

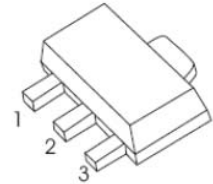
Plastic-Encapsulate Transistors

FEATURES

- Low Collector-Emitter saturation voltage $V_{CE(sat)}$ and corresponding low $R_{CE(sat)}$
- High collector current capability
- High collector current gain
- Improved efficiency due to reduced heat generation
- Halogen free
- AEC-Q101 qualified (Automotive grade with suffix "Q".)
- Exsemi technology

SOT-89-3L

1. BASE
2. COLLECTOR
3. EMITTER



MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

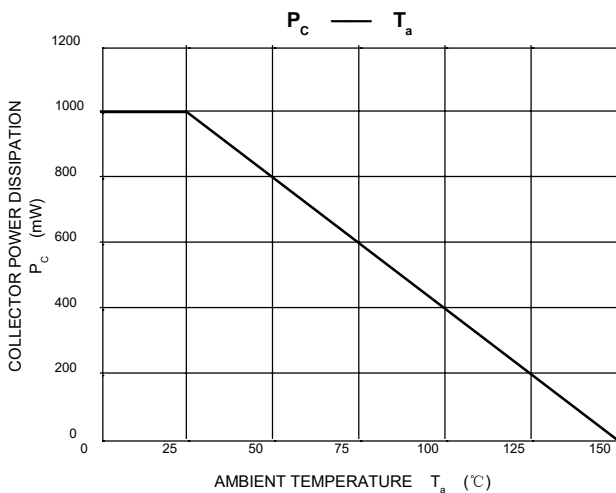
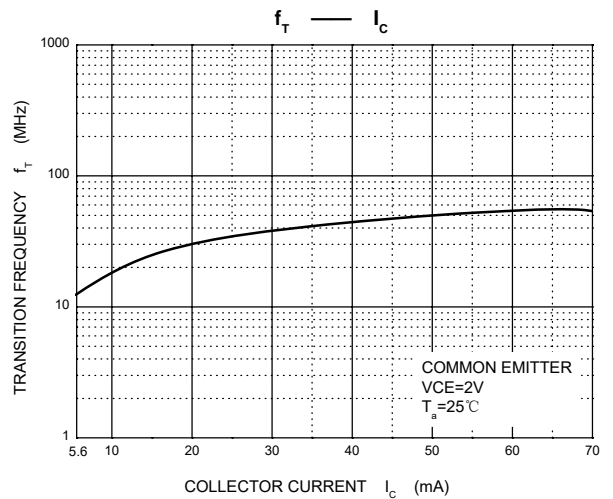
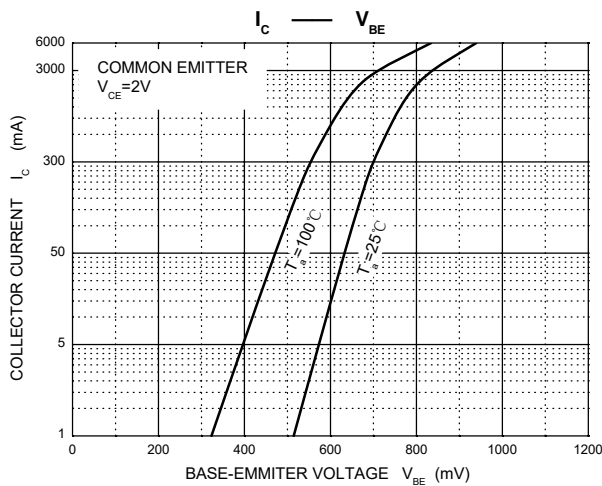
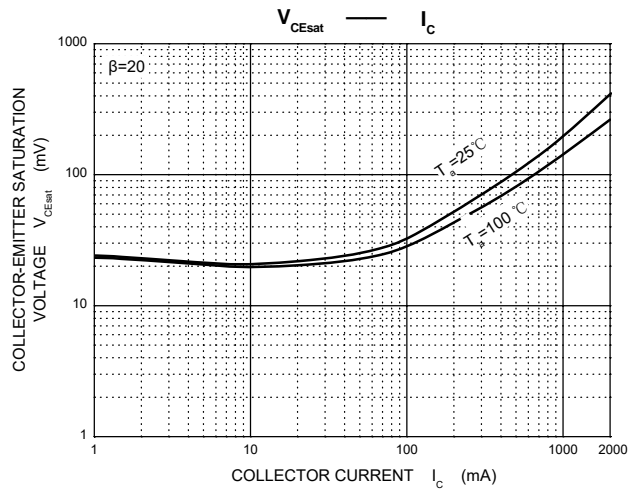
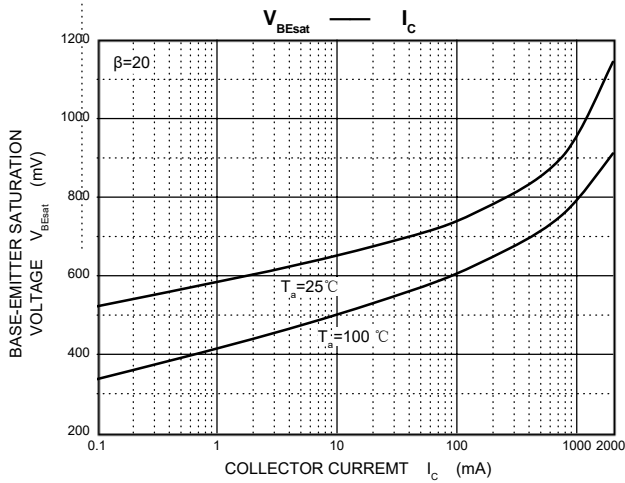
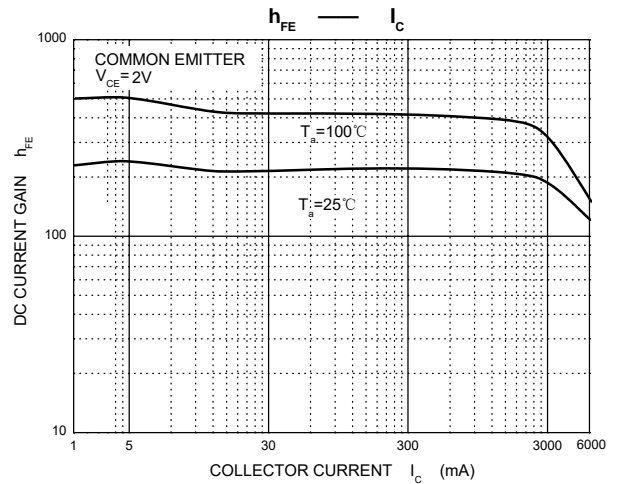
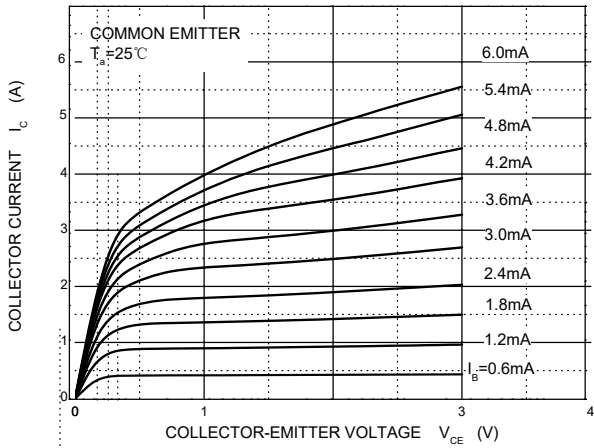
Symbol	Parameter	Value	Unit
V_{CBO}	Collector- Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	6	A
P_C	Collector Power Dissipation	1	W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55-150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

