

### Plastic-Encapsulate Transistors

TRANSISTOR (PNP)

#### FEATURES

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

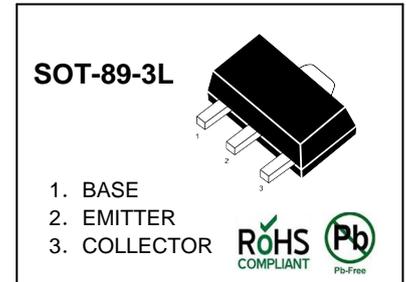
#### APPLICATIONS

- 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**

**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	$^{\circ}\text{C}/\text{W}$
$T_J, T_{stg}$	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$



### ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$ unless otherwise specified)

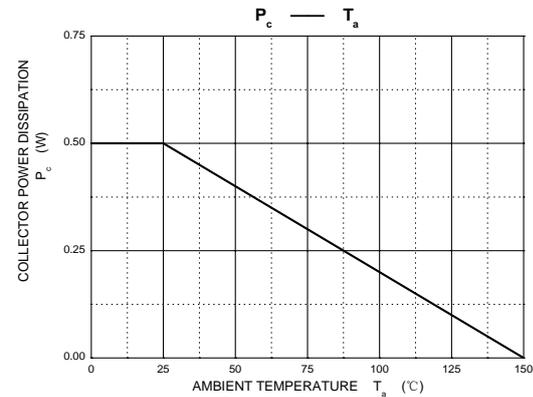
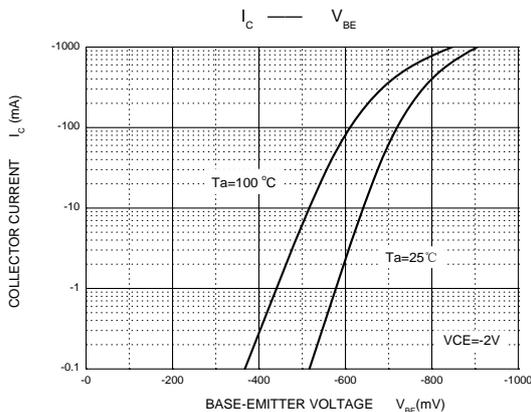
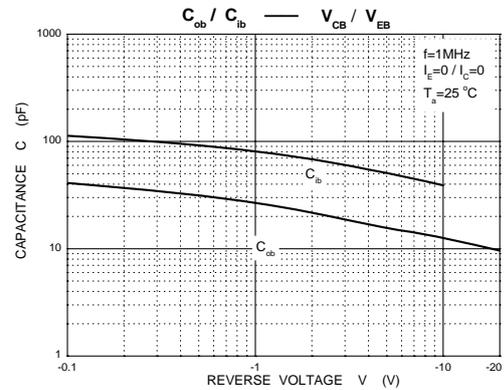
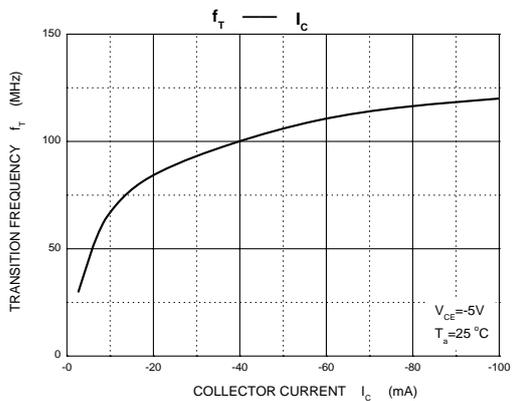
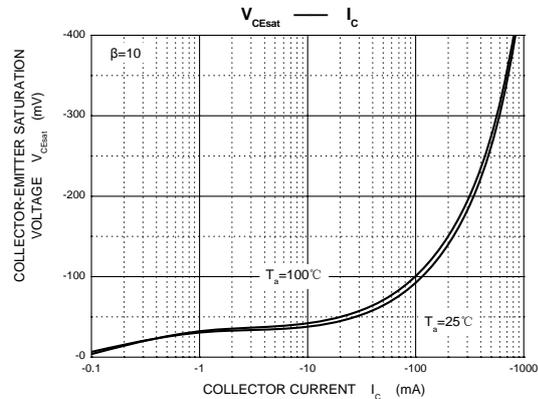
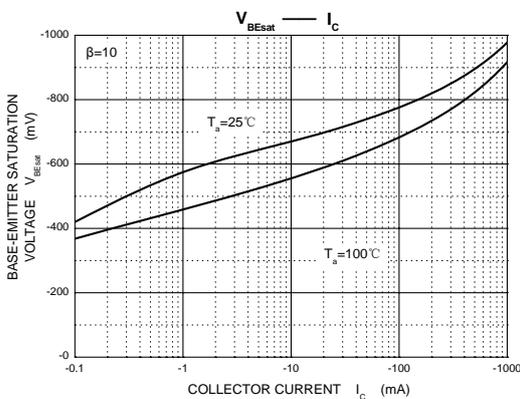
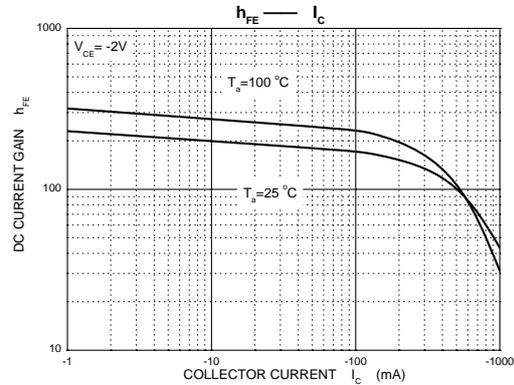
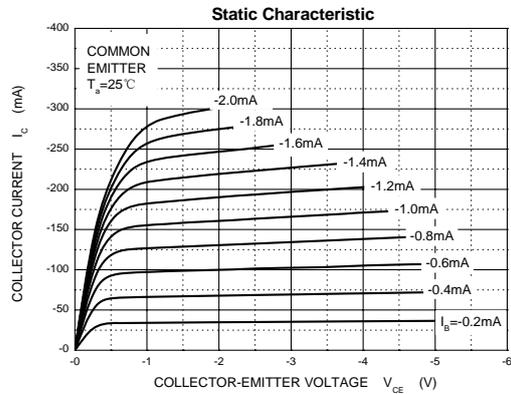
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}, I_E=0$	BCX51	-45		V
			BCX52	-60		
			BCX53	-100		
Collector-emitter breakdown voltage	$V_{(BR)CEO^*}$	$I_C=-10\text{mA}, I_B=0$	BCX51	-45		V
			BCX52	-60		
			BCX53	-80		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu\text{A}, I_C=0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-30\text{V}, I_E=0$			-0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-5\text{V}, I_C=0$			-0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)^*}$	$V_{CE}=-2\text{V}, I_C=-5\text{mA}$	63			
	$h_{FE(2)^*}$	$V_{CE}=-2\text{V}, I_C=-150\text{mA}$	63		250	
	$h_{FE(3)^*}$	$V_{CE}=-2\text{V}, I_C=-0.5\text{A}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)^*}$	$I_C=-0.5\text{A}, I_B=-50\text{mA}$			-0.5	V
Base -emitter voltage	$V_{BE^*}$	$V_{CE}=-2\text{V}, I_C=-0.5\text{A}$			-1	V
Transition frequency	$f_T$	$V_{CE}=-5\text{V}, I_C=-10\text{mA}, f=100\text{MHz}$		50		MHz

