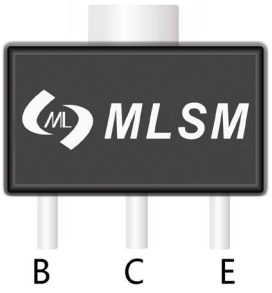
BCX54/BCX55/BCX56

Transistor (NPN)

Features

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



SOT-89-3L top view

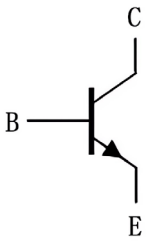
Applications

- Driver Stages of Audio Amplifiers

Marking

BCX54	BCX54-10	BCX54-16
BA	BC	BD
BCX55	BCX55-10	BCX55-16
BE	BG	BM
BCX56	BCX56-10	BCX56-16
BH	BK	BL

Marking and pin assignment



Schematic diagram

Pb-Free RoHS Halogen-Free

Maximum Ratings (Ta=25℃ unless otherwise noted)

Symbol	Parameter		Value	Unit
V_{CBO}	Collector-Base Voltage	BCX54	45	V
		BCX55	60	V
		BCX56	100	V
V_{CEO}	Collector-Emitter Voltage	BCX54	45	V
		BCX55	60	V
		BCX56	80	V
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 (tp<1ms)		0.2	A
P_c	Collector Power Dissipation		500	mW
$R_{\theta JA}$	Thermal Resistance Junction to Ambient		250	℃/W
T_J , T_{STG}	Operating and Storage Temperature Range		-55～+150	℃
T_{opr}	Operation Temperature Range		-25～+125	℃

Electrical Characteristics (Ta=25℃ unless otherwise specified)

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=100μA,I_E=0 BCX54	45	--	--	V
		I_C=100μA,I_E=0 BCX55	60	--	--	V
		I_C=100μA,I_E=0 BCX56	100	--	--	V
$V_{(BR)CEO}$*	Collector-emitter breakdown voltage	I_C=10mA,I_B=0 BCX54	45	--	--	V
		I_C=10mA,I_B=0 BCX55	60	--	--	V
		I_C=10mA,I_B=0 BCX56	80	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=10μA,I_C=0	5	--	--	V
I_{CBO}	Collector cut-off current	V_{CB}=30V, I_E=0	--	--	0.1	μA
I_{EBO}	Emitter cut-off current	V_{EB}=5V,I_C=0	--	--	0.1	μA
h_{FE1} *	DC current gain	V_{CE}=2V,I_C=5mA	40	--	--	
h_{FE2} *		V_{CE}=2V,I_C=150mA	63	--	250	
h_{FE3} *		V_{CE}=2V,I_C=0.5mA	25	--	--	
$V_{CE(sat)}$*	Collector-emitter saturation voltage	I_C=0.5A ,I_B=50mA	--	--	0.5	V
V_{BE}*	Base-emitter voltage	V_{CE}=2V,I_C=0.5A	--	--	1	V
f_T	Transition frequency	V_{CE}=5V, I_c=10mA,f=100MHz	--	130	--	MHz

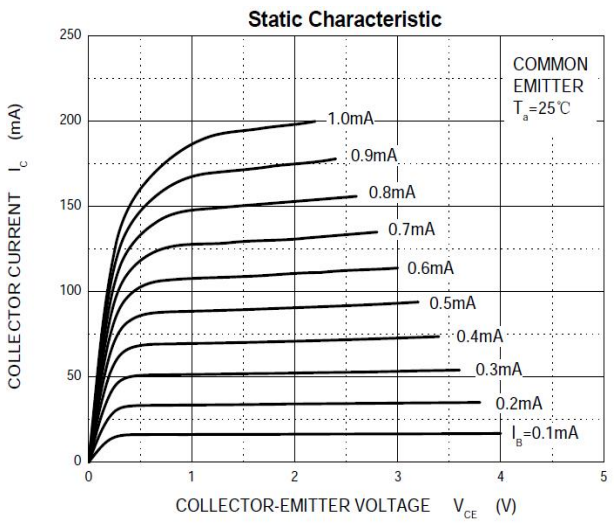
Classification Of $h_{FE(2)}$

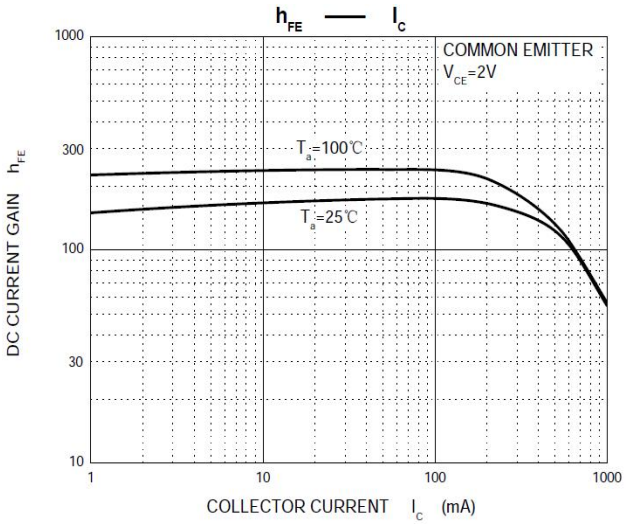
Rank	BCX54 BCX55 BCX56	BCX54-10 BCX55-10 BCX56-10	BCX54-16 BCX55-16 BCX56-16
Range	63-250	63-160	100-250

