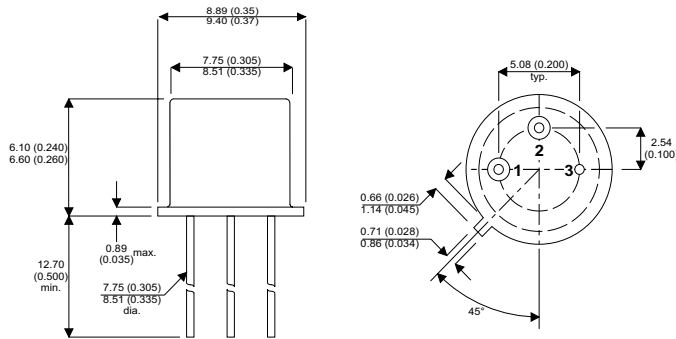


MECHANICAL DATA

Dimensions in mm(inches)

NPN SILICON TRANSISTOR



FEATURES

- FAST SWITCHING
- HIGH PULSE POWER

APPLICATIONS

- POWER SWITCHING CIRCUITS
- MOTOR CONTROL

TO39

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	100V
V_{CEO}	Collector – Emitter Voltage	80V
V_{EBO}	Emitter – Base Voltage	5V
I_C	Collector Current	3A
I_B	Base Current	2A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25^{\circ}C$	1W
T_{amb}	Ambient Operating Temperature	-55°C to +200°C
T_{stg}	Storage Temperature	-55°C to +200°C

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit	
h _{21E}	Static Value of Common Emitter Forward Current	V _{CE} = 10V I _C = 0.15	50		250	—
	Transfer Ratio	V _{CE} = 10V I _C = 2A	15			
		V _{CE} = 10V I _C = 1mA	20			
f _T	Transistion Frequency	V _{CE} = 5V f = 20MHz I _C = 100mA	50			MHz
I _{CBO}	Collector Base Cut- Off Current.	V _{CB} = 80V I _E = 0			100	nA
		t = 150°C			100	μA
I _{EBO}	Emitter–Base Cut-off Current	V _{EB} = 4V			100	nA
h _{21e}	Small Signal Common Emitter Forward Current Transfer Ratio	V _{CE} = 5V f = 1KHz I _C = 10mA	25			—
V _{CE(sat)*}	Collector – Emitter Saturation Voltage*	I _C = 150mA I _B = 15mA			0.3	V
		I _C = 1A I _B = 0.1A			0.6	
V _{BE(sat)*}	Base – Emitter Saturation Voltage*	I _C = 150mA I _B = 15mA			0.95	V
		I _C = 1A I _B = 0.1A			1.3	
C _{22b}	Common – Base Output Capacitance	V _{CB} = 10V f = 1MHz I _E = 0			80	pF

*Pulse Conditions: Pulse Length = 300μs duty cycle = 1.5%