SEMICONDUCTOR

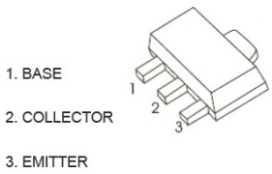
BCX54,BCX55,BCX56

NPN Plastic-Encapsulate Transistors

FEATURES

· Epoxy meets UL-94 V-0 flammability rating
· Complementary to BCX51,BCX52,BCX53
· Power Dissipation of 500mW
· High Stability and High Reliability

SOT-89-3L



MECHANICAL DATA

· Case:SOT-89-3L
· Terminals:Plated solderable per MIL-STD-750,method 2026
· Mounting Position: Any
· Marking:BCX54:BA, BCX54-10:BC, BCX54-16:BD
BCX55:BE, BCX55-10:BG, BCX55-16:BM
BCX56:BH, BCX56-10:BK, BCX56-16:BL

MAXIMUM RATINGS(T_A=25°C Unless otherwise specified)

Item	Symbol	Unit	Value	
Collector-Emitter Voltage	V_{CEO}	V	BCX54 BCX55 BCX56	45 60 80
Collector-Base Voltage	V_{CBO}	V	BCX54 BCX55 BCX56	45 60 100
Emitter-Base Voltage	V_{EBO}	V	5.0	
Collector Current, Continuous	I_C	A	1.0	
Power Dissipation	P_D	mW	500	
Operation Junction Temperature	T_J	℃	-55 to +150	
Storage Temperature	T_{STG}	℃	-55 to +150	
Thermal resistance From junction to ambient	$R_{\theta JA}$	℃/W	250	

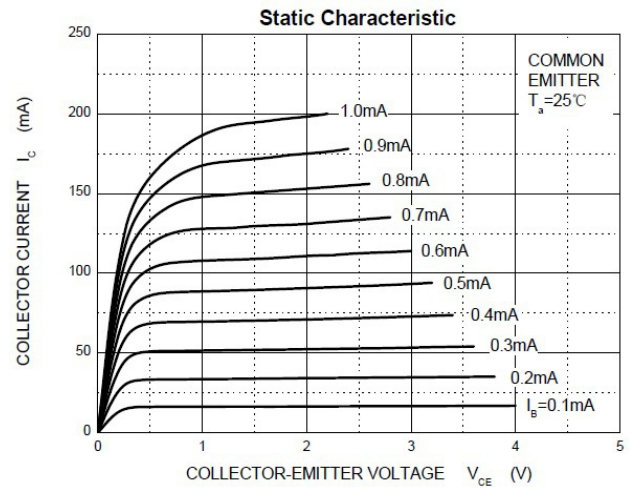
ELECTRICAL CHARACTERISTICS(T_A=25°C Unless otherwise specified)

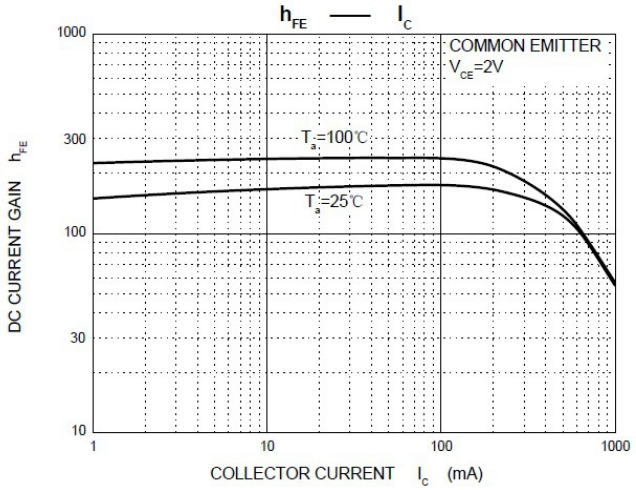
Item	Symbol	Unit	Conditions		Min	Max
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	Vdc	I_C=10mAdc, I_B=0	BCX54 BCX55 BCX56	45 60 80	---
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	Vdc	I_C=100μAdc, I_E=0	BCX54 BCX55 BCX56	45 60 100	---
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	Vdc	I_E=10μAdc, I_C=0		5.0	---
Collector cut-off Current	I_{CBO}	μAdc	V_{CB}=30Vdc, Ie=0		---	0.1
Collector cut-off Current	I_{CEX}	nAdc	V_{CE}=-30Vdc, V_{BE}=-3.0Vdc		---	---
Emitter cut-off Current	I_{EBO}	μAdc	V_{EB}=5Vdc, I_C=0		---	0.1
DC Current Gain	h_{FE}		I_C=5mAdc, V_{CE}=2.0Vdc		40	---
			I_C=150mAdc, V_{CE}=2.0Vdc		63	250
			I_C=500mAdc, V_{CE}=2.0Vdc		25	---
Collector-Emitter Saturation Voltage	VCE(set)	Vdc	I_C=10mAdc, I_B=1.0mAdc		---	---
			I_C=500mAdc, I_B=50mAdc		---	0.5
Base-Emitter Saturation Voltage	VBE	Vdc	I_C=10mAdc, I_B=1.0mAdc		---	---
			V_{CE}=2Vdc, I_C=500mAdc		---	1.0
Output Capacitance	Cobo	pF	V_{CB}=5.0Vdc, f=1.0MHZ, I_E=0		---	---
Input Capacitance	Cibo	pF	V_{EB}=0.5Vdc, f=1.0MHZ, I_C=0		---	---
Current Gain-Bandwidth Product	f_T	MHZ	I_C=10mAdc, V_{CE}=5Vdc f=100MHZ		130(T_{YP})	---
Noise Figure	NF	dB	V_{CE}=5.0V, f=1.0kHZ, I_C=100μA, R_S=1. 0K		---	---

