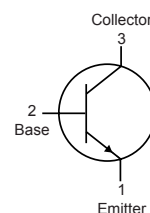
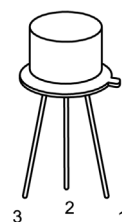


**RoHS
Compliant**



NPN



Pin Configuration:

1. Emitter
2. Base
3. Collector

Description:

This is a Silicon NPN transistor in a TO-39 type case designed primarily for amplifier and switching applications. This device features high breakdown voltage, low leakage current, low capacity, and beta useful over an extremely wide current range

Maximum Ratings:

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	
Emitter-Base Voltage	V_{EBO}	5	
Continuous Collector Current	I_C	0.7	A
Total Device Dissipation ($T_A = +25^\circ\text{C}$), Derate above 25°C	P_D	800 4.6	mW mW/ $^\circ\text{C}$
Total Device Dissipation ($T_C = +25^\circ\text{C}$), Derate above 25°C		5 28.6	W mW/ $^\circ\text{C}$
Operating Junction Temperature Range	T_J	-65 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}		

Bipolar Transistor



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

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
OFF Characteristics					
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 0.1\text{mA}, I_B = 0$	60	-	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	80		
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	5		
Emitter Cut-Off Current	I_{EBO}	$V_{BE} = 4\text{V}, I_C = 0$	-	0.25	μA

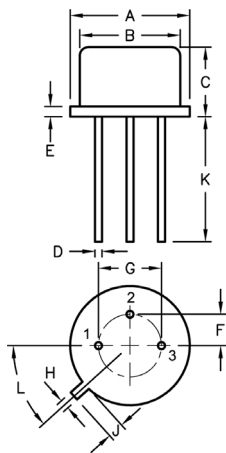
ON Characteristics, Note 1

DC Current Gain	h_{FE}	$V_{CE} = 10\text{V}, I_C = 150\text{mA}$	50	-	250
		$V_{CE} = 2.5\text{V}, I_C = 150\text{mA}$	25		-
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 150\text{mA}, I_B = 15\text{mA}$	-	1.4	V
Base - Emitter Saturation Voltage	$V_{BE(sat)}$			1	

Small Signal Characteristics

Current Gain-Bandwidth Product	f_T	$V_{CE} = 10\text{V}, I_C = 50\text{mA}, f = 20\text{MHz}$	100	-	MHz
Output Capacitance	C_{ObO}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	-	12	pF
Input Capacitance	C_{ibO}	$V_{BE} = 500\text{mV}, I_C = 0, f = 1\text{MHz}$		80	

Note 1 : Pulse Test : Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 1\%$



Pin Configuration:

1. Emitter
2. Base
3. Collector

Dim.	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
Transistor, NPN, 0.7A, 60V, TO-39	2N3053A

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