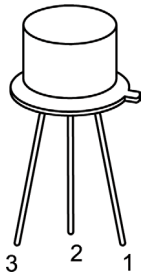
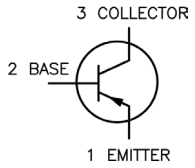
Power Transistor

RoHS Compliant





Description:

A Silicon PNP 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.

Pin Configurations:

1. Emitter
2. Base
3. Collector

Maximum Ratings:

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}		
Emitter Base Voltage	V_{EBO}	5	
Continuous Collector Current	I_C	1	A
Total Device Dissipation -(T_A = +25°C), Derate Above 25°C	P_D	0.8 4.56	W mW/°C
Total Device Dissipation -(T_C = +25°C), Derate Above 25°C		4 22.8	
Operating Junction Temperature Range	T_J	-65 to +200	°C
Storage Temperature Range,	T_{stg}		
Thermal Resistance, Junction-to-Case	R_{thJC}	20	°C/W
Thermal Resistance, Junction-to-Ambient	R_{thJA}	140	
Lead temperature (During Soldering, 1/16" from case, 60sec max)	T_L	300	°C

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

Parameter	Symbol	Test Conditions	Min	Max	Unit
OFF Characteristics					
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 100mA, I_B = 0	60	-	V
Collector-Base Breakdown Voltage		I_C = 100µA, I_B = 0			
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 100µA. I_C= 0	5		
Collector Cut-off Current	I_{CBO}	V_{CB} = 50V, I_E = 0	-	50	nA
		V_{CB} = 50V, I_E = 0,T_A = +150°C			µA
Emitter Cut-off Current	I_{EBO}	V_{BE} = 5V, I_C = 0		10	
ON Characteristics					
DC Current Gain	h_{FE}	V_{CE} = 5V, I_C = 100µA	75	-	-
		V_{CE} = 5V, I_C = 100mA	100	300	
		V_{CE} = 5V, I_C = 100µA,T_A = -55°C	40	-	
		V_{CE} = 5V, I_C = 500mA	70		
		V_{CE} = 5V, I_C = 1A	40		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 150mA, I_B = 15mA	-	0.15	V
		I_C = 500mA, I_B = 50mA		0.5	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 150mA, I_B = 15mA		0.9	
Base-Emitter ON Voltage	$V_{BE(on)}$	V_{CE} = 500mV, I_C = 500mA		1.1	
Small - Signal Characteristics					
Output Capacitance	C_{obo}	V_{CE} = 10V, f = 1MHz	-	20	pF
Input Capactance	C_{IBO}	V_{EB} = 500mV, f = 1MHz		110	
Small Signal Current Gain	h_{fe}	V_{CE} = 10V, I_C = 50mA, f = 500MHz	1	4	-
Switching Characteristics					
Storage Time	t_s	I_C = 500mA, I_{B1} = I_{B2} = 50mA	-	350	ns
Turn-On-Time	t_{on}	I_C = 500mA, I_{B1} = 50mA		100	
Fall Time	t_f	I_C = 500mA, I_{B1} = I_{B2} = 50mA		50	

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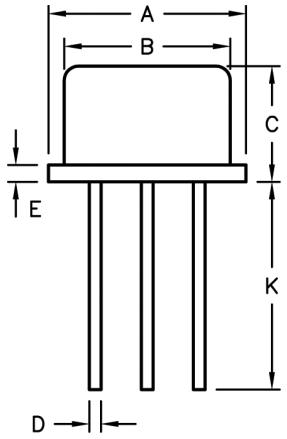

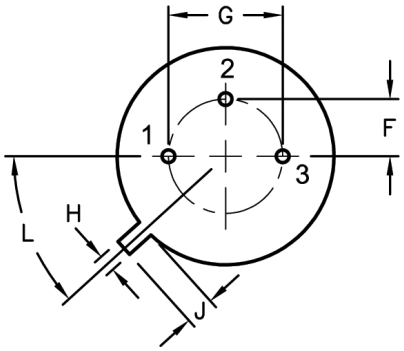

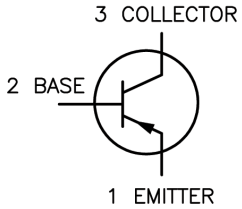

Dim	A	B	C	D	E	F	G	H	J	K	L
Min.	8.5	7.74	6.09	0.4	-	2.41	4.82	0.71	0.73	12.7	42°
Max.	9.39	8.5	6.6	0.53	0.88	2.66	5.33	0.86	1.02	-	48°

Dimensions : Millimetres

Part Number Table

Description	Part Number
Transistor, PNP, 1A, 60V, TO-39	2N4032