizium	Silicio	Silicium
Son	Son	Sound	Ton	Sonido	Geluid
Sortie	Etage de sortie	Out put Stage	Ausgangsstufe	Fase de salida	Uitgangsverdiep
THT	Très haute tension	Very High Voltage	Höchstspannung	Muy alta tensión	Zeer hoge spanning
Tr.	Transformateur	Transformer	Transformator	Transformador	Transformator
t_r	Temps de montée	Rise time	Anstiegszeit	Tiempo de subida	Opvoertijd

AC 121

p-n-p Ge Alliage β = 30...250

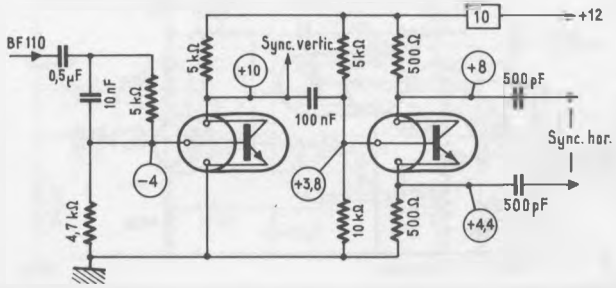
Osc. Images



AC 127

n-p-n Ge Alliage β = 65...200

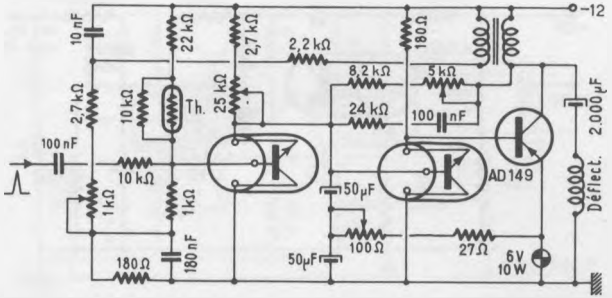
Séparateur



AC 127

n-p-n Ge All. β = 65...200

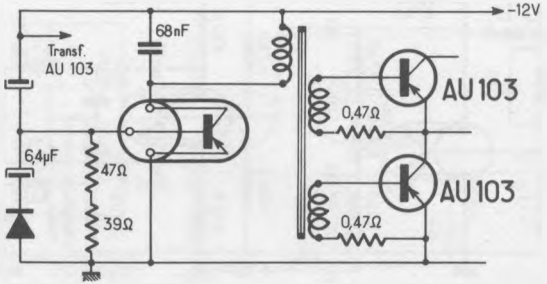
Bal. Images



AC 128

p-n-p Ge. All. ß = 60 .. 175

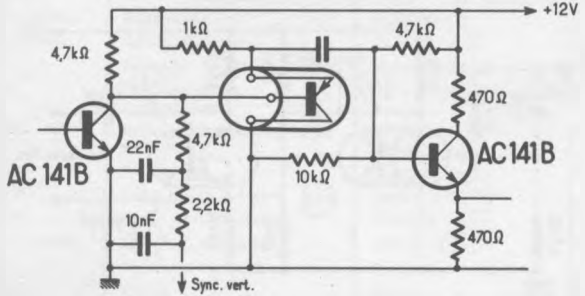
Bal 625 I.



AC 137

p-n-p Ge All. ß=170

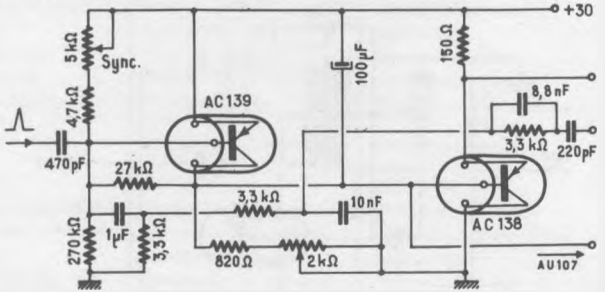
Amplif. sync.



AC 138 AC 139

p-n-p Ge All. β = 100

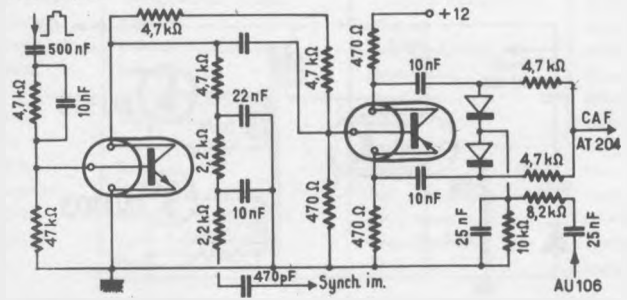
Bal. Images



AC 141

n-p-n Ge All. β = 40..180

CAF Lignes

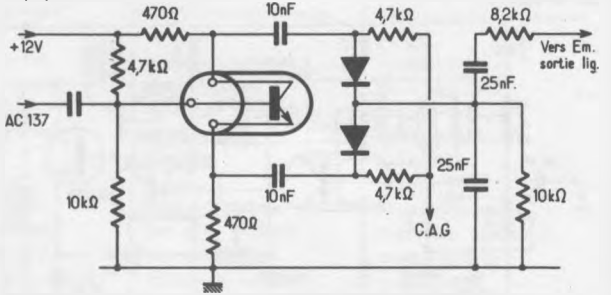


AC 141 B

n-p-n Ge All. ß = 30..250

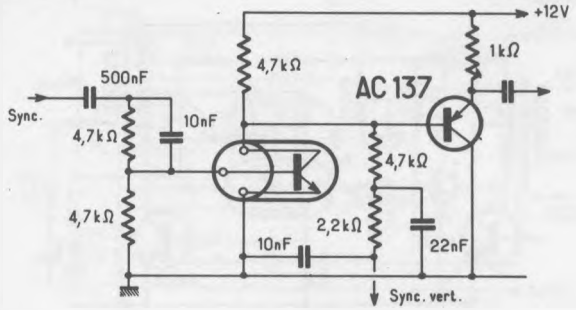
ft = 3MHz

Comp. phase



AC 141 B

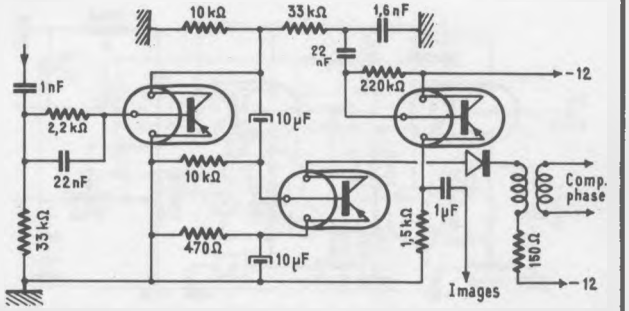
n-p-n Ge. All. ß = 30....250 ft = 3 MHz



AC 151

p-n-p Ge Alliage β =50

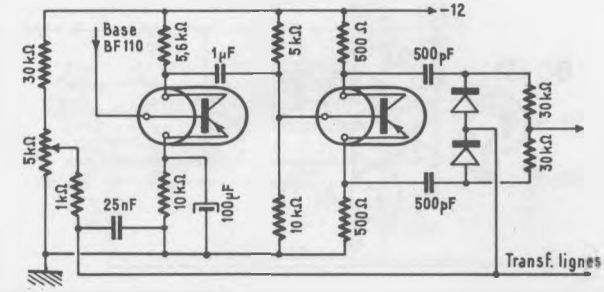
Séparateur



AC 151

p-n-p Ge Alliage β =50

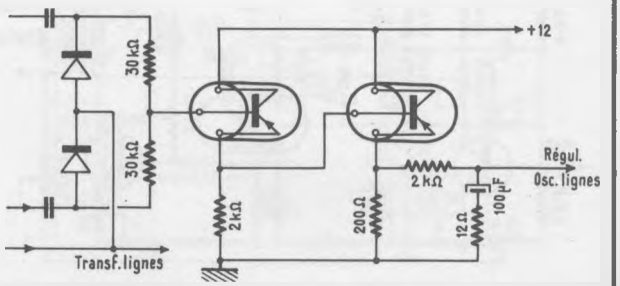
Comp. phase (I)



AC 151

p-n-p Ge Alliage β =50

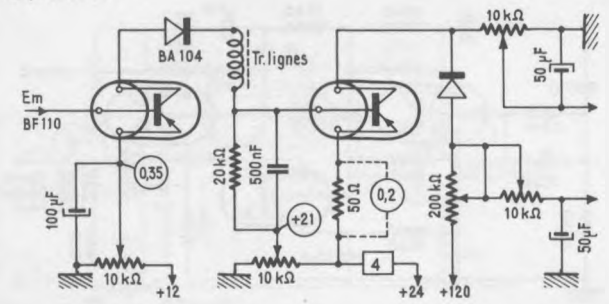
Comp. Phase (II)



AC 152

p-n-p Ge Alliage β = 30...150

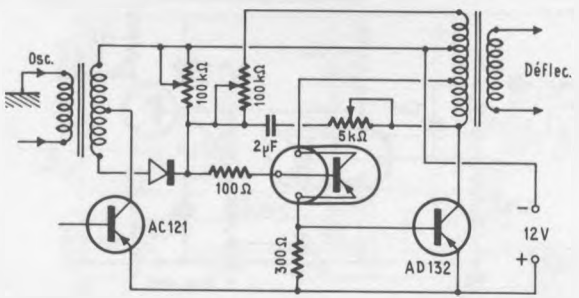
Amplif. C.A.G.