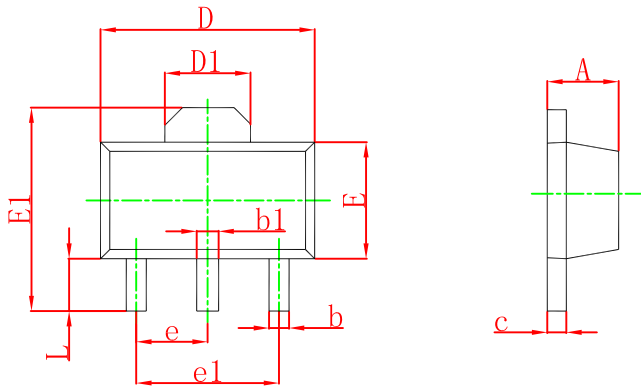
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100 \mu\text{A}, I_E = 0$	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 100 \mu\text{A}, I_B = 0$	60		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100 \mu\text{A}, I_C = 0$	5		V
Collector cut-off current	I_{CBO}	$V_{CB} = 60 \text{V}, I_E = 0$		0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5 \text{V}, I_C = 0$		0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = 2 \text{V}, I_C = 500 \text{mA}$	300	600	
	$h_{FE(2)}$	$V_{CE} = 2 \text{V}, I_C = 6 \text{A}$	80		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 4 \text{A}, I_B = 400 \text{mA}$		0.21	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 1 \text{A}, I_B = 100 \text{mA}$		0.9	V
Transition frequency	f_T	$V_{CE} = 10 \text{V}, I_C = 100 \text{mA}, f = 100 \text{MHz}$	30		MHz

Typical Characteristics

Static Characteristic



SOT-89 Package Outline Dimensions



Symbol	Dimensions In Millimeters		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

SOT-89 Suggested Pad Layout

