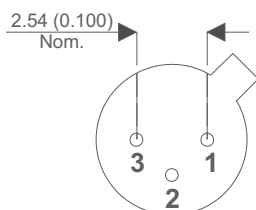
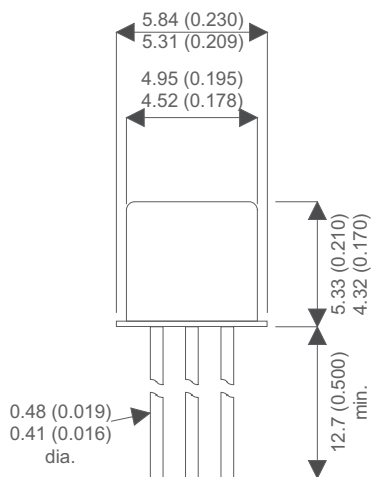


MECHANICAL DATA

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

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise stated)		BC177	BC178	BC179
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°C		0.3W 500W/ $^\circ\text{C}$	
P_D	Power Device Dissipation @ $T_C = 25^\circ\text{C}$, Derate above 25°C		0.75W 200W/ $^\circ\text{C}$	
T_j, T_{stg}	Operating and Storage Junction to Case		-65 to +175 $^\circ\text{C}$	

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

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	μA
$V_{(BR)CBO}$ Collector Base Breakdown Voltage	$I_C = -10\mu\text{A}$	BC177	-50		V
		BC178	-30		
		BC179	-25		
$V_{(BR)CEO}$ Collector Emitter Breakdown Voltage	$I_C = -2\text{mA}$ $I_E = 0$	BC177	-45		V
		BC178	-25		
		BC179	-20		
$V_{(BR)EBO}$ Emitter Breakdown Voltage	$I_E = -10\mu\text{A}$ $I_C = 0$	-5			V
h_{FE} DC Current Gain	$V_{CE} = -5\text{V}$ $I_C = -2\text{mA}$ $f = 1\text{kHz}$	BC177A	125	260	—
		BC177B	240	500	
		BC178A	125	260	
		BC178B	240	500	
		BC179A	125	260	
		BC179B	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	$V_{CE} = -5\text{V}$ $I_C = -2\text{mA}$ -5V	-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	$V_{CE} = -5\text{V}$ $f = 1\text{kHz}$ $I_C = -0.2\text{mA}$	BC177	2	10	dB
		BC178	2	10	
		BC179	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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