\* Pulse Test

### CLASSIFICATION OF $h_{FE(2)}$

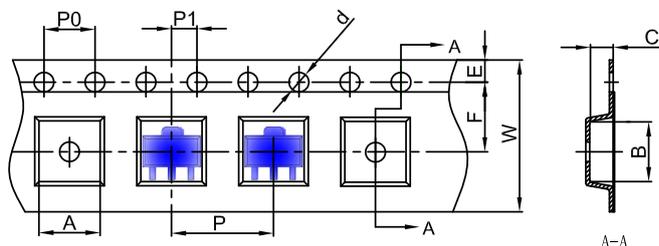
<b>RANK</b>	<b>BCX51</b> <b>BCX52</b> <b>BCX53</b>	<b>BCX51-10</b> <b>BCX52-10</b> <b>BCX53-10</b>	<b>BCX51-16</b> <b>BCX52-16</b> <b>BCX53-16</b>
<b>RANGE</b>	63–250	63–160	100–250

## Typical Characteristics



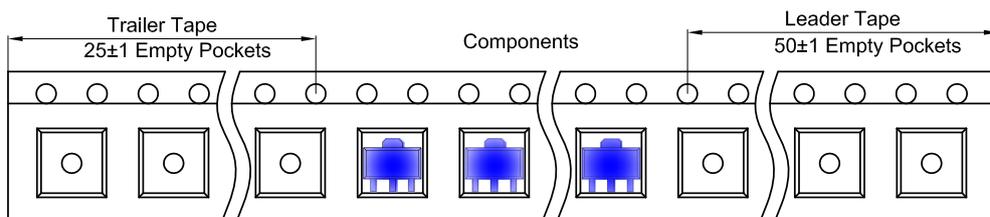
### SOT-89-3L Tape and Reel

#### SOT-89-3L Embossed Carrier Tape

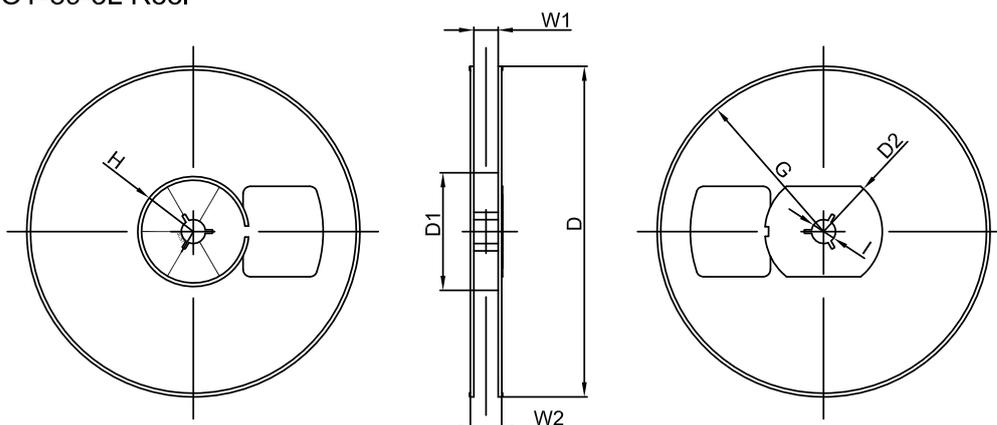


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-89-3L	4.85	4.45	1.85	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

#### SOT-89-3L Tape Leader and Trailer

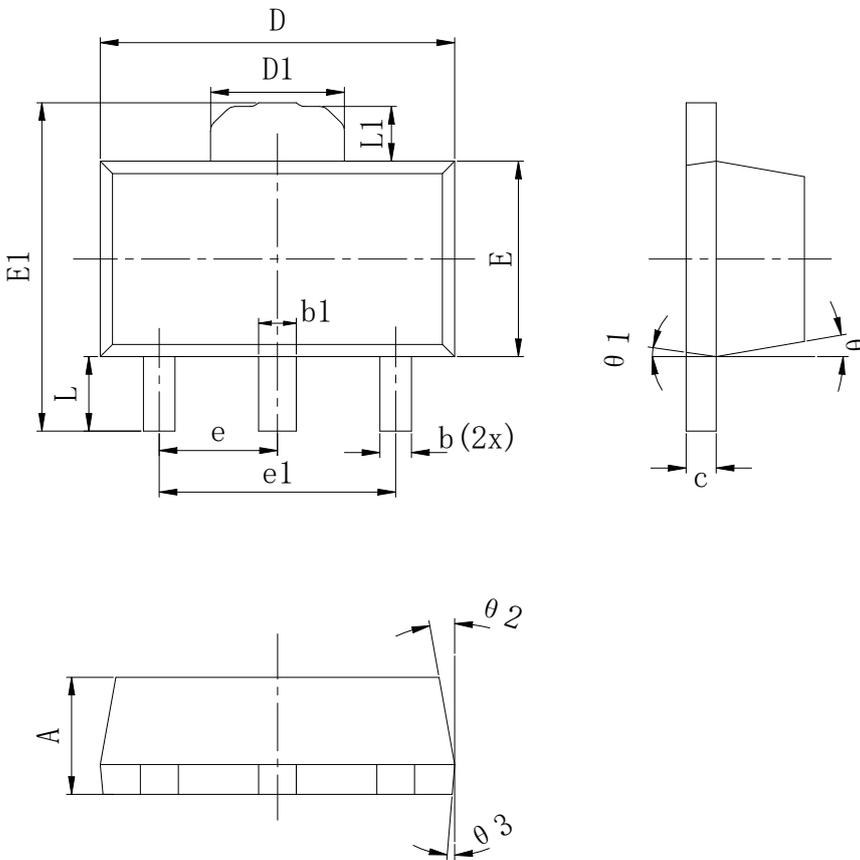


#### SOT-89-3L Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø180.00	60.00	R32.00	R86.50	R30.00	Ø13.00	13.20	16.50

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
1000 pcs	7 inch	10,000 pcs	203×203×195	40,000 pcs	438×438×220	



SYMBOL	MILLIMETER		
	MIN	TYP.	MAX
A	1.400	1.500	1.600
b	0.320	0.400	0.520
b1	0.400	0.480	0.580
c	0.350	0.381	0.440
D	4.400	4.500	4.600
D1	1.700REF		
E	2.400	2.500	2.600
E1	4.050	4.200	4.350
e	1.500TYP.		
e1	3.000TYP.		
L	0.800	0.950	1.200
L1	0.700REF		
theta	10° REF		
theta 1	8° REF		
theta 2	10° REF		
theta 3	5° REF		

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