



BCX54,BCX55,BCX56

SOT-89 Plastic-Encapsulated Transistors

TRANSISTOR (NPN)

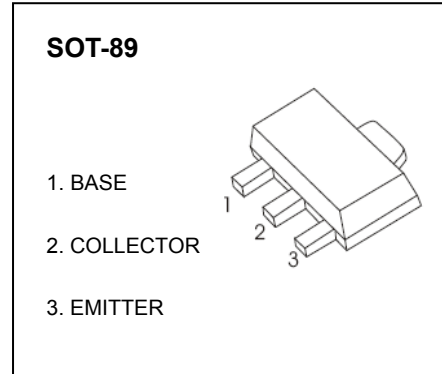
FEATURES

- PNP Complements to BCX51,BCX52,BCX53
- Low Voltage
- High Current

APPLICATIONS

- Driver Stages of Audio Amplifiers

MARKING:BCX54:BA, BCX54-10:BC, BCX54-16:BD
BCX55:BE, BCX55-10:BG, BCX55-16:BM
BCX56:B H, BCX56-10:BK, BCX56-16:BL



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

Symbol	Parameter	Value	Unit	
V_{CBO}	Collector-Base Voltage	BCX54	45	V
		BCX55	60	
		BCX56	100	
V_{CEO}	Collector-Emitter Voltage	BCX54	45	V
		BCX55	60	
		BCX56	80	
V_{EBO}	Emitter-Base Voltage	5	V	
I_C	Collector Current	1	A	
I_B	Base Current	0.1	A	
I_{BM}	Peak base Current ($t_p < 1\text{ms}$)	0.2	A	
P_C	Collector Power Dissipation	500	mW	
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	250	$^{\circ}\text{C/W}$	
T_j	Junction Temperature	150	$^{\circ}\text{C}$	
T_{stg}	Storage Temperature	-55~+150	$^{\circ}\text{C}$	

