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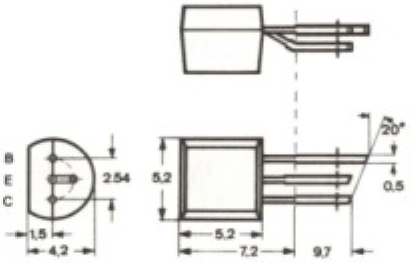
Silizium-NPN-Epitaxial-Planar-HF-Transistor für AM- und FM-Stufen in Emitterschaltung.

Silicon NPN epitaxial planar RF transistor for AM and FM stages in common emitter configuration.

Abmessungen · Dimensions

Maße in mm
M 2 : 1



Kunststoffgehäuse
≈ TO 92
Gewicht · Weight
max. 0,2 g

Absolute Grenzdaten · Absolute maximum ratings

Kollektor-Basis-Sperrspannung	U_{CBO}	40	V
Kollektor-Emitter-Sperrspannung	U_{CEO}	40	V
Emitter-Basis-Sperrspannung	U_{EBO}	4	V
Kollektorstrom	I_C	25	mA
Basisstrom	I_B	2	mA
Gesamtverlustleistung $t_{amb} \leqq 45°C$	P_{tot}	300	mW
Sperrschichttemperatur	t_j	150	°C
Lagerungstemperatur	t_{stg}	−55...+150	°C

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		Min.	Typ.	Max.	
Wärmewiderstand · Thermal resistance					
Sperrschicht-Umgebung	R_{thJA}			350	°C/W
Statische Kenngrößen · DC characteristics					
Umgebungstemperatur t_{amb} = 25° C					
Kollektorreststrom					
U_{CB} = 20 V	I_{CBO}			100	nA
Kollektor-Basis-Durchbruchspannung					
I_C = 10 µA	$U_{(BR)CBO}$	40			V
Kollektor-Emitter-Durchbruchspannung					
I_C = 2 mA	$U_{(BR)CEO}$ [1]	40			V
Emitter-Basis-Durchbruchspannung					
I_E = 10 µA	$U_{(BR)EBO}$	4			V
Basis-Emitterspannung					
U_{CE} = 10 V, I_C = 1 mA	U_{BE}	650	700	740	mV
Kollektor-Basis-Gleichstromverhältnis					
U_{CE} = 10 V, I_C = 1 mA	h_{FE}	36		125	
Dynamische Kenngrößen · AC characteristics					
Umgebungstemperatur t_{amb} = 25° C					
Transitfrequenz					
U_{CB} = 10 V, I_C = 1 mA, f = 100 MHz	f_T		400		MHz
Rückwirkungskapazität					
U_{CB} = 10 V, I_C = 1 mA, f = 0,47 MHz	$C_{üre}$		0,27	0,34	pF
Rauschmaß, Emitterschaltung					
U_{CB} = 10 V, I_C = 1 mA, G_G = 5 mS, f = 200 kHz	F		1,5	3,5	dB
U_{CB} = 10 V, I_C = 1 mA, Y_G = 6,6 mS – j 3,3 mS, f = 100 MHz	F		1,6		dB
Kurzschluß-Ausgangsleitwert					
U_{CB} = 10 V, I_C = 1 mA, f = 0,47 MHz	g_{oe}			8,3	µS
f = 10,7 MHz	g_{oe}			10,5	µS
Kollektorstrom für $\lvert y_{fe} \rvert$ max.					
U_{CB} = 10 V, f = 36 MHz	I_C	10			mA

