

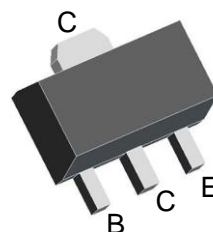
Plastic-Encapsulate Transistors

Features

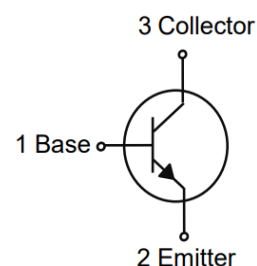
- Switching and amplification in high voltage
Applications such as telephony
- Low current(max. 600mA)
- High voltage(max.180V)

Application

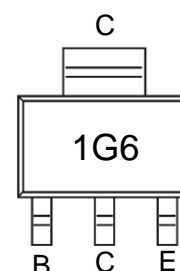
- High voltage amplifier application



SOT-89-3L top view



Schematic diagram



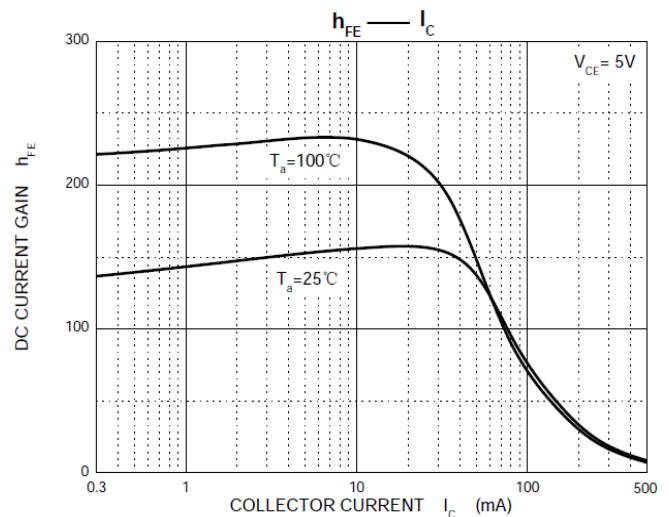
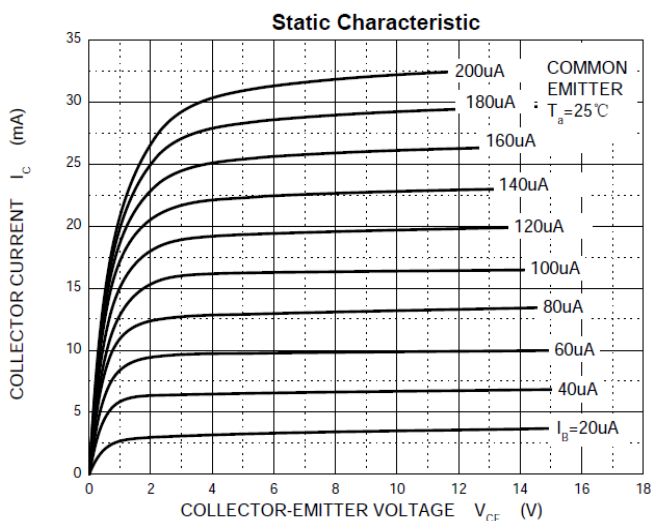
Marking and pin assignment

