BCX51/BCX52/BCX53

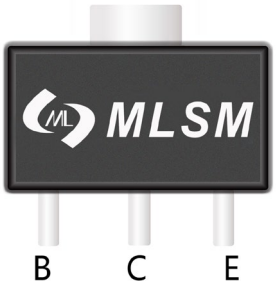
Transistor (PNP)

Features

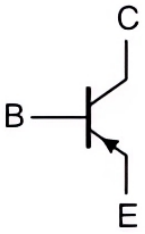
- NPN Complements to BCX54,BCX55,BCX56
- Low Voltage
- High Current

Applications

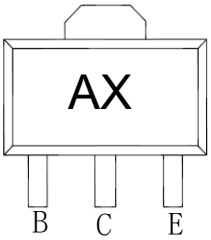
- Medium Power General Purposes
- Driver Stages of Audio Amplifiers



SOT-89-3L top view



Schematic diagram



X：Rank

Marking and pin assignment

Pb-Free RoHS Halogen-Free

Maximum Ratings (Ta=25℃ unless otherwise noted)

Symbol	Parameter		Value	Unit
V_{CBO}	Collector-Base Voltage	BCX51	-45	V
		BCX52	-60	
		BCX53	-100	
V_{CEO}	Collector-Emitter Voltage	BCX51	-45	V
		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	°C/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range		-55~+150	°C

Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
BCX51/BCX52/BCX53	SOT-89-3L	AA/AC/AD/AE/AG/AM/AH/AK/AL	1,000	10,000	40,000	7"reel

Electrical Characteristics (Ta=25℃ unless otherwise specified)

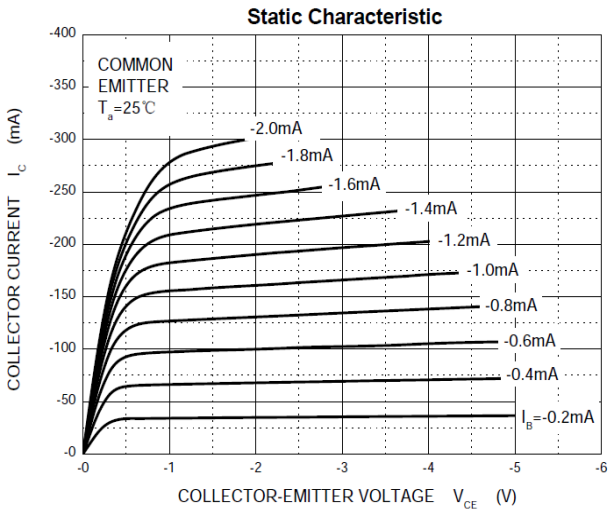
Symbol	Parameter	Condition		Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=-100μA,I_E=0	BCX51	-45	--	--	V
			BCX52	-60	--	--	
			BCX53	-100	--	--	
$V_{(BR)CEO}$*	Collector-emitter breakdown voltage	I_C=-10mA, I_B=0	BCX51	-45	--	--	V
			BCX52	-60	--	--	
			BCX53	-80	--	--	
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=-100μA,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
$H_{FE(1)}$*	DC current gain	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	--	--	
$V_{CE(sat)}$*	Collector-emitter saturation voltage	I_C=-0.5A,I_B=-50mA		--	--	-0.5	V
V_{BE}*	Base-emitter voltage	I_C= -2V, I_C=-0.5A		--	--	-1	V
f_T	Transition frequency	V_{CE}=-5V,I_C=-10mA, f=100MHz		--	50	--	MHz

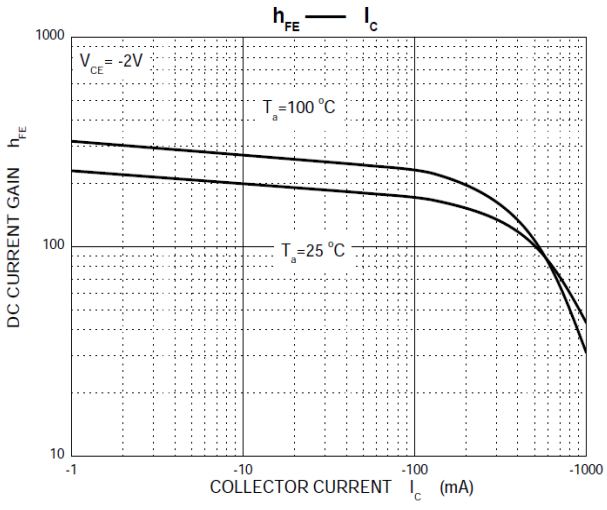
Classification of hFE

Rank	BCX51	BCX52	BCX53	BCX51-10	BCX52-10	BCX53-10	BCX51-16	BCX52-16	BCX53-16
Marking	AA	AE	AH	AC	AG	AK	AD	AM	AL
Range	63-250	63-250	63-250	63-160	63-160	63-160	100-250	100-250	100-250

