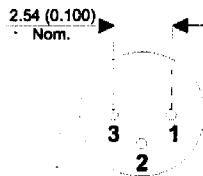
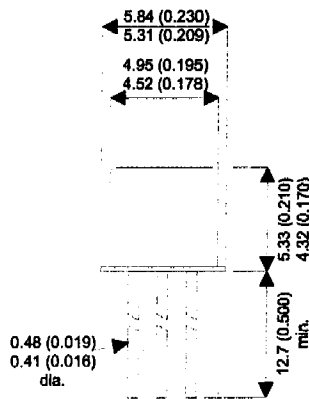


**MECHANICAL DATA**

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 $^\circ\text{C}$

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

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
BV <sub>CEO(SUS)</sub>	Collector – Base Breakdown Voltage	I <sub>C</sub> = 10mA	I <sub>B</sub> = 0	12	
BV <sub>CES</sub>	Collector – Emitter Breakdown Voltage	I <sub>C</sub> = 10μA	V <sub>BE</sub> = 0	12	
BV <sub>CBO</sub>	Collector – Base Breakdown Voltage	I <sub>C</sub> = 10μA	I <sub>E</sub> = 0	12	V
BV <sub>EBO</sub>	Emitter Base Breakdown Voltage	I <sub>E</sub> = 100μA	I <sub>C</sub> = 0	4	
I <sub>CBO</sub>	Collector Cut-off Current	V <sub>CB</sub> = 6V	T <sub>amb</sub> = 125°C		10 μA
I <sub>CES</sub>	Collector Cut-off Current	V <sub>CE</sub> = 6V	V <sub>BE</sub> = 0		80 nA
I <sub>B</sub>	Base Current	V <sub>CE</sub> = 6V	V <sub>BE</sub> = 0		80
V <sub>CE(sat)</sub>	Collector – Emitter Saturation Voltage	I <sub>C</sub> = 10mA	I <sub>B</sub> = 1mA		0.15
		I <sub>C</sub> = 30mA	I <sub>B</sub> = 3mA		0.2
		I <sub>C</sub> = 100mA	I <sub>B</sub> = 10mA		0.5
V <sub>BE(sat)</sub>	Base – Emitter On Voltage	I <sub>C</sub> = 10mA	I <sub>B</sub> = 1mA	0.78	0.98
		I <sub>C</sub> = 30mA	I <sub>B</sub> = 3mA	0.85	1.2
		I <sub>C</sub> = 100mA	I <sub>B</sub> = 10mA		1.7
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 10mA	V <sub>CE</sub> = 0.3V	30	
		I <sub>C</sub> = 30mA	V <sub>CE</sub> = 0.5V	40	150
		I <sub>C</sub> = 30mA	V <sub>CE</sub> = 0.5V	17	
			T <sub>amb</sub> = -55°C		
f <sub>T</sub>	Current Gain Bandwidth Product	I <sub>C</sub> = -30mA	V <sub>CE</sub> = -0.5V	25	
		V <sub>CE</sub> = 10V	f = 100MHz	400	
C <sub>ob</sub>	Output Capacitance	I <sub>C</sub> = 30mA			
		V <sub>CB</sub> = 5V	I <sub>E</sub> = 0		6
C <sub>ib</sub>	Input Capacitance	f = 140KHz			pF
		V <sub>BE</sub> = 0.5V	I <sub>C</sub> = 0		6
t <sub>on</sub>	Turn on Time	f = 140KHz			
t <sub>off</sub>	Turn off Time	V <sub>CC</sub> = 2V	I <sub>C</sub> = 30mA		60
		I <sub>B1</sub> = - I <sub>B2</sub> = 1.5mA			90

\* Pulse Test: t<sub>p</sub> ≤ 300μs, δ ≤ 1%.