

# Medium Power Bipolar Transistor



## Pin Configuration

1. Emitter
2. Base
3. Collector

## Features:

- High performance, low frequency devices typically with current ratings 1A. Up to 1W power dissipation
- Silicon power switching transistors
- Medium power amplifier and switching applications

## Absolute Maximum Ratings:

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

Characteristic	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	-100	V
Collector-Emitter Voltage	$V_{CEO}$	-75	
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 Temperature	$T_J$	200	°C
Storage Temperature Range	$T_{stg}$	-65 to +200	

## Thermal Resistance

Junction to Ambient	$R_{th(j-a)}$	175	°C/W
Junction to Case	$R_{th(j-c)}$	17.5	

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## Electrical Characteristics:

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

Parameter	Symbol	Test Condition	Min.	Max.	Unit
Collector Emitter Voltage	$V_{CEO}$	$I_C = 100\text{mA}, I_B = 0$	-75	-	V
Collector Cut off Current	$I_{CEX}$	$V_{CE} = 70\text{V}, V_{BE} = 1.5\text{V}, T_C = 150^\circ\text{C}$	-	5	mA
		$V_{CE} = 100\text{V}, V_{BE} = 1.5\text{V}$		100	$\mu\text{A}$
Emitter Cut off Current	$I_{EBO}$	$V_{BE} = 7\text{V}, I_C = 0$			
DC Current Gain	$^*h_{FE}$	$I_C = 1\text{A}, V_{CE} = 2\text{V}$	10	-	-
		$I_C = 0.5\text{A}, V_{CE} = 4\text{V}$	30	130	
Collector Emitter Saturation Voltage	$^*V_{CE(Sat)}$	$I_C = 50\text{mA}, I_B = 50\text{mA}$	-	0.7	V
Base Emitter On Voltage	$^*V_{BE(On)}$	$I_C = 50\text{mA}, V_{CE} = 4\text{V}$		1.1	

## Dynamic Characteristics

Small Signal Current Gain	$h_{fe}$	$I_C = 50\text{mA}, V_{CE} = 4\text{V}, f = 10\text{MHz}$	5	-	-
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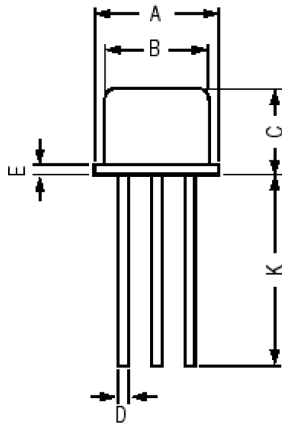
## Switching Characteristics

Turn On Time	$t_{on}$	$V_{CC} = 30\text{V}, I_C = 500\text{mA}, I_{B1} = 50\text{mA}$	-	100	ns
Turn Off Time	$t_{off}$	$V_{CC} = 30\text{V}, I_C = 500\text{mA}, I_{B1} = I_{B2} = 50\text{mA}$		1,000	

\*Pulsed: Pulse Width  $\leq 30\mu\text{s}$ , Duty Cycle  $\leq 2\%$

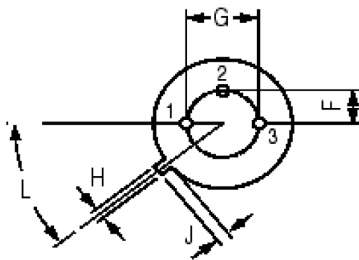
# Medium Power Bipolar Transistor

## 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

1. Emitter
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### Part Number Table

Description	Part Number
Transistor, PNP, TO-39	2N5322

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