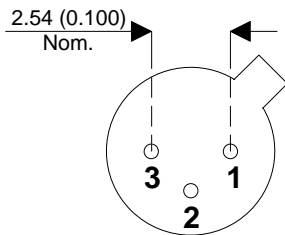
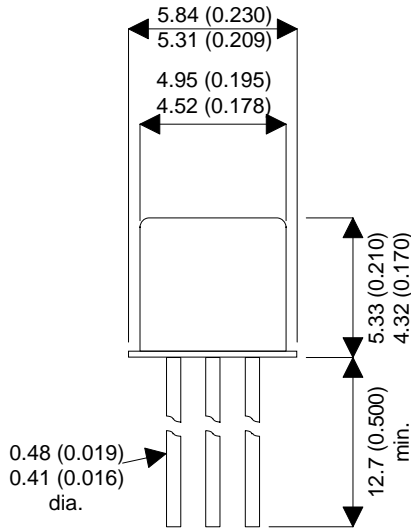


**MECHANICAL DATA**

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°C to 175°C
$R_{JC}$	Thermal Resistance Junction to Case	200°C/mW
$R_{JA}$	Thermal Resistance Junction to Ambient	500°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** ( $T_{case} = 25^{\circ}C$  unless otherwise stated)

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