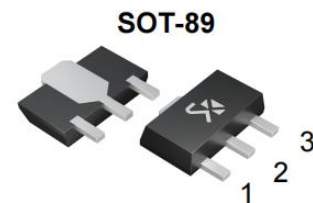


PNP Plastic-Encapsulate Transistors

Features

- Low $V_{CE(sat)}$
- Compliments 2SD1664



Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

1base 2collector 3emitter

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-32	V
Emitter-Base Voltage	V_{CBO}	-5	V
Collector Current -Continuous	I_C	-1	A
Pulsed Collector Current	I_{CP+}	-2	A
Collector Power Dissipation	P_C	500	mW
Operation Junction and Storage Temperature Range	T_J, T_{STG}	-55~150	$^\circ\text{C}$

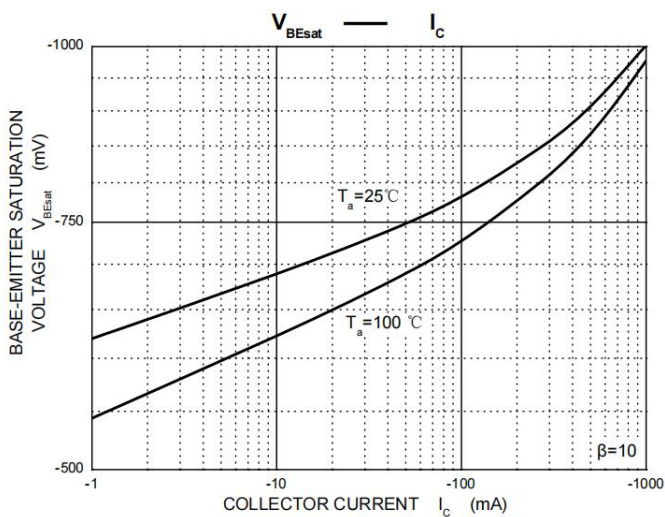
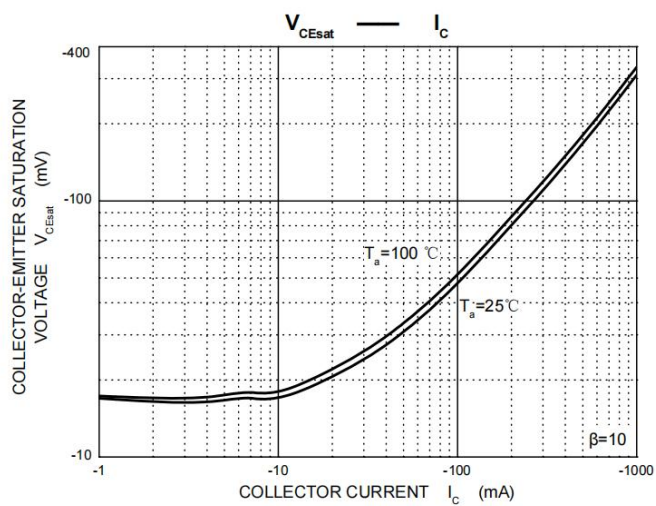
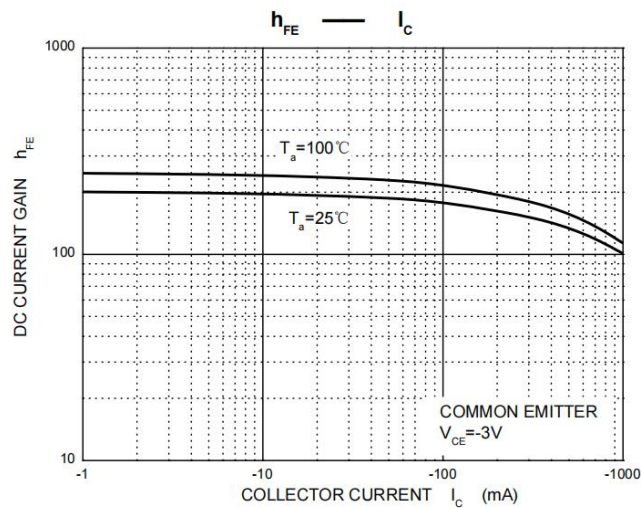
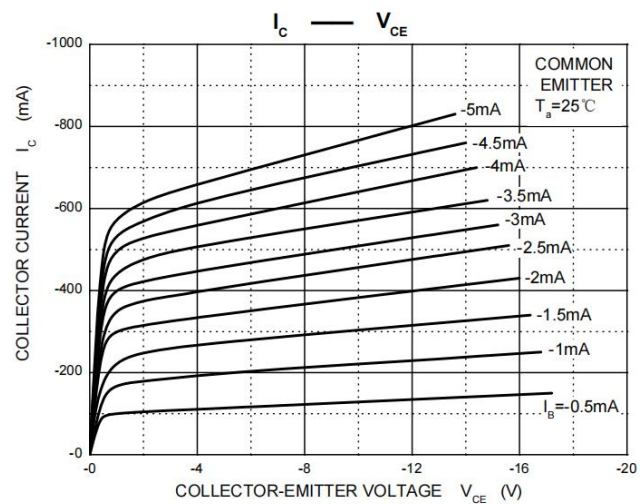
Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