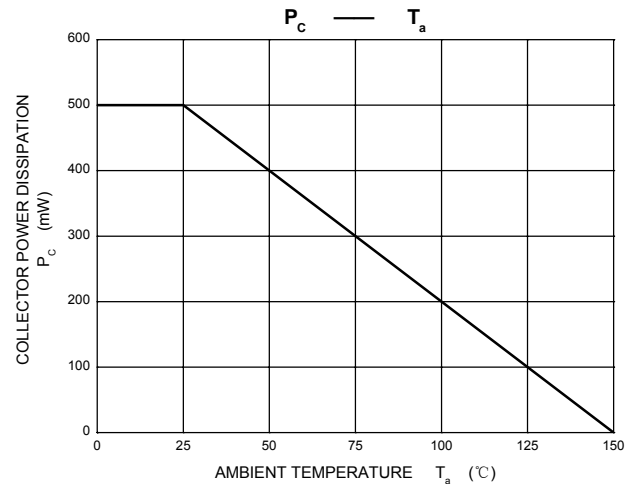
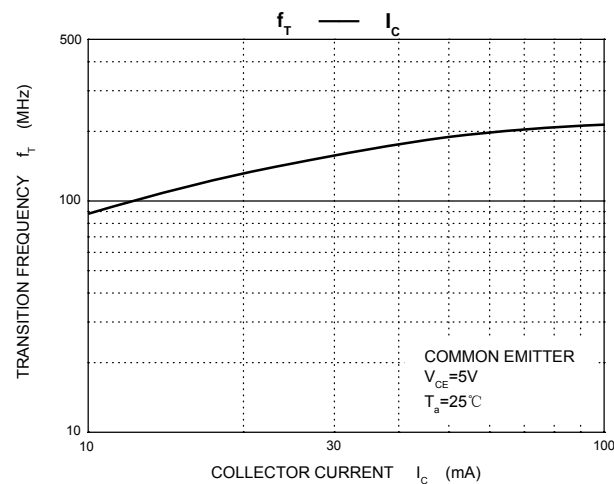
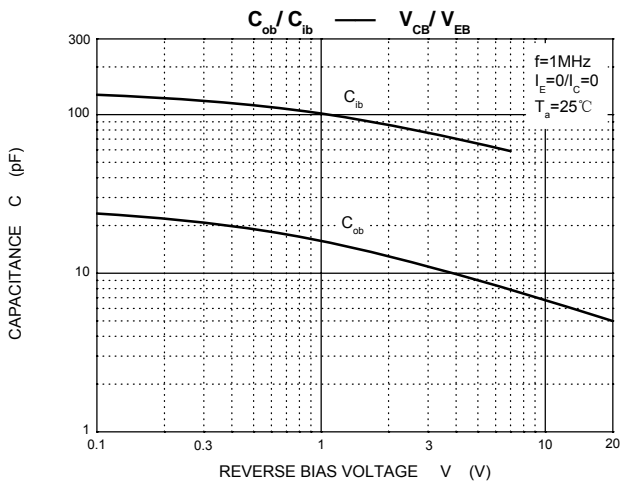
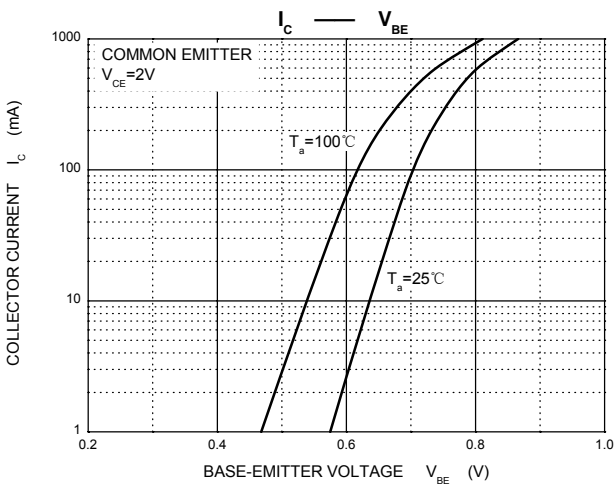
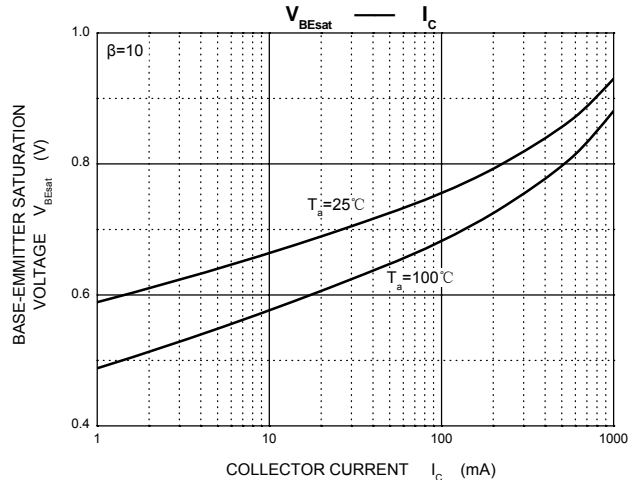
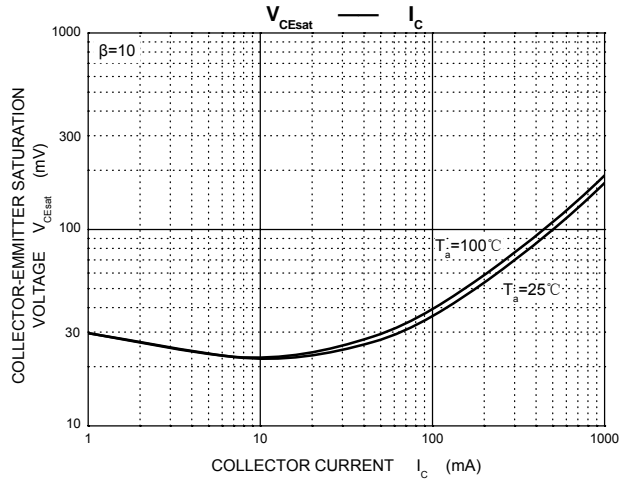
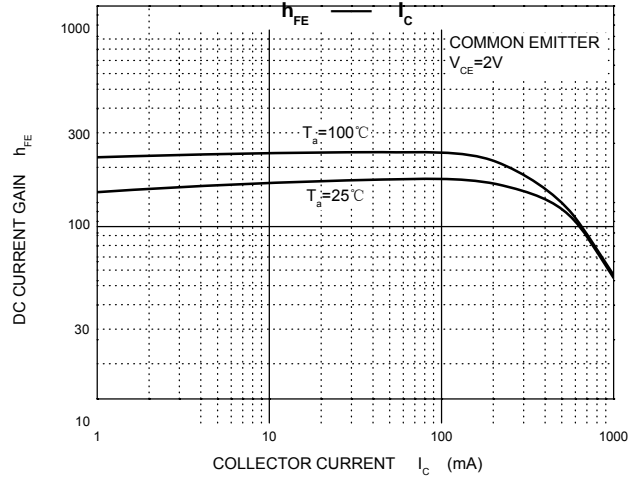
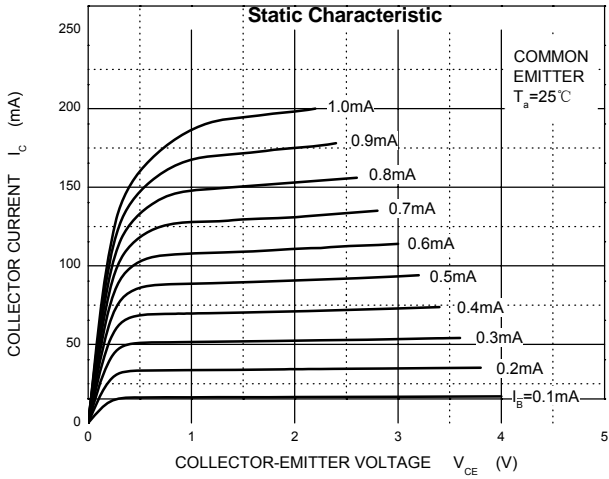
* Pulse Test