AC 153

p-n-p Ge Alliage β = 50...250

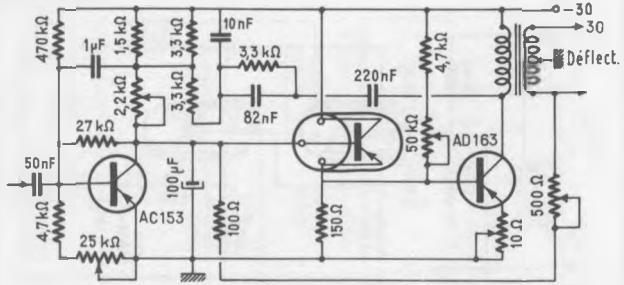
Bal. images



AC 153 K

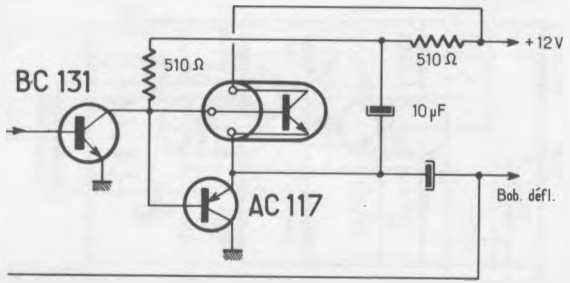
p-n-p β = 50

Bal. Images



AC 175

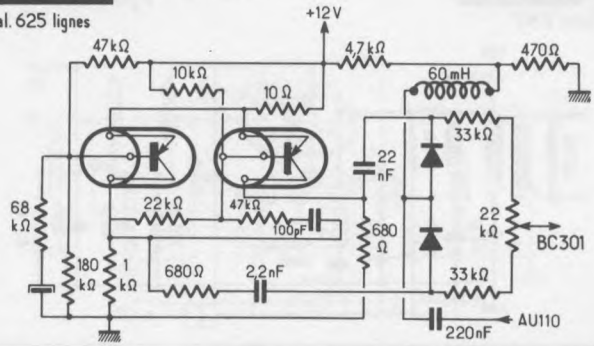
n-p-n Ge. All. β = 60....165



AC 192

p-n-p Ge ß = 30.... 500

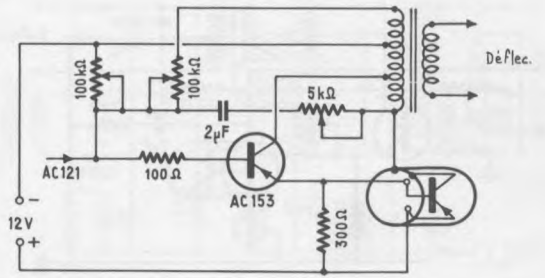
Bal. 625 lignes



AD 132

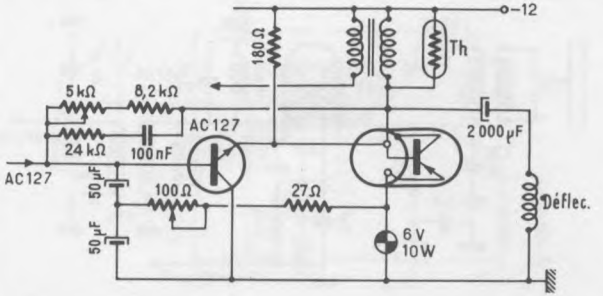
p-n-p Ge Alliage β = 20...100

Bal. images



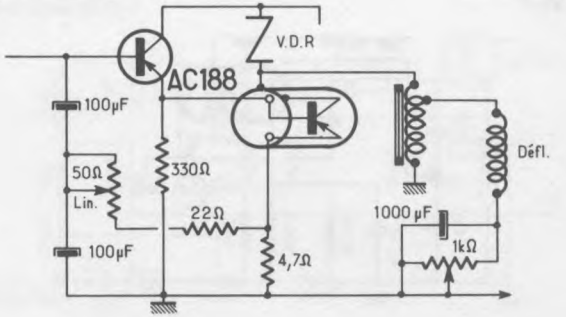
AD 149

p-n-p Ge All. β = 50...100



AD 162

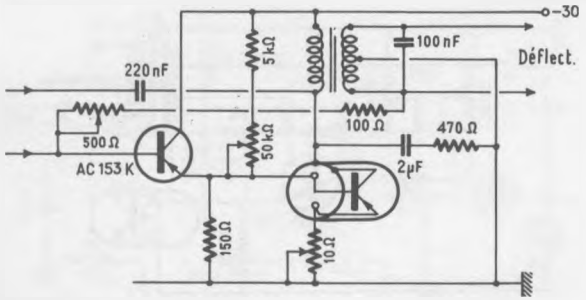
p-n-p Ge Al. ß = 50....350



AD 163

p-n-p Ge All. β = 12...60

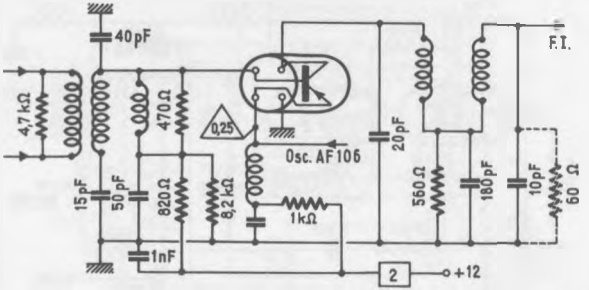
Sortie Images



AF106

p-n-p Ge Mesa β = 70
F_b = 9 dB

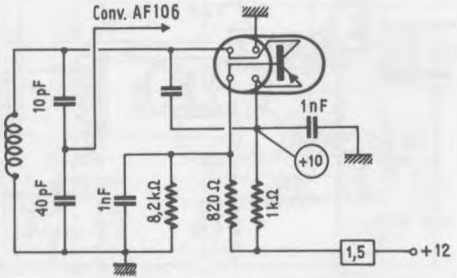
Conv. VHF



AF106

p-n-p Ge Mesa β = 70

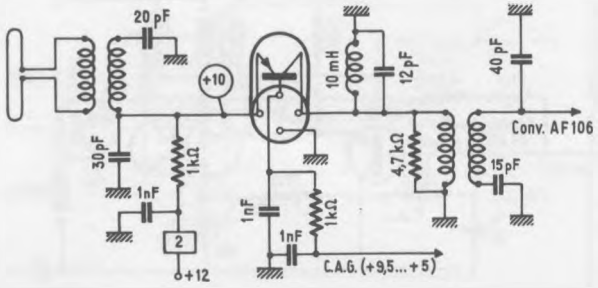
Osc. VHF



AF109

p-n-p Ge Mesa β = 100
GP = 15 dB
F_b = 5dB

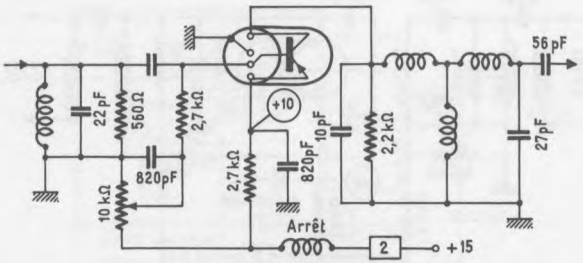
Entrée VHF



AF114

p-n-p Ge Mesa β = 150

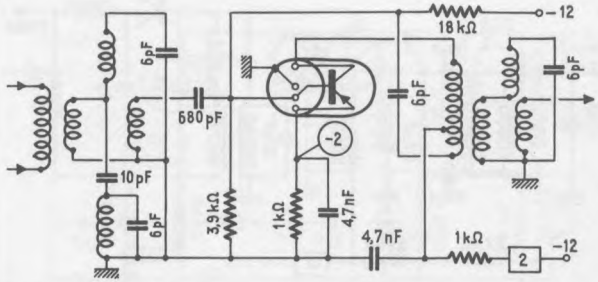
F.I. 819 l



AF115

p-n-p Ge Mesa

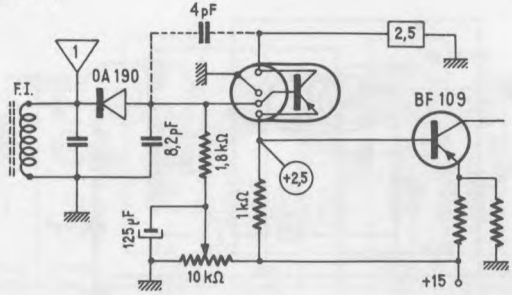
F.I.



AF117

p-n-p Ge Mesa β = 150

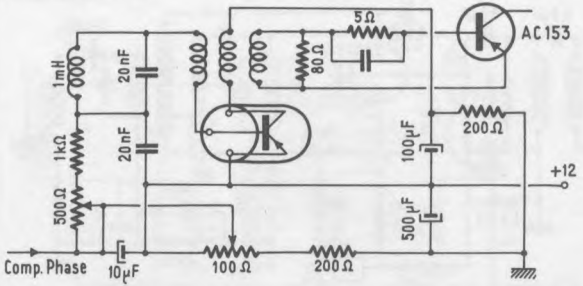
Vidéo 819 l



AF117

p-n-p Ge Mesa β = 140

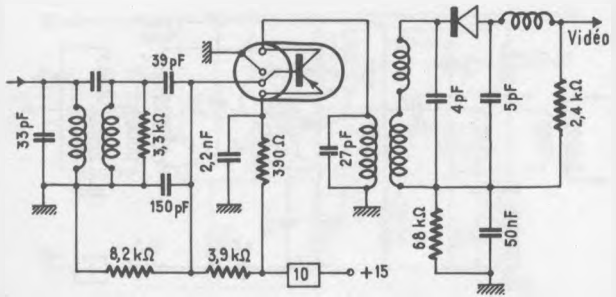
Osc. lignes (625)



AF118

p-n-p Ge Mesa β = 200

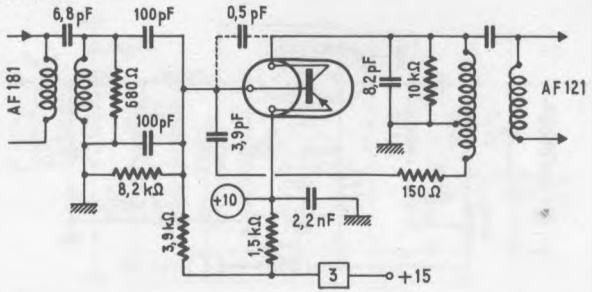
Sortie F I



AF121

p-n-p Ge All.-diff. β = 50

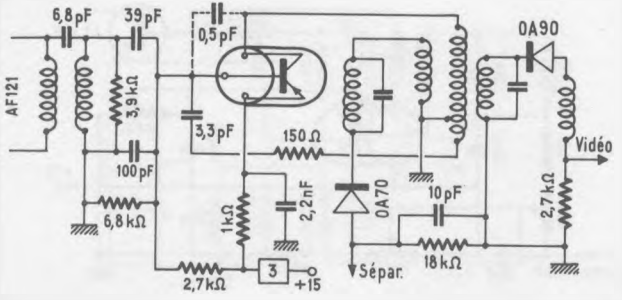
F.I II 625 l



AF121

p-n-p Ge All.-diff. β = 50

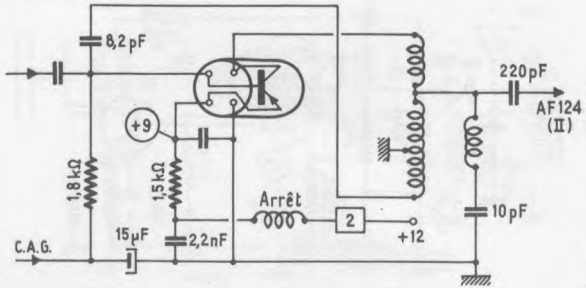
F.I III 625 l.



AF124

p-n-p Ge Mesa β = 150

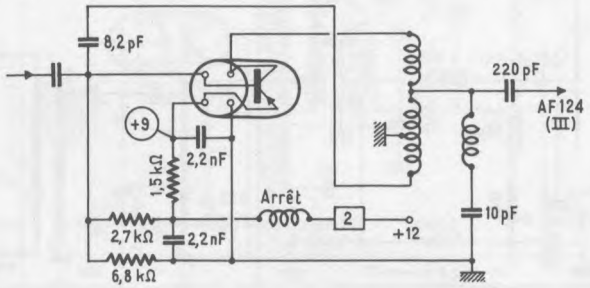
F.I. (I)



AF 124

p-n-p Ge Mesa β = 150

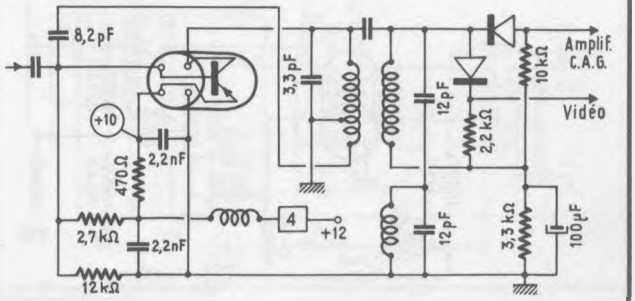
F.I. II



AF 124

p-n-p Ge Mesa β = 150

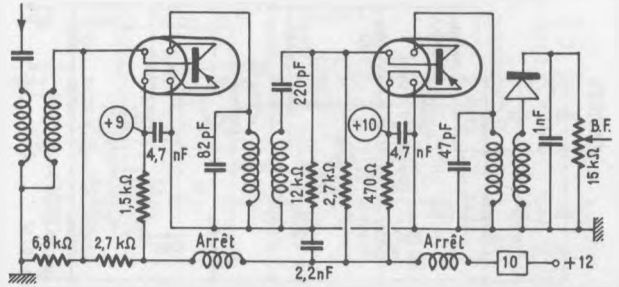
F.I. III



AF 124

p-n-p Ge Mesa β > 150

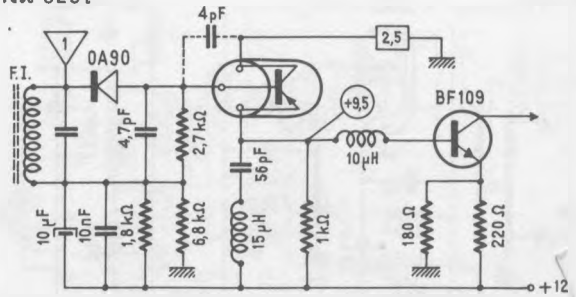
F.I. son



AF 127

p-n-p Ge Mesa β = 150

Vidéo 625 l

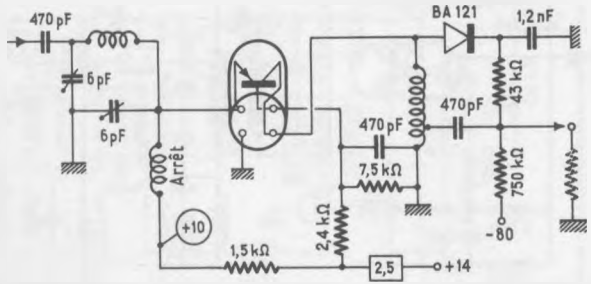


AF 139

p-n-p Ge Mésa

β = 60
F_b = 5 dB
GP = 10dB

Amplif. Ant. Bande IV

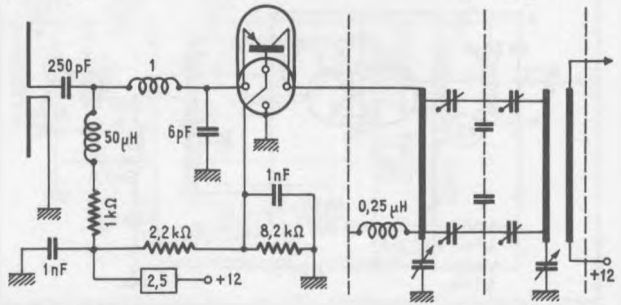


AF 139

p-n-p Ge Mésa

β = 50
GP = 10 dB
F_b = 8 dB

Entrée U.H.F.