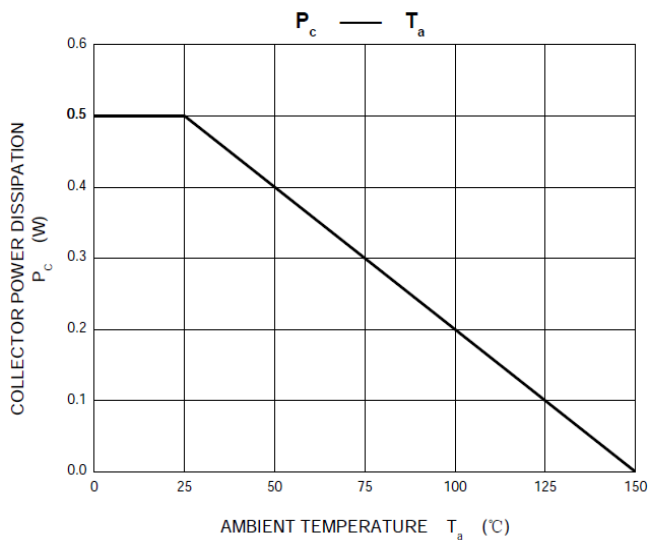
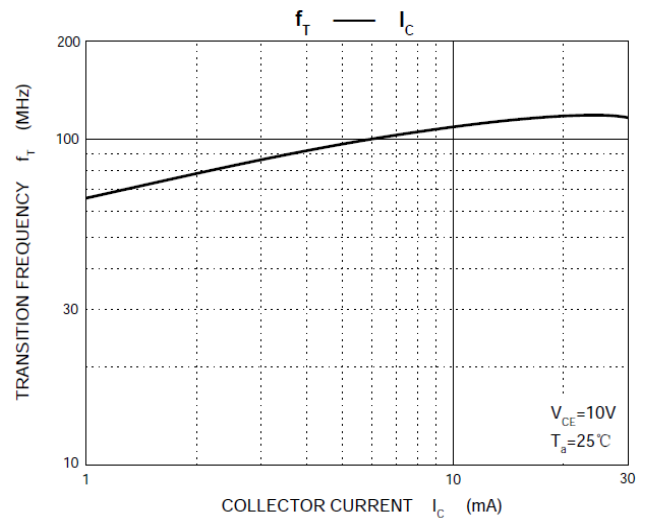
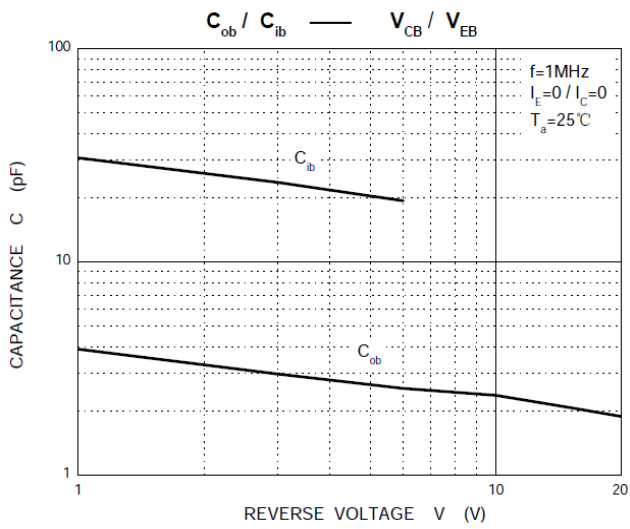
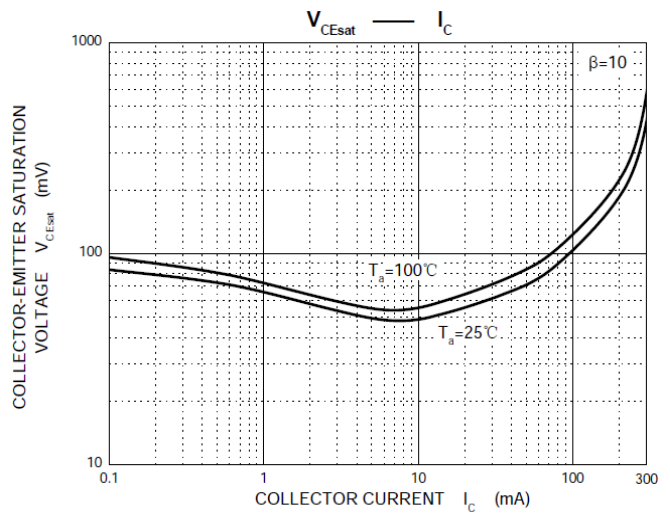
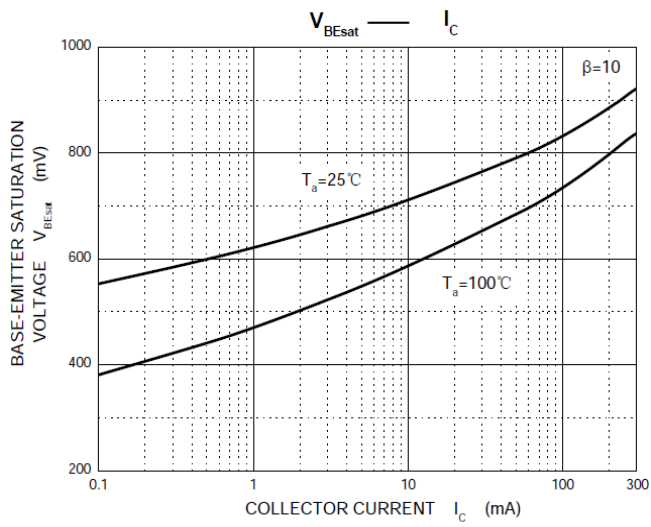
Maximum Ratings(Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	180	V
V_{CEO}	Collector-Emitter Voltage	160	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	600	mA
P_C	Collector Power Dissipation	500	mW
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

