

SOT-89-3L Plastic-Encapsulate Transistors

TRANSISTOR (PNP)

FEATURES

- NPN Complements to BCX54,BCX55,BCX56
- Low Voltage
- High Current

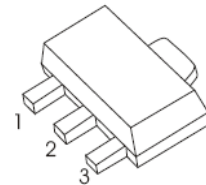
APPLICATIONS

- Medium Power General Purposes
- Driver Stages of Audio Amplifiers

MARKING:BCX51:AA, BCX51-10:AC, BCX51-16:AD
BCX52:AE, BCX52-10:AG, BCX52-16:AM
BCX53:A H, BCX53-10:AK, BCX53-16:AL

SOT-89-3L

1. BASE
2. COLLECTOR
3. EMITTER



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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	BCX51	-45
		BCX52	-60
		BCX53	-100
V_{CEO}	Collector-Emitter Voltage	BCX51	-45
		BCX52	-60
		BCX53	-80
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-1	A
P_C	Collector Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	250	$^{\circ}\text{C}/\text{W}$
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^{\circ}\text{C}$

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

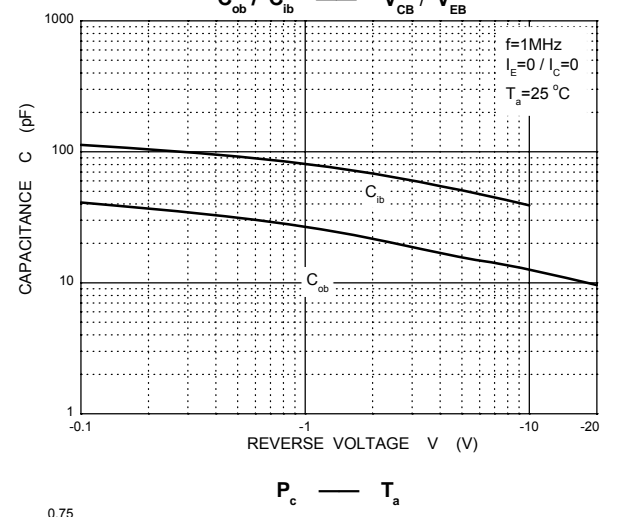
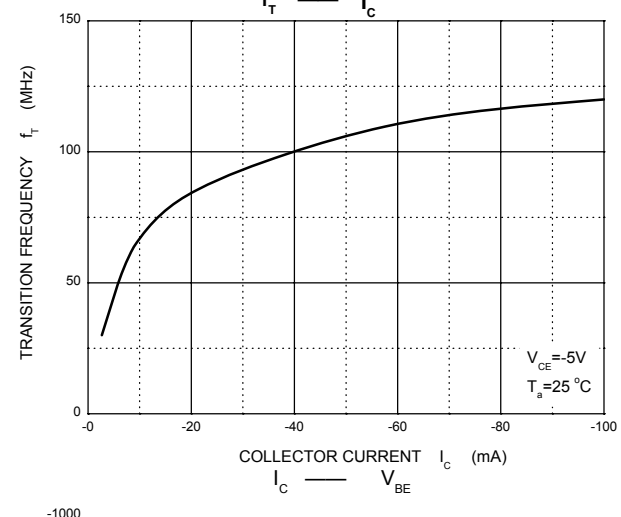
