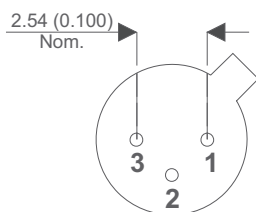
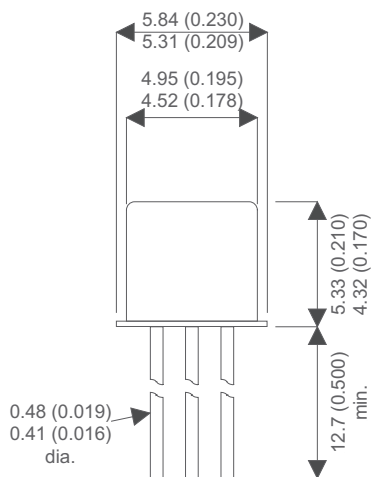


**MECHANICAL DATA**

Dimensions in mm (inches)



**TO-18 METAL PACKAGE**

**Underside View**

PIN 1 – Emitter    PIN 2 – Base    PIN 3 – Collector

**GENERAL PURPOSE  
SMALL SIGNAL  
PNP BIPOLAR TRANSISTOR**

**APPLICATIONS**

The BC 177, BC 178 & BC 179 are silicon epitaxial planar PNP transistors in TO-18 metal case. They are suitable for use in driver audio stages, low noise input audio stages and as low power, high gain general purpose transistors.

**FEATURES**

- SILICON PNP
- HERMETICALLY SEALED TO18
- SCREENING OPTIONS AVAILABLE

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise stated)		<b>BC177</b>	<b>BC178</b>	<b>BC179</b>
$V_{CBO}$	Collector – Base Continuous Voltage	-50V	-30V	-25V
$V_{CEO}$	Collector – Emitter Continuous Voltage With Zero Base Current	-45V	-25V	-20V
$V_{CES}$	Collector – Emitter Continuous Voltage With Base Shortcircuited to Emitter	-50V	-30V	-25V
$V_{EBO}$	Emitter – Base Continuous Voltage Reverse Voltage		-5V	
$I_C$	Continuous Collector Current		-0.1A	
$P_D$	Power Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$		0.3W 500W/ $^\circ\text{C}$	
$P_D$	Power Device Dissipation @ $T_C = 25^\circ\text{C}$ , Derate above $25^\circ\text{C}$		0.75W 200W/ $^\circ\text{C}$	
$T_j, T_{stg}$	Operating and Storage Junction to Case		-65 to +175 $^\circ\text{C}$	

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CES}$ Collector-Emitter Leakage Current	$V_{CE} = -20\text{V}$ $V_{BE} = 0$			-100	nA
	$T_{amb} = 150^\circ\text{C}$			-10	$\mu\text{A}$
$V_{(BR)CBO}$ Collector Base Breakdown Voltage	$I_C = -10\mu\text{A}$	<b>BC177</b>	-50		V
		<b>BC178</b>	-30		
		<b>BC179</b>	-25		
$V_{(BR)CEO}$ Collector Emitter Breakdown Voltage	$I_C = -2\text{mA}$ $I_E = 0$	<b>BC177</b>	-45		V
		<b>BC178</b>	-25		
		<b>BC179</b>	-20		
$V_{(BR)EBO}$ Emitter Breakdown Voltage	$I_E = -10\mu\text{A}$ $I_C = 0$	-5			V
$h_{FE}$ DC Current Gain	$V_{CE} = -5\text{V}$ $I_C = -2\text{mA}$ $f = 1\text{kHz}$	<b>BC177A</b>	125	260	—
		<b>BC177B</b>	240	500	
		<b>BC178A</b>	125	260	
		<b>BC178B</b>	240	500	
		<b>BC179A</b>	125	260	
		<b>BC179B</b>	240	500	
$V_{CE(sat)}$ Collector – Emitter Saturation Voltage	$I_B = -0.5\text{mA}$ $I_C = -10\text{mA}$		-0.075	-0.25	V
	$I_B = -5\text{mA}$ $I_C = -100\text{mA}$		-0.2		
$V_{BE(sat)}$ Base – Emitter Saturation Voltage	$I_B = -0.5\text{mA}$ $I_C = -10\text{mA}$		-0.72	-0.8	V
	$I_B = -5\text{mA}$ $I_C = -100\text{mA}$		-0.86		
$V_{BE(on)}$ Base – Emitter on Voltage	$V_{CE} = -5\text{V}$ $I_C = -2\text{mA} -5\text{V}$	-0.55	-0.64	-0.75	V
$f_T$ Transition Frequency	$V_{CE} = -5\text{V}$ $I_C = -10\text{mA}$ $f = 100\text{MHz}$		200		MHz
NF Noise Figure	$V_{CE} = -5\text{V}$ $f = 1\text{kHz}$ $I_C = -0.2\text{mA}$	<b>BC177</b>	2	10	dB
		<b>BC178</b>	2	10	
		<b>BC179</b>	1.2	4	
$C_{cbo}$ Collector Base Capacitance	$I_C = -0.2\text{mA}$ $V_{CB} = -10\text{V}$		5.0		pF

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