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	BCX54	45		V
			BCX55	60		
			BCX56	100		
Collector-emitter breakdown voltage	$V_{(BR)CEO^*}$	$I_C=10mA, I_B=0$	BCX54	45		V
			BCX55	60		
			BCX56	80		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	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	$h_{FE(1)^*}$	$V_{CE}=2V, I_C=5mA$	40			
	$h_{FE(2)^*}$	$V_{CE}=2V, I_C=150mA$	63		250	
	$h_{FE(3)^*}$	$V_{CE}=2V, I_C=0.5A$	25			
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	$V_{CE}=5V, I_C=10mA, f=100MHz$		130		MHz

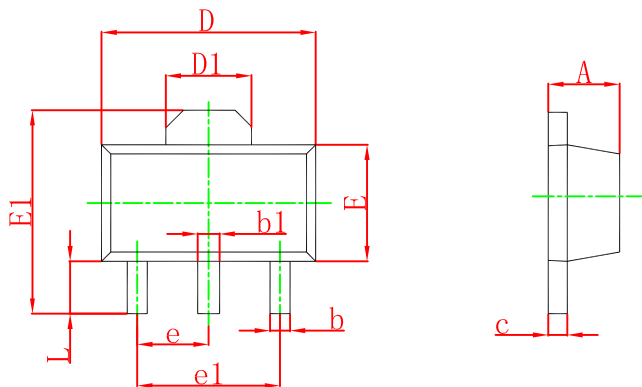
CLASSIFICATION OF $h_{FE(2)}$

RANK	BCX54 BCX55 BCX56	BCX54-10 BCX55-10 BCX56-10	BCX54-16 BCX55-16 BCX56-16
RANGE	63 - 250	63 - 160	100 - 250

Typical Characteristics

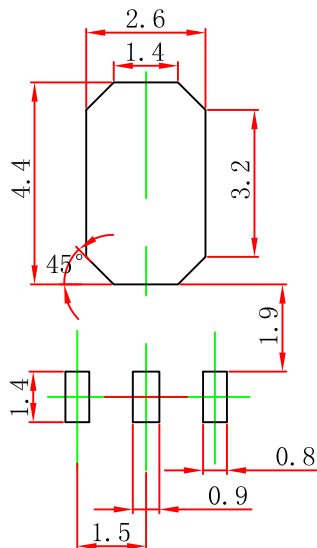


SOT-89 Package Outline Dimensions



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: ± 0.05 mm.
 3. The pad layout is for reference purposes only.