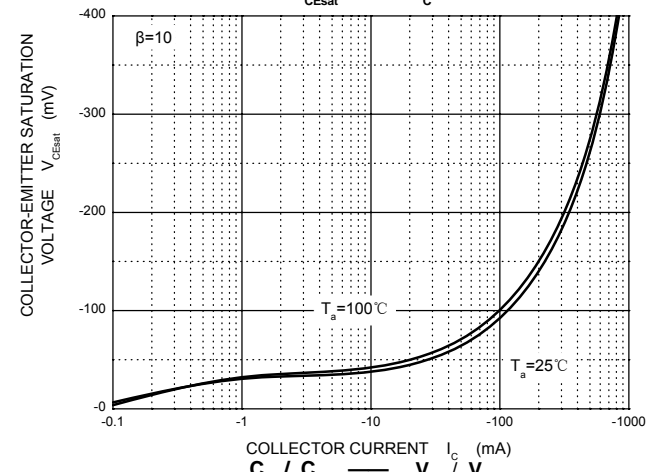
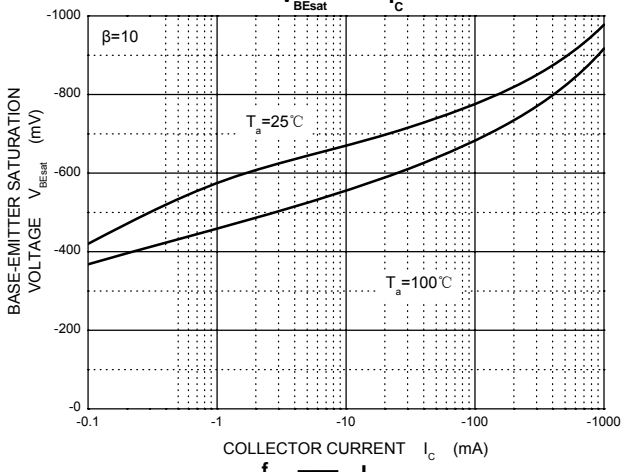
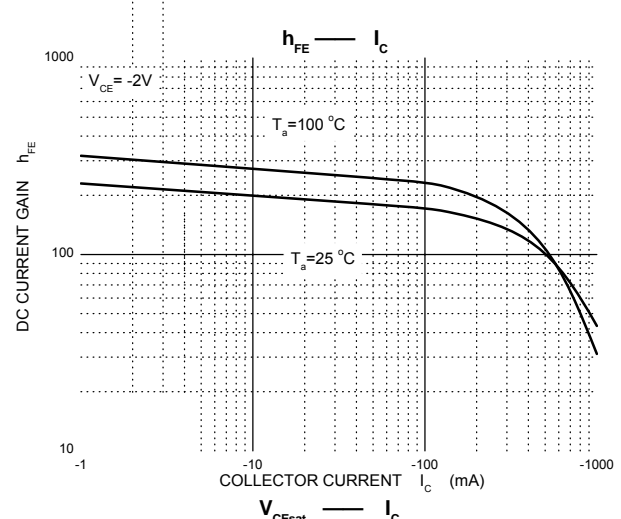
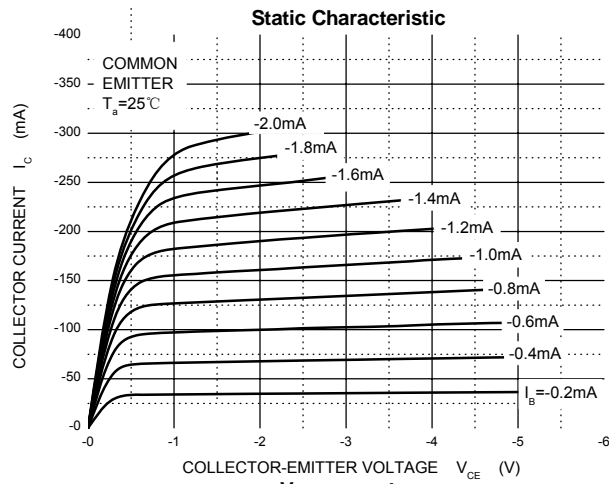
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-100μA, I _E =0	BCX51	-45		V
			BCX52	-60		
			BCX53	-100		
Collector-emitter breakdown voltage	V _{(BR)CEO*}	I _C =-10mA, I _B =0	BCX51	-45		V
			BCX52	-60		
			BCX53	-80		
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-100μA, I _C =0	-5			V
Collector cut-off current	I _{CBO}	V _{CB} =-30V, I _E =0			-0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} =-5V, I _C =0			-0.1	μA
DC current gain	h _{FE(1)*}	V _{CE} =-2V, I _C =-5mA	63			
	h _{FE(2)*}	V _{CE} =-2V, I _C =-150mA	63		250	
	h _{FE(3)*}	V _{CE} =-2V, I _C =-0.5A	40			
Collector-emitter saturation voltage	V _{CE(sat)*}	I _C =-0.5A, I _B =-50mA			-0.5	V
Base -emitter voltage	V _{BE*}	V _{CE} =-2V, I _C =-0.5A			-1	V
Transition frequency	f _T	V _{CE} =-5V, I _C =-10mA, f=100MHz		50		MHz

