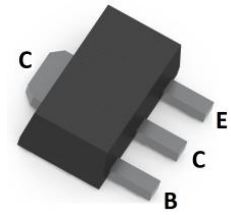


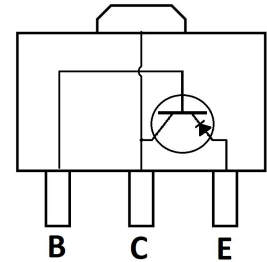
BIPOLAR TRANSISTOR (PNP)

FEATURES

- Complementary to BCX54/BCX55/BCX/56
- High current and Low Voltage
- For Medium Power General Purpose
- For Drive Stages of Audio Amplifiers
- Surface Mount device



SOT-89



MECHANICAL DATA

- Case: SOT-89
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.055 grams (approximate)

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	BCX51	-45	V
	BCX52	-60	
	BCX53	-100	
Collector-Emitter Voltage	BCX51	-45	V
	BCX52	-60	
	BCX53	-80	
Emitter-Base Voltage	V _{EBO}	-5	V
Collector Current	I _C	-1	A
Collector Power Dissipation	P _C	500	mW
Thermal Resistance From Junction To Ambient	R _{θJA}	250	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

BIPOLAR TRANSISTOR (PNP)
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions	
Collector-base breakdown voltage	$V_{(BR)CBO}$	-45			V	BCX51	$I_C = -100\mu\text{A}, I_E = 0$
		-60			V	BCX52	
		-100			V	BCX53	
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	-45			V	BCX51	$I_C = -10\text{mA}, I_B = 0$
		-60			V	BCX52	
		-80			V	BCX53	
Emitter-base breakdown voltage	$V_{(BR)EBO}$	-5			V	$I_E = -100\mu\text{A}, I_C = 0$	
Collector cut-off current	I_{CBO}			-0.1	μA	$V_{CB} = -30\text{V}, I_E = 0$	
Emitter cut-off current	I_{EBO}			-0.1	μA	$V_{EB} = -5\text{V}, I_C = 0$	
DC current gain	h_{FE1}	63				$V_{CE} = -2\text{V}, I_C = -5\text{mA}$	
	h_{FE2}	63		250		$V_{CE} = -2\text{V}, I_C = -150\text{mA}$	
	h_{FE3}	40				$V_{CE} = -2\text{V}, I_C = -500\text{mA}$	
Collector-emitter saturation voltage	$V_{CE(sat)}$			-0.5	V	$I_C = -500\text{mA}, I_B = -50\text{mA}$	
Base-emitter voltage	V_{BE}			-1	V	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$	
Transition frequency	f_T		50		MHz	$V_{CE} = -5\text{V}, I_C = -10\text{mA}, f = 100\text{MHz}$	