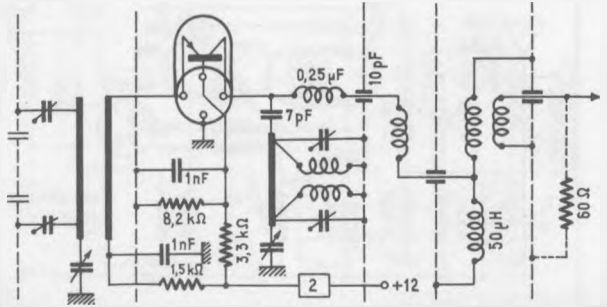


AF 139

p-n-p Ge Mesa

β = 50
GP = 8,5 dB
F_b = 14,5dB

Conv. UHF

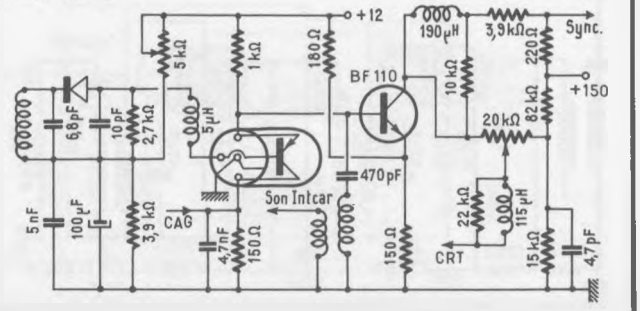


AF 164

p-n-p Ge Drift

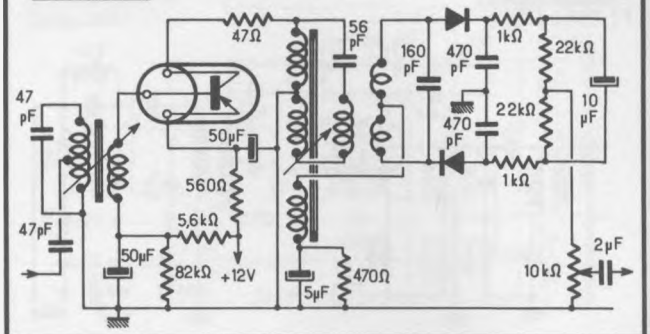
β = 85

Vidéo 625 L



AF 166

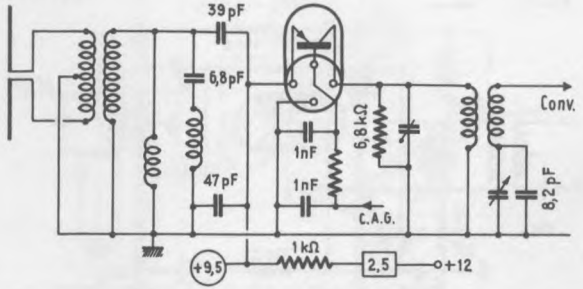
p-n-p Ge Drift ß = 85



AF 180

p-n-p Ge All.-diff. β > 15

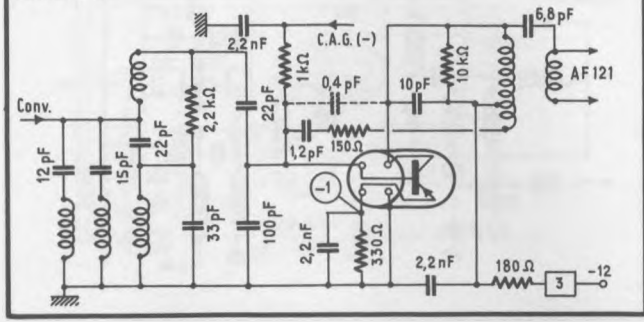
Entrée VHF



AF 181

p-n-p Ge All.-diff. β > 25

F.I. 625 l.

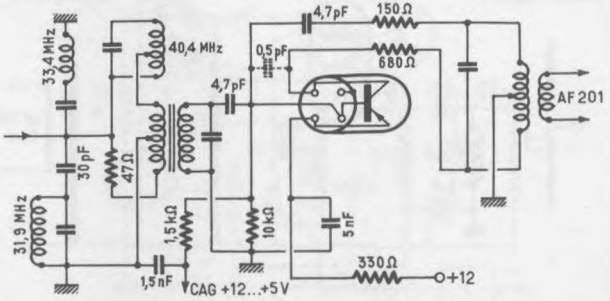


AF 200

p-n-p Ge Mesa β = 150

GP = 29 dB max

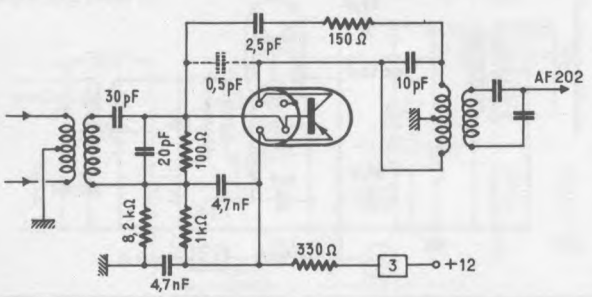
FI 625 L (I)



AF 201

p-n-p Ge Mesa β = 150 GP = 30dB

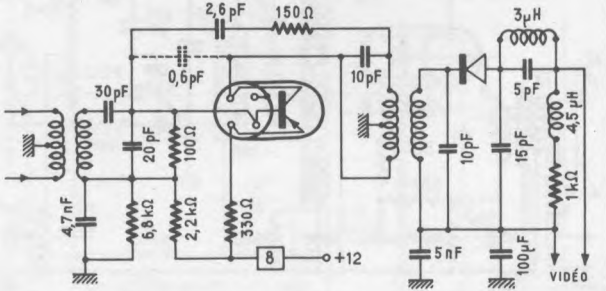
FI 625 L (II)



AF 202

p-n-p Ge Mesa β = 150 GP = 31 dB max

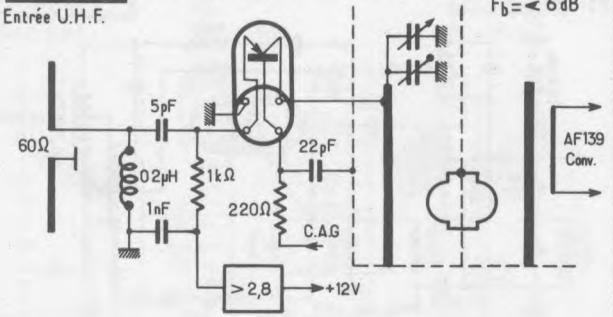
FI 625 L (III)



AF 239

p-n-p Ge Mesa ß=33(>10) GP=11...14dB F_b=< 6dB

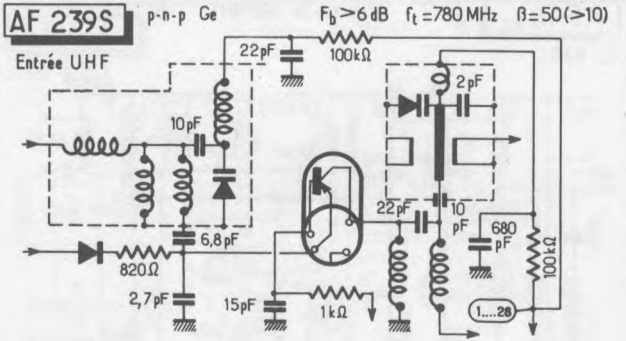
Entrée U.H.F.



AF 239S

p-n-p Ge F_b>6dB f_t=780MHz ß=50(>10)

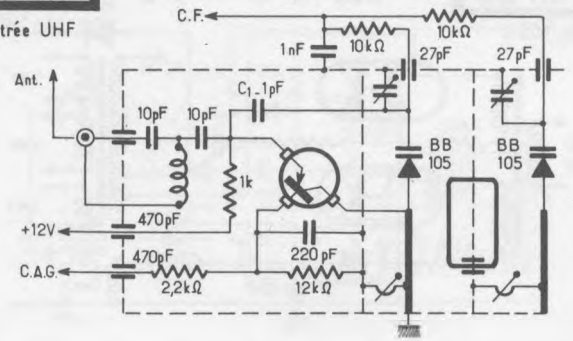
Entrée UHF



AF 279

n-p-n Ge $F_b = 5\,dB$ $F_T = 780\,MHz$ $\beta = 50\,(>10)$

Entrée UHF

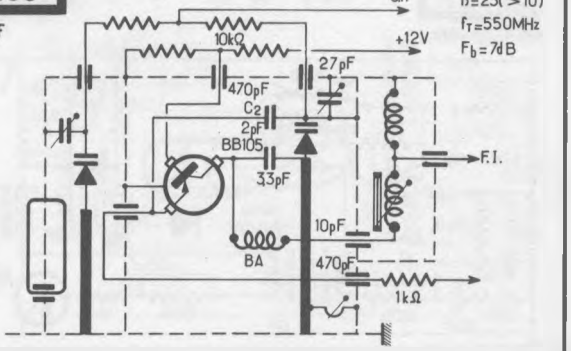


AF 280

n-p-n Ge

Conv. UHF

$\beta = 25\,(>10)$
$f_T = 550\,MHz$
$F_b = 7\,dB$

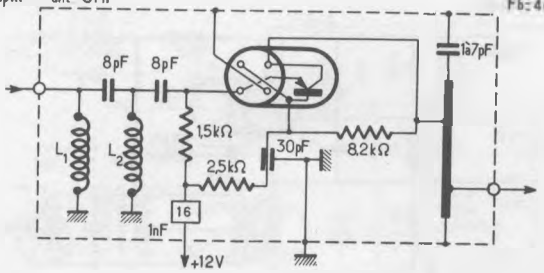


AFY 42

p-n-p
Ge Mesa

$\beta = 5\,(>10)$
$f_T = 700\,MHz$
$G_P = 12\,dB$
$F_b = 4\,dB$

Amplif ant UHF

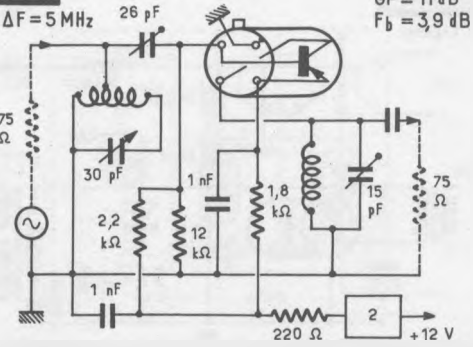


AFZ 12

p-n-p

200 MHz, ΔF = 5 MHz

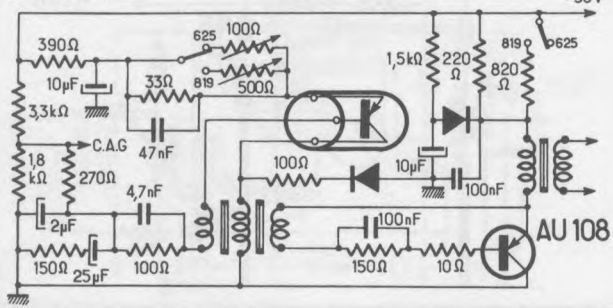
$\beta = 60$
$G_P = 11\,dB$
$F_b = 3,9\,dB$