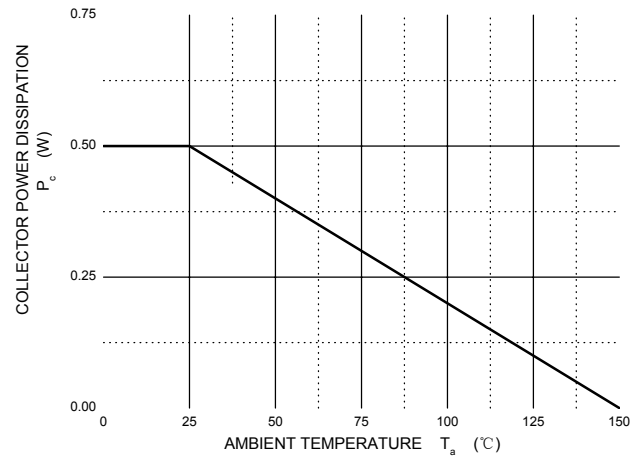
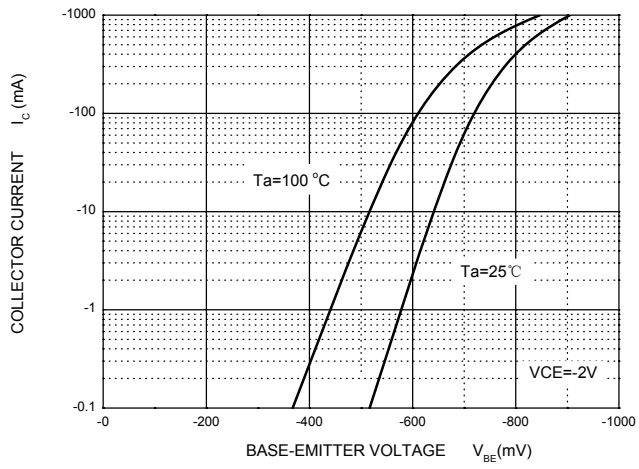
* Pulse Test

CLASSIFICATION OF h_{FE(2)}

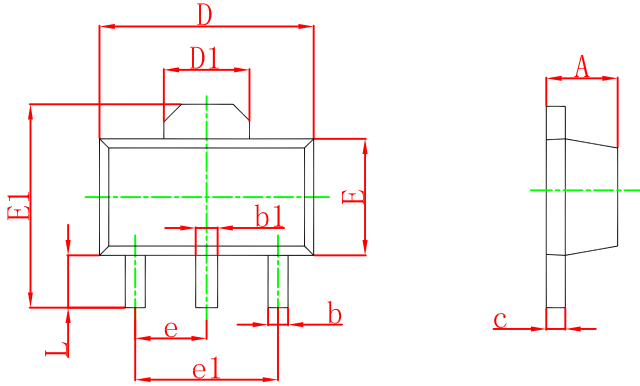
RANK	BCX51 BCX52 BCX53	BCX51-10 BCX52-10 BCX53-10	BCX51-16 BCX52-16 BCX53-16
RANGE	63-250	63-160	100-250

Typical Characteristics



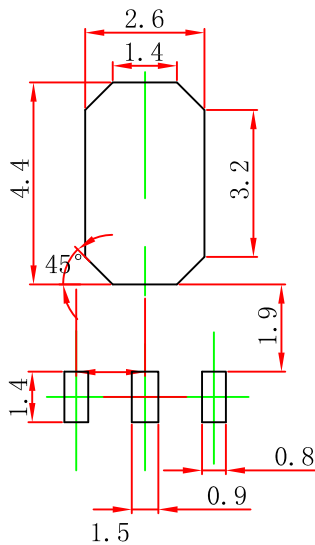


SOT-89-3L Package Outline Dimensions



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.

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