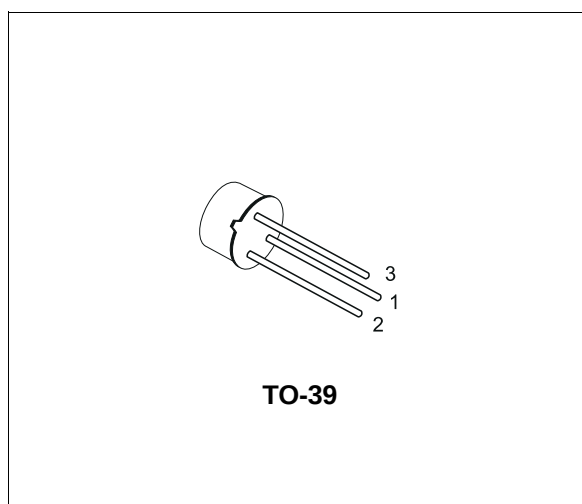


SMALL SIGNAL NPN TRANSISTOR

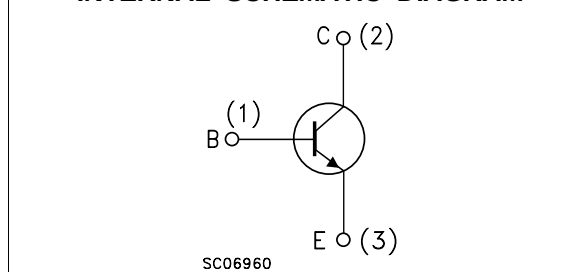
DESCRIPTION

The 2N5320 is a silicon Epitaxial Planar NPN transistor in Jedec TO-39 metal case. It is especially intended for high-voltage medium power application in industrial and commercial equipments.

The complementary PNP type is the 2N5322



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	100	V
V_{CEV}	Collector-Emitter Voltage ($V_{BE} = 1.5V$)	100	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	75	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	6	V
I_C	Collector Current	1.2	A
I_{CM}	Collector Peak Current	2	A
I_B	Base Current	1	A
P_{tot}	Total Dissipation at $T_{amb} = 25\text{ }^{\circ}C$	1	W
P_{tot}	Total Dissipation at $T_C = 25\text{ }^{\circ}C$	10	W
T_{stg}	Storage Temperature	-65 to 175	$^{\circ}C$
T_j	Max Operating Junction Temperature	175	$^{\circ}C$

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-Case	15	°C/W
R _{thj-amb}	Max Thermal Resistance Junction-Ambient	150	°C/W
	Max		

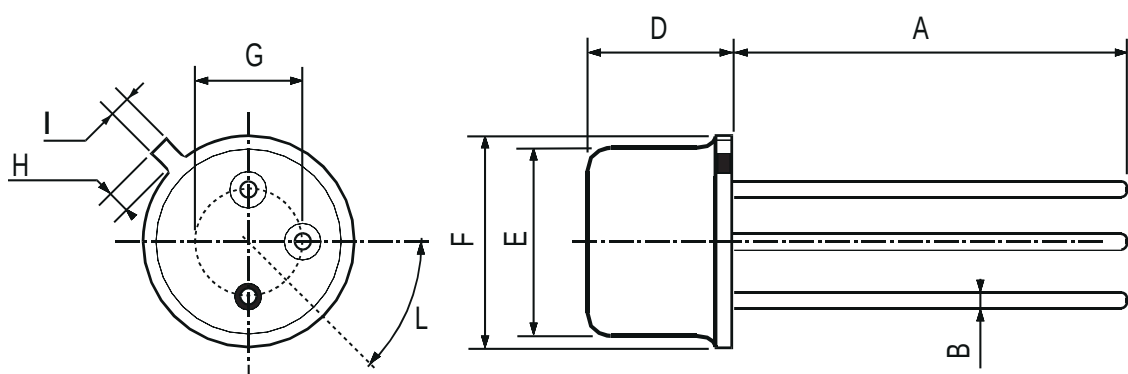
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CBO}	Collector Cut-off Current (I _E = 0)	V _{CB} = 80 V			0.5	μA
I _{EBO}	Collector Cut-off Current (I _C = 0)	V _{EB} = 5 V		0.1		μA
V _{(BR)CEV}	Collector-Emitter Breakdown Voltage (V _{BE} = 1.5V)	I _C = 100 μA	100			V
V _{(BR)CEO*}	Collector-Emitter Breakdown Voltage (I _B = 0)	I _C = 10 mA	75			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage (I _C = 0)	I _E = 100 μA	6			V
V _{CE(sat)*}	Collector-Emitter Saturation Voltage	I _C = 500 mA I _B = 50 mA			0.5	V
V _{BE*}	Base-Emitter Voltage	I _C = 500 mA V _{CE} = 4 V			1.1	V
h _{FE*}	DC Current Gain	I _C = 500 mA V _{CE} = 4 V I _C = 1 A V _{CE} = 2 V	30 10		130	
f _T	Transition Frequency	I _C = 50 mA V _{CE} = 4 V f = 10 MHz	50			MHz
t _{on}	Turn-on Time	I _C = 500 mA V _{CC} = 30 V I _{B1} = 50 mA			80	ns
t _{off}	Turn-off Time	I _C = 500 mA V _{CC} = 30 V I _{B1} = -I _{B2} = 50 mA			800	ns

* Pulsed: Pulse duration = 300 μs, duty cycle = 1 %

TO-39 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	12.7			0.500		
B			0.49			0.019
D			6.6			0.260
E			8.5			0.334
F			9.4			0.370
G	5.08			0.200		
H			1.2			0.047
I			0.9			0.035
L	45° (typ.)					



P008B

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