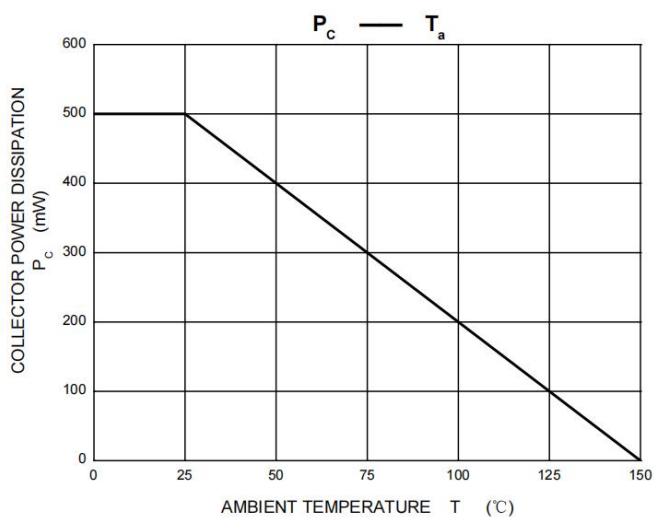
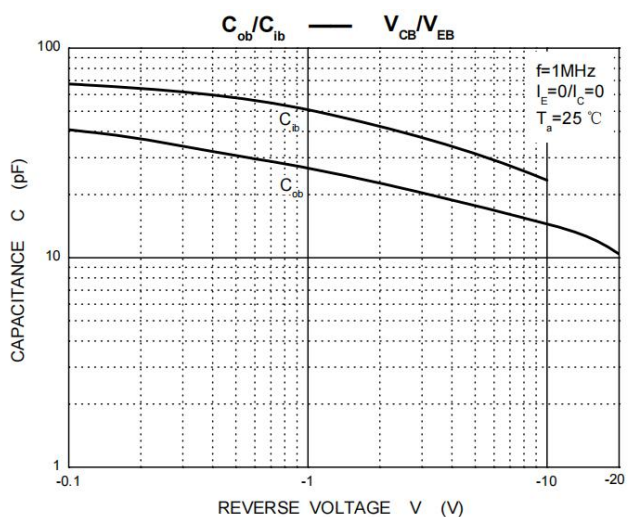
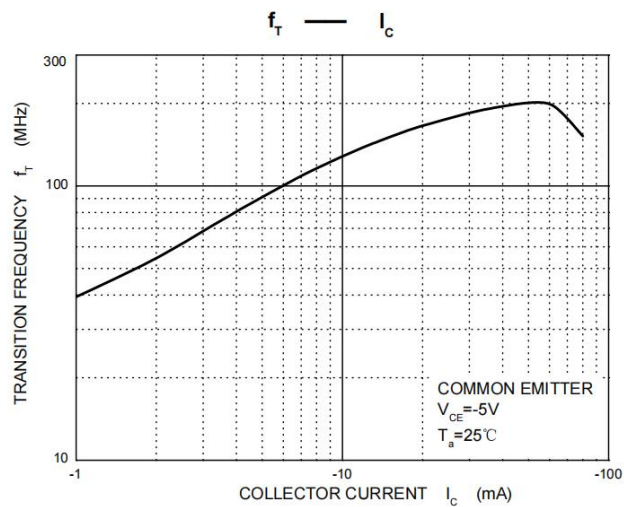
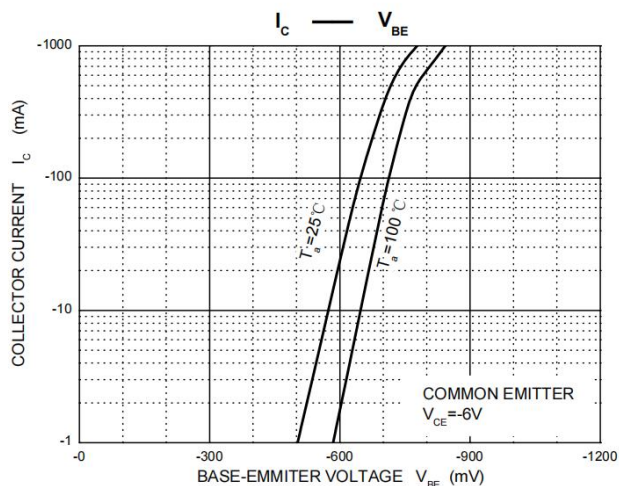
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Collector- base breakdown voltage	BV_{CBO}	$I_C=-50\mu\text{A}, I_E=0$	-40			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C=-1\text{mA}, I_B=0$	-32			V
Emitter - base breakdown voltage	BV_{EBO}	$I_E=-50\mu\text{A}, I_C=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-20\text{V}, I_E=0$			-0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-4\text{V}, I_C=0$			-0.5	μA
DC current gain	h_{FE}	$V_{CE}=-3\text{V}, I_C=-100\text{mA}$	82		390	
Collector-emitter saturation voltage	$V_{CE(SAT)}$	$I_C=-500\text{mA}, I_B=-50\text{mA}$		-0.2	-0.5	V
Transition frequency	f_T	$V_{CE}=-5\text{V}, I_C=-50\text{mA}, f=30\text{MHz}$		150		MHz
Collector output capacitance	C_{ob}	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$		20	30	pF

