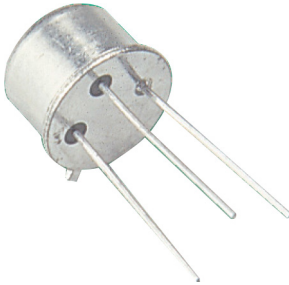


# Medium Power Transistor



## Features:

- High performance, low frequency devices typically with current ratings 2A. Up to 1W power dissipation
- Silicon Power Switching Transistors
- Medium Power Amplifier and Switching Applications

## Pin Configuration

1. Emitter
2. Base
3. Collector



## Absolute Maximum Ratings

Description	Symbol	2N5320 NPN	Units
Collector Emitter Voltage	$V_{CEO}$	75	V
Collector Base Voltage	$V_{CBO}$	100	
Emitter Base Voltage	$V_{EBO}$	7	
Collector Current-Continuous	$I_C$	2	A
Base Current	$I_B$	1	
Power Dissipation at $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	1	W
Power Dissipation at $T_c = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$		5.71	
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-65 to +200	$^\circ\text{C}$

## Thermal Characteristics

Junction to Ambient in Free Air	$R_{th(j-a)}$	175	$^\circ\text{C/W}$
Junction to Case	$R_{th(j-c)}$	17.5	

## Electrical Characteristics: ( $T_c = +25^\circ\text{C}$ unless specified otherwise)

Description	Symbol	Test Condition	Min.	Max.	Units
Collector Emitter Voltage	$V_{CEO}$	$I_C = 100\text{mA}, I_B = 0$	75	-	V
Collector Cut off Current	$I_{CEX}$	$V_{CE} = 70\text{V}, V_{BE} = 1.5\text{V}, T_c = 150^\circ\text{C}$ $V_{CE} = 100\text{V}, V_{BE} = 1.5\text{V}$	-	5 100	mA $\mu\text{A}$
Emitter Cut off Current	$I_{EBO}$	$V_{BE} = 7\text{V}, I_C = 0$	-	100	$\mu\text{A}$
DC Current Gain	$*h_{FE}$	$I_C = 1\text{A}, V_{CE} = 2\text{V}$ $I_C = 0.5\text{A}, V_{CE} = 4\text{V}$	10 30	130	-
Collector Emitter Saturation Voltage	$*V_{CE(SAT)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$	-	0.5	V
Base Emitter On Voltage	$*V_{BE(ON)}$	$I_C = 500\text{mA}, V_{CE} = 4\text{V}$	-	1.1	

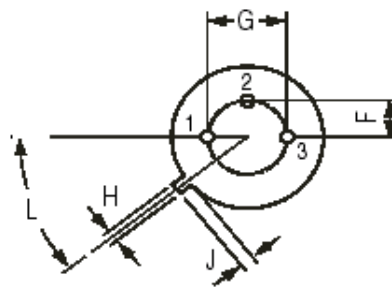
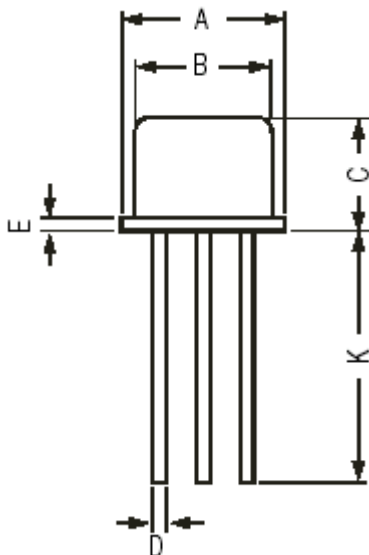
\*Pulsed : Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$

# Medium Power Transistor



## Electrical Characteristics: ( $T_c = +25^\circ\text{C}$ unless specified otherwise)

Description	Symbol	Test Condition	Min.	Max.	Units
<b>Dynamic Characteristics</b>					
Small Signal Current Gain	$h_{fe}$	$I_c = 50\text{mA}$ , $V_{CE} = 4\text{V}$ , $f = 10\text{MHz}$	5	-	-
<b>Switching Characteristics</b>					
Turn On Time	$t_{on}$	$V_{CC} = 30\text{V}$ , $I_c = 500\text{mA}$ , $I_{B1} = 50\text{mA}$	-	80	ns
Turn Off Time	$t_{off}$	$V_{CC} = 30\text{V}$ , $I_c = 500\text{mA}$ , $I_{B1} = I_{B2} = 50\text{mA}$	-	800	



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	$V_{CE0}$ Max (V)	$I_c$ Max. (A)	$h_{FE}$ Min. at $I_c = 500\text{mA}$	$V_{CE(SAT)}$ Max. (V) at $I_c = 500\text{mA}$	Package and Pin Out	Type	Part Number
Transistor, NPN, TO-39	75	2	30	0.5	TO-39	PNP	2N5320

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