CLASSIFICATION OF h_{FE}

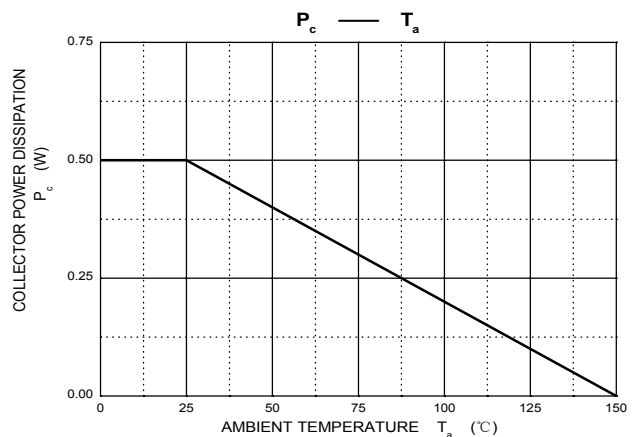
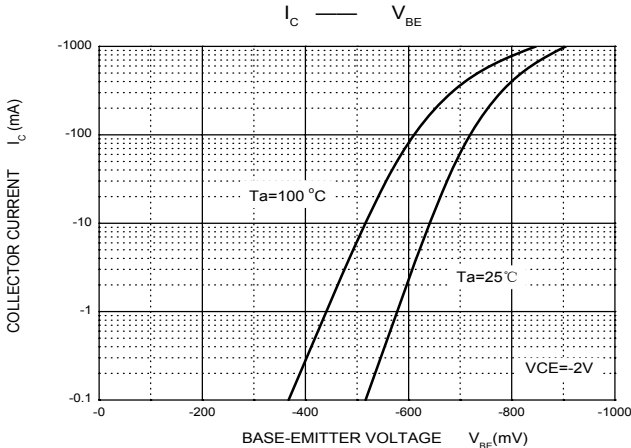
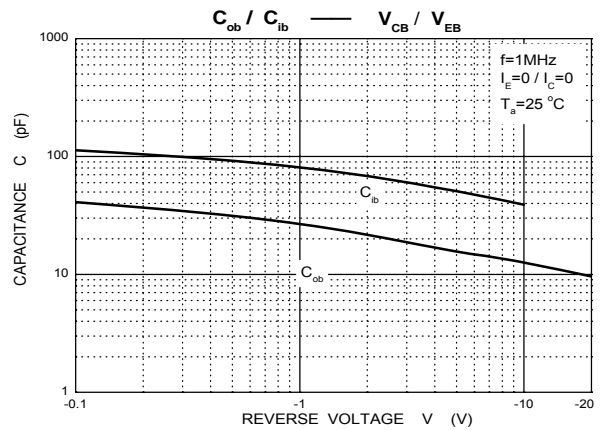
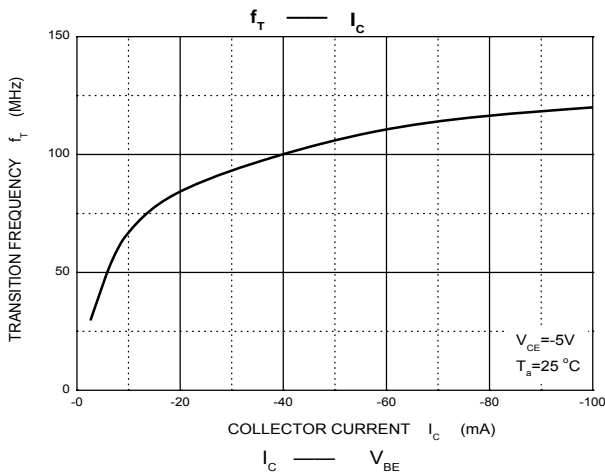
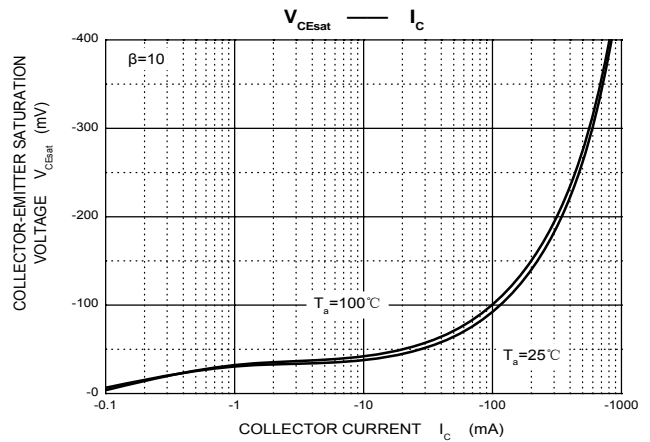
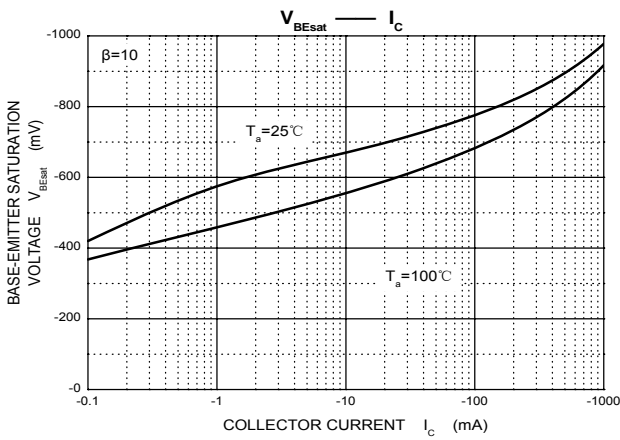
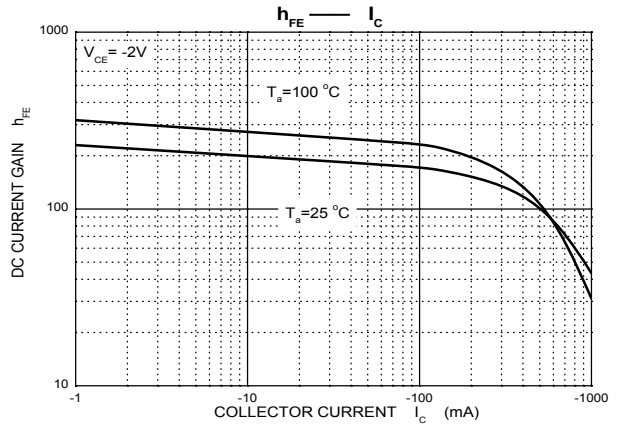
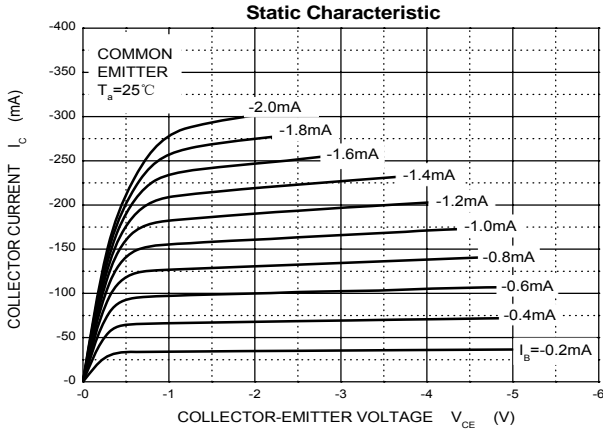
Rank	BCX51	BCX51-10	BCX51-16
Range	63-250	63-160	100-250
Marking	AA	AC	AD

