



## SOT-89-3L Plastic-Encapsulate Transistors

### BCX51,BCX52,BCX53 TRANSISTOR (PNP)

#### FEATURES

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

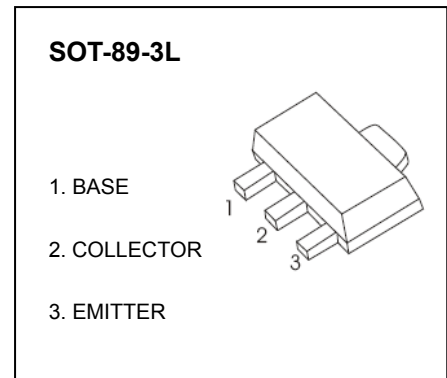
#### APPLICATIONS

- Medium Power General Purposes
- Driver Stages of Audio Amplifiers

**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	$^{\circ}\text{C}/\text{W}$
$T_j$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55~+150	$^{\circ}\text{C}$



**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-100μA, I <sub>E</sub> =0	BCX51	-45		V
			BCX52	-60		
			BCX53	-100		
Collector-emitter breakdown voltage	V <sub>(BR)CEO*</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =0	BCX51	-45		V
			BCX52	-60		
			BCX53	-80		
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =-100μA, I <sub>C</sub> =0	-5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =-30V, I <sub>E</sub> =0			-0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =-5V, I <sub>C</sub> =0			-0.1	μA
DC current gain	h <sub>FE(1)*</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-5mA	63			
	h <sub>FE(2)*</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-150mA	63		250	
	h <sub>FE(3)*</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-0.5A	40			
Collector-emitter saturation voltage	V <sub>CE(sat)*</sub>	I <sub>C</sub> =-0.5A, I <sub>B</sub> =-50mA			-0.5	V
Base -emitter voltage	V <sub>BE*</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-0.5A			-1	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-10mA, f=100MHz		50		MHz

\* Pulse Test

**CLASSIFICATION OF h<sub>FE(2)</sub>**

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