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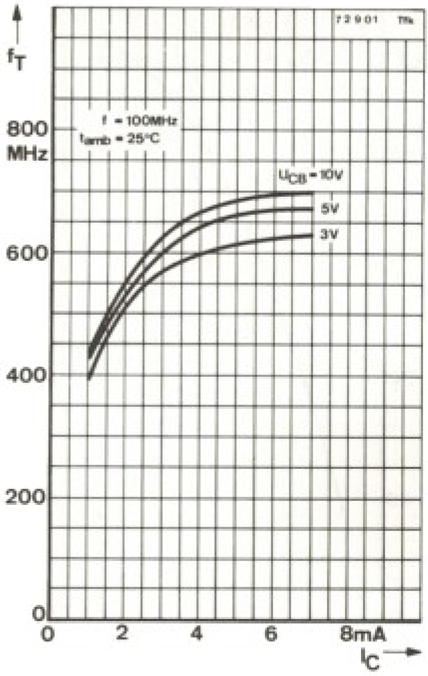
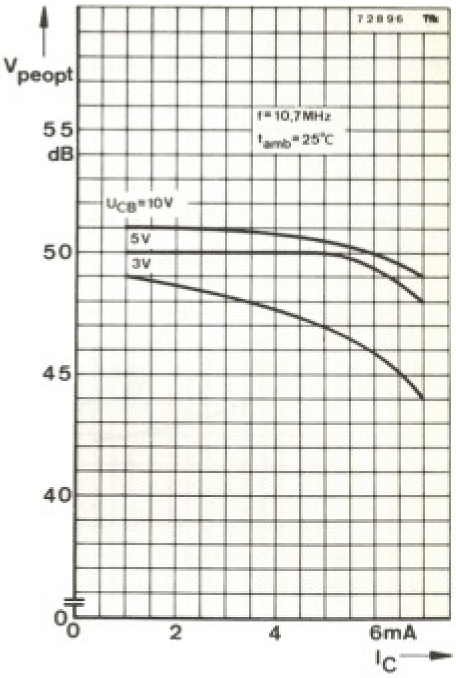
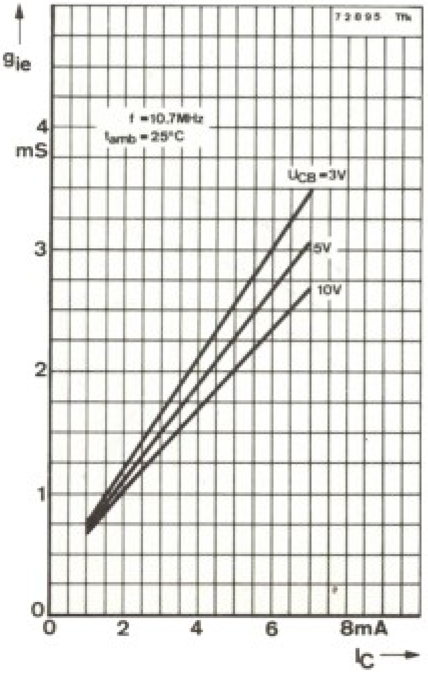
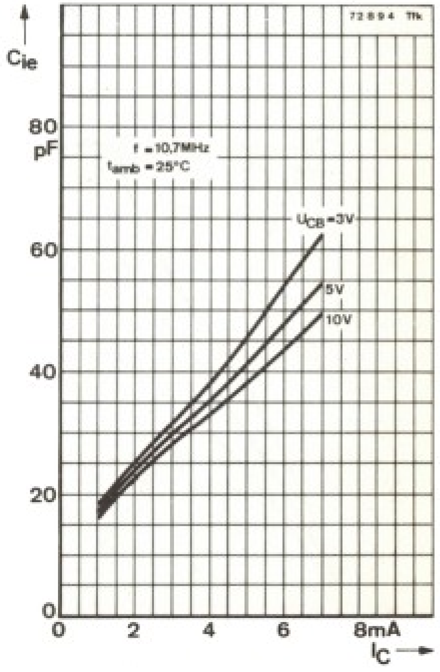
[1] $\frac{t_p}{T}$ = 0,01, t_p = 0,3 ms


