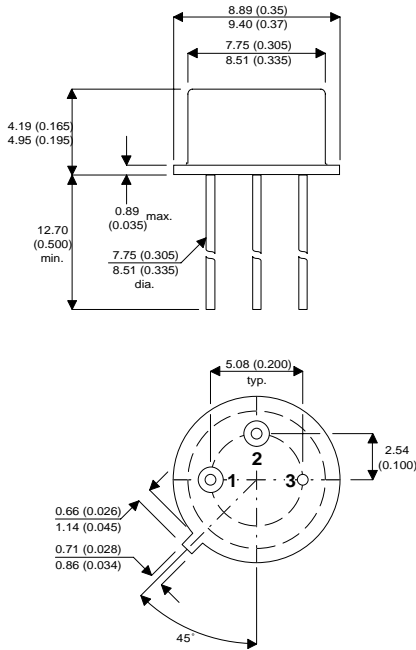


**MECHANICAL DATA**

Dimensions in mm (inches)

**MEDIUM POWER SILICON  
NPN PLANAR TRANSISTOR**



**TO39 PACKAGE**

**Underside View**

Pin 1 = Emitter Pin 2 = Base Pin 3 = Collector

**FEATURES**

- $V_{CEO} = 40V$
- $I_C = 0.7A$
- $P_{tot} = 5W$

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

$V_{CBO}$	Collector – Base Voltage	60V
$V_{CEO}$	Collector – Emitter Voltage	40V
$V_{CER}$	Collector – Emitter Sustaining Voltage	50V
$V_{CEX}$	Collector - Emitter Voltage	60V
$V_{EBO}$	Emitter-Base Voltage	5V
$I_C$	Collector Current	0.7A
$P_{TOT}$	Power Dissipation $T_{amb} = 25^{\circ}C$	1W
	$T_{case} = 25^{\circ}C$	5W
$T_j$	Junction Temperature	200°C
$T_{stg}$	Storage Temperature	-65 to 200°C
$R_{th(jc)}$	Thermal Resistance Junction to Case	35°C / W
$R_{th(ja)}$	Thermal Resistance Junction to Ambient	175°C / W

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{CEO(SUS)}$ Collector – Emitter Voltage	$I_C = 100mA$ $I_B = 0$	40			V
$V_{CER(SUS)*}$ Collector – Emitter Voltage	$R_{BE} = 10\Omega$ $I_C = 100mA$	50			
$V_{(BR)CBO*}$ Collector – Base Breakdown Voltage	$I_C = 0.1mA$ $I_E = 0$	60			
$V_{(BR)EBO*}$ Emitter – Base Breakdown Voltage	$I_E = 0.1mA$ $I_C = 0$	5			
$I_{CBO}$ Collector – Base Cut-off Current	$V_{CB} = 30V$ $I_E = 0$			0.25	$\mu A$
$I_{EBO}$ Emitter - Base Cut-off Current	$V_{EB} = 4V$ $I_C = 0$			0.25	
$V_{CE(sat)*}$ Collector – Emitter Saturation Voltage	$I_C = 0.15A$ $I_B = 0.015A$			1.4	V
$V_{BE(sat)*}$ Base – Emitter Saturation Voltage	$I_C = 0.15A$ $I_B = 0.015A$			1.7	
$h_{21E*}$ Static Forward Current Transfer ratio	$I_C = 0.15A$ $V_{CE} = 10V$	50		250	—
$f_T$ Transistion Frequency	$V_{CE} = 10V$ $I_C = 0.05A$ $f = 100MHz$	100			MHz
$C_{22b}$ Output Capacitance	$V_{CB} = 10V$ $f = 1MHz$			15	$\mu F$
$C_{11b}$ Input Capacitance	$V_{EB} = 10V$ $f = 1MHz$			80	

\* Pulsed  $t_p = 300\mu S$   $\delta \leq 2\%$