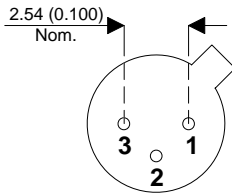
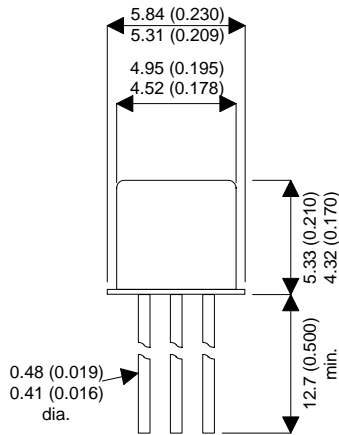


**MECHANICAL DATA**

Dimensions in mm (inches)



**TO18**

**Underside View**

PIN1 – EMITER      PIN 2 – BASE      PIN 3 – COLLECTOR

**PNP SILICON TRANSISTOR**

**FEATURES**

- SILICON PNP TRANSISTOR
- HIGH SPEED, LOW SATURATION SWITCH

**APPLICATIONS:**

**GENERAL PURPOSE SWITCHING APPLICATIONS**

**ABSOLUTE MAXIMUM RATINGS** ( $T_A = 25^\circ\text{C}$  unless otherwise stated)

$V_{CBO}$	Collector – Base Voltage	12V
$V_{CEO}$	Collector – Emitter Voltage	12V
$V_{EBO}$	Emitter – Base Voltage	4V
$I_C$	Collector Current	200mA
$P_D$	Total Device Dissipation @ $T_A = 25^\circ\text{C}$	360mW
	Derate above $25^\circ\text{C}$	2.06mW / $^\circ\text{C}$
$P_D$	Total Device Dissipation @ $T_C = 25^\circ\text{C}$	12W
	Derate above $25^\circ\text{C}$	6.85mW / $^\circ\text{C}$
$T_{STG}, T_J$	Operating and Storage Temperature Range	-65 to +200 $^\circ\text{C}$

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$BV_{CEO(SUS)}$ Collector – Base Breakdown Voltage	$I_C = 10\text{mA}$ $I_B = 0$	12			V
$BV_{CES}$ Collector – Emitter Breakdown Voltage	$I_C = 10\mu\text{A}$ $V_{BE} = 0$	12			
$BV_{CBO}$ Collector – Base Breakdown Voltage	$I_C = 10\mu\text{A}$ $I_E = 0$	12			
$BV_{EBO}$ Emitter Base Breakdown Voltage	$I_E = 100\mu\text{A}$ $I_C = 0$	4			
$I_{CBO}$ Collector Cut-off Current	$V_{CB} = 6\text{V}$ $T_{amb} = 125^\circ\text{C}$			10	$\mu\text{A}$
$I_{CES}$ Collector Cut-off Current	$V_{CE} = 6\text{V}$ $V_{BE} = 0$			80	nA
$I_B$ Base Current	$V_{CE} = 6\text{V}$ $V_{BE} = 0$			80	
$V_{CE(sat)}$ Collector – Emitter Saturation Voltage	$I_C = 10\text{mA}$ $I_B = 1\text{mA}$			0.15	V
	$I_C = 30\text{mA}$ $I_B = 3\text{mA}$			0.2	
	$I_C = 100\text{mA}$ $I_B = 10\text{mA}$			0.5	
$V_{BE(sat)}$ Base – Emitter On Voltage	$I_C = 10\text{mA}$ $I_B = 1\text{mA}$	0.78		0.98	V
	$I_C = 30\text{mA}$ $I_B = 3\text{mA}$	0.85		1.2.	
	$I_C = 100\text{mA}$ $I_B = 10\text{mA}$			1.7	
$h_{FE}$ DC Current Gain	$I_C = 10\text{mA}$ $V_{CE} = 0.3\text{V}$	30			—
	$I_C = 30\text{mA}$ $V_{CE} = 0.5\text{V}$	40		150	
	$I_C = 30\text{mA}$ $V_{CE} = 0.5\text{V}$ $T_{amb} = -55^\circ\text{C}$	17			
	$I_C = -30\text{mA}$ $V_{CE} = -0.5\text{V}$	25			
$f_T$ Current Gain Bandwidth Product	$V_{CE} = 10\text{V}$ $f = 100\text{MHz}$ $I_C = 30\text{mA}$	400			MHz
$C_{ob}$ Output Capacitance	$V_{CB} = 5\text{V}$ $I_E = 0$ $f = 140\text{KHz}$			6	pF
$C_{ib}$ Input Capacitance	$V_{BE} = 0.5\text{V}$ $I_C = 0$ $f = 140\text{KHz}$			6	
$t_{on}$ Turn on Time	$V_{CC} = 2\text{V}$ $I_C = 30\text{mA}$ $I_{B1} = - I_{B2} = 1.5\text{mA}$			60	ns
$t_{off}$ Turn off Time				90	

\* Pulse Test:  $t_p \leq 300\mu\text{s}$ ,  $\delta \leq 1\%$ .