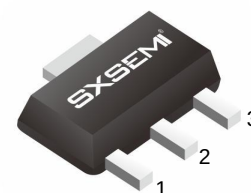


SOT-89-3L


1. BASE
2. COLLECTOR
3. EMITTER

MARKING: D965

FEATURES

- I Low Collector-Emitter Saturation Voltage
- I Large Collector Power Dissipation and Current
- I Mini Power Type Package

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current	5	A
P_C	Collector Power Dissipation	750	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	167	°C/W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

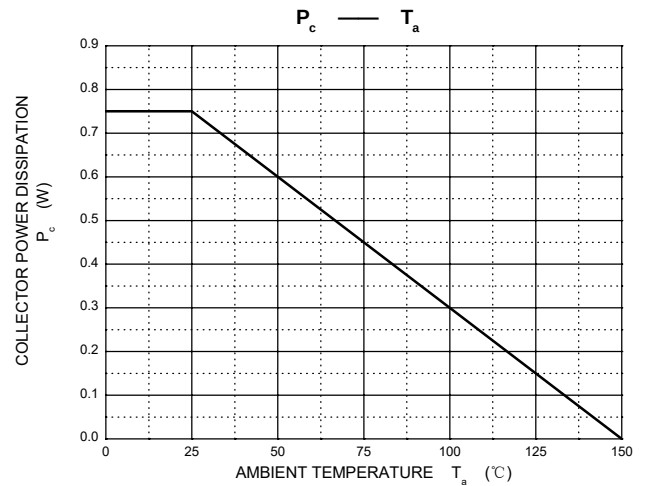
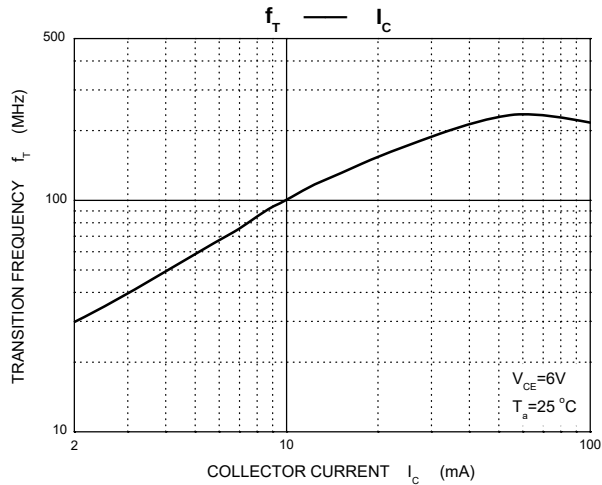
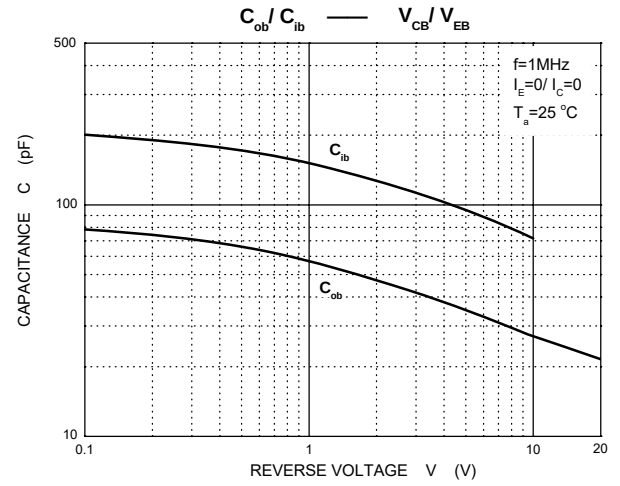
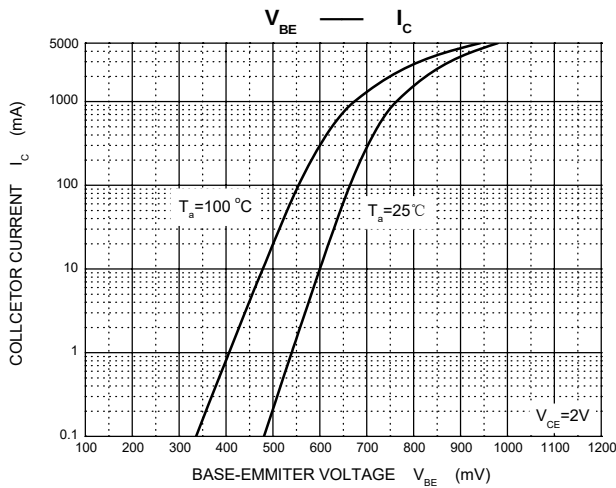
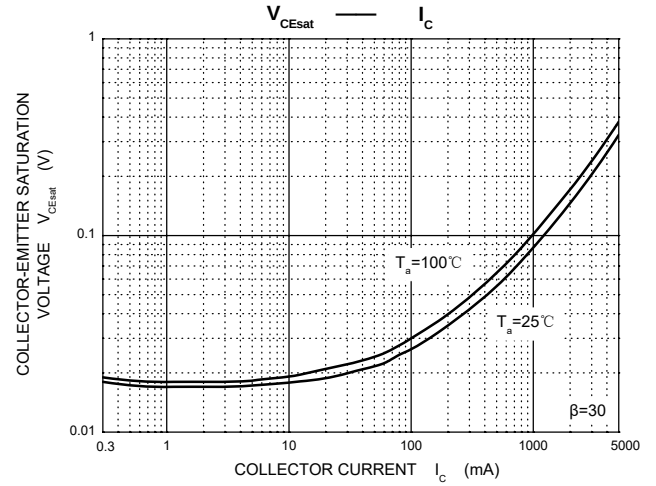
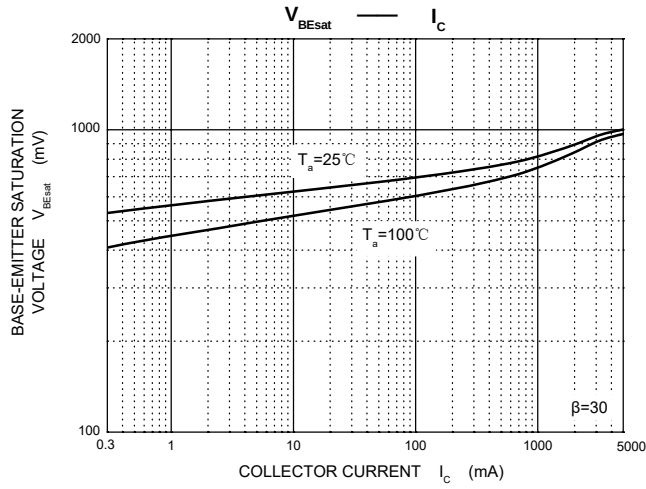
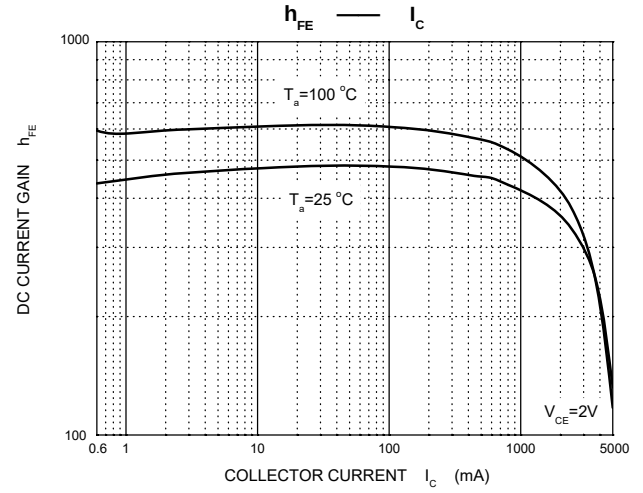
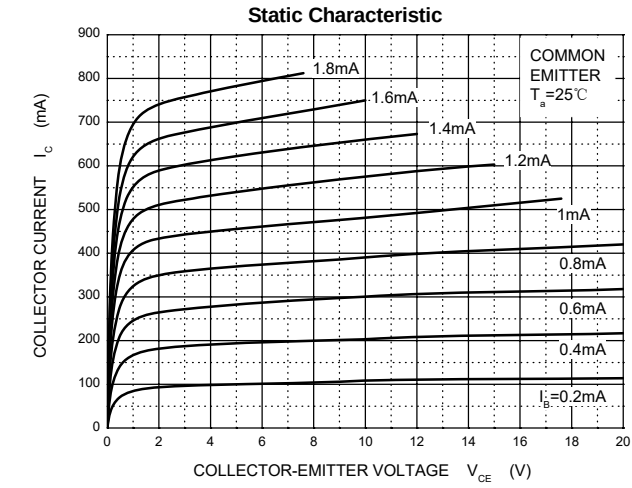
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	7			V
Collector cut-off current	I_{CBO}	$V_{CB}=10V, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=7V, I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=2V, I_C=1mA$		200		
	$h_{FE(2)}$	$V_{CE}=2V, I_C=500mA$	230		800	
	$h_{FE(3)}$	$V_{CE}=2V, I_C=2A$	150			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=3A, I_B=0.1A$			1	V
Transition frequency	f_T	$V_{CE}=6V, I_C=50mA, f=200MHz$		150		MHz
Collector output capacitance	C_{ob}	$V_{CB}=20V, I_E=0, f=1MHz$			50	pF

