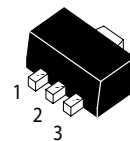


### PNP Plastic-Encapsulate Transistor

 Lead(Pb)-Free

1. BASE  
2. COLLECTOR  
3. EMITTER



**SOT-89**

### MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Rating	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	-100	V
Collector-Emitter Voltage	$V_{CEO}$	-80	V
Emitter-Base Voltage	$V_{EBO}$	-5.0	V
Collector Current Continuous	$I_C$	-1.0	A
Total Device Dissipation $T_A=25^{\circ}\text{C}$	$P_D$	500	mW
Junction Temperature Range	$T_J$	+150	$^{\circ}\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^{\circ}\text{C}$

### Device Marking

BCX53=AH, BCX53-10=AK, BCX53-16=AL

### OFF CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
Collector-Base Breakdown Voltage, $I_C = -100\mu\text{A}$ , $I_E = 0$	$V(BR)_{CBO}$	-	-100	V
Collector-Emitter Breakdown Voltage, $I_C = -10\text{mA}$ , $I_B = 0$	$V(BR)_{CEO}$	-	-80	V
Emitter-Base Breakdown Voltage, $I_E = -10\mu\text{A}$ , $I_C = 0$	$V(BR)_{EBO}$	-	-5.0	V
Collector Cut-off Current, $V_{CB} = -30\text{V}$ , $I_E = 0$	$I_{CBO}$	-	-0.1	$\mu\text{A}$
Emitter Cut-off Current, $V_{EB} = -5.0\text{V}$ , $I_C = 0$	$I_{EBO}$	-	-0.1	$\mu\text{A}$

**ELECTRICAL CHARACTERISTICS** ( $T_A=25\text{ }^\circ\text{C}$  unless otherwise noted) (Continued)

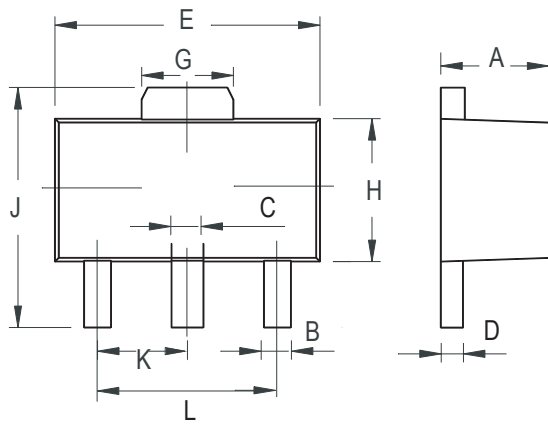
Characteristics	Symbol	Min	Typ	Max	Unit
-----------------	--------	-----	-----	-----	------

**ON CHARACTERISTICS**

DC Current Gain $V_{CE} = -2.0\text{V}$ , $I_C = -150\text{mA}$	BCX53	$h_{FE1}$	63	-	250	
	BCX53-10		63	-	160	
	BCX53-16		100	-	250	-
$V_{CE} = -2.0\text{V}$ , $I_C = -5.0\text{mA}$		$h_{FE2}$	63	-	-	
$V_{CE} = -2.0\text{V}$ , $I_C = -500\text{mA}$		$h_{FE3}$	40	-	-	
Collector-Emitter Saturation Voltage $I_C = -500\text{mA}$ , $I_B = -50\text{mA}$		$V_{CE(sat)}$	-	-	-0.5	V
Base-Emitter Voltage $V_{CE} = -2.0\text{V}$ , $I_C = -500\text{mA}$		$V_{BE(ON)}$	-	-	-1.0	V
Transition Frequency $V_{CE} = -5\text{V}$ , $I_C = -10\text{mA}$ , $f = 100\text{MHz}$		$f_T$	50	-	-	MHz

**SOT-89 Outline Dimensions**

unit:mm



<b>SOT-89</b>		
<b>Dim</b>	<b>Min</b>	<b>Max</b>
<b>A</b>	1.400	1.600
<b>B</b>	0.320	0.520
<b>C</b>	0.360	0.560
<b>D</b>	0.350	0.440
<b>E</b>	4.400	4.600
<b>G</b>	1.400	1.800
<b>H</b>	2.300	2.600
<b>J</b>	3.940	4.250
<b>K</b>	1.500TYP	
<b>L</b>	2.900	3.100