

High Voltage Power Transistor



Pin Configuration

1. Emitter
2. Base
3. Collector

Features:

- Devices with breakdown voltages of 160V minimum
- NPN Silicon High Voltage Power Transistors

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}		
Emitter-Base Voltage	V_{EBO}		
Collector Current Continuous	I_C	100	A
Collector Current-Peak	I_{CM}	300	
Power Dissipation at $T_a = 25^\circ\text{C}$ Derate above 25°C	P_D	1	W
		5.7	
Power Dissipation at $T_C = 25^\circ\text{C}$ Derate above 25°C		5 28.57	
Operating Storage Temperature Range	T_j, T_{stg}	-65 to +200	$^\circ\text{C}$

Thermal Resistance

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

High Voltage Power Transistor

Electrical Characteristics:

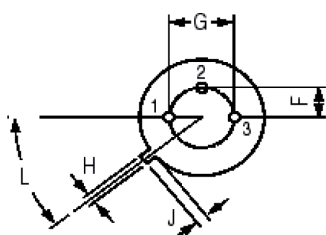
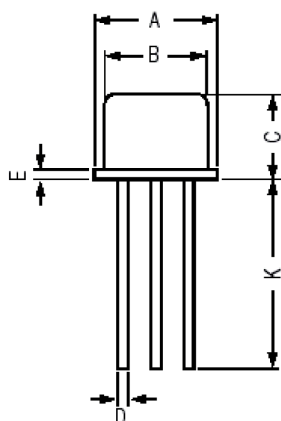
($T_a = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition		Unit
Collector Emitter Voltage	V_{CEO}	$I_C = 10\text{mA}, I_B = 0$	>300	V
Collector Base Voltage	V_{CBO}	$I_C = 100\mu\text{A}, I_E = 0$	>300	
Emitter Base Voltage	V_{EBO}	$I_E = 100\mu\text{A}, I_C = 0$	>5	
Collector Cut off Current	I_{CBO}	$V_{CBO} = 250\text{V}, I_E = 0$	<50	nA
DC Current Gain	h_{FE}	$I_C = 30\text{mA}, V_{CE} = 10\text{V}$	25	-
Collector Emitter Saturation Voltage	$V_{CE(\text{Sat})}$	$I_C = 30\text{mA}, I_B = 6\text{mA}$	1	V

Dynamic Characteristics

Transition Frequency	f_t	$I_C = 15\text{mA}, V_{CE} = 10\text{V}, f = 100\text{MHz}$	75	MHz
Collector Base Capacitance	C_{ob}	$V_{CB} = 30\text{V}, I_E = 0, f = 1\text{MHz}$	2.5	pF

TO-39 Metal Can Package



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

Pin Configuration

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Part Number Table

Description	Part Number
Transistor, NPN, TO-39	BF259

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