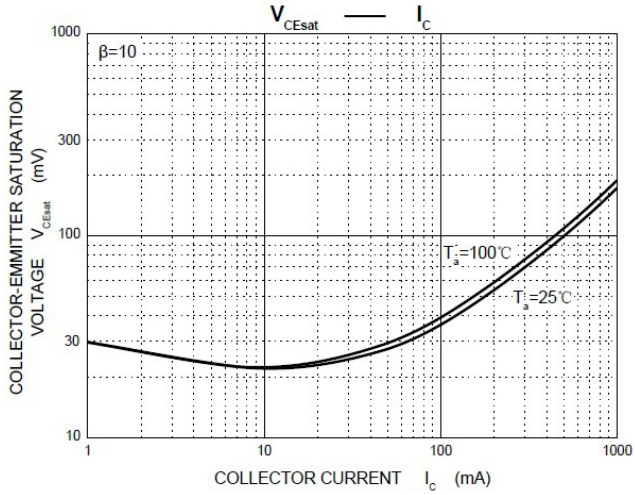
CLASSIFICATION OF $h_{FE(2)}$

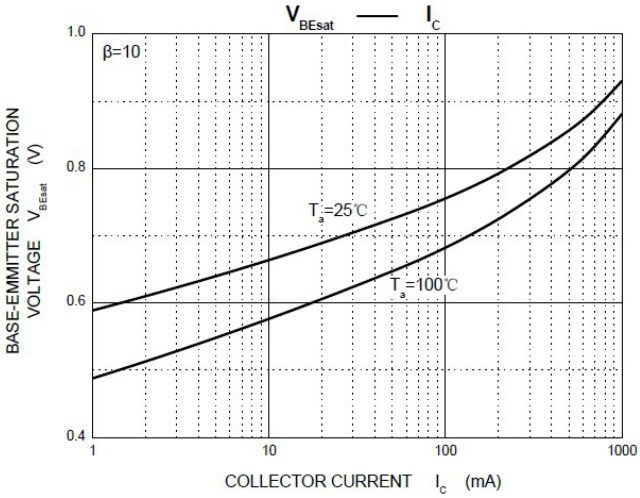
Rank	BCX54 BCX55 BCX56	BCX54-10 BCX55-10 BCX56-10	BCX54-16 BCX55-16 BCX56-16
Range	63-250	63-160	100-250

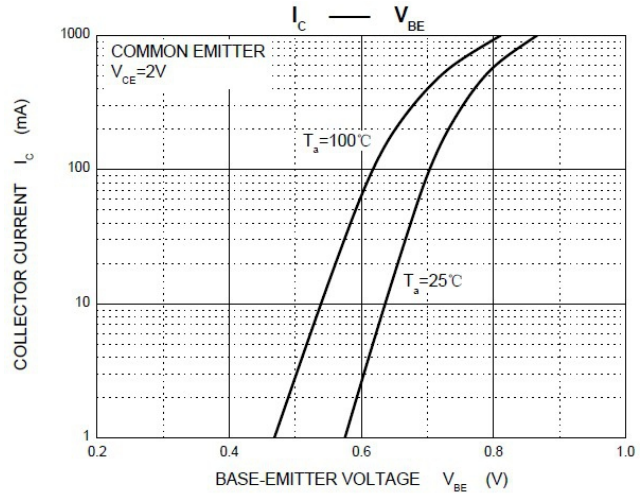
Characteristics(Typical)

