

TRANSISTOR (NPN)

FEATURES

Power dissipation

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

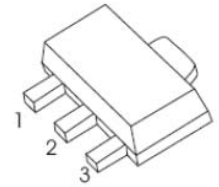
Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	40	V
V _{CE0}	Collector-Emitter Voltage	30	V
V _{EBO}	Emitter-Base Voltage	6	V
I _C	Collector Current -Continuous	3	A
P _C	Collector Power Dissipation	0.5	W
R _{θJA}	Thermal Resistance from Junction to Ambient	A25€	°C/W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~150	°C

SOT-89-3L

1. BASE

2. COLLECTOR

3. EMITTER



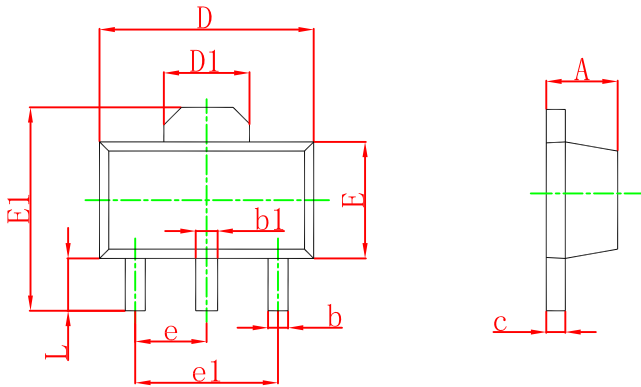
ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = 100μA, I _E =0	40			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = 10mA, I _B =0	30			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = 100μA, I _C =0	6			V
Collector cut-off current	I _{CBO}	V _{CB} = 40V, I _E =0			1	μA
Collector cut-off current	I _{CEO}	V _{CE} = 30V, I _B =0			10	μA
Emitter cut-off current	I _{EBO}	V _{EB} = 6V, I _C =0			1	μA
DC current gain	h _{FE(1)}	V _{CE} =2V, I _C = 1A	60		400	
	h _{FE(2)}	V _{CE} =2V, I _C = 100mA	32			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 2A, I _B = 0.2 A			0.5	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C = 2A, I _B = 0.2 A			1.5	V
Transition frequency	f _T	V _{CE} = 5V, I _C =0.1A f =10MHz	50			MHz

CLASSIFICATION OF h_{FE(1)}

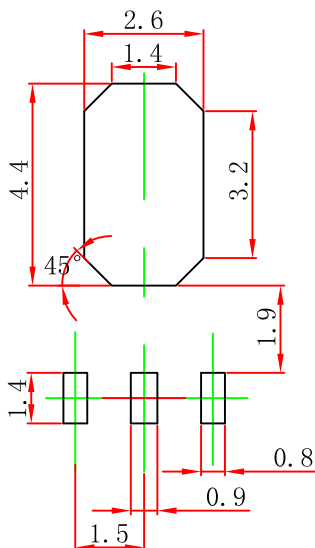
Rank	R	O	Y	GR
Range	60-120	100-200	160-320	200-400

SOT-89-3L 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-89-3L Suggested Pad Layout



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.