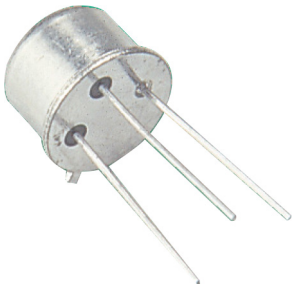
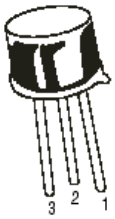
Medium Power Transistor



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°C Derate above 25°C	P_D	1 5.71	W mW/°C
Power Dissipation at T_C = 25°C Derate above 25°C		10 57.14	
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +200	°C
Thermal Characteristics			
Junction to Ambient in Free Air	$R_{th(j-a)}$	175	°C/W
Junction to Case	$R_{th(j-c)}$	17.5	

Electrical Characteristics: (T_C = +25°C unless specified otherwise)

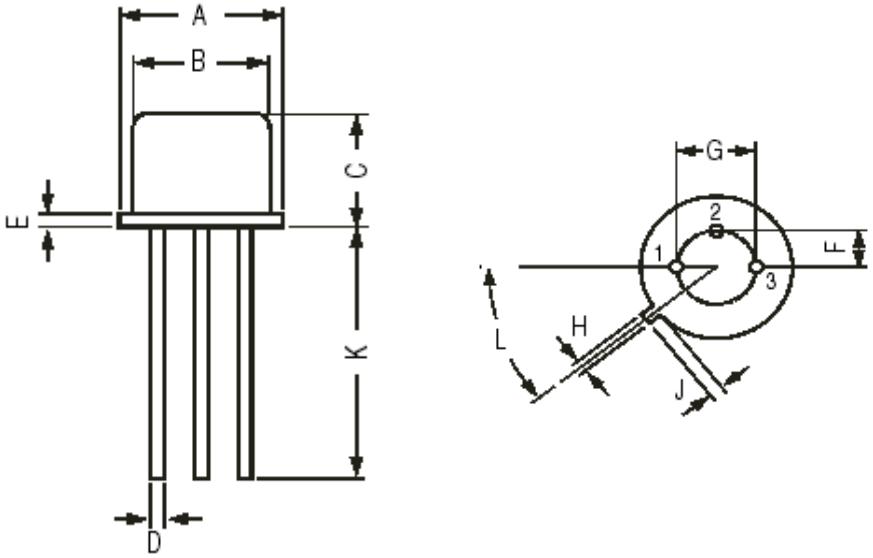
Description	Symbol	Test Condition	Min.	Max.	Units
Collector Emitter Voltage	V_{CEO}	I_C = 100mA, I_B = 0	75	-	V
Collector Cut off Current	I_{CEX}	V_{CE} = 70V, V_{BE} = 1.5V, T_C = 150°C V_{CE} = 100V, V_{BE} = 1.5V	-	5 100	mA µA
Emitter Cut off Current	I_{EBO}	V_{BE} = 7V, I_C = 0	-	100	µA
DC Current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

*Pulsed : Pulse Width ≤300µs, Duty Cycle ≤2%

Medium Power Transistor

Electrical Characteristics: (T_C = +25°C unless specified otherwise)

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



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