AT 209

p-n-p Ge All. ß=30...500 F_t=7MHz

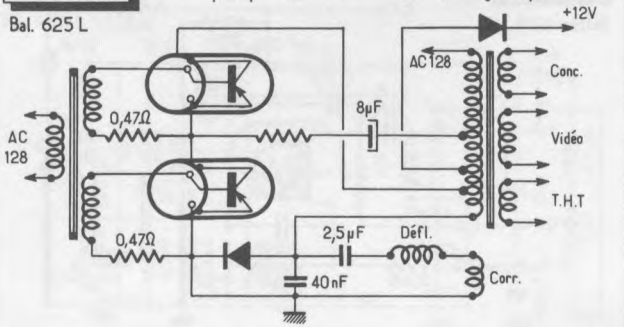
Bal. 625-819 L



AU 103

p-n-p Ge All. ß>15 t_s<3µs

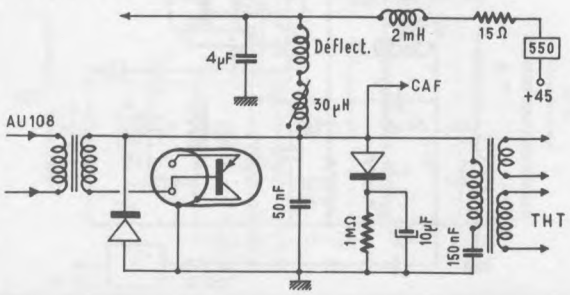
Bal. 625 L



AU 106

p-n-p Ge Diffusion

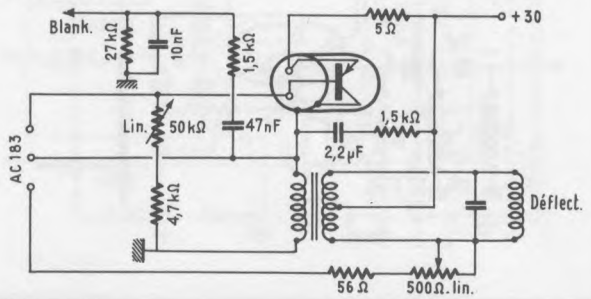
Sortie Lignes



AU 107

p-n-p Ge

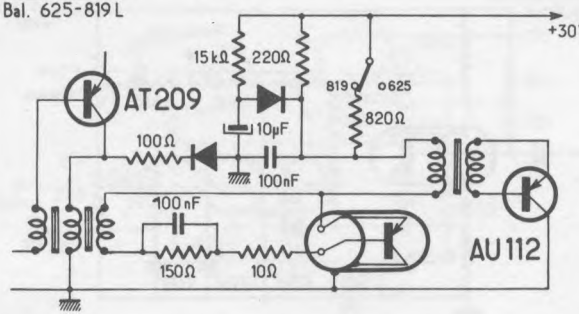
Sortie Images



AU 108

p-n-p Ge All. ß>35

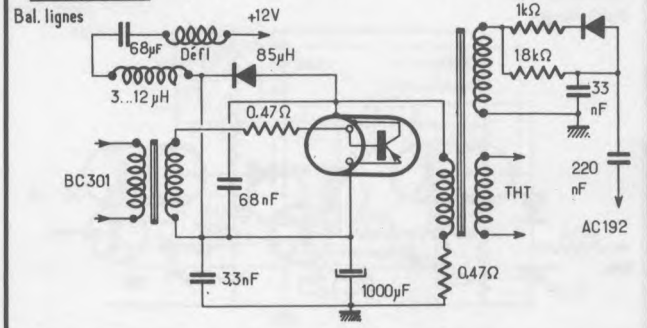
Bal. 625-819 L



AU 110

p-n-p Ge All. diff. t_{off}<2µs ß=20...90

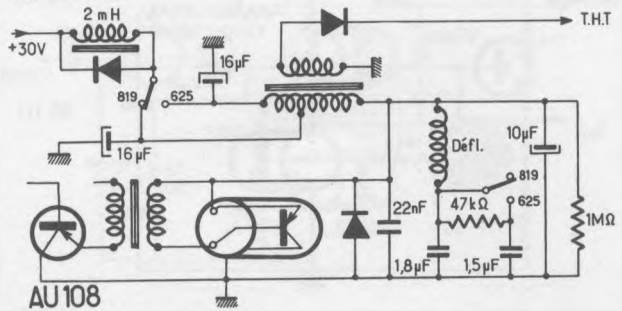
Bal. lignes



AU111_AU112

p-n-p Ge All. ß=15...40 t_{off}<750ns

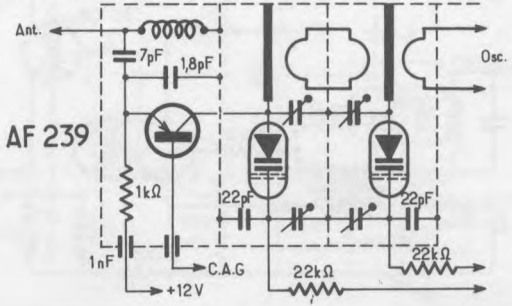
Bal. 625-819 L



BA 139

Diode C.V. Si 3....125pF 3....25V

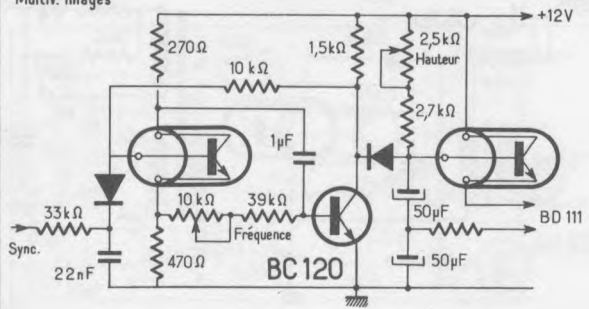
Accord U.H.F.



BC 115

n-p-n Si Planar ß=100....400

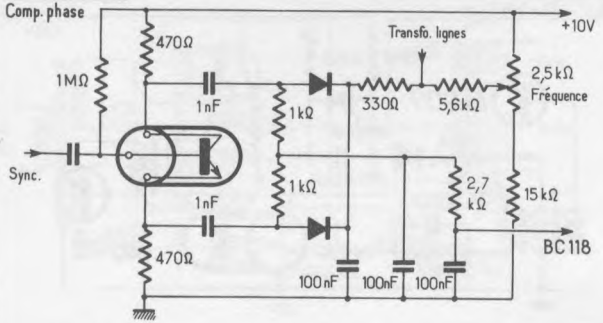
Multiv. images



BC 115

n-p-n Si Planar ß=100....400

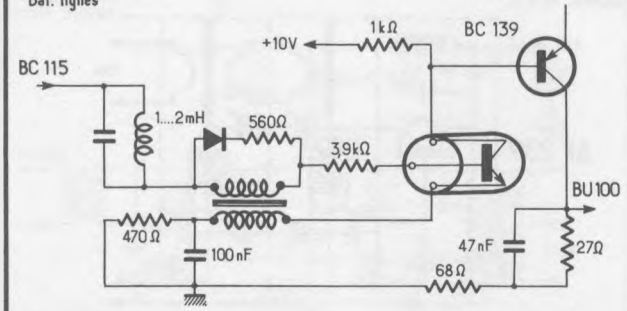
Comp. phase



BC 118

n-p-n Si Planar ß=40....160

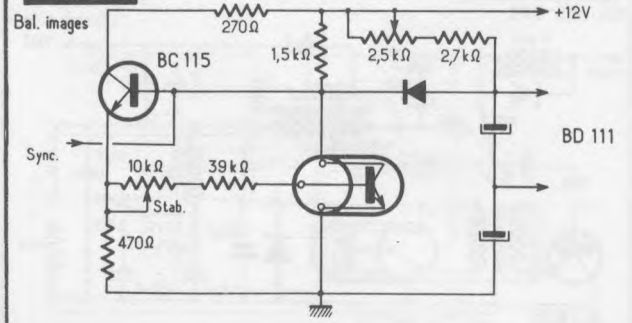
Bal. lignes



BC 120

n-p-n Si ß=60(>20)

Bal. images

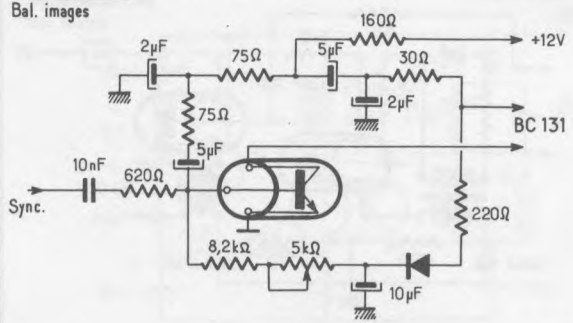


BC 130

n-p-n Si Planar

ß=125....500

Bal. images

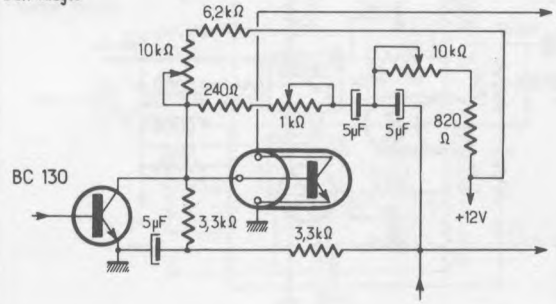


BC 131

n-p-n Si Planar

ß=240....900

Bal. images

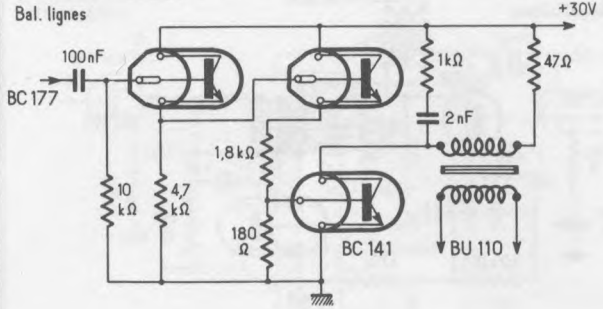


BC141_BC147

n-p-n Si

ß=40.... 250
ß=125... 500

Bal. lignes

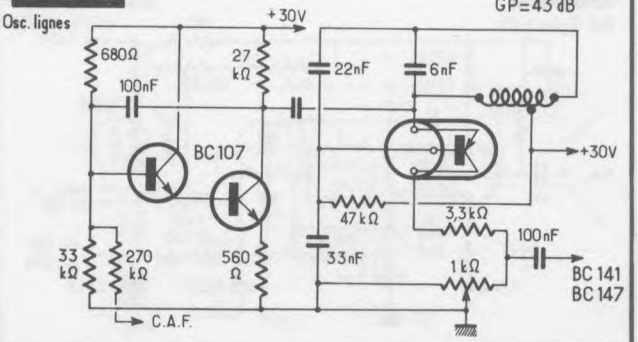


BC 177

n-p-n Si

ß=75....260
GP=43 dB

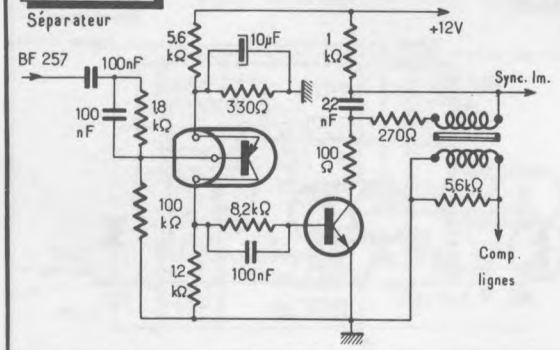
Osc. lignes



BC 213

p-n-p Si ß = 80....400

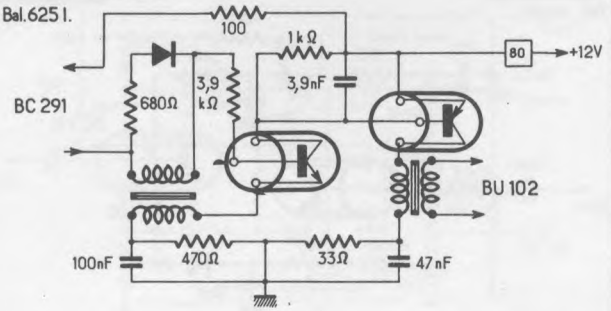
Séparateur



BC283_BC284

p-n-p
n-p-n Si ß = 40....270

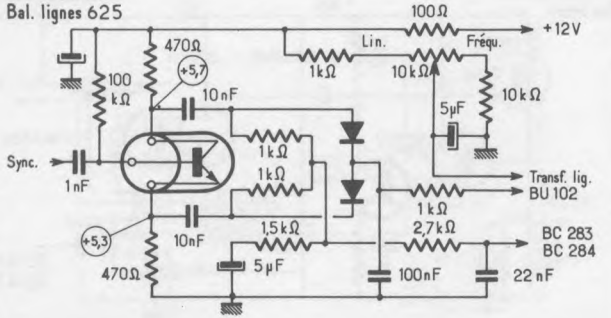
Bal. 625 l.



BC 291

n-p-n Si ß = 50

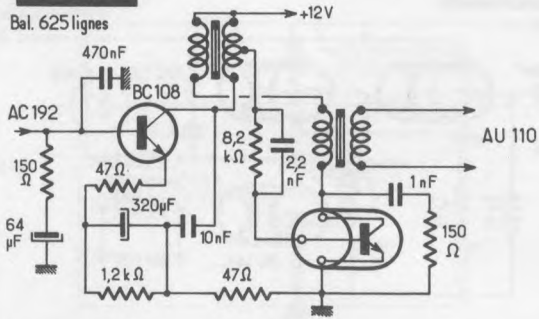
Bal. lignes 625



BC 301

n-p-n Si. ß = 40....24

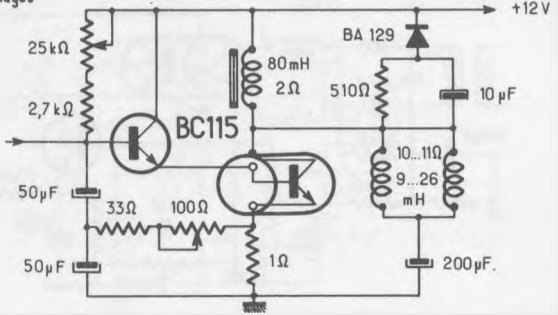
Bal. 625 lignes



BD 111

n-p-n Si ß=40....100

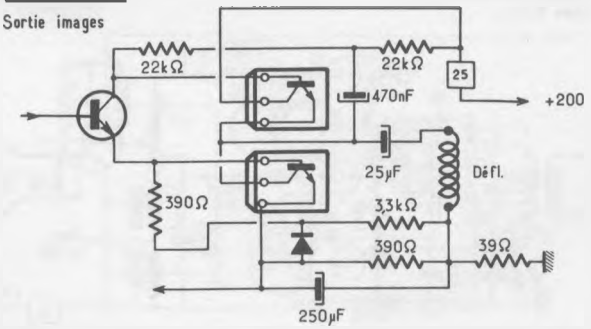
Bal. images



BD 127

n-p-n Si ß=50

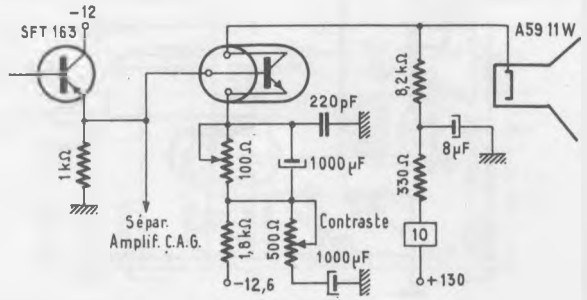
Sortie images



BF 108

n-p-n Si β > 25

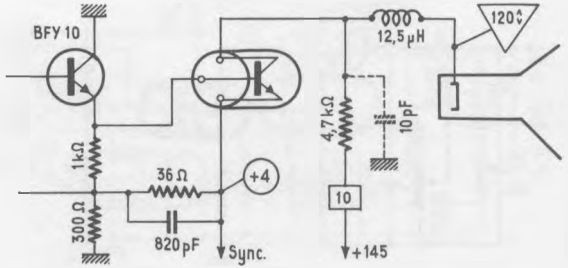
Vidéo 819 L.



