

2N5320, 2N5322 Series

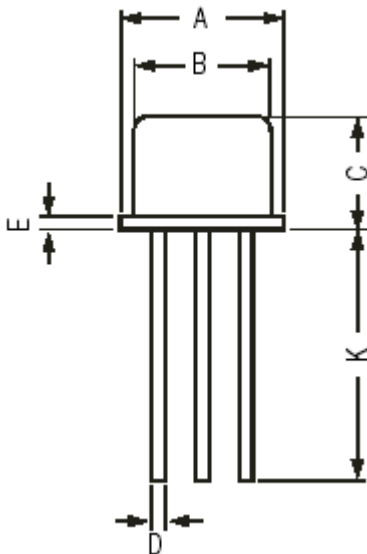
Medium Power Bipolar Transistors



Features:

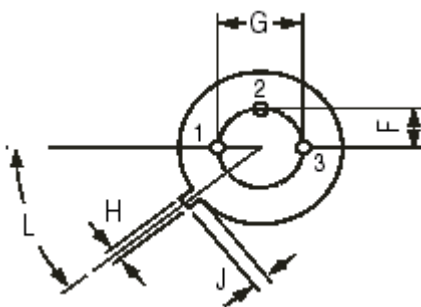
- High performance, low frequency devices typically with current ratings 1A. Up to 1W power dissipation.
- Silicon power switching transistors.
- Medium power amplifier and switching applications.

TO-39 Metal Can Package



Dimensions	Minimum	Maximum
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	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	12.70	-
L	42°	48°

Dimensions : Millimetres



Pin Configuration

1. Emitter
2. Base
3. Collector

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Absolute Maximum Ratings

Description	Symbol	2N5320 2N5322	Unit
Collector Emitter Voltage	V_{CEO}	75	V
Collector Base Voltage	V_{CBO}	100	
Emitter Base Voltage	V_{EBO}	7	
Collector Current-Continuous	I_C	2.0	A
Base Current	I_B	1.0	
Power Dissipation at $T_a = 25^\circ\text{C}$ Derate Above 25°C	P_D	1	W
Power Dissipation at $T_c = 25^\circ\text{C}$ Derate Above 25°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 ($T_a = 25^\circ\text{C}$ unless specified otherwise)

Description	Symbol	Test Condition	Minimum	Maximum	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	μA
Emitter Cut off Current	I_{EBO}	$V_{BE} = 7\text{V}, I_C = 0$	-	-	-
DC Current Gain	h_{FE}	$I_C = 1\text{A}, V_{CE} = 2\text{V}$ $I_C = 0.5\text{A}, V_{CE} = 4\text{V}$	10 30	130	-
Collector Emitter Saturation Voltage	$*V_{CE(Sat)}$	$I_C = 50\text{mA}, I_B = 50\text{mA}$	-	0.5 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	-	-
Switching Characteristics					
Turn On Time	t_{on}	$V_{CC} = 30\text{V}, I_C = 500\text{mA}, I_{B1} = 50\text{mA}$ 2N5320 2N5322	-	80 100	ns
Turn Off Time	t_{off}	$V_{CC} = 30\text{V}, I_C = 500\text{mA},$ $I_{B1} = I_{B2} = 50\text{mA}$ 2N5320 2N5322	-	800 1000	

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

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Specifications

V_{CE0} maximum (V)	I_C maximum (A)	h_{FE} minimum at $I_C = 500\text{mA}$	$V_{CE(\text{Sat})}$ maximum (V) at $I_C = 500\text{mA}$	Package	Type	Part Number
75	2	30	0.5	TO-39	NPN	2N5320
					PNP	2N5322

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Notes:

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