72901 Tfk
f_T
800 MHz
600
400
200
0
f = 100MHz
t_{amb} = 25°C
U_{CB} = 10V
5V
3V
0
2
4
6
8mA
I_C →


72896 Tfk
V_{peopt}
55 dB
50
45
40
0
f = 10,7MHz
t_{amb} = 25°C
U_{CB} = 10V
5V
3V
0
2
4
6mA
I_C →


72895 Tfk
g_{ie}
4 mS
3
2
1
0
f = 10,7MHz
t_{amb} = 25°C
U_{CB} = 3V
5V
10V
0
2
4
6
8mA
I_C →


72894 Tfk
C_{ie}
80 pF
60
40
20
0
f = 10,7MHz
t_{amb} = 25°C
U_{CB} = 3V
5V
10V
0
2
4
6
8mA
I_C →

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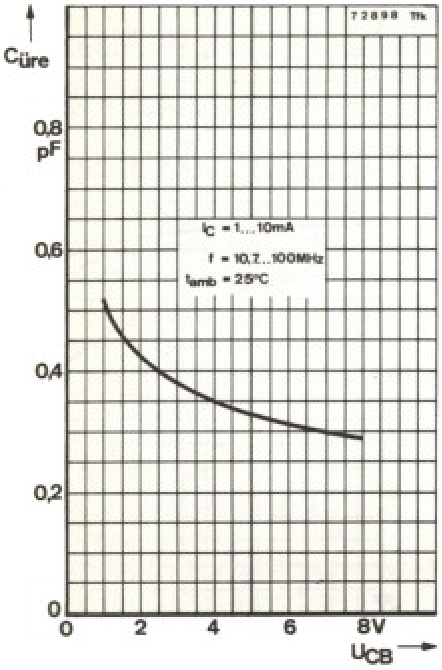
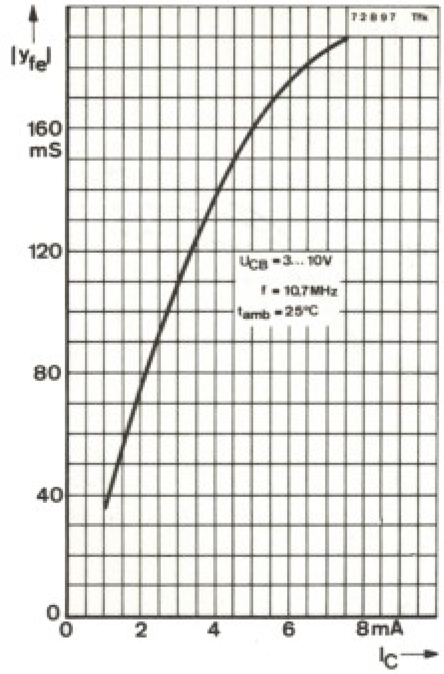
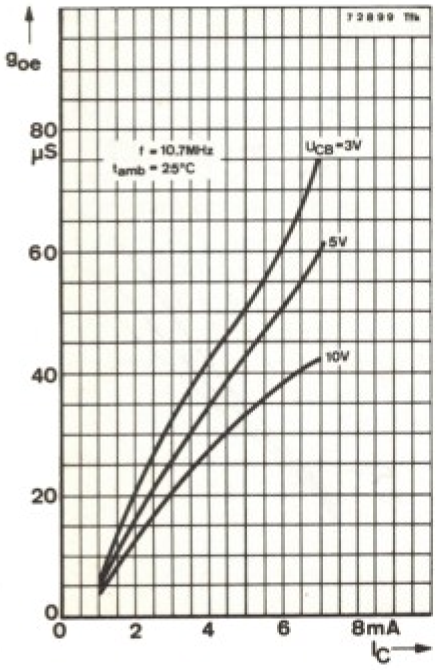
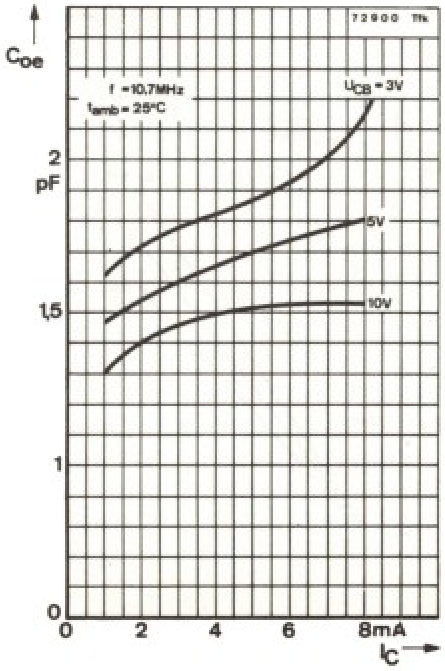
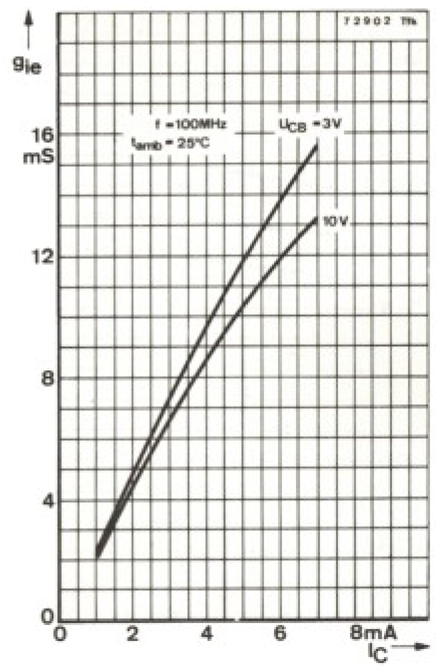
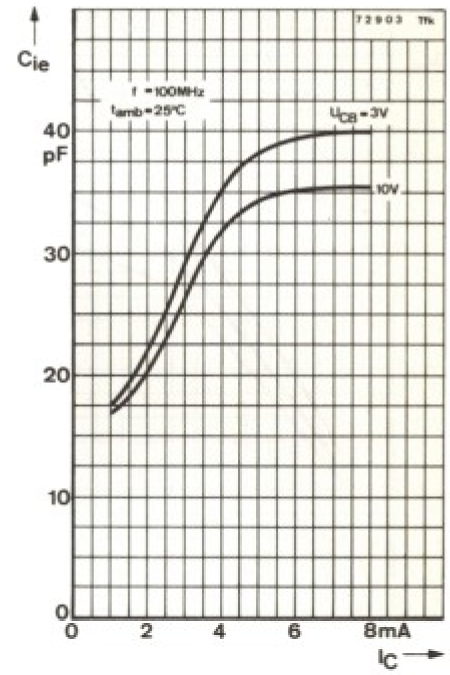