BF 109

n-p-n Si Mésa β > 20

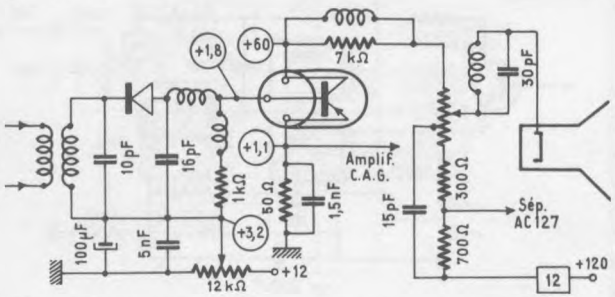
Vidéo 819 L



BF 110

n-p-n Si Mésa β > 20

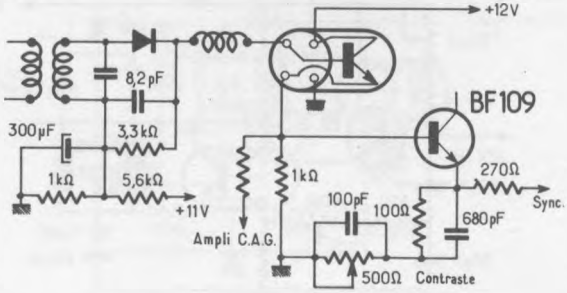
Vidéo 625 l.



BF 115

n-p-n Si Planar β = 45....165 f_t = 270 MHz

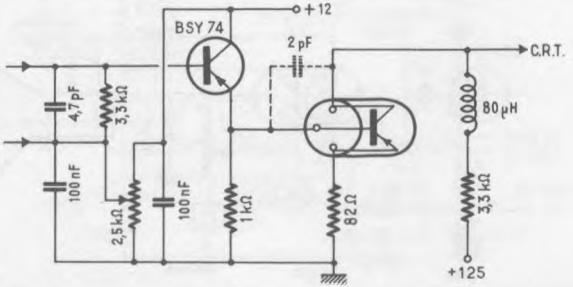
Vidéo 8191.



BF 117

n-p-n Si Planar β > 25

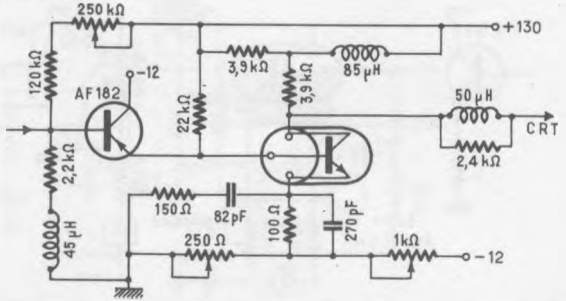
Sortie Vidéo



BF 140

n-p-n Si Planar GV = 40 tr = 50 ns

Vidéo 625 L



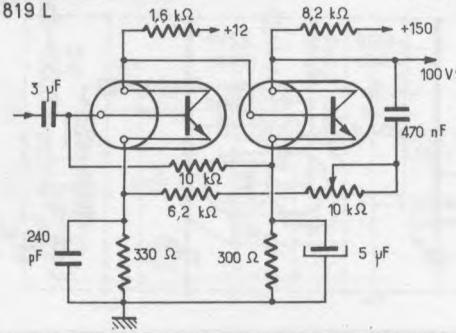
BF 154

BF 156

n-p-n Si Planar

β = 50 (>30)
GV = 50

Vidéo 819 L

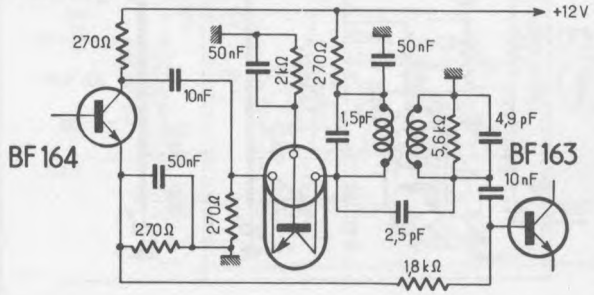


BF 158

n-p-n Si Pl. Epitax.

ß=50(>20) F_b=3,5 dB
f_t>600 MHz

F.I. Cascode (I)

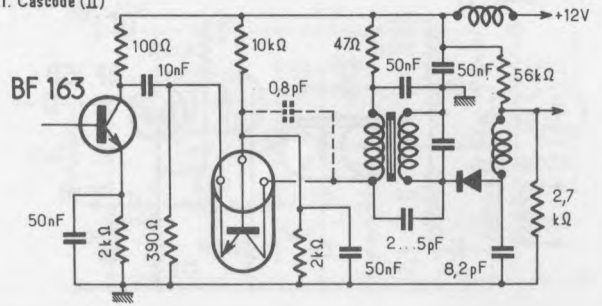


BF 159

n-p-n Si Pl. Epitax.

ß=50(>20) F_b=3,5 dB

F.I. Cascode (II)

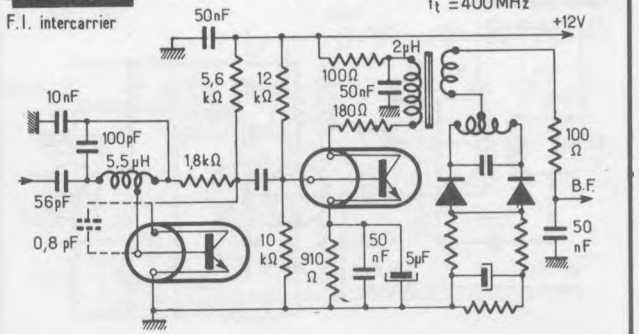


BF 160

n-p-n Si Pl. Epitax.

ß=50(>20) GV=800
f_t =400 MHz

F.I. intercarrier

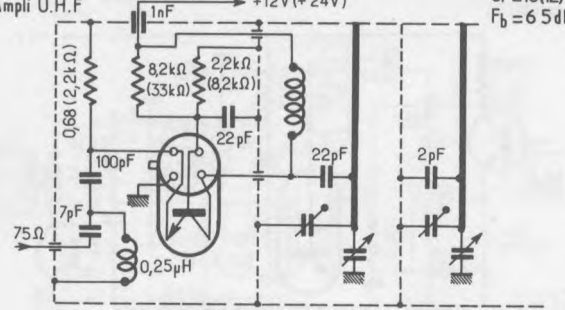


BF 161

n-p-n Si Diff.

ß = 70 (>20)
GP = 10(12) dB
F_b = 6 5 dB

Ampli U.H.F

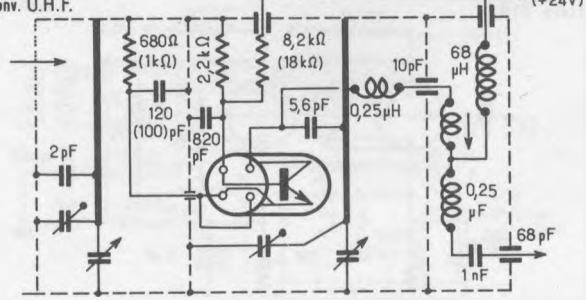


BF 161

n-p-n Si Diff.

ß = 70 (>20)

Conv. U.H.F.

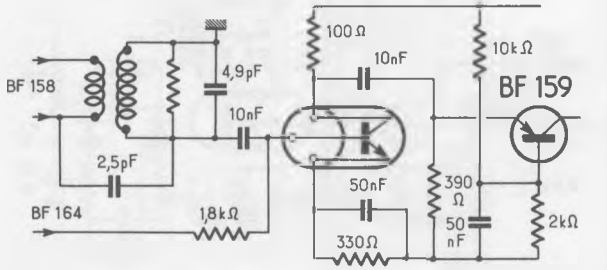


BF 163

n-p-n Si Diff.

ß = 70 (>30) F_b = 3 dB

F.I. Cascade (II)

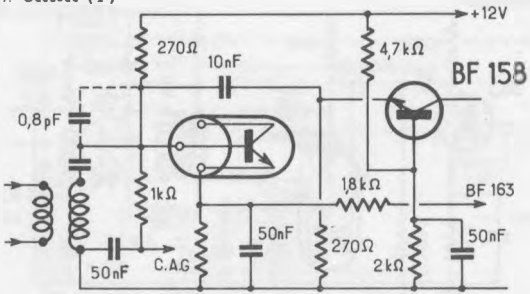


BF 164

n-p-n Si Diff.

ß = 70 (>30) F = 3 dB

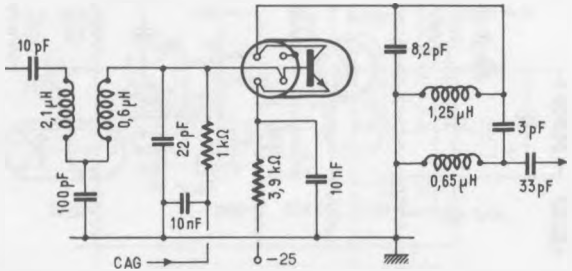
F.I. Cascade (I)



BF 167

n-p-n Si Planar GP = 20 dB

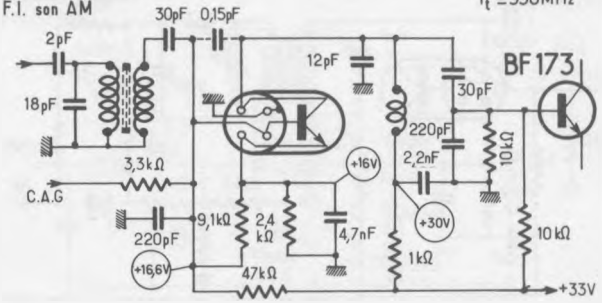
FI 625 L



BF 167

n-p-n Si Planar ß = 57 (>26) F_b = 3 dB f_t = 350 MHz

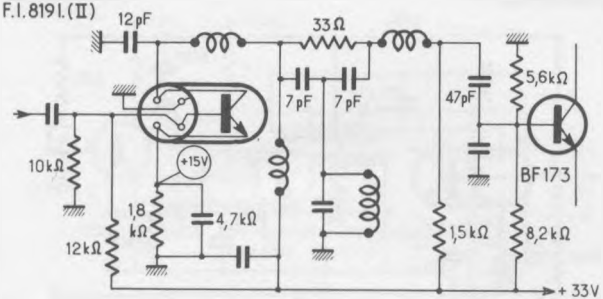
F.I. son AM



BF 173

n-p-n Si Planar ß = 88 (>38) f = 550 MHz

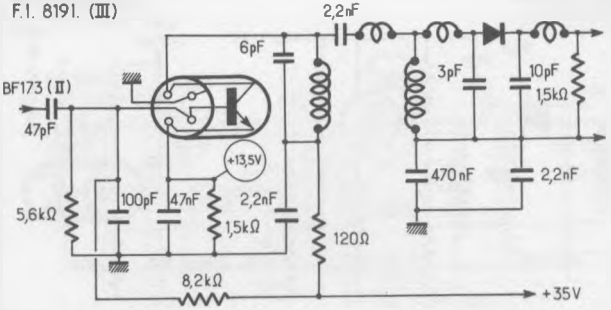
F.I. 8191. (II)



BF 173

n-p-n Si Planar ß = 88 (>38) f_t = 550 MHz

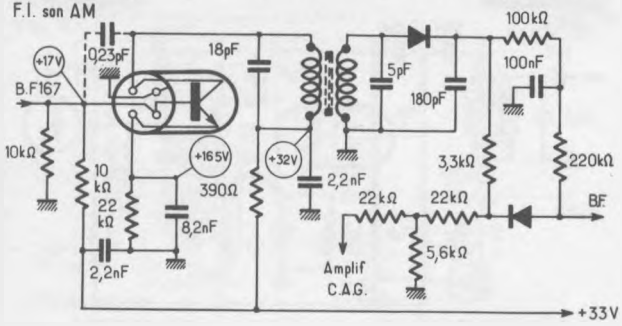
F.I. 8191. (III)



BF 173

n-p-n Si Planar β=88(>38) f_t=550MHz

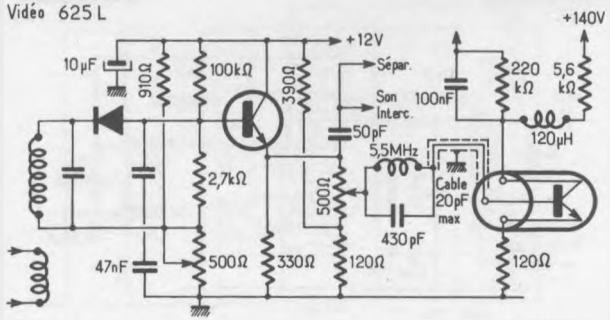
F.I. son AM



BF 174

n-p-n Si Diff. β=62(>15) GV=45

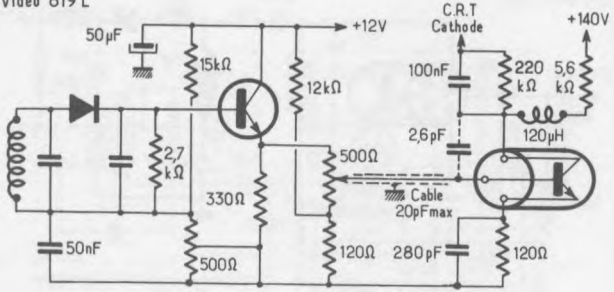
Vidéo 625 L



BF 174

n-p-n Si Diff. β=62(>15) GV=45

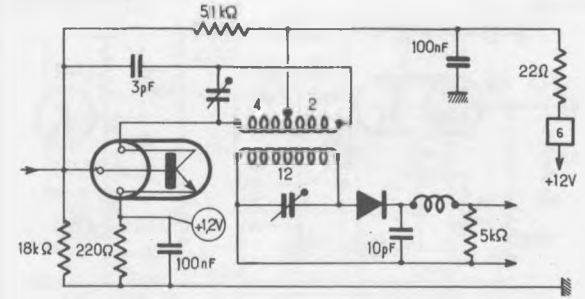
Vidéo 819 L



BF 176

n-p-n Si Pl Epitax β=65(>20) GV=30dB

Sortie F I 625L

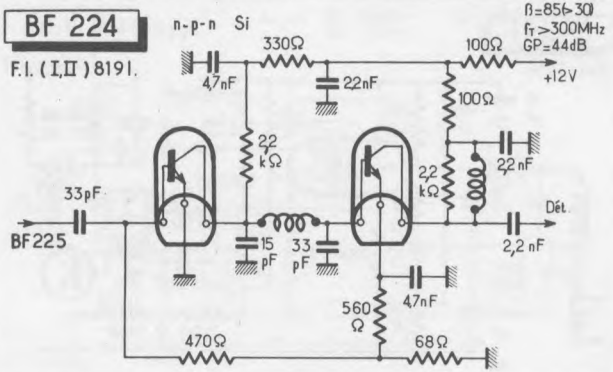


BF 224

n-p-n Si

ß=85(>30)
f_T>300MHz
GP=44dB

F.I. (I,II) 819 l.