HFE Classification

Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	BAP	BAQ	BAR

Typical Characteristics

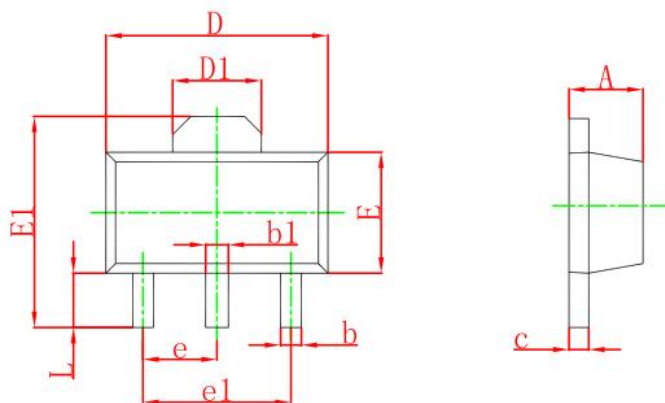




Package Information

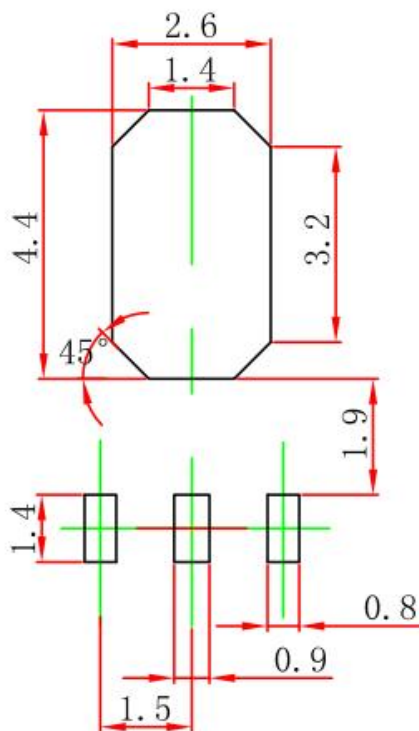
SOT-89

Dimensions in mm



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

Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.