

NPN EPITAXIAL PLANAR TRANSISTOR

 Lead(Pb)-Free

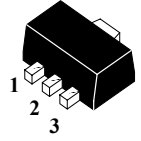
Features:

- * Switching and amplification in high Voltage
Applications such as Telephony.
- * Low Current(Max. 600mA)
- * High Voltage(Max. 180V)

Mechanical Data:

- * Case : Molded Plastic

1. BASE
2. COLLECTOR
3. EMITTER



SOT-89

ABSOLUTE MAXIMUM RATINGS($T_A=25^{\circ}\text{C}$ Unless Otheerwise Noted)

Rating	Symbol	Value	Unit
Collector to Base Voltage	V_{CB0}	180	V
Collector to Emitter Voltage	V_{CEO}	160	V
Collector to Base Voltage	V_{EBO}	6	V
Collector Current	I_C	0.6	A
Total Device Dissipation $T_A=25^{\circ}\text{C}$	P_D	0.5	W
Thermal Resistance	$R_{\theta JA}$	104	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_j	+150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-65 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage $I_C=100\mu A, I_E=0$	BV_{CBO}	180	-	-	V
Collector-Emitter Breakdown Voltage $I_C=1mA, I_B=0$	BV_{CEO}	160	-	-	V
Emitter-Base Breakdown Voltage $I_E=10\mu A, I_C=0$	BV_{EBO}	6.0	-	-	V
Collector Cut-Off Current $V_{CB}=120V, I_E=0$	I_{CBO}	-	-	50	nA
Emitter-Cut-Off Current $V_{EB}=4V, I_C=0$	I_{EBO}	-	-	50	nA

ON CHARACTERISTICS

DC Current Gain $V_{CE}=5V, I_C=1mA$ $V_{CE}=5V, I_C=-10mA$ $V_{CE}=5V, I_C=50mA$	$h_{FE(1)}$ $h_{FE(2)}$ $h_{FE(3)}$	80 80 30	- - -	- 250 -	-
Collector-Emitter Saturation Voltage $I_C=10mA, I_B=1mA$ $I_C=50mA, I_B=5mA$	$V_{CE(sat)}$	- -	- -	0.15 0.2	V
Collector-Emitter Saturation Voltage $I_C=10mA, I_B=1mA$ $I_C=50mA, I_B=5mA$	$V_{BE(sat)}$	- -	- -	1.0 1.0	V

DYNAMIC CHARACTERISTICS

Transition Frequency $V_{CE}=10V, I_C=10mA, f=100MHz$	f_T	100	-	300	MHz
Output Capacitance $V_{CB}=10V, I_E=0, f=1MHz$	C_{ob}	-	-	6.0	pF
Noise Figure $V_{CE}=5V, I_C=0.2mA, f=10Hz$ to 15.7KHz, $R_s=10\Omega$	NF	-	-	8.0	dB

DEVICE MARKING

Marking	1G6
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Typical Characteristic

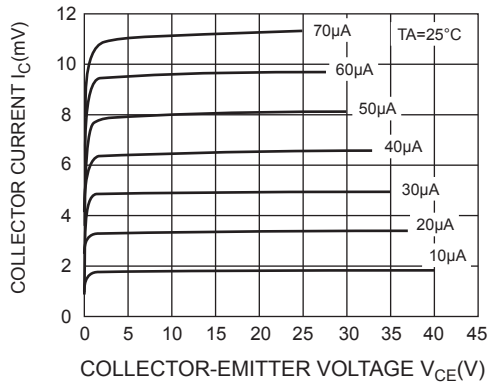


Fig.1 Collector current vs. Collector-emitter voltage

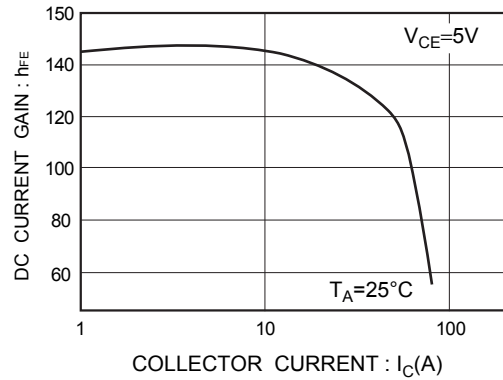


Fig.2 DC current gain vs. collector current

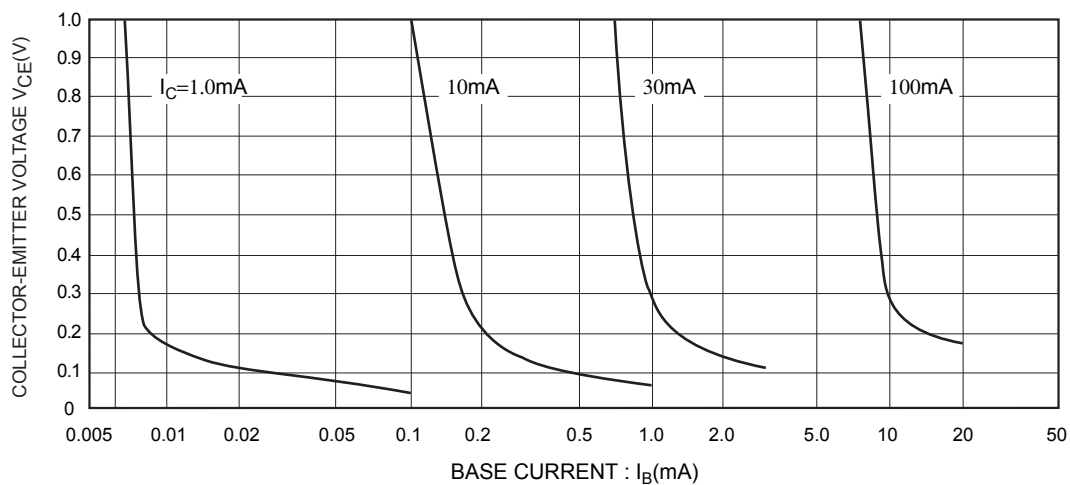
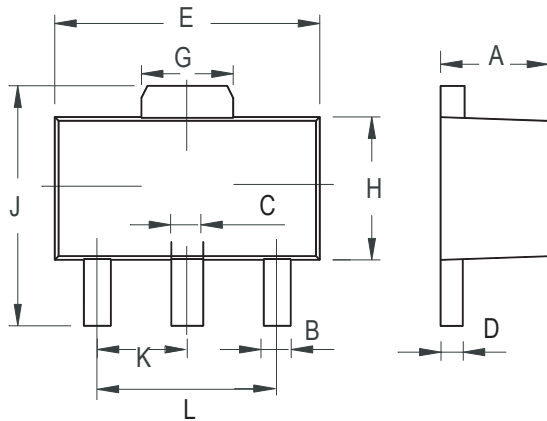


Fig.3 Collector-emitter voltage vs. Base current

SOT-89 Outline Dimensions

unit:mm



SOT-89		
Dim	Min	Max
A	1.400	1.600
B	0.320	0.520
C	0.360	0.560
D	0.350	0.440
E	4.400	4.600
G	1.400	1.800
H	2.300	2.600
J	3.940	4.250
K	1.500TYP	
L	2.900	3.100