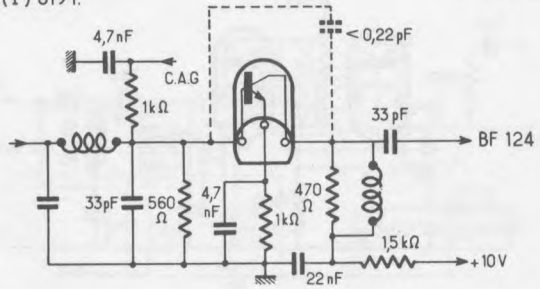


BF 225

n-p-n Si.

ß = 75 (>30)
f =400 MHz

FI(I) 819 l.

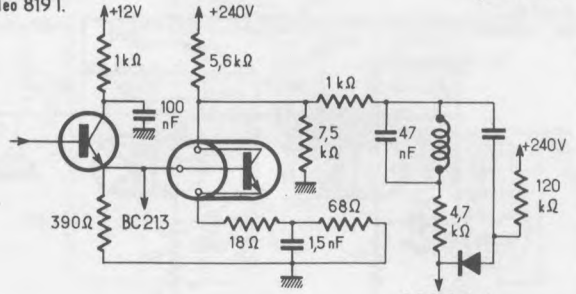


BF 257

n-p-n Si

ß>25
f_T=110MHz

Vidéo 819 l.

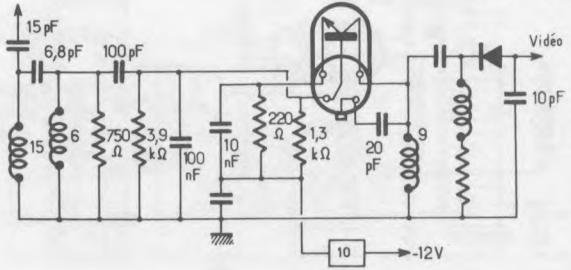


BF 271

n-p-n Si

ß= 75(>30)
F_T =900 MHz
GP=>24 dB

F.I. 625 lignes

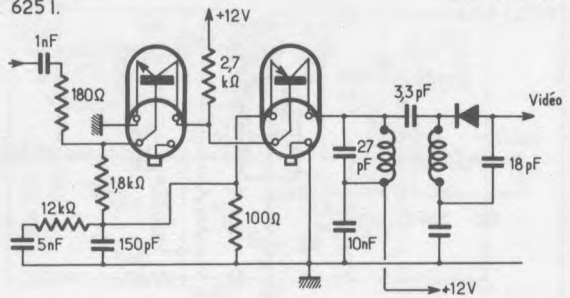


BF 271

n-p-n Si

ß=75(>30)
F_T>900 MHz

F.I. 625 l.

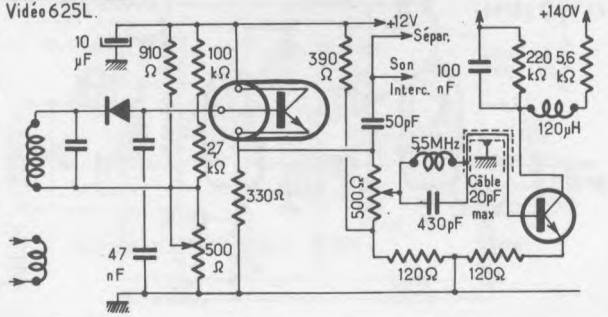


BF 291

n-p-n Si

f_T=260 MHz ß=105

Vidéo 625L.

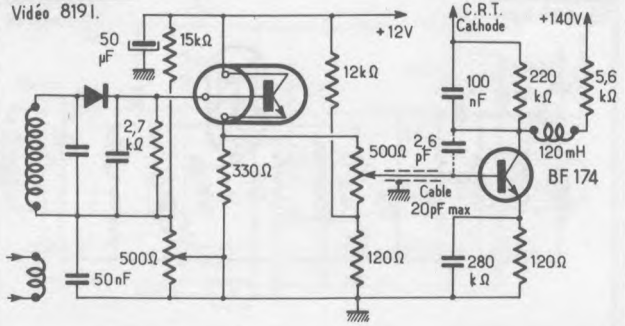


BF 291

n-p-n Si

f_T >260MHz ß=105

Vidéo 819 l.

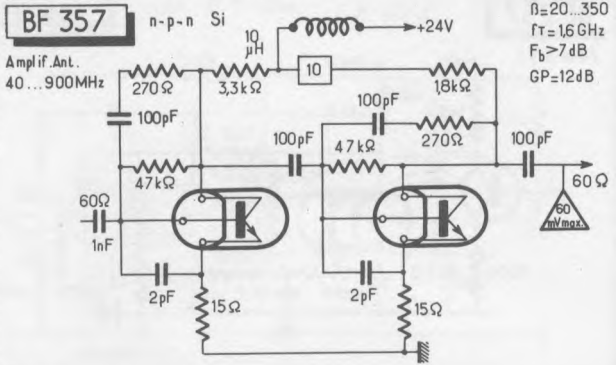


BF 357

n-p-n Si

ß=20...350
f_T=1,6 GHz
F_b>7dB
GP=12dB

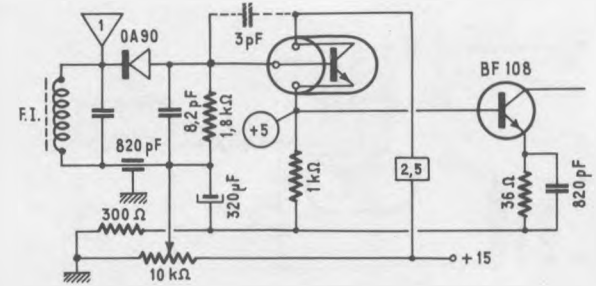
Ampli f. Ant.
40...900MHz



BFY 10

n-p-n Si Mesa $\beta > 25$

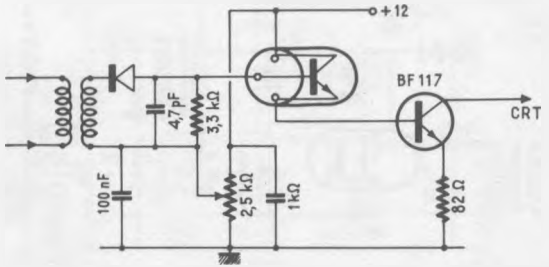
Vidéo 819 l.



BSY 74

n-p-n Si Pl. Epitax β = 80...250

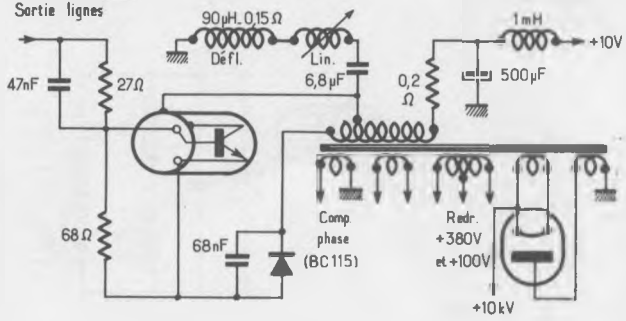
Vidéo



BU 100

n-p-n Si. Pl. Epitax. ß=100(>45)

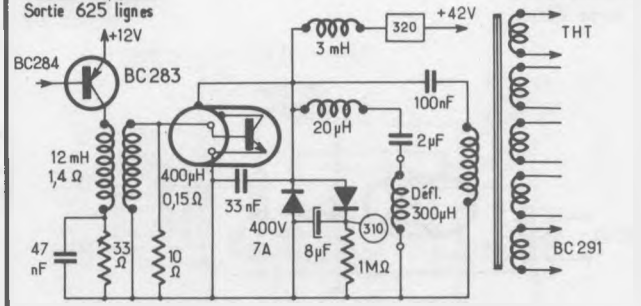
Sortie lignes



BU 102

n-p-n Si ß=110(>30)

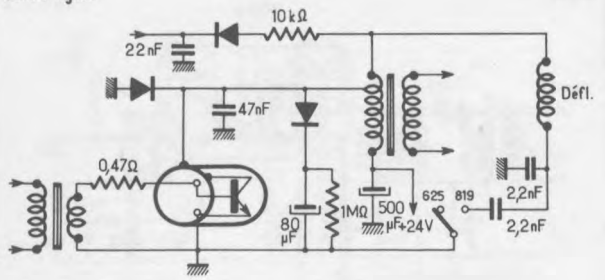
Sortie 625 lignes



BU 104

n-p-n Si ß=10....50

Sortie lignes

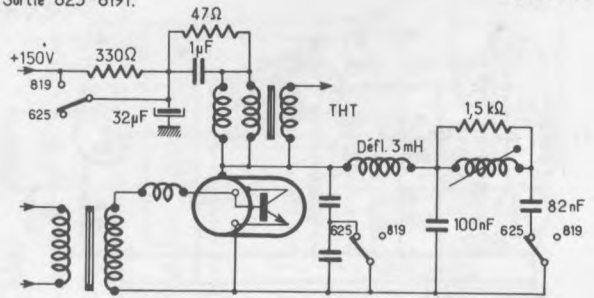


BU 105

n-p-n Si ß=3

t_{off} =700ns

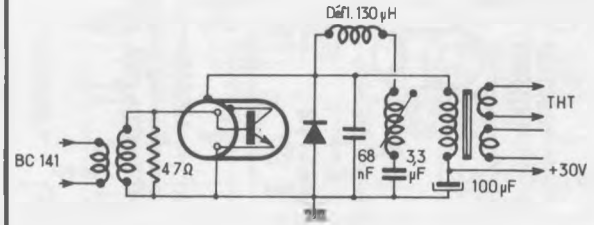
Sortie 625-8191.



BU 110

n-p-n Si ß>8

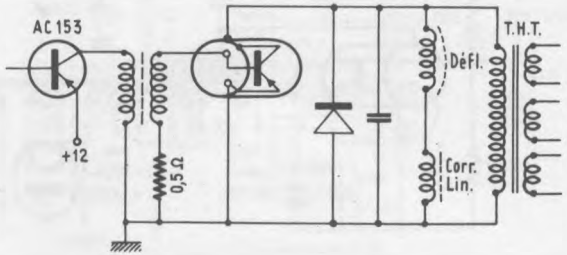
Sortie 625 I.