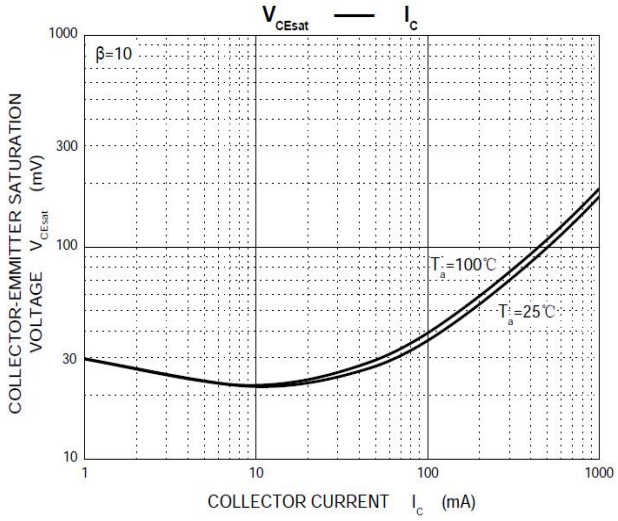
Ordering Information (Example)

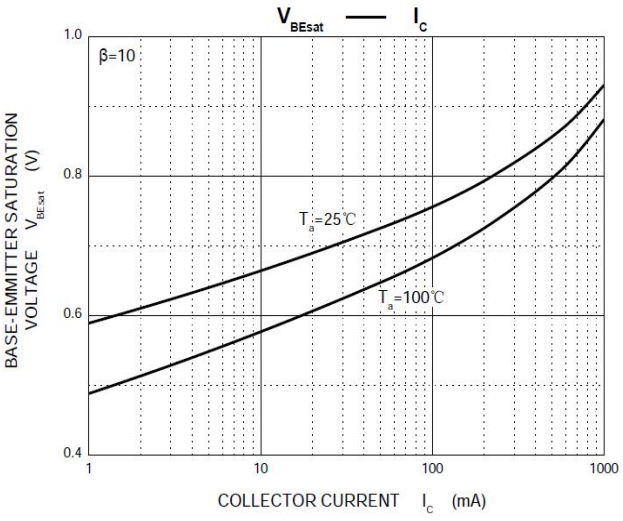
Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
BCX54	SOT-89-3L	BA	1,000	10,000	40,000	7"reel
BCX54-10		BC				
BCX54-16		BD				
BCX55		BE				
BCX55-10		BG				
BCX55-16		BM				
BCX56		BH				
BCX56-10		BK				
BCX56-16		BL				