Rank	BCX52	BCX52-10	BCX52-16
Range	63-250	63-160	100-250
Marking	AE	AG	AM

Rank	BCX53	BCX53-10	BCX53-16
Range	63-250	63-160	100-250
Marking	AH	AK	AL

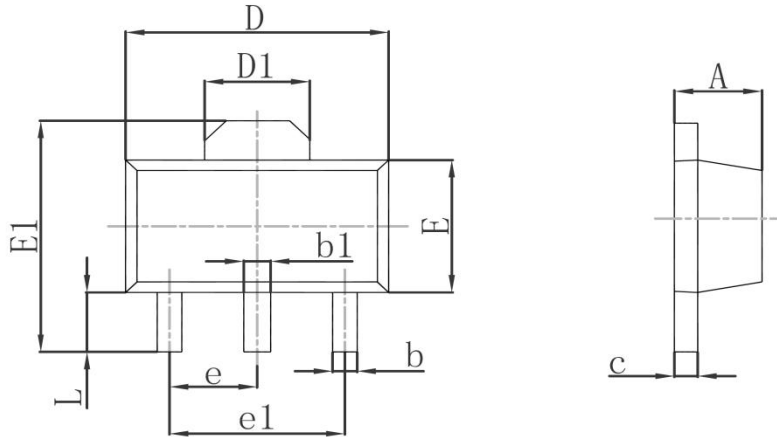
BIPOLAR TRANSISTOR (PNP)

Typical Characteristics



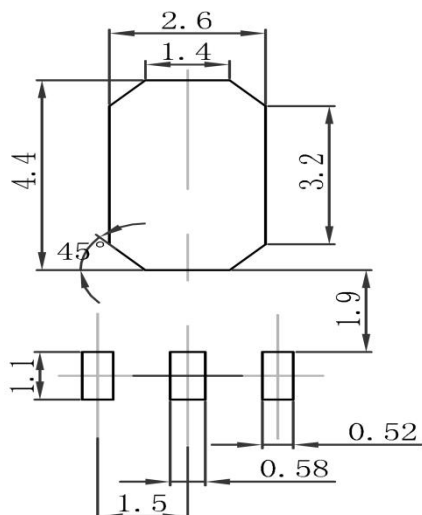
BIPOLAR TRANSISTOR (PNP)