BUY 12

n-p-n Si Mésa β =30

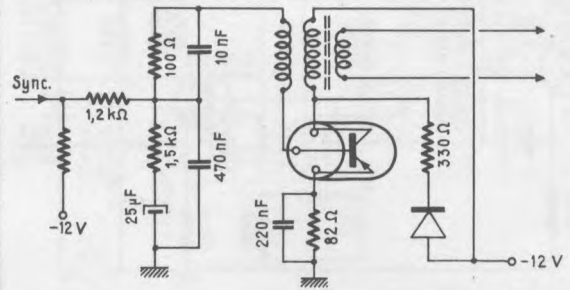
Bal. Lignes (625)



SFT 307

p-n-p Ge Alliage β = 25... 120

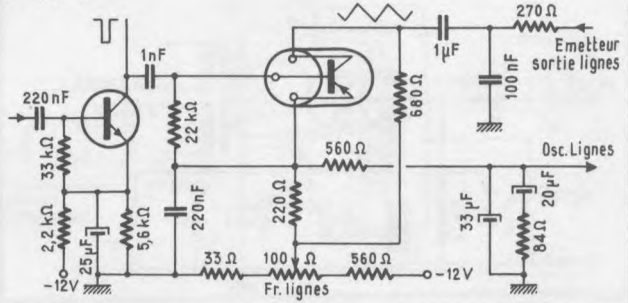
Osc. Lignes (819)



SFT 307

p-n-p Ge Alliage β = 25... 120

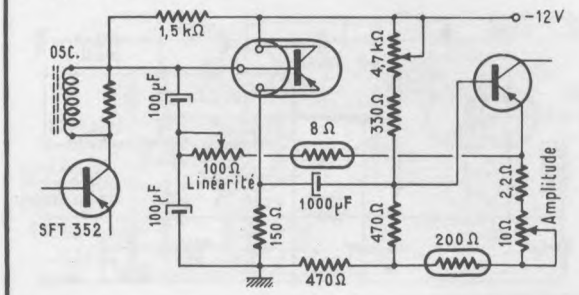
Comp. phase



SFT 322

p-n-p Ge Alliage β = 35... 80

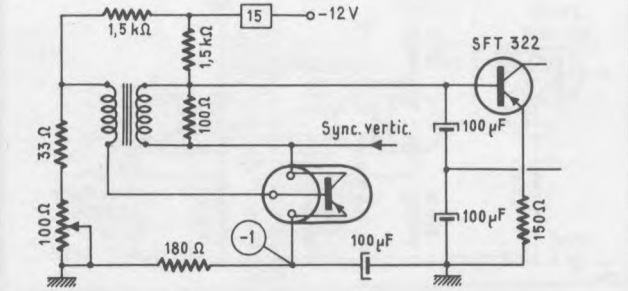
Attaque Bal. Images



SFT 352

p-n-p Ge Alliage β = 40... 60

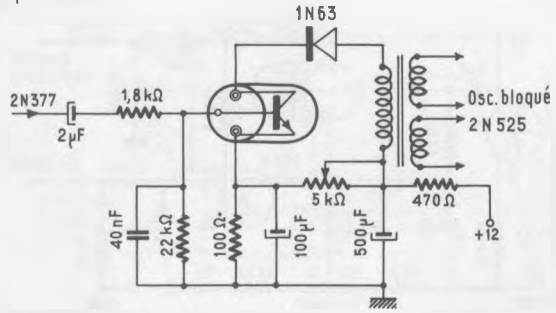
Osc. Images



2 N 377

n-p-n Ge Alliage β = 20...60

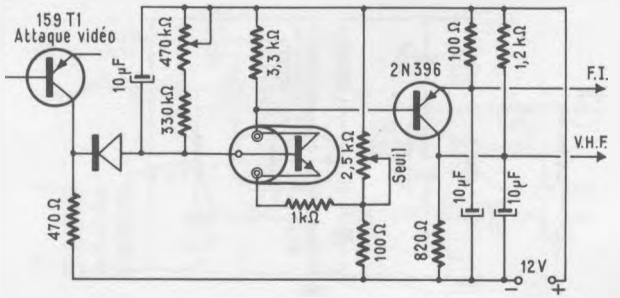
Séparateur Im.



2 N 388

n-p-n Ge Alliage β = 30...180

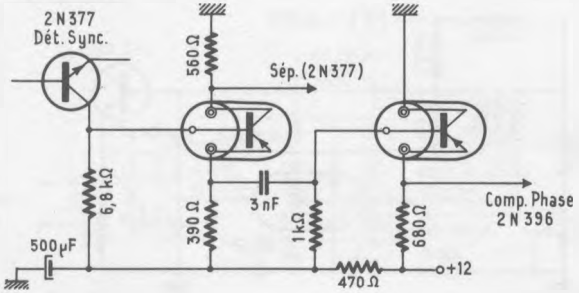
C.A.G.



2 N 396

p-n-p Ge β = 30...150

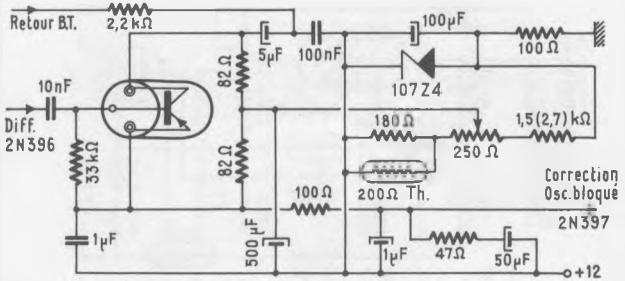
Différentiateur



2 N 396

p-n-p Ge β = 30...150

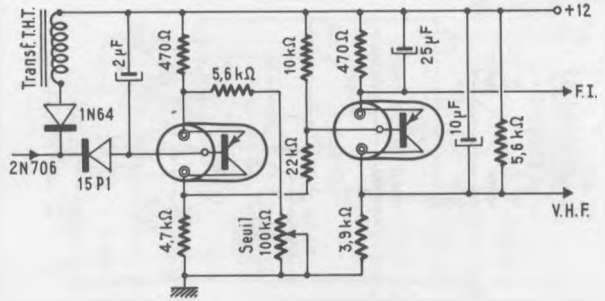
Comp. Phase 819 (625) L



2 N 396

p-n-p Ge β = 30...150

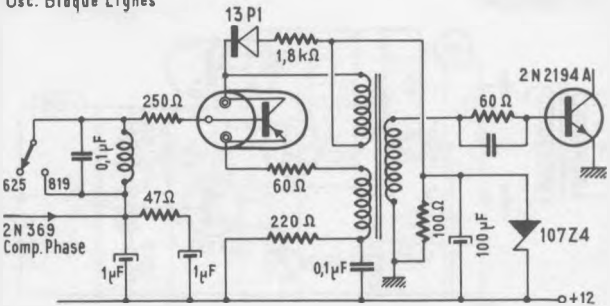
C.A.G.



2 N 397

p-n-p Ge β = 40...150

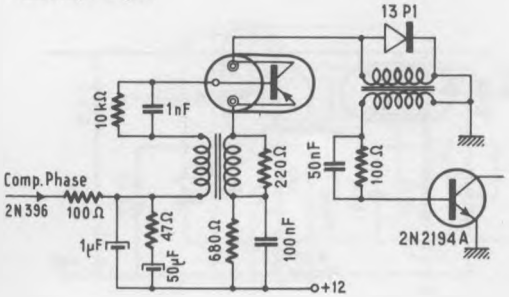
Osc. Bloqué Lignes



2 N 397

p-n-p Ge β = 40...150

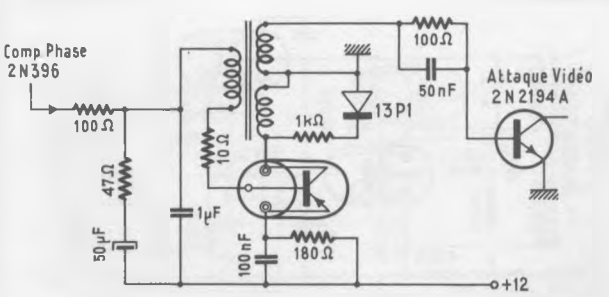
Osc. Bloqué Lignes



2 N 397

p-n-p Ge β = 40...150

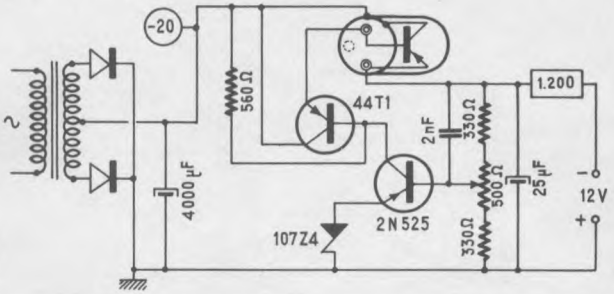
Osc. Bloqué Lignes



2N 441

p-n-p Ge Alliage $\beta = 20...40$ à $I_C = 5A$

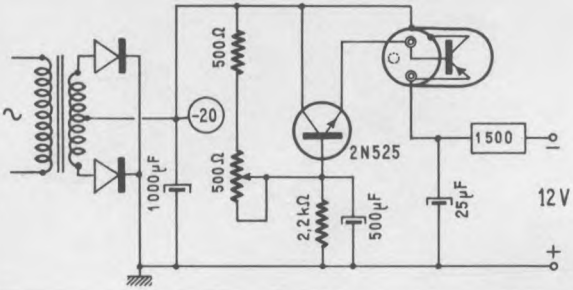
Alim. Stabilisée



2N 441

p-n-p Ge Alliage $\beta = 20...40$ à $I_C = 5A$

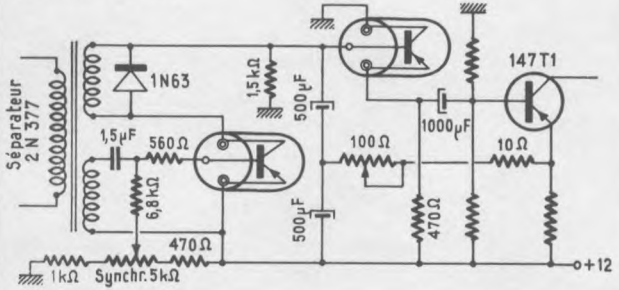
Alim. Filtrée



2N 525

p-n-p Ge Alliage $\beta = 30...64$

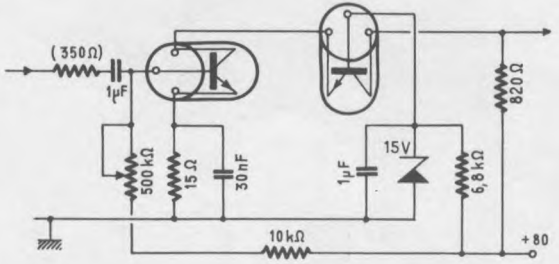
Osc. Bloqué Im. 819L



2N 697

n-n-n Si Planar $\beta = 40...120$ GV = 50 tr = 70 ns

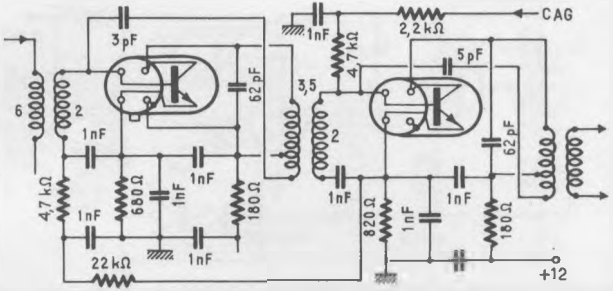
Vidéo



2 N 918

n-p-n Si Pl. Epit. β = 50 (> 20) (9 à 100 MHz) F_h = 3 dB (60 MHz) GP = 30 dB

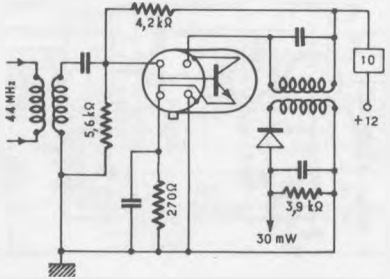
FI 45 MHz ΔF = 4 MHz



2 N 918

n-p-n Si Pl. Epit. β < 20 GP = 30 dB

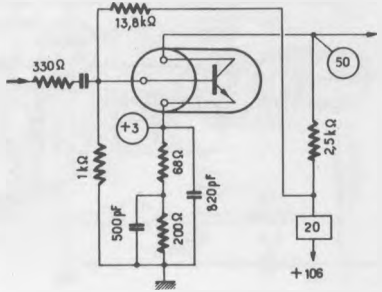
FI Image (III)



