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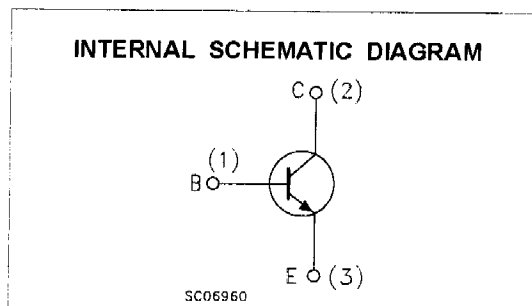
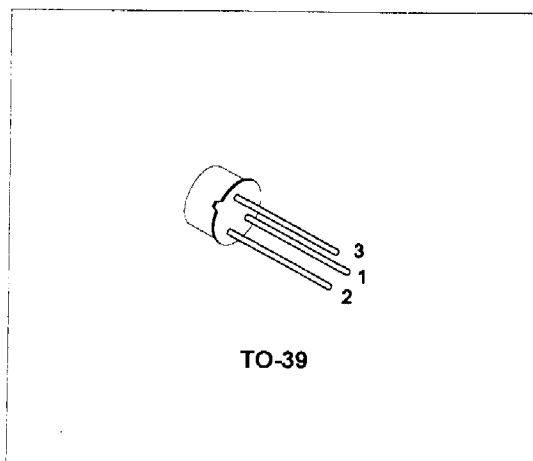
2N5320

SMALL SIGNAL NPN TRANSISTOR

DESCRIPTION

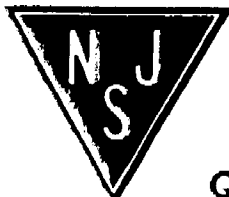
The 2N5320 is a silicon Epitaxial Planar NPN transistor in Jedec TO-39 metal case. It is especially intended for high-voltage medium power application in industrial and commercial equipments.

The complementary PNP type is the 2N5322



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 $T_{amb} = 25^\circ C$	1	W
P_{tot}	Total Dissipation at $T_C = 25^\circ C$	10	W
T_{stg}	Storage Temperature	-65 to 175	$^\circ C$
T_J	Max Operating Junction Temperature	175	$^\circ C$



NJ Semi-Conductors reserves the right to change test conditions, parameters limits and package dimensions without notice information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

Quality Semi-Conductors

THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-Case	15	$^{\circ}C/W$
$R_{thj-amb}$	Thermal Resistance Junction-Ambient	150	$^{\circ}C/W$
	Max		
	Max		

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ 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 ($V_{BE} = 1.5V$)	$I_C = 100 \mu A$	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 ($I_C = 0$)	$I_E = 100 \mu A$	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			6.8			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)					