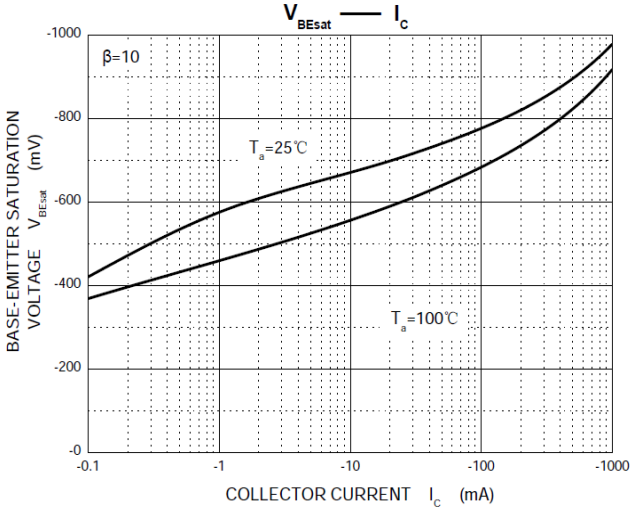
*Pulse Test

Typical Characteristics

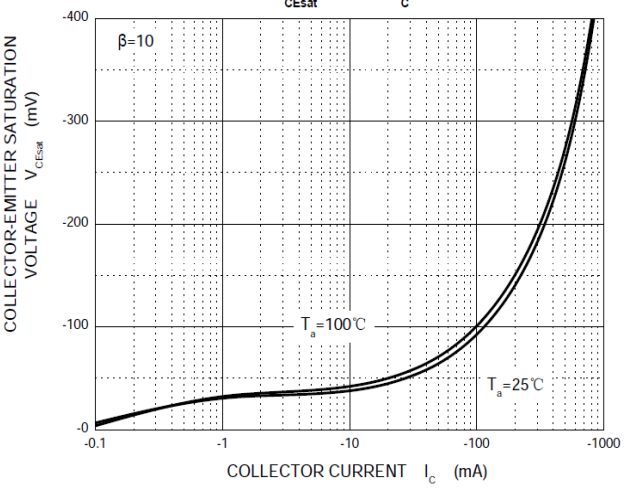




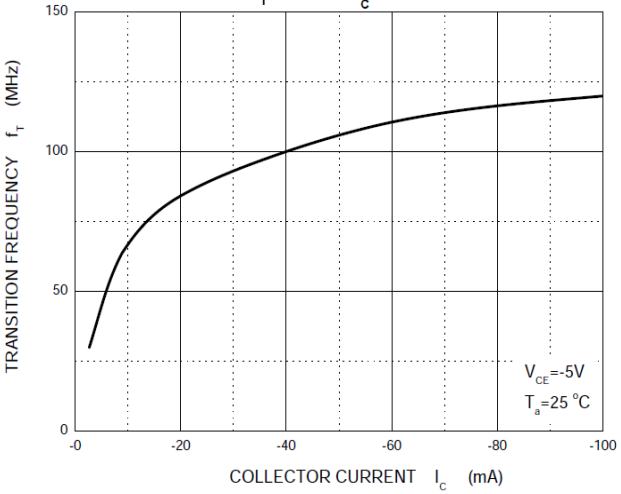
V_{BEsat} — I_C



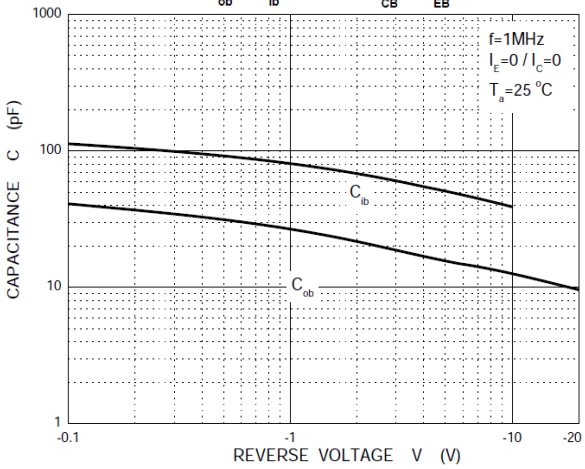
V_{CEsat} — I_C