72898 Tfk
$C_{üre}$
0,8 pF
0,6
0,4
0,2
0
0
2
4
6
8V
U_{CB}
I_C = 1…10mA
f = 10,7…100MHz
t_{amb} = 25°C

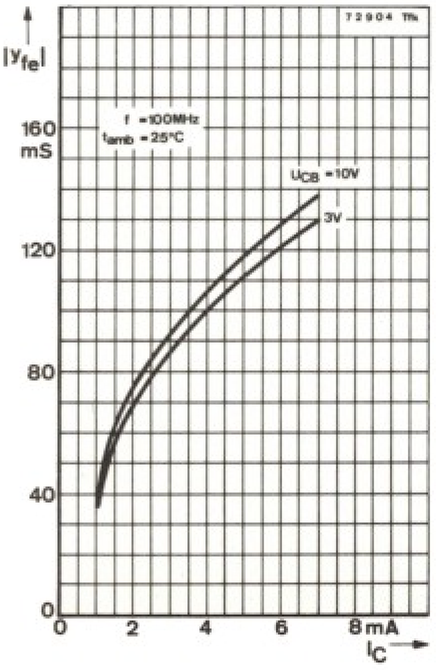

72897 Tfk
$|y_{fe}|$
160 mS
120
80
40
0
0
2
4
6
8mA
I_C
U_{CB} = 3…10V
f = 10,7MHz
t_{amb} = 25°C

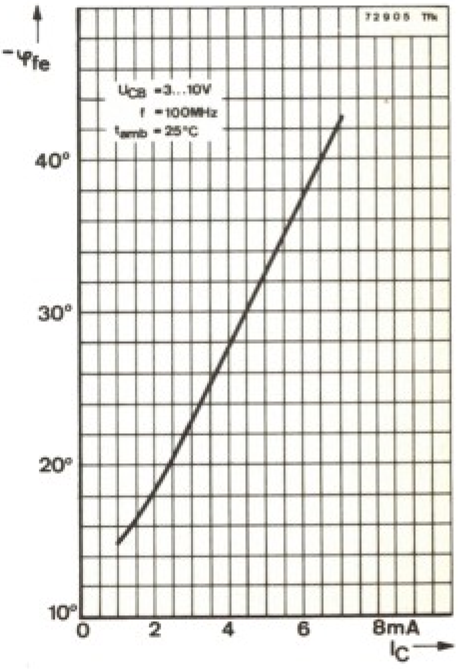

72899 Tfk
g_{oe}
80 µS
60
40
20
0
0
2
4
6
8mA
I_C
f = 10,7MHz
t_{amb} = 25°C
U_{CB} = 3V
5V
10V

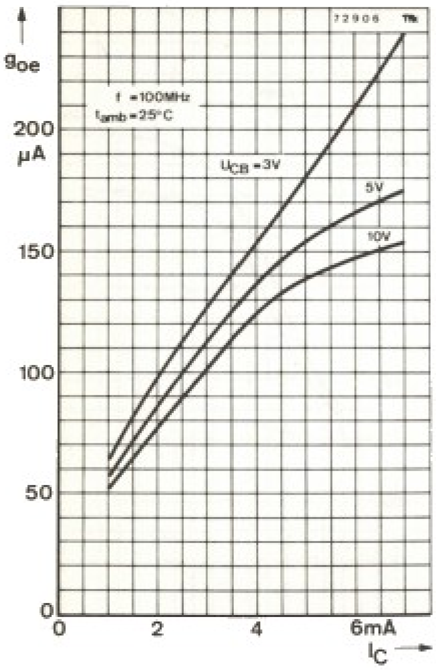

72900 Tfk
C_{oe}
2 pF
1,5
1
0
0
2
4
6
8mA
I_C
f = 10,7MHz
t_{amb} = 25°C
U_{CB} = 3V
5V
10V

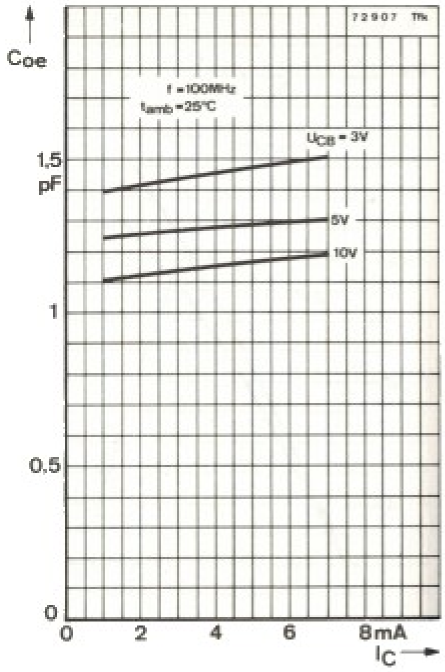

72902 TFk
g_{ie}
f = 100MHz
t_{amb} = 25°C
U_{CB} = 3V
10 V
16
mS
12
8
4
0
0
2
4
6
8mA
I_C


72903 TFk
C_{ie}
f = 100MHz
t_{amb} = 25°C
U_{CB} = 3V
10V
40
pF
30
20
10
0
0
2
4
6
8mA
I_C


72904 TFk
$|y_{fe}|$
f = 100MHz
t_{amb} = 25°C
U_{CB} = 10V
3V
160
mS
120
80
40
0
0
2
4
6
8mA
I_C


72905 TFk
$-\varphi_{fe}$
U_{CB} = 3...10V
f = 100MHz
t_{amb} = 25°C
40°
30°
20°
10°
0
2
4
6
8mA
I_C


72906 Tfk
g_{oe}
200
μA
150
100
50
0
f = 100MHz
t_{amb} = 25°C
U_{CB} = 3V
5V
10V
0
2
4
6mA
I_C


72907 Tfk
C_{oe}
1,5
pF
1
0,5
0
f = 100MHz
t_{amb} = 25°C
U_{CB} = 3V
5V
10V
0
2
4
6
8mA
I_C