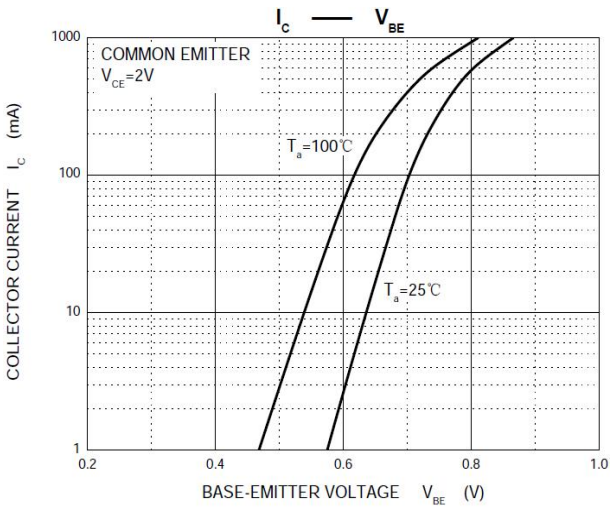
Typical Operating Characteristics

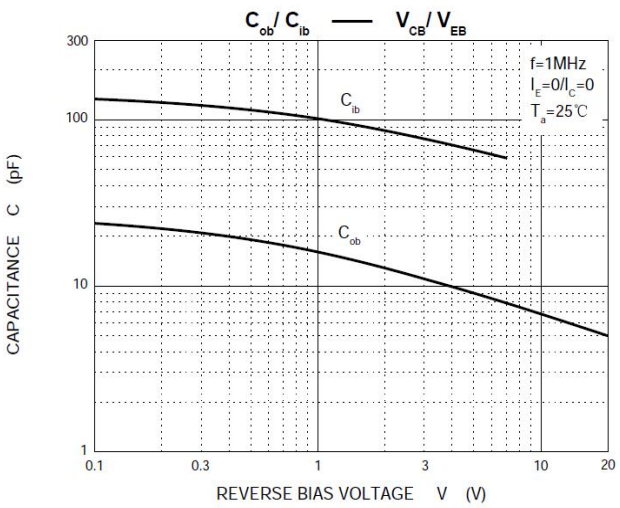


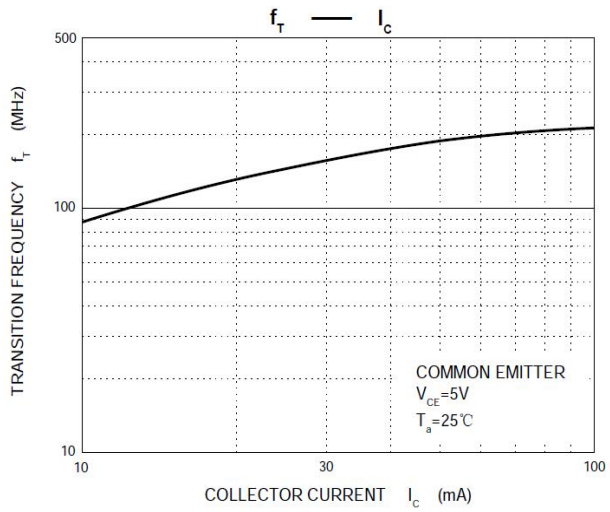


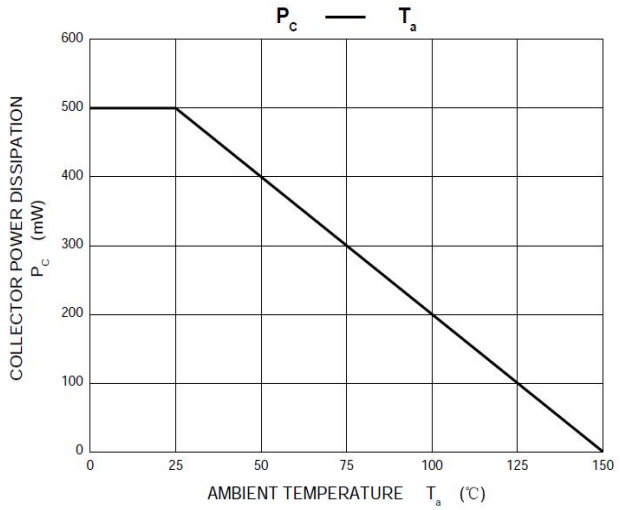




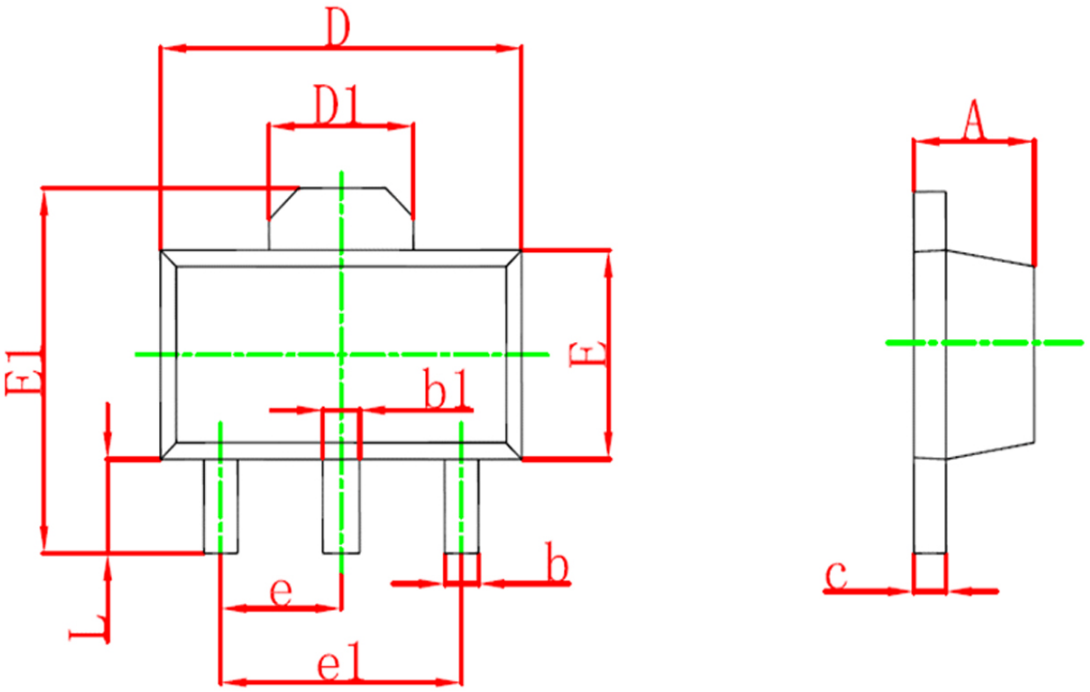








SOT-89-3L Package information



Symbol	Dimensions in Millimeters(mm)		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