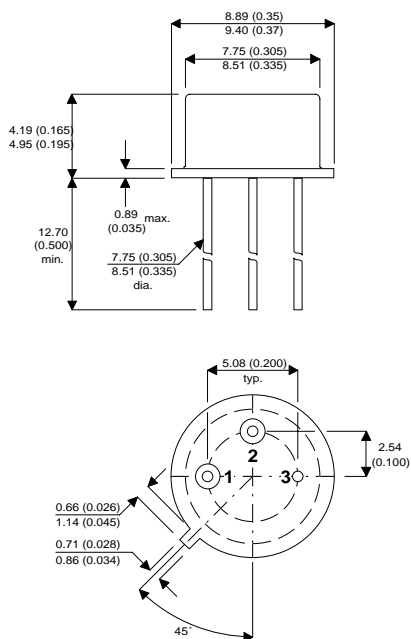


**MECHANICAL DATA**

Dimensions in mm (inches)


**TO39 PACKAGE**
**Underside View**

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

**SILICON NPN  
PLANAR TRANSISTOR**
**FEATURES**

- $V_{CBO} = 100V$
- $V_{CEO} = 60V$
- $I_C = 2A$

**DESCRIPTION**

General Purpose NPN Transistor in a Hermetic TO39 Package

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

$V_{CBO}$	Collector – Base Voltage (open emitter)	100V
$V_{CER}$	Collector – Emitter Voltage ( $R_{BE} \leq 50\Omega$ )	80V
$V_{CEO}$	Collector – Emitter Voltage (open base)	60V
$V_{EBO}$	Emitter – Base Voltage (open collector)	5V
$I_C$	Collector Current (d.c.)	2A
$I_{CM}$	Collector Current (peak value)	5A
$I_B$	Base Current (d.c.)	1A
$P_{TOT}$	Total Device Dissipation @ $T_C = 50^{\circ}C$	5W
$T_{stg}$	Storage Temperature	$-55$ to $175^{\circ}C$
$T_j$	Junction Temperature	$175^{\circ}C / W$
$R_{thj-c}$	Thermal Resistance Junction to Case	$25^{\circ}C / W$

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{\text{CEsat}}$	Collector – Base Saturation Voltage $I_{\text{C}} = 5\text{A}$ $I_{\text{B}} = 5\text{A}$			1	V
$V_{\text{BEsat}}$	Emitter – Base Saturation Voltage $I_{\text{C}} = 5\text{A}$ $I_{\text{B}} = 5\text{A}$			1.8	
$I_{\text{CBO}}$	Collector Cut-off Current $V_{\text{CB}} = 60\text{V}$ $I_{\text{E}} = 0$			10	$\mu\text{A}$
$I_{\text{EBO}}$	Emitter Cut-off Current $V_{\text{EB}} = 4\text{V}$ $I_{\text{C}} = 0$			10	
$h_{\text{FE}}$	DC Current Gain $V_{\text{CE}} = -5\text{V}$ $I_{\text{C}} = 2\text{A}$	40			—
$c_{\text{c}}$	Collector Capacitance at $f = 1\text{MHz}$ $I_{\text{E}} = I_{\text{e}} = 0$ $V_{\text{CB}} = 10\text{V}$			80	pF
$f_{\text{T}}$	Transistion Frequency at $f = 35\text{MHz}$ $I_{\text{C}} = 0.5\text{A}$ $V_{\text{CE}} = 5\text{V}$		100		MHz
$t_{\text{on}}$	Turn on Time $I_{\text{Con}} = 5\text{A}; I_{\text{Bon}} = -I_{\text{Boff}} = 0.5\text{A}$			0.6	$\mu\text{s}$
$t_{\text{off}}$	Turn off time $-V_{\text{BEoff}} = 2\text{V}$			1.2	