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	1.550REF		0.061REF	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500TYP		0.060TYP	
e1	3.000TYP		0.118TYP	
L	0.900	1.200	0.035	0.047

SOT-89 Suggested Pad Layout



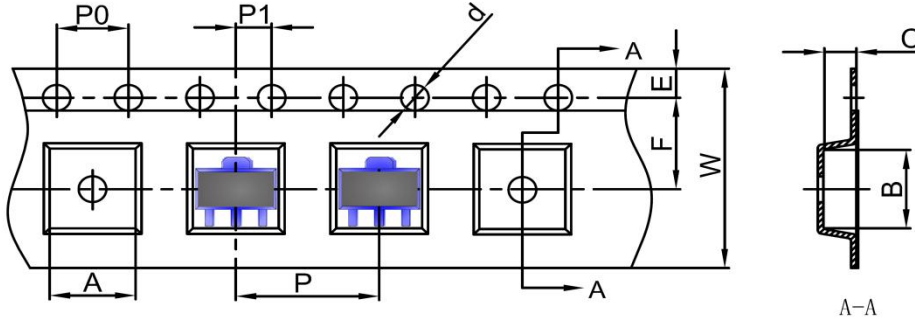
Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

BIPOLAR TRANSISTOR (PNP)

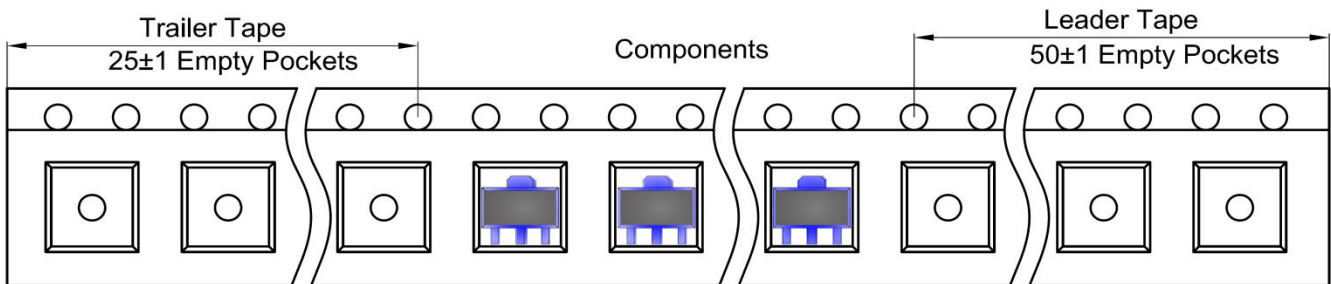
SOT-89 Tape and Reel

SOT-89 Embossed Carrier Tape

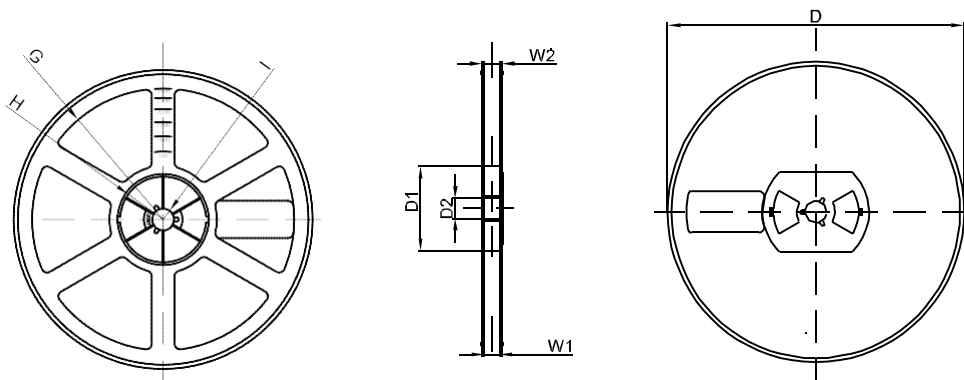


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-89	4.85	4.45	1.85	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SOT-89 Tape Leader and Trailer



SOT-89 Reel



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	13.20	16.50
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1