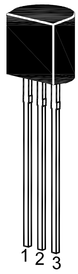
9012

PNP Silicon Epitaxial Planar Transistor

for switching and amplifier applications. Especially suitable for AF-driver stages and low power output stages.

The transistor is subdivided into three groups, G, H and I, according to its DC current gain. As complementary type the NPN transistor 9013 is recommended.



1 2 3

1. Emitter 2. Base 3. Collector
TO-92 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	40	V
Collector Emitter Voltage	$-V_{CEO}$	30	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	500	mA
Power Dissipation	P_{tot}	625	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $-V_{CE}$ = 1 V, $-I_C$ = 50 mA Current Gain Group G	h_{FE}	110	183	-
H	h_{FE}	177	250	-
I	h_{FE}	250	380	-
at $-V_{CE}$ = 1 V, $-I_C$ = 500 mA	h_{FE}	40	-	-
Collector Base Cutoff Current at $-V_{CB}$ = 35 V	$-I_{CBO}$	-	100	nA
Emitter Base Cutoff Current at $-V_{EB}$ = 5 V	$-I_{EBO}$	-	100	nA
Collector Base Breakdown Voltage at $-I_C$ = 100 µA	$-V_{(BR)CBO}$	40	-	V
Collector Emitter Breakdown Voltage at $-I_C$ = 1 mA	$-V_{(BR)CEO}$	30	-	V
Emitter Base Breakdown Voltage at $-I_E$ = 100 µA	$-V_{(BR)EBO}$	5	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 500 mA, $-I_B$ = 50 mA	$-V_{CE(sat)}$	-	0.6	V
Base Emitter Saturation Voltage at $-I_C$ = 500 mA, $-I_B$ = 50 mA	$-V_{BE(sat)}$	-	1.2	V
Base Emitter Voltage at $-V_{CE}$ = 1 V, $-I_C$ = 100 mA	$-V_{BE}$	-	1	V
Gain Bandwidth Product at $-V_{CE}$ = 6 V, $-I_C$ = 20 mA	f_T	100	-	MHz

Fig. 1 P_{tot} - T_a

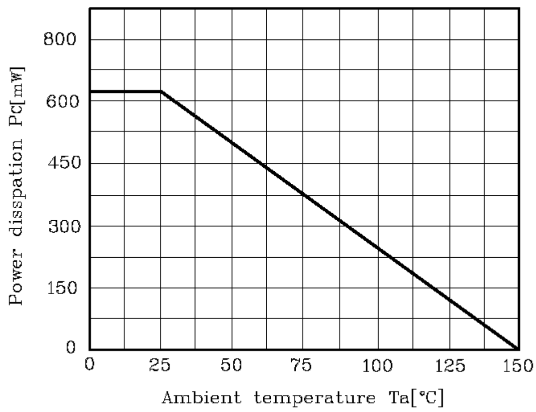


Fig. 2 I_C - V_{BE}

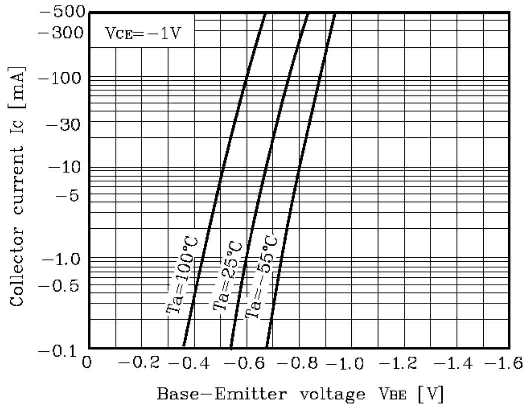


Fig. 3 I_C - V_{CE}

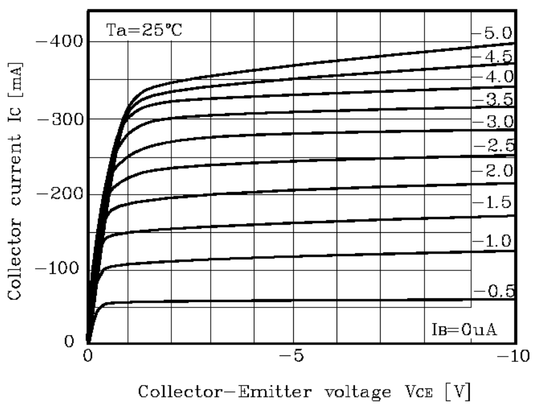


Fig. 4 $V_{CE(sat)}$ - I_C

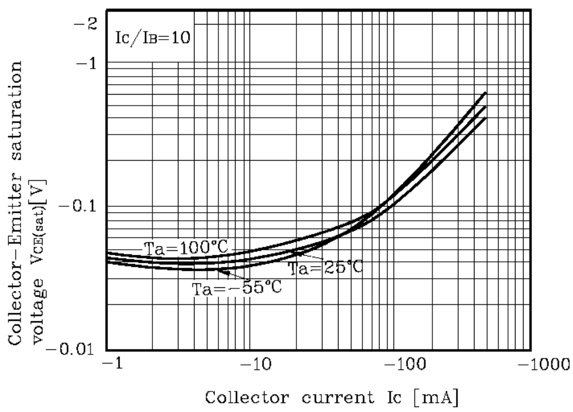


Fig. 5 h_{FE} - I_C

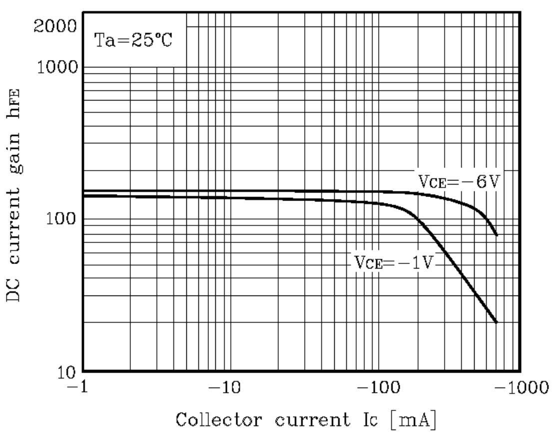


Fig. 6 h_{FE} - I_C