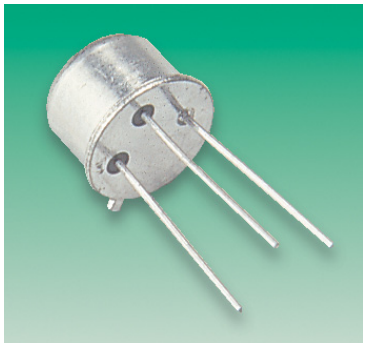
2N4033

General Purpose Transistor

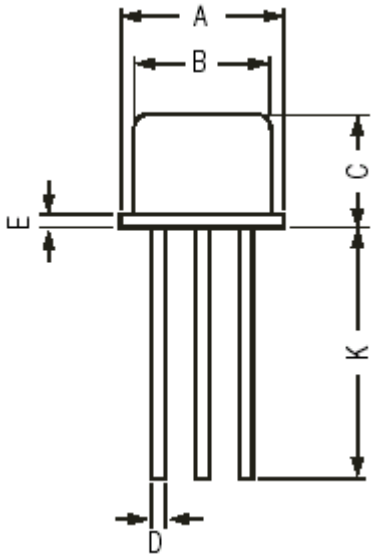
Amplifiers/Switches



Features:

