

NPN Silicon Epitaxial Planar Transistor

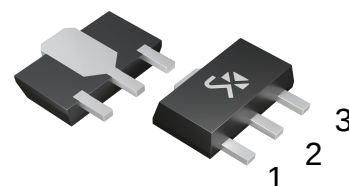
Feature

- High current (max. 1 A)
- Low voltage (max. 80 V).

APPLICATIONS

- Driver stages of audio and video amplifiers.

SOT-89



1base 2collector 3emitter

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current - DC	1.0	A
I_{CM}	Peak current of collector	1.5	A
I_{BM}	Base peak current	0.2	A
P_C	Collector power consumption	0.5	W
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

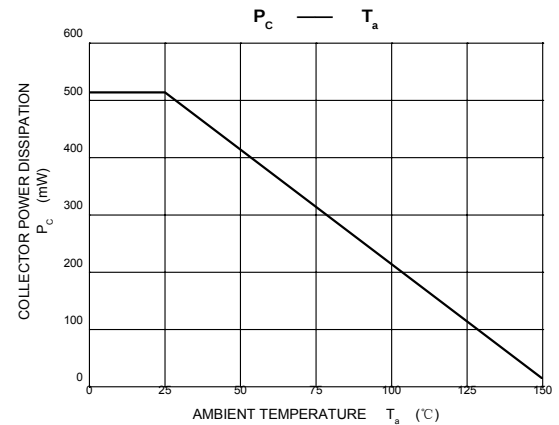
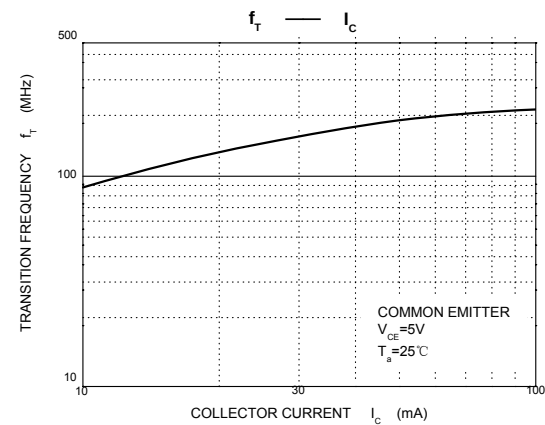
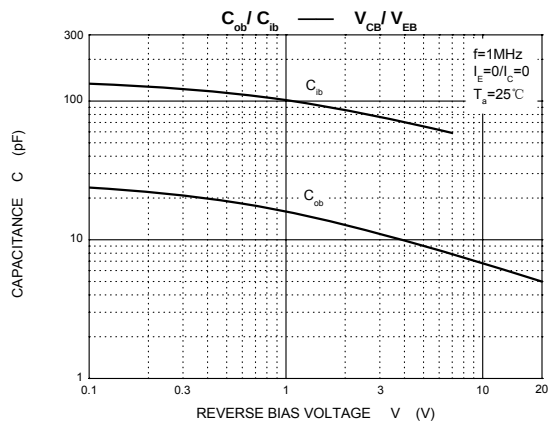
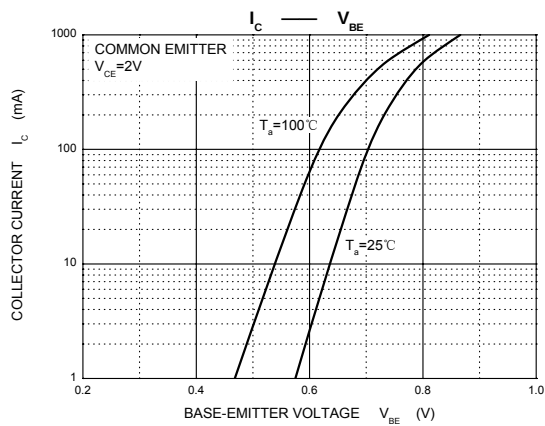
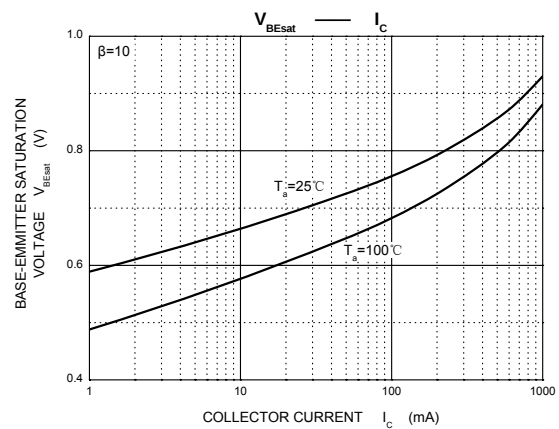
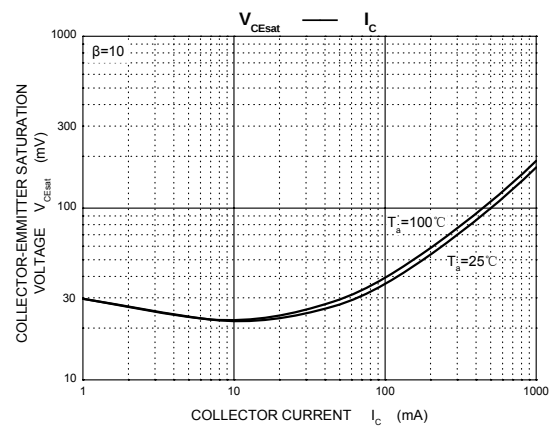
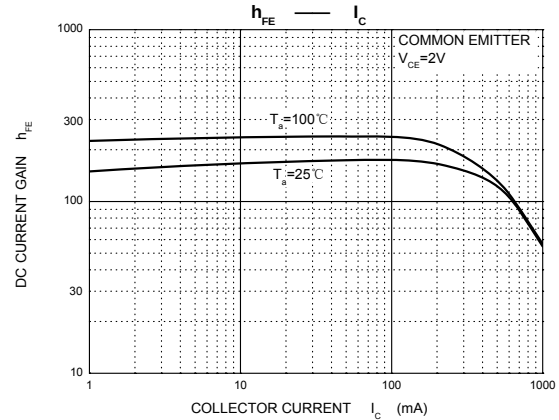
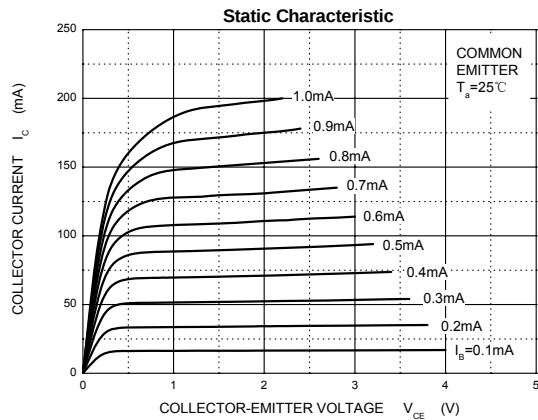
ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector cut-off current	I_{CBO}	$V_{CB}=30\text{V}, I_E=0$			100	nA
		$V_{CB}=30\text{V}, I_E=0, T_j=150^{\circ}\text{C}$			10	μA
Collector cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			100	nA
DC current gain	h_{FE}	$V_{CE}=2\text{V}, I_C=5\text{mA}$	63			
		$V_{CE}=2\text{V}, I_C=150\text{mA}$	63		250	
		$V_{CE}=2\text{V}, I_C=500\text{mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.5	V
Base Emitter Voltage	V_{BE}	$I_C=500\text{mA}, V_{CE}=2\text{V}$			1.0	V
Transition frequency	f_T	$V_{CE}=5\text{V}, I_E=10\text{mA}, f=30\text{MHz}$		130		MHz

