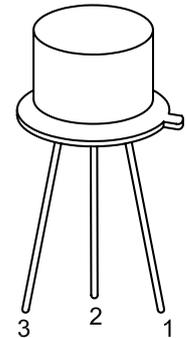




## Description

Transistor, Silicon, TO-39, Metal, High Current, General Purpose

**RoHS  
Compliant**



## Pin Configuration

1. Emitter
2. Base
3. Collector

## Absolute Maximum Ratings

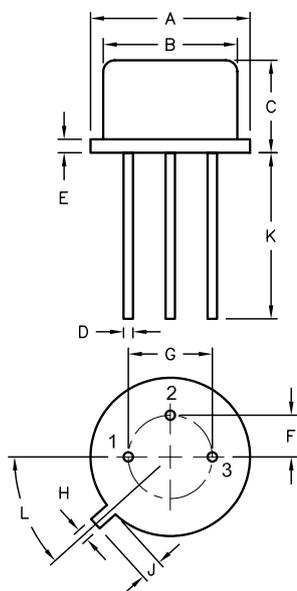
Characteristic	Symbol	2N5320	2N5322
Collector-Emitter Voltage	$V_{CE0}$	75V	
Collector-Base Voltage	$V_{CB0}$	100V	
Emitter - Base Voltage	$V_{EB0}$	7V	
Continuous Collector Current	$I_C$	2A	
Base Current	$I_B$	1A	
Total Device Dissipation ( $T_c = +25^\circ\text{C}$ ) Derate above $25^\circ\text{C}$	$P_D$	1W	5.71mW/ $^\circ\text{C}$
Total Device Dissipation ( $T_c = +25^\circ\text{C}$ ) Derate above $25^\circ\text{C}$		10W	57.14mW/ $^\circ\text{C}$
Operating Junction Temperature Range	$T_J$	-65 $^\circ\text{C}$ to +200 $^\circ\text{C}$	
Storage Temperature Range	$T_{STG}$	-65 $^\circ\text{C}$ to +200 $^\circ\text{C}$	
Junction to Ambient in free air	$R_{thJA}$	175 $^\circ\text{C}/\text{W}$	
Junction to Case	$R_{thJC}$	17.5 $^\circ\text{C}/\text{W}$	

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

Parameter	Symbol	Test Conditions	Min.	Max.	Unit.
<b>OFF Characteristics</b>					
Collector Emitter Voltage	$V_{CE0}$	$I_C = 100\text{mA}, I_B = 0$	75	-	V
Collector Cut off Current	$I_{CEX}$	$V_{CE} = 100\text{V}, V_{BE} = 1.5\text{V}$	-	100	$\mu\text{A}$
		$V_{CE} = 70\text{V}, V_{BE} = 1.5\text{V}, T_c = +150^\circ\text{C}$	-	5	$\text{mA}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{BE} = 7\text{V}, I_C = 0$	-	100	$\mu\text{A}$
<b>On Characteristics</b>					
DC Current Gain (Note 1)	$h_{FE}$	$I_C = 500\text{mA}, V_{CE} = 4\text{V}$	30	130	-
		$I_C = 1\text{A}, V_{CE} = 2\text{V}$	10	-	-
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	V
<b>Small-Signal Characteristics</b>					
Small-Signal Current Gain	$h_{fe}$	$V_{CE} = 50\text{mA}, V_{CE} = 4\text{V}, f = 10\text{MHz}$	5	-	-

Parameter	Symbol	Test Conditions	Min.	Max.	Unit.
<b>Switching Characteristics</b>					
Turn-on Time	$t_{on}$	$V_{CC} = 30V, I_c = 500mA, I_{B1} = 50mA$	-	80	ns
Turn-off Time	$t_{off}$	$V_{CC} = 30V, I_c = 500mA, I_{B1} = I_{B2} = 50mA$	-	800	

**Note 1.** Pulse Test: Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2\%$



1. EMITTER
2. BASE
3. COLLECTOR

Dimensions	A	B	C	D	E	F	G	H	J	K	L
Min.	8.5	7.74	6.09	0.4	-	2.41	4.82	0.71	0.73	12.7	42°
Max.	9.39	8.5	6.6	0.53	0.88	2.66	5.33	0.86	1.02	-	48°

Dimensions : Millimetres

## Part Number Table

Description	Part Number
Bipolar Transistor, NPN, 2A, 75V, TO-39	2N5320
Bipolar Transistor, PNP, 2A, 75V, TO-39	2N5322

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