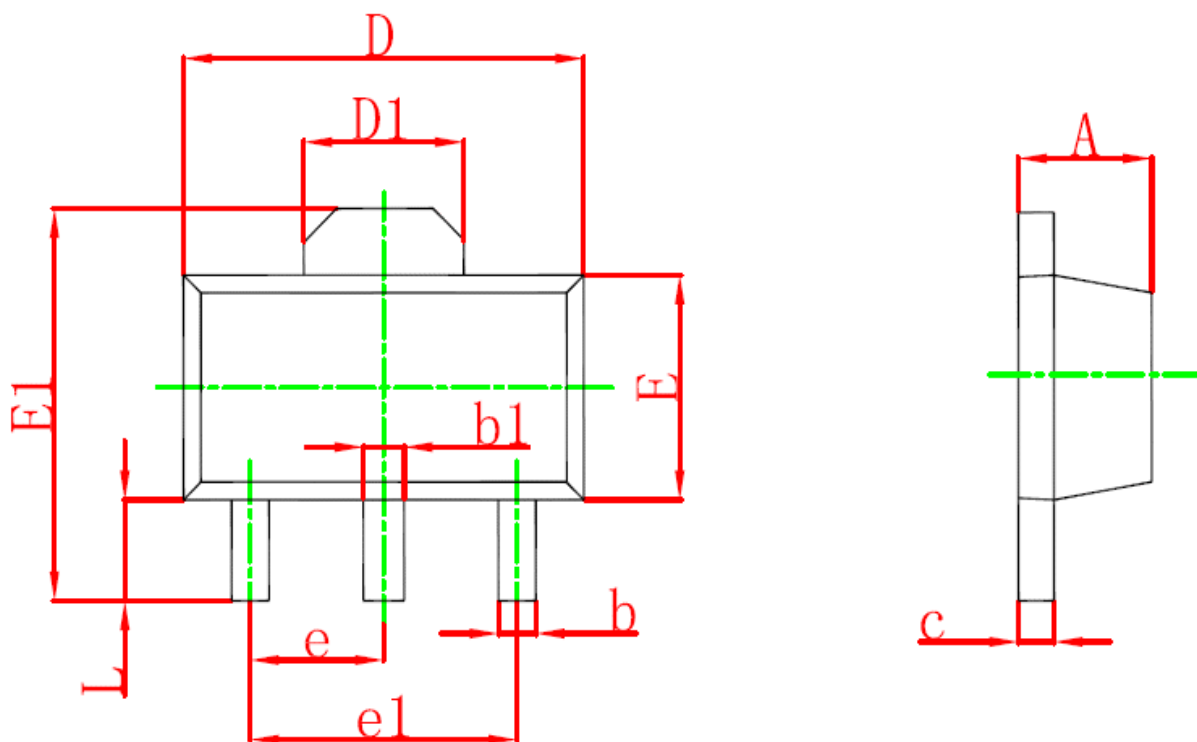
Electrical Characteristics (T_J=25°C unless otherwise noted)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
V _{(BR)CBO}	Collector-base breakdown voltage	I _C =100μA, I _E =0	180	--	--	V
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =1mA, I _B =0	160	--	--	V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =10μA, I _C =0	6	--	--	V
I _{CBO}	Collector cut-off current	V _{CB} =120V, I _E =0	--	--	50	nA
I _{EBO}	Emitter cut-off current	V _{CB} = 4V, I _C =0	--	--	50	nA
h _{FE}	DC current gain	V _{CE} =5V, I _C = 1mA	80	--	--	
		V _{CE} =5V, I _C = 10mA	100	--	300	
		V _{CE} =5V, I _C = 50mA	30	--	--	
V _{CE(sat)}	Collector-emitter saturation voltage	I _C =10 mA, I _B = 1mA	--	--	0.15	V
		I _C =50 mA, I _B = 5mA	--	--	0.2	V
V _{BE(sat)}	Base-emitter saturation voltage	I _C =10 mA, I _B = 1mA	--	--	1	V
		I _C =50 mA, I _B = 5mA	--	--	1	V
f _T	Transition frequency	V _{CE} =10V, I _C = 10mA f=100MHz	100	--	--	MHz
C _{ob}	Collector output capacitance	V _{CB} =10V, I _E =0, f=1MHz	--	--	35	pF
NF	Noise figure	V _{CE} =5V, I _C =0.2mA, f=10Hz to 15.7KHz, R _s =10Ω	--	--	35	dB

Typical Operating Characteristics




SOT-89-3L Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions in Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF		0.061 REF	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP		0.060 TYP	
e1	3.000 TYP		0.118 TYP	
L	0.900	1.200	0.035	0.047

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