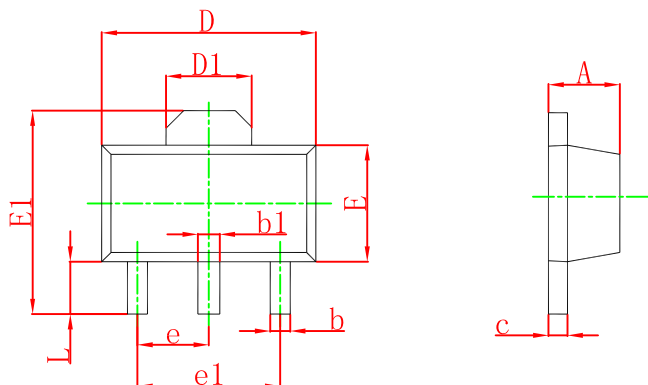
hFE CLASSIFICATION

TYPE	BCX56	BCX56-10	BCX56-16
MARKING	BH	BK	BL
hFE RANGE	63~250	63~160	100~250

Typical Characteristics

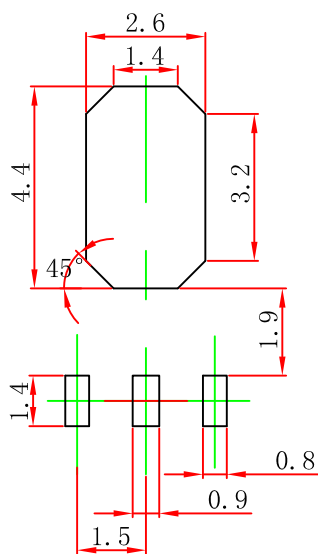


SOT-89 Package Outline Dimensions



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 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.