2 N 1335, 36, 37

n-p-n Si β = 15 GV = 18 dB

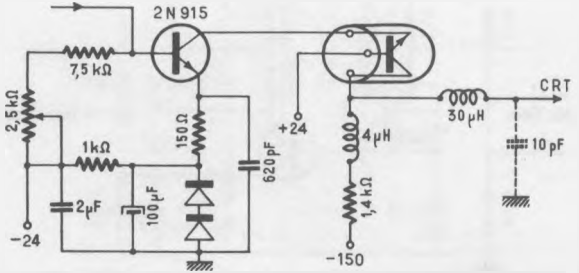
Vidéo < 6,5 MHz



2 N 1974

n-p-n Si Planar β = 70

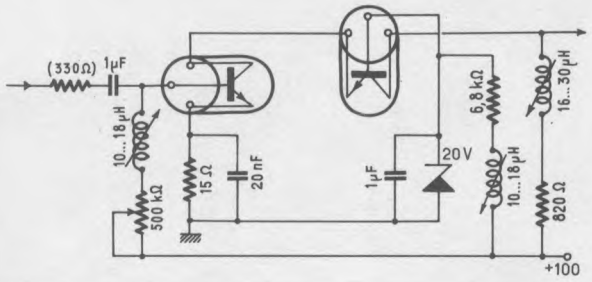
Sortie Vidéo



2N699

n-p-n Si Planar β = 40...120 GV = 50 tr = 60 ns

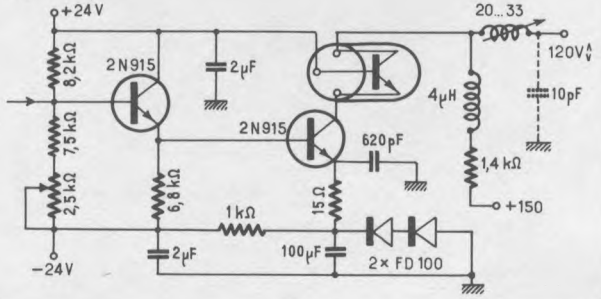
Vidéo



2N699B

n-p-n Si Planar β = 40...120 tr = 40 ns

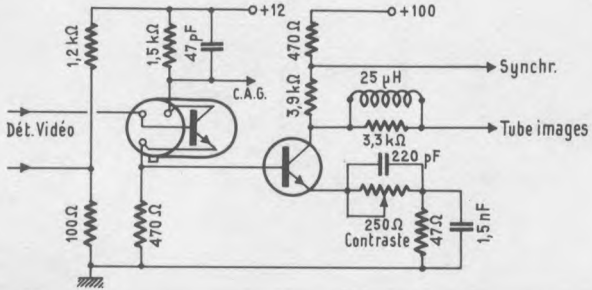
Vidéo



2N706

n-p-n Si Planar β > 20

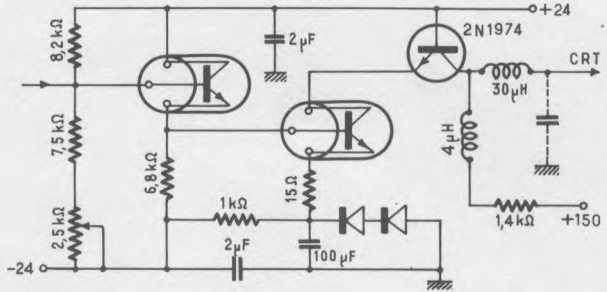
Préamplif. Vidéo 819 L



2N915

n-p-n Si Planar β = 50...200

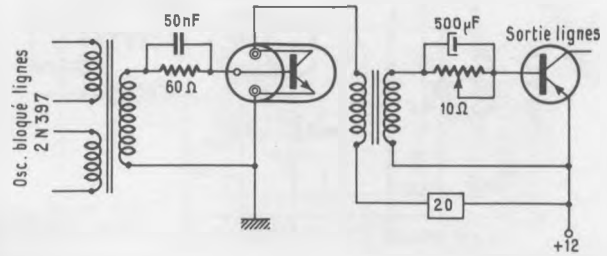
Vidéo



2N2194A

n-p-n Si
Planar épitaxial
β > 15

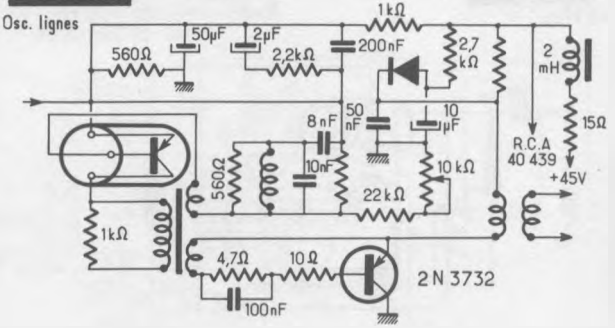
Attaque Dév. Hor. 819 L



2N2614

p-n-p Ge
β=160 f_t =10 MHz

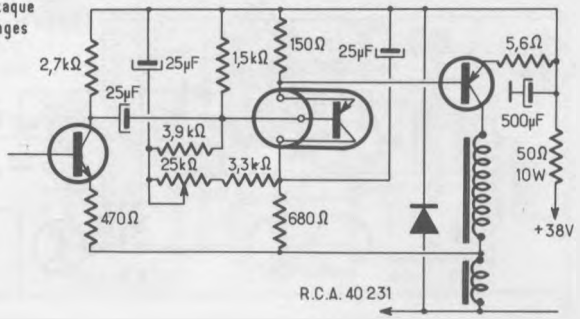
Osc. lignes



2N2614

p-n-p Ge All.
β=160

Attaque images

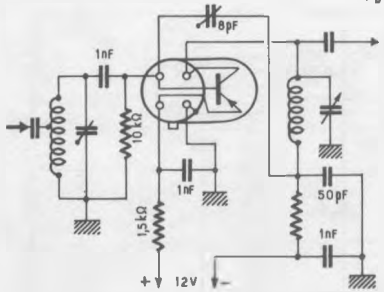


2N2708

p-n-p Ge

β = 30... 180
GP= 15... 22 dB
F_b = < 8,5 dB

200 MHz

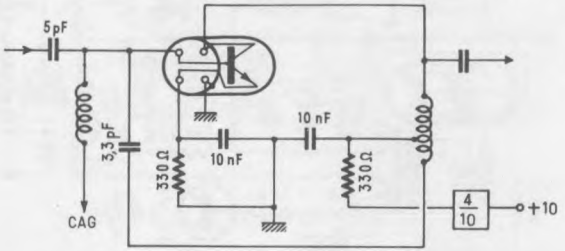


2N3337

n-p-n Si Planar

45 MHz

β => 30
(> 4 à 100 MHz)
GP = 30 dB
CAG = −30 dB

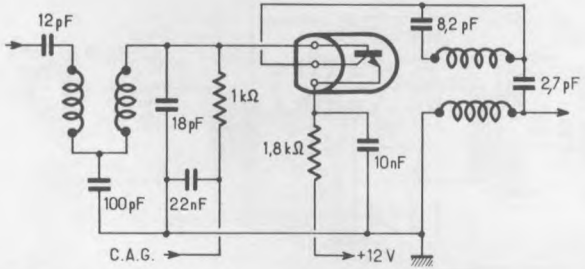


2N3663

n-p-n Si

F. I. image

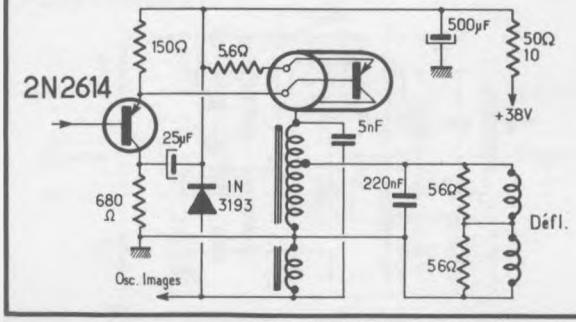
β > 20
f_T = 700 MHz



2N3730

p-n-p Ge Diff.

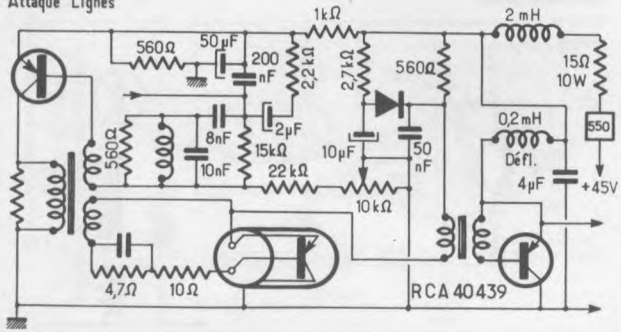
Sortie Images



2N3732

p-n-p Ge Diff.

Attaque Lignes

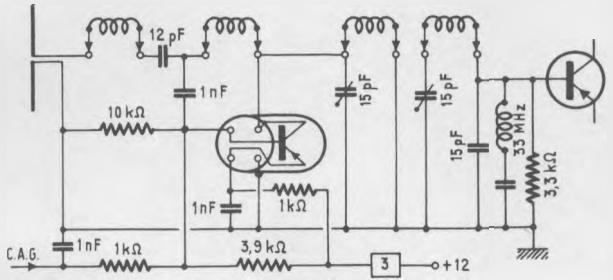


2N3783

p-n-p Ge

F_b<6 5 dB ß>20
f_T>800MHz GP>20dB

Entrée VHF

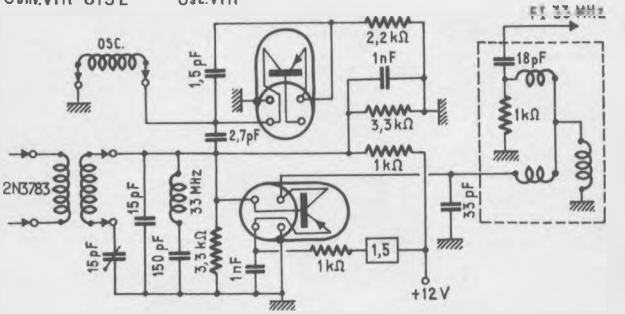


2N3784 2N3785

p-n-p Ge

ß>20(>13)

Conv.VHF 819L Osc.VHF

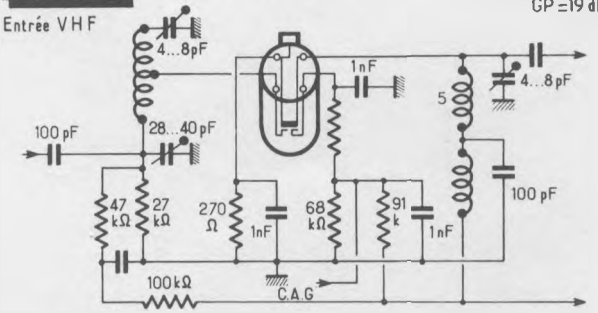


3N140

MOS Canal N

s=6...10mA/V
F_b=3,5 dB
GP=19 dB

Entrée VHF

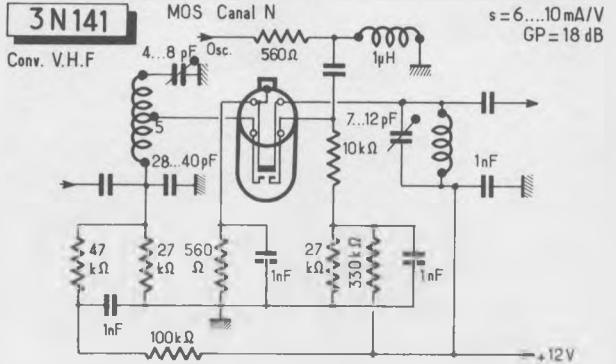


3N141

MOS Canal N

s=6....10mA/V
GP=18 dB

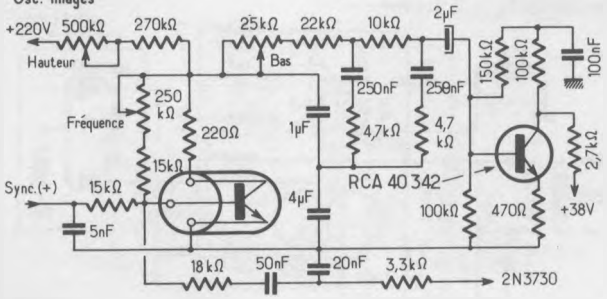
Conv. V.H.F



40231 RCA

n-p-n Si Planar ß=80

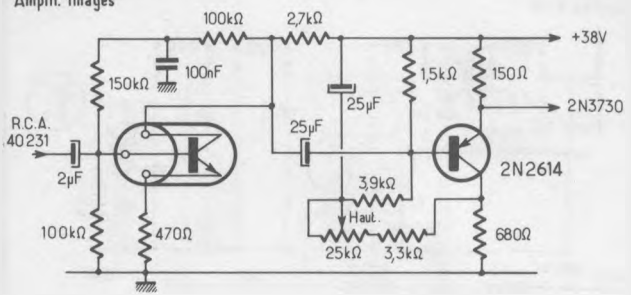
Osc. images



40232 RCA

n-p-n Si Planar ß=175

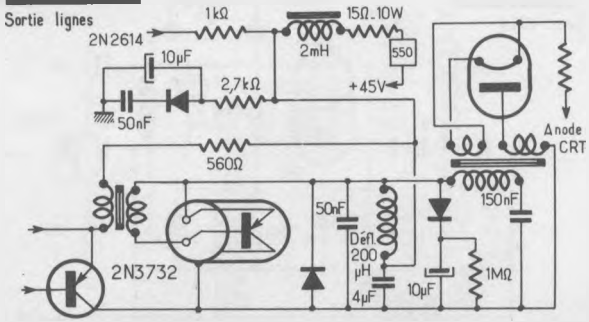
Amplif. images



40439 RCA

p-n-p Ge Diff.

Sortie lignes



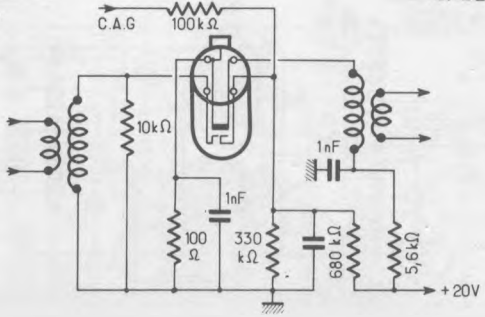
40602RCA

MOS Canal N

s=10mA/V

GP=28 dB

F.I. image



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Près de 900 tubes sont présentés dans ce recueil ; chacun est représenté par son culot et est accompagné de ses caractéristiques de service essentielles ; les conditions normales d'emploi figurent dans un schéma type pour chacun, où sont indiqués les valeurs des éléments principaux.

160 pages, format 21 × 13.

TÉLÉ-TUBES

Ce recueil de **176** pages contient près de 400 schémas-type avec culottage et valeurs des différents éléments. Sous cette forme sont présentées les caractéristiques de service de tous les modèles utilisés en télévision : tubes images, tubes électroniques, diodes au germanium.

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SOCIÉTÉ DES ÉDITIONS RADIO
9, rue Jacob, Paris-6e
C.C.P. Paris 1164-34