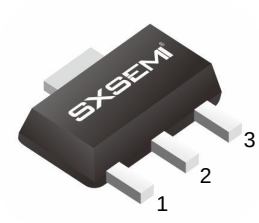
SOT-89-3L



1. BASE
2. COLLECTOR
3. EMITTER

FEATURES

- Low saturation voltage
- Excellent DC current gain characteristics

MARKING: DN

MAXIMUM RATINGS(Ta=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector -Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Continuous Collector Current	2	A
I_{CP}*	Pulsed Collector Current	3	A
P_C	Collector Dissipation	0.5	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	250	℃/ W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=50μA,I_E=0	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=50μA, I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=20V,I_E=0			0.5	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0			0.5	μA
DC current gain	h_{FE}	V_{CE}=6V,I_C=500mA	560		2700	
Collector-emitter saturation voltage	$V_{CE(sat)}$*	I_C=1A,I_B=20mA			0.5	V
Transition frequency	f_T	V_{CE}=10V,I_C=10mA,f=100MHz		110		MHz
Collector capacitance	C_{ob}	V_{CB}=10V, I_E=0,f=1MHz		22		pF

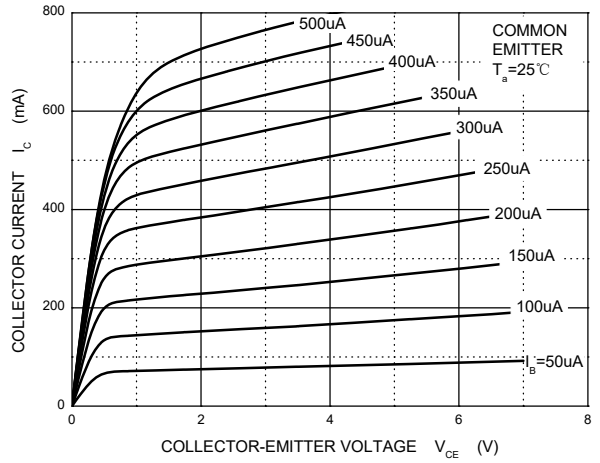
*Single pulse, P_W=10ms

CLASSIFICATION OF h_{FE}

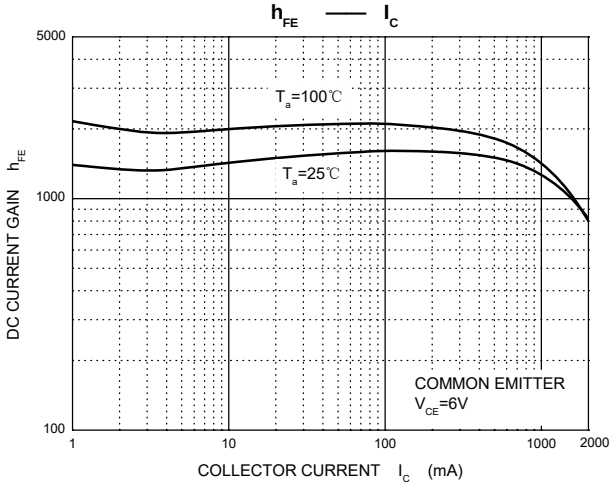
Rank	U	V	W
Range	560~1200	820~1800	1200~2700

