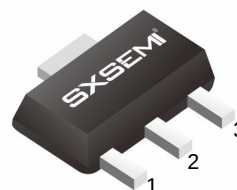


SOT-89-3L
FEATURE

- I High voltage: $V_{CE0}=160V$
- I Large continuous collector current capability



1. BASE
2. COLLECTOR
3. EMITTER

MARKING : 2383
MAXIMUM RATINGS ($T_A=25^{\circ}C$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	160	V
V_{CEO}	Collector-Emitter Voltage	160	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	1	A
P_C	Collector Power Dissipation (note1)	2	W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}C$

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

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu A, I_E = 0$	160		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C = 10mA, I_B = 0$	160		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	6		V
Collector cut-off current	I_{CBO}	$V_{CB}=150V, I_E=0$		1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=6V, I_C=0$		1	μA
DC current gain	h_{FE}	$V_{CE}=5V, I_C=200mA$	100	320	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$		1	V
Base-emitter voltage	V_{BE}	$I_C=5mA, V_{CE}=5V$	0.45	0.75	V
Transition frequency	f_T	$V_{CE}=5V, I_C=200mA$	20		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		20	pF

* pulse test

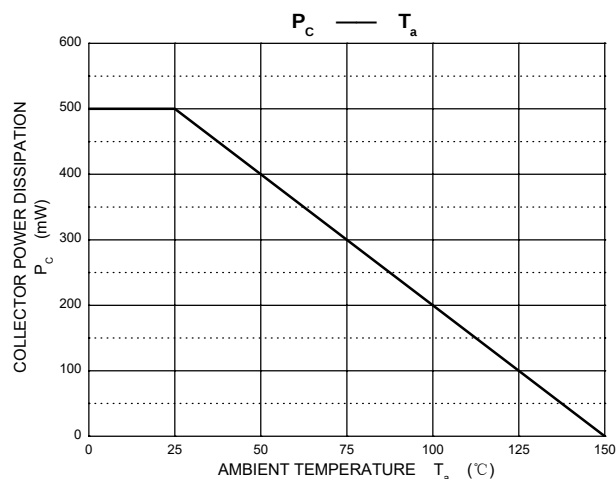
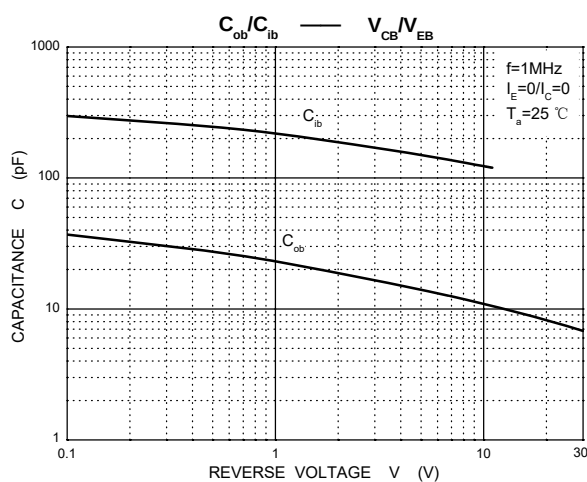
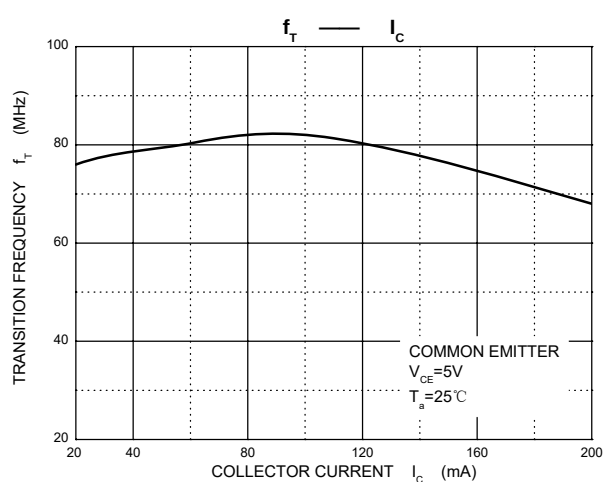
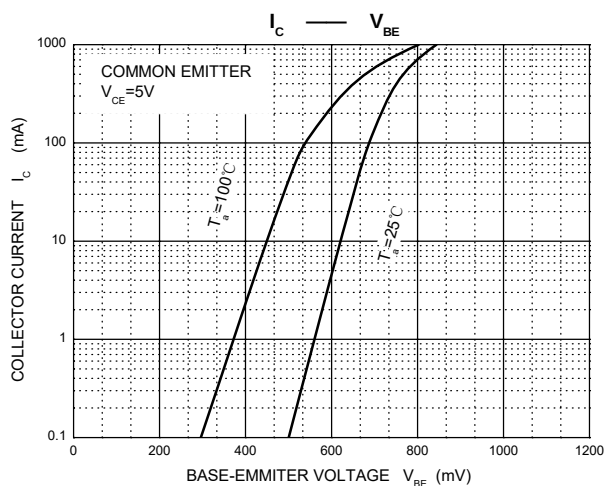
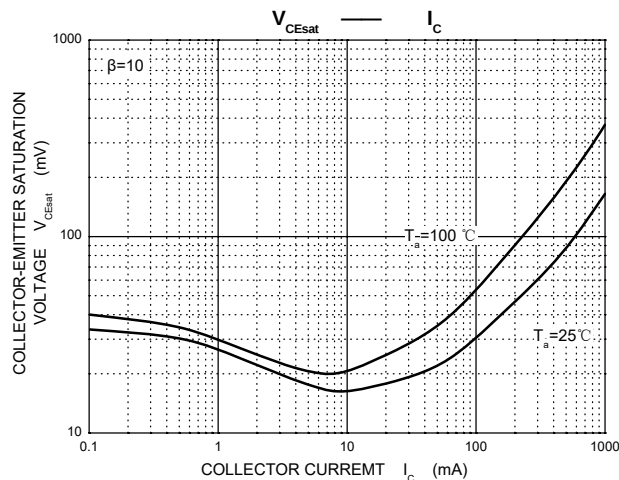
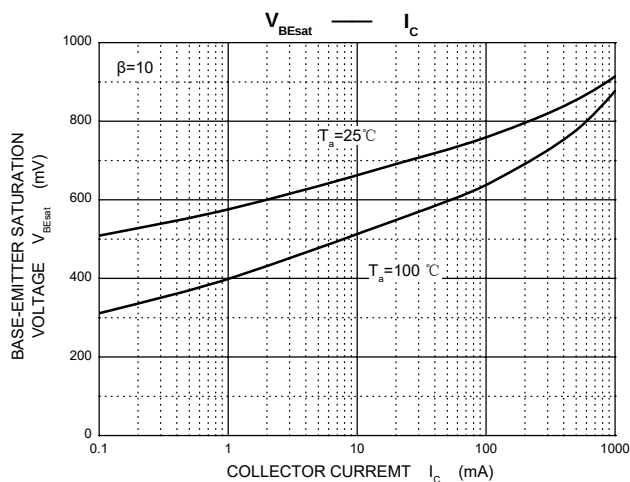
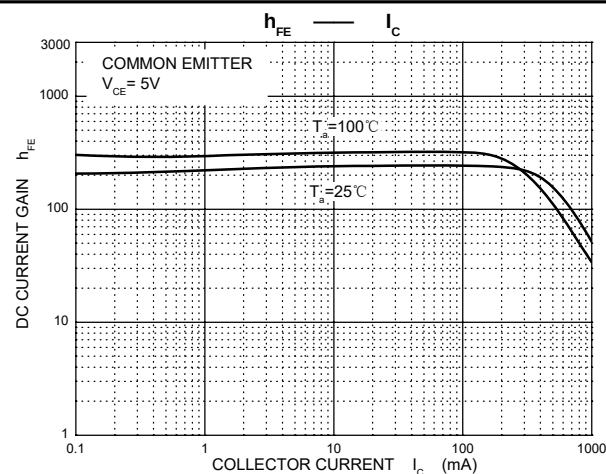
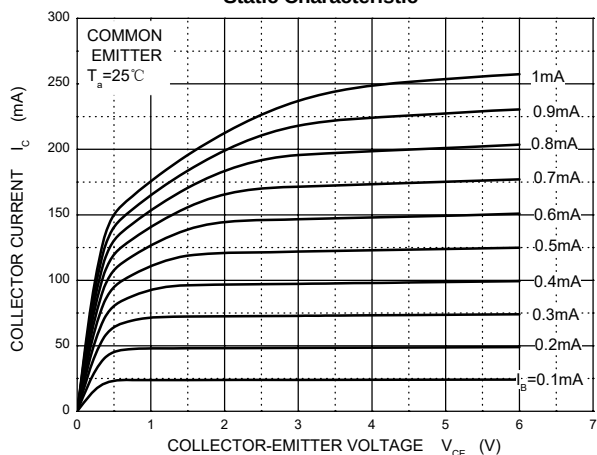
CLASSIFICATION OF h_{FE}