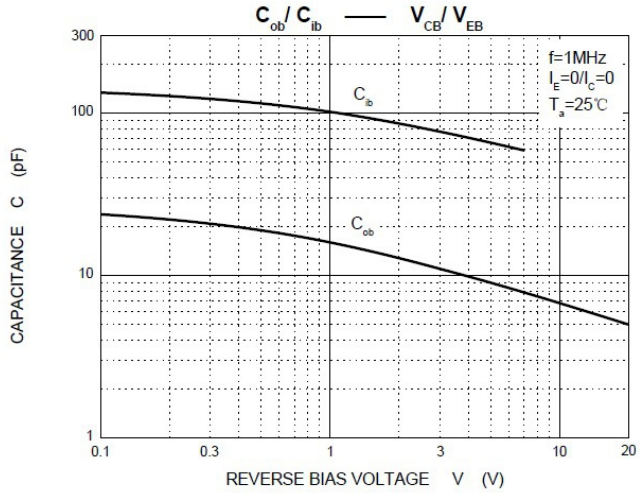


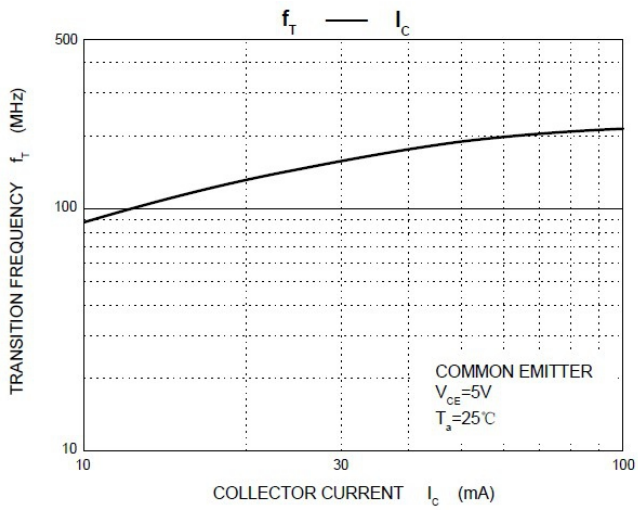


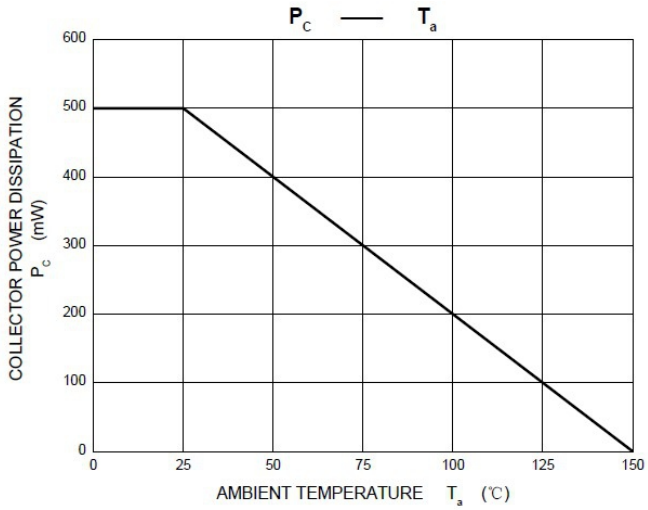






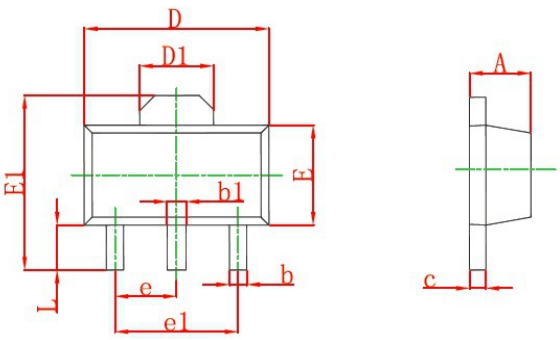






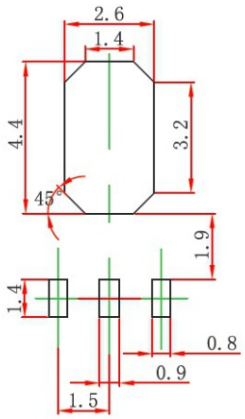
Outline Dimensions

SOT-89-3L



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



Dimensions in millimetrers

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