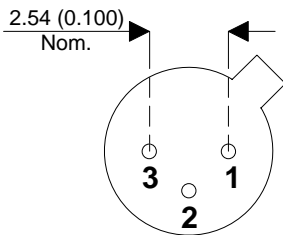
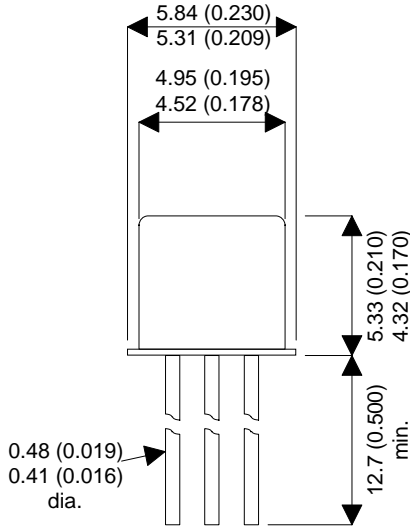


MECHANICAL DATA

Dimensions in mm (inches)



TO-18 (TO-206AA)

Underside View

Pin 1 – Emitter PAD 2 – Base PAD 3 – Collector

GENERAL PURPOSE, LOW POWER, NPN SWITCHING TRANSISTOR

FEATURES

- SILICON PLANAR EPITAXIAL NPN TRANSISTOR
- CECC SCREENING OPTIONS
- SPACE QUALITY LEVELS OPTIONS
- JAN LEVEL SCREENING OPTIONS
- LOW NOISE

APPLICATIONS:

Intended for general purpose very high gain low level and low noise applications. The BCY56 is also suitable for low speed switching applications.

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

V_{CBO}	Collector - Base Voltage ($I_E = 0$)	45V
V_{CEO}	Collector - Emitter Voltage ($I_B = 0$)	45V
I_C	Collector Current	100mA
P_{TOT}	Total Power Dissipation $T_{amb} < 25^{\circ}C$	300mW
T_J, T_{STG}	Maximum Junction And Storage Temperature	$-65^{\circ}C$ to $175^{\circ}C$
R_{JC}	Thermal Resistance Junction to Case	$200^{\circ}C/mW$
R_{JA}	Thermal Resistance Junction to Ambient	$500^{\circ}C/mW$

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 ($T_{\text{case}} = 25^{\circ}\text{C}$ unless otherwise stated)

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
$V_{(\text{BR})\text{CBO}}$	Collector-Base Breakdown Voltage	$I_{\text{E}}=0$	$I_{\text{C}}=10\mu\text{A}$	45			V
$V_{(\text{BR})\text{CEO}}$	Collector-Emitter Breakdown Voltage	$I_{\text{B}}=0$	$I_{\text{C}}=10\text{mA}$	45			
$V_{(\text{BR})\text{EBO}}$	Emitter-Base Breakdown Voltage	$I_{\text{C}}=0$	$I_{\text{E}}=10\mu\text{A}$	5			
I_{CBO}	Collector Cut-off Current	$I_{\text{E}}=0$	$V_{\text{CB}}=20\text{V}$			100	nA
I_{EBO}	Emitter Cut-off Current	$I_{\text{C}}=0$	$V_{\text{EB}}=5\text{V}$			100	
$V_{\text{BE}(\text{sat})}$	Base-Emitter Saturation Voltage	$I_{\text{C}}=2\text{mA}$	$V_{\text{CE}}=5\text{V}$	600	650	700	mV
$V_{\text{CE}(\text{sat})}$	Base-Emitter Saturation Voltage	$I_{\text{C}}=10\text{mA}$	$I_{\text{B}}=1\text{mA}$		80		
		$I_{\text{C}}=100\text{mA}$	$I_{\text{B}}=10\text{mA}$		200		
h_{FE}	DC Current Gain	$I_{\text{C}}=10\mu\text{A}$	$V_{\text{CE}}=5\text{V}$	40			—
		$I_{\text{C}}=2\text{mA}$	$V_{\text{CE}}=5\text{V}$	100	200	450	
		$I_{\text{C}}=10\text{mA}$	$V_{\text{CE}}=5\text{V}$	100			
f_{T}	Transition Frequency	$I_{\text{C}}=0.5\text{mA}$	$V_{\text{CE}}=5\text{V}$		85		MHz
		$I_{\text{C}}=10\text{mA}$	$V_{\text{CE}}=5\text{V}$		250		
C_{CBO}	Collector Capacitance	$I_{\text{E}}=0$	$V_{\text{CB}}=5\text{V}$ $f=1\text{kHz}$		4.5		pF
NF	Noise Figure	$I_{\text{C}}=200\mu\text{A}$	$V_{\text{CE}}=5\text{V}$ $R_{\text{S}}=2\text{K}$ $f=15\text{kHz}$		1.5	5	dB