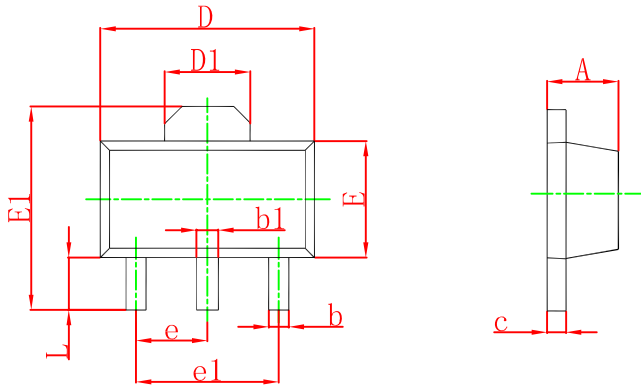
CLASSIFICATION OF $h_{FE(2)}$

RANK	Q	R	S
RANGE	230 –380	340 –600	560 –800

Typical Characteristics

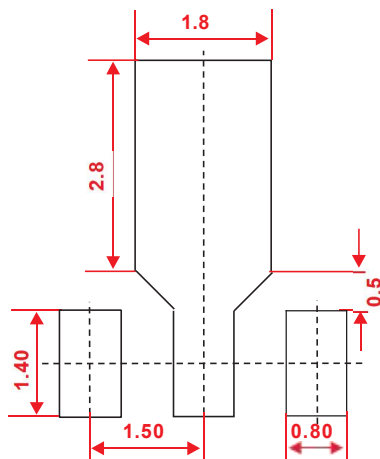


SOT-89-3L Package Outline Dimensions



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.