Rank	O	Y
Range	100-200	160-320

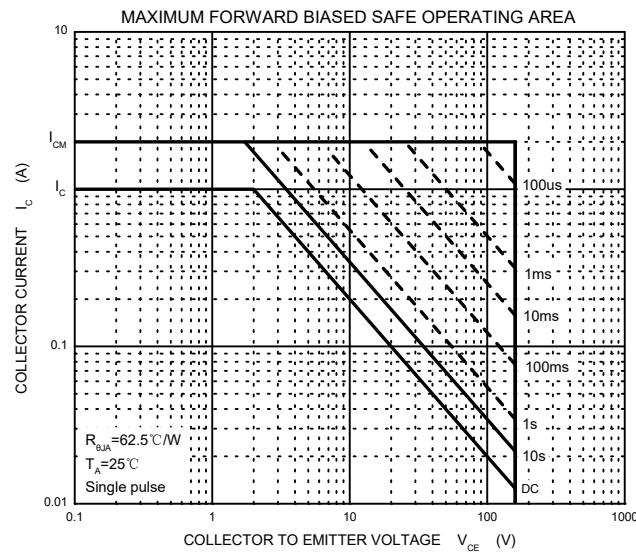
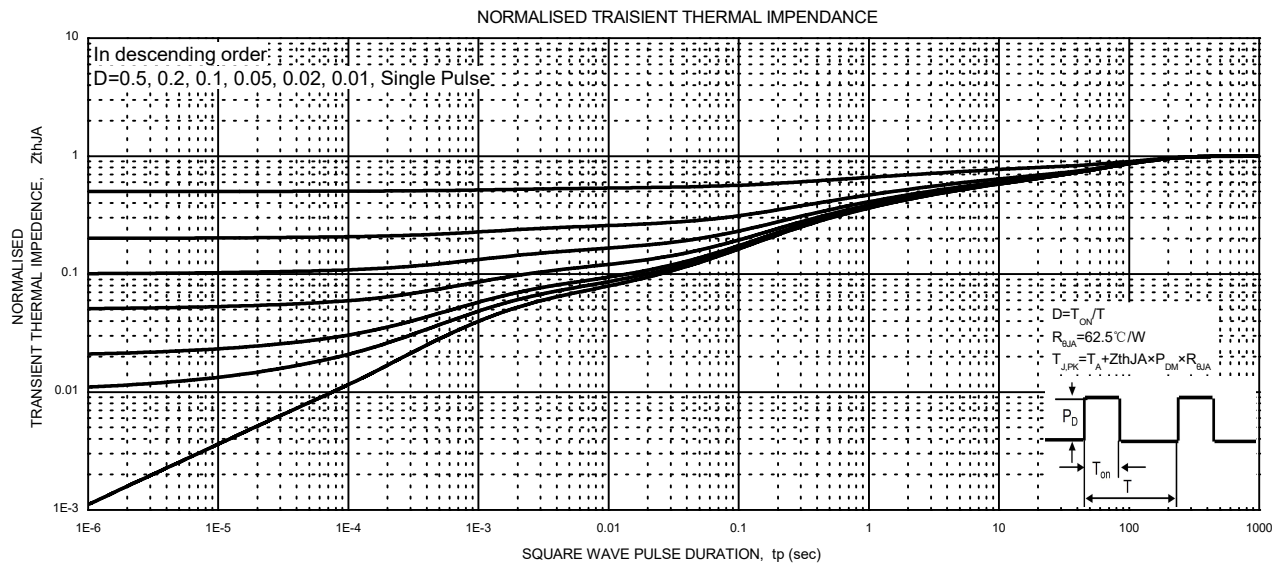
Note1: Device on 1 in² FR-4 board with 2oz. Copper, single-sided, in a still air environment with $T_A=25^{\circ}C$.

Typical Characteristics

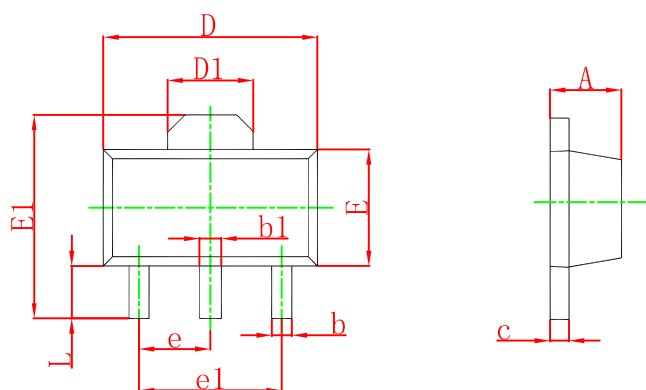
Static Characteristic



Typical Characteristics

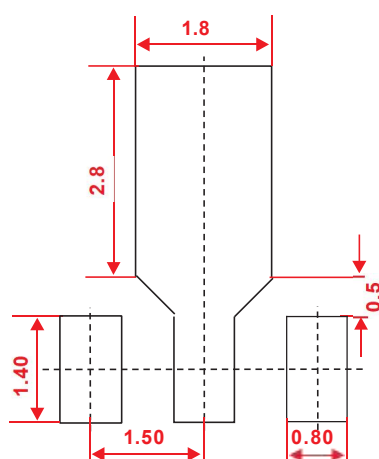


SOT-89-3L Package Outline Dimensions



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.