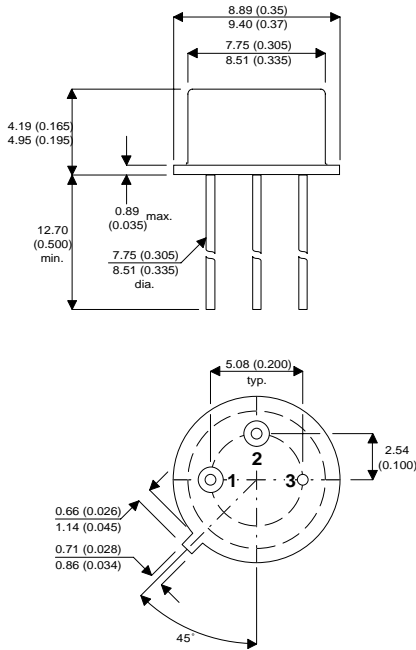


MECHANICAL DATA

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

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

* Pulsed $t_{\text{p}} = 300\mu\text{S}$ $\delta \leq 2\%$