



Pin Configuration

1. Emitter
2. Base
3. Collector

Features:

- NPN High Voltage Silicon Transistor
- High Voltage Silicon Planar Transistors used in High Voltage and High Power Amplifier Applications

Absolute Maximum Ratings:

($T_a = 25^\circ\text{C}$ unless otherwise specified)

Characteristic	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	300	V
Collector-Emitter Voltage	V_{CES}	250	
Emitter-Base Voltage	V_{EBO}	7	
Collector Current Continuous	I_C	1	A
Base Current	I_B	0.5	
Power Dissipation at $T_a = 25^\circ\text{C}$ Derate above 25°C	P_D	1	W
Power Dissipation at $T_c = 25^\circ\text{C}$ Derate above 25°C		5	
Operating Temperature	T_J	200	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +200	

Thermal Resistance

Junction to Ambient	$R_{th(j-a)}$	175	$^\circ\text{C/W}$
Junction to Case	$R_{th(j-c)}$	35	

Electrical Characteristics:

(T_a = +25°C unless otherwise specified)

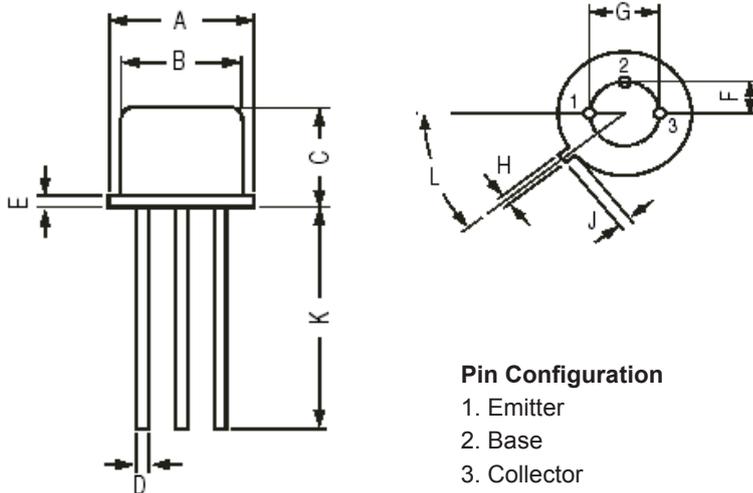
Parameter	Symbol	Test Condition		Unit
Collector-Emitter Voltage	V _{CEO(sus)} *	I _C = 50mA, I _B = 0	250	V
Collector-Cut off Current	I _{CBO}	V _{CB} = 250V, I _E = 0	<20	μA
	I _{CEO}	V _{CE} = 200V, I _B = 0	<50	
	I _{CEX}	V _{CE} = 300V, V _{BE} = 1.5V	<500	
Emitter-Cut off Current	I _{EBO}	V _{EB} = 6V, I _C = 0	<20	
DC Current Gain	h _{FE} *	I _C = 20mA, V _{CE} = 10V	40 - 160	-
Collector Emitter Saturation Voltage	V _{CE(sat)} *	I _C = 0.05A, I _B = 4mA	<0.5	V
Base Emitter Saturation Voltage	V _{BE(sat)} *	I _C = 50mA, I _B = 4mA	<1.3	

Small Signal Characteristics

Small Signal Current Gain	h _{fe}	I _C = 5mA, V _{CE} = 10V, f = 1kHz	>25	-
Output Capacitance	C _{ob}	V _{CB} = 10V, I _E = 0, f = 1MHz	<10	pF
Input Capacitance	C _{ib}	V _{EB} = 5V, I _C = 0, f = 1MHz	<75	
Current Gain-Bandwidth Product	f _t	I _C = 10mA, V _{CE} = 10V, f = 5MHz	>15	MHz
Real Part of Input impedance	R _{e(hie)}	V _{CE} = 10V, I _C = 5mA, f = 1MHz	<300	Ω

*Pulse Test: Pulse Width = 300μs, Duty Cycle = 2%

TO-39 Metal Can Package



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Dim.	Min.	Max.
A	8.5	9.39
B	7.74	8.5
C	6.09	6.6
D	0.4	0.53
E	-	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.7	-
L	42°	48°

Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, NPN, TO-39	2N3440

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