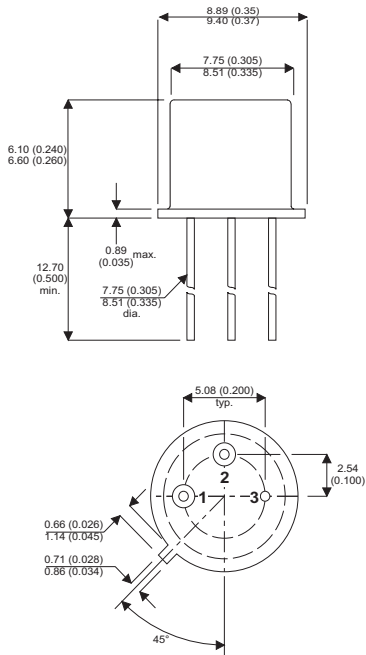


**MECHANICAL DATA**

Dimensions in mm (inches)

**PNP SILICON EPITAXIAL TRANSISTOR**



**TO39 PACKAGE**

**APPLICATIONS**

- General Purpose Industrial Applications

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	60V
$V_{CEO}$	Collector – Emitter Voltage	60V
$V_{EBO}$	Emitter – Base Voltage	5V
$I_C$	Collector Current Continuous	600mA
$I_{CM}$	Collector Current Peak	600mA
$I_{EM}$	Emitter Current Peak	600mA
$P_{tot}$	Total Power Dissipation $T_{amb} < 25^{\circ}C$	600 mW
$T_{stg}$	Storage Temperature	-65 to 200°C
$T_j$	Operating Junction Temperature	200°C

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{EBO}$ Emitter Cut-off Current	$V_{EB} = 5.0\text{V}$ $I_C = 0$		30	500	nA
	$V_{EB} = 3\text{V}$ $I_C = 0$		1.0	100	
$I_{CBO}$ Collector Cut-off Current	$V_{CB} = 60\text{V}$ $I_E = 0$		1.0	500	nA
	$V_{CB} = 50\text{V}$ $I_E = 0$		0.5	50	
	$T_j = 100^\circ\text{C}$		0.03	2.0	$\mu\text{A}$
$h_{FE}$ DC Current Gain	$V_{CE} = 10\text{V}$ $I_C = 0.1\text{mA}$	20	90		—
	$V_{CE} = 10\text{V}$ $I_C = 1\text{mA}$		40	105	
	$V_{CE} = 10\text{V}$ $I_C = 10\text{mA}$	50	125		
	$V_{CE} = 10\text{V}$ $I_C = 50\text{mA}$	50	125		
	$V_{CE} = 10\text{V}$ $I_C = 150\text{mA}$	40	90		
$V_{CE(sat)}$ Collector – Emitter Saturation Voltage	$I_C = 150\text{mA}$ $I_B = 15\text{mA}$		0.15	0.40	V
$V_{BE(sat)}$ Base – Emitter Saturation Voltage	$I_C = 30\text{mA}$ $I_B = 1.0\text{mA}$		0.77	0.90	V
	$I_C = 150\text{mA}$ $I_B = 15\text{mA}$		1.05	1.30	
$C_{tc}$ Collector Capacitance	$V_{CB} = 10\text{V}$ $I_E = I_e = 0$ $f = 1.0\text{MHz}$		6	12	pF
$C_{te}$ Emitter Capacitance	$V_{EB} = 2.0\text{V}$ $I_C = I_c = 0$ $f = 1.0\text{MHz}$		18	30	
$f_T$ Transistion Frequency	$V_{CE} = 10\text{V}$ $I_C = 50\text{mA}$ $f = 100\text{MHz}$ $T_{amb} = 25^\circ\text{C}$	100	360		MHz

**THERMAL CHARACTERISTICS**

$R_{\theta th(j-amb)}$ Thermal Resistance Junction to Ambient			292	$^\circ\text{C/W}$
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