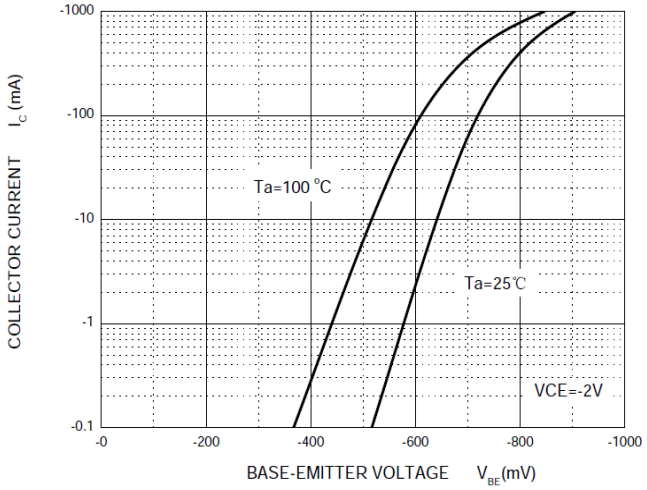
f_T — I_C



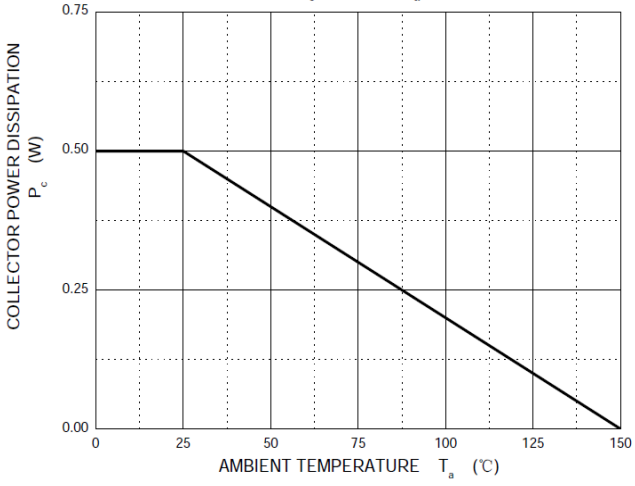
C_{ob} / C_{ib} — V_{CB} / V_{EB}



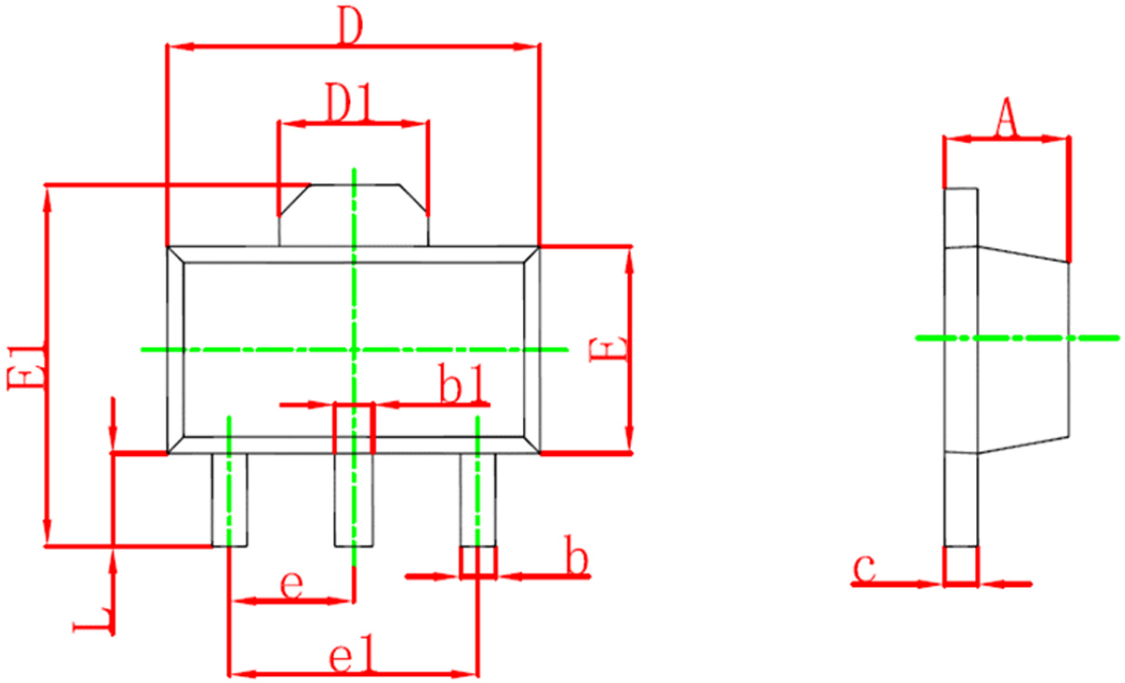
I_C — V_{BE}



P_c — T_a



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