Typical Characteristics

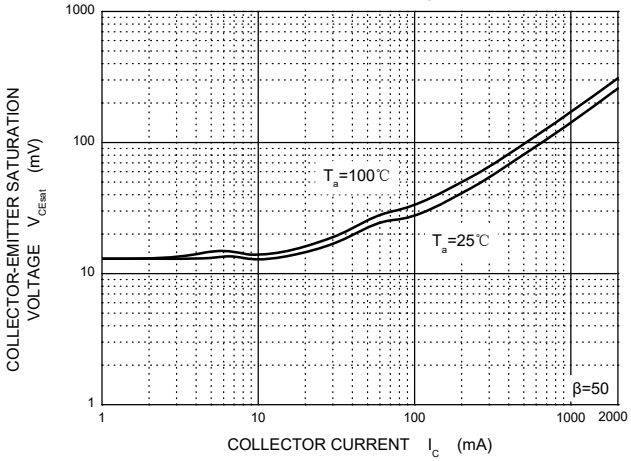
Static Characteristic



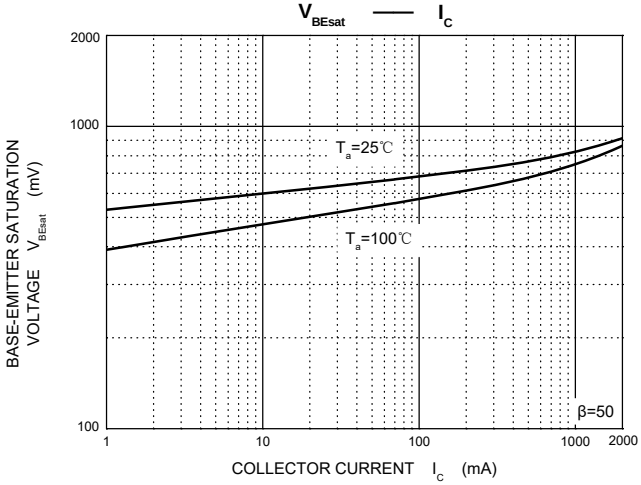
h_{FE} — I_C



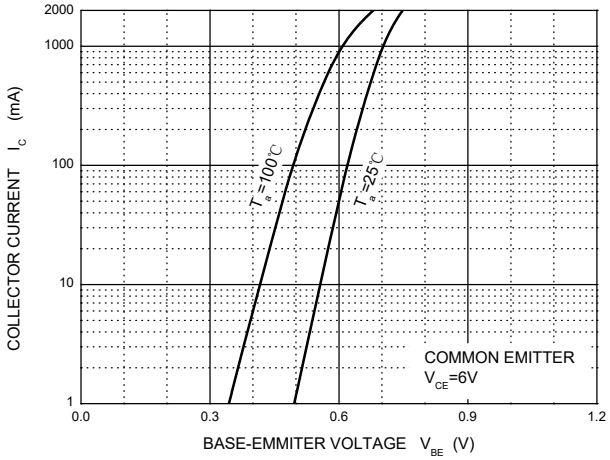
V_{CEsat} — I_C



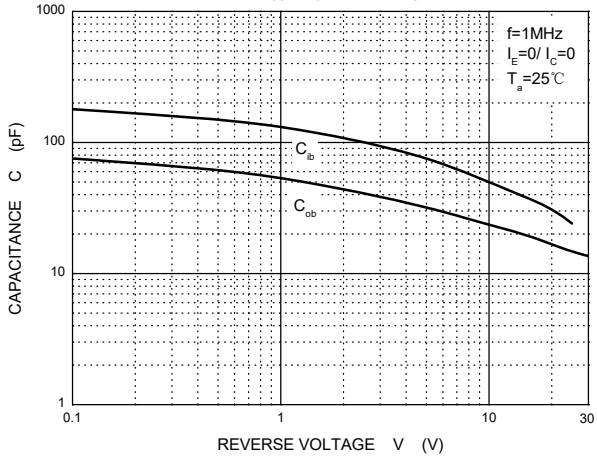
V_{BEsat} — I_C



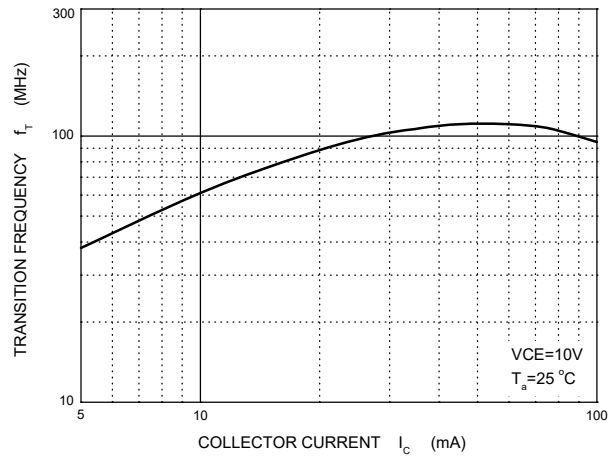
I_C — V_{BE}



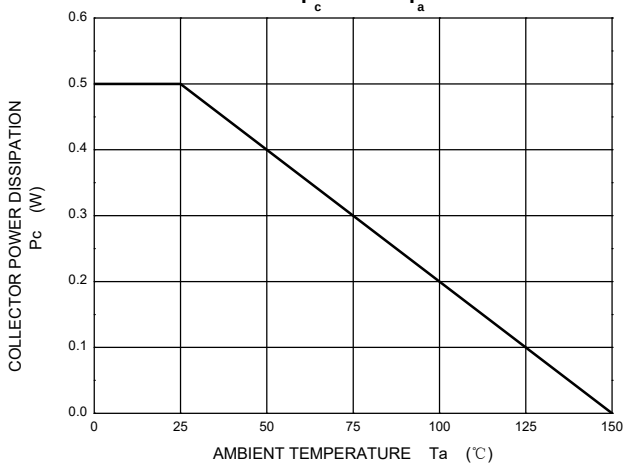
C_{ob}/ C_{ib} — V_{CB}/ V_{EB}



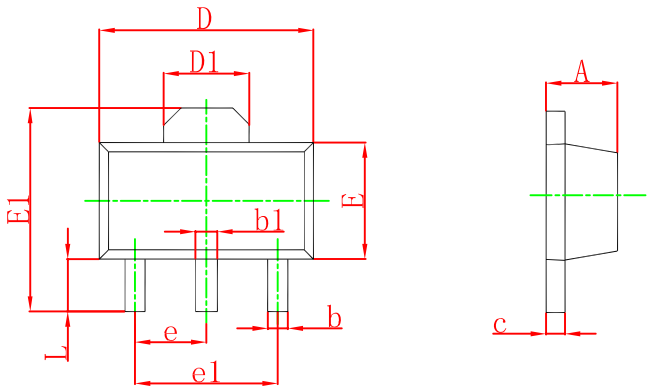
f_T — I_C



P_c — T_a

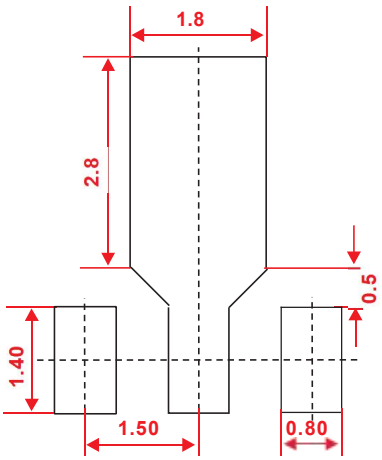


SOT-89-3L Package Outline Dimensions



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:±0.05mm.
3.The pad layout is for reference purposes only.