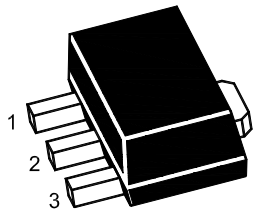
NPN Silicon Epitaxial Planar Transistor



1.Base 2.Collector 3.Emitter

SOT-89 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	60	V
Collector Emitter Voltage	V_{CEO}	60	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	2	A
Peak Collector Current (P_W = 10 ms)	I_{CP}	6	A
Total Power Dissipation	P_{tot}	0.5 2 [1)]	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

[1)] When mounted on a 40 x 40 x 0.7 mm ceramic board.

Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 2 V, I_C = 500 mA at V_{CE} = 2 V, I_C = 1.5 A	h_{FE} h_{FE}	120 45	- -	270 -	- -
Collector Base Cutoff Current at V_{CB} = 50 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 = 50 µA	$V_{(BR)CBO}$	60	-	-	V
Collector Emitter Breakdown Voltage at I_C = 1 mA	$V_{(BR)CEO}$	60	-	-	V
Emitter Base Breakdown Voltage at I_E= 50 µA	$V_{(BR)EBO}$	6	-	-	V
Collector Emitter Saturation Voltage at I_C = 1 A, I_B = 50 mA	$V_{CE(sat)}$	-	-	0.35	V
Transition Frequency at V_{CE} = 2 V, -I_E = 500 mA, f =100 MHz	f_T	-	120	-	MHz
Collector Output Capacitance at V_{CB} = 10 V, f = 1 MHz	C_{ob}	-	21	-	pF

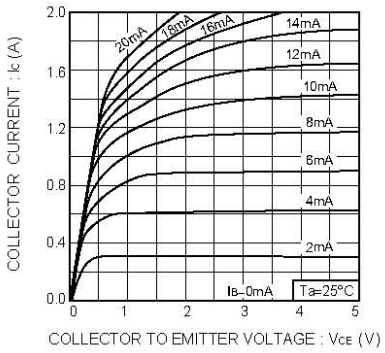


Fig.1 Grounded emitter output characteristics

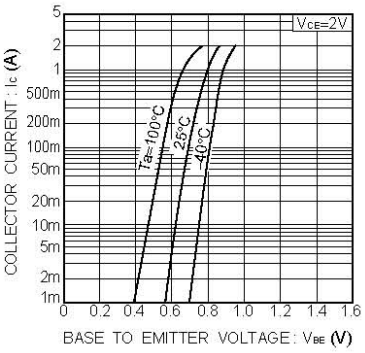


Fig.2 Grounded emitter propagation characteristics

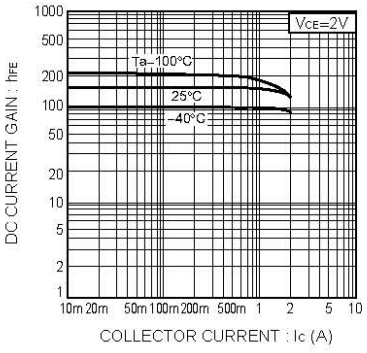


Fig.3 DC current gain vs. collector current (Ⅰ)

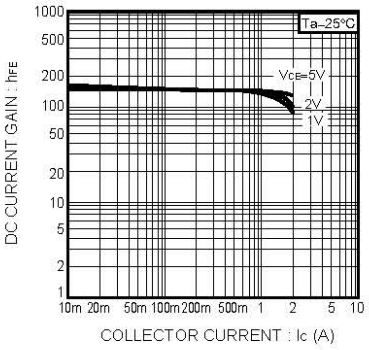


Fig.4 DC current gain vs. collector current (Ⅱ)

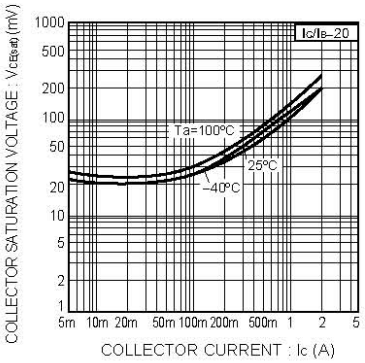


Fig.5 Collector-emitter saturation voltage vs. collector current (Ⅰ)

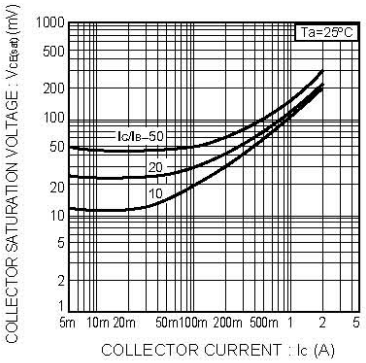


Fig.6 Collector-emitter saturation voltage vs. collector current (Ⅱ)