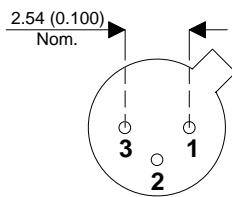
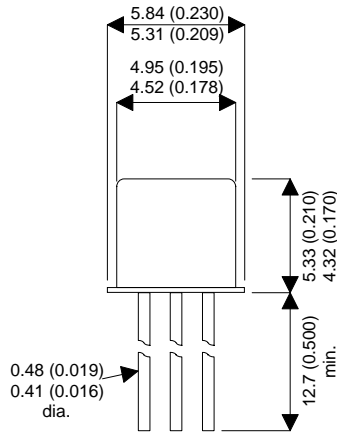


MECHANICAL DATA

Dimensions in mm (inches)



TO-18 METAL PACKAGE

Underside View

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

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

V_{CBO}	Collector – Base Voltage	140V
V_{CEO}	Collector – Emitter Voltage ($I_B = 0$)	90V
V_{CER}	Collector - Emitter Voltage	140V
V_{EBO}	Emitter – Base Voltage ($I_B = 0$)	7V
I_C	Collector Current	1A
P_D	Total Device Dissipation $T_A = 25^{\circ}C$	0.5W
	Derate above $25^{\circ}C$	2.86mW / $^{\circ}C$
P_D	Total Device Dissipation $T_C = 25^{\circ}C$	1.8W
	Derate above $25^{\circ}C$	10.3mW / $^{\circ}C$
T_{stg}	Storage Temperature	-65 to $200^{\circ}C$
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	350 $^{\circ}C/W$
$R_{\theta JC}$	Thermal Resistance Junction to Case	97 $^{\circ}C/W$

NPN SILICON TRANSISTOR

FEATURES

- NPN High Voltage Planar Transistor
- Hermetic TO18 Package
- Full Screening Options Available

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

Parameter		Test Conditions	Min.	Typ.	Max.	Unit.
$V_{(BR)CER}$	Collector - Emitter Breakdown Voltage (1)	$I_C = 100\text{mA}$, $R_{BE} = 10\Omega$	140			V
$V_{CEO(sus)}$	Collector - Emitter Sustaining Voltage (1)	$I_C = 100\text{mA}$, $I_B = 0$	90			V
$V_{(BR)CBO}$	Collector - Base Breakdown Voltage	$I_C = 0.1\text{mA}$, $I_E = 0$	140			V
$V_{(BR)EBO}$	Emitter - Base Breakdown Voltage	$I_E = 0.1\text{mA}$, $I_C = 0$	7			V
I_{CBO}	Collector Cut Off Current	$V_{CB} = 60\text{V}$, $I_E = 0$			0.01	μA
		$V_{CB} = 90\text{V}$, $I_E = 0$			0.01	
		$V_{CB} = 90\text{V}$, $I_E = 0$, $T_A = 150^\circ\text{C}$			10	
I_{EBO}	Emitter Cut Off Current	$V_{EB} = 5\text{V}$, $I_C = 0$			0.01	μA
h_{FE}	DC Current	$I_C = 1\text{mA}$, $V_{CE} = 10\text{V}$	35			
		$I_C = 10\text{mA}$, $V_{CE} = 10\text{V}$, $T_A = -55^\circ\text{C}$	20			
		$I_C = 150\text{mA}$, $V_{CE} = 10\text{V}$	60		200	
$V_{CE(sat)}$	Collector - Emitter Saturation Voltage (1)	$I_C = 150\text{mA}$, $I_B = 15\text{mA}$			0.6	V
$V_{BE(sat)}$	Base - Emitter Saturation Voltage (1)	$I_C = 150\text{mA}$, $I_B = 15\text{mA}$			1.2	V
f_T	Current Gain - Bandwidth Product	$I_C = 50\text{mA}$, $V_{CE} = 10\text{V}$, $f = 100\text{ MHz}$	120			MHz
C_{obo}	Output Capacitance	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{ MHz}$			15	pF
C_{ibo}	Input Capacitance	$V_{EB} = 0.5\text{V}$, $I_C = 0$, $f = 1\text{ MHz}$			80	pF
h_{FE}	Small-Signal Current Gain	$I_C = 5\text{mA}$, $V_{CE} = 5\text{V}$, $f = 1\text{ KHz}$	50		275	

1) Pulse test : Pulse Width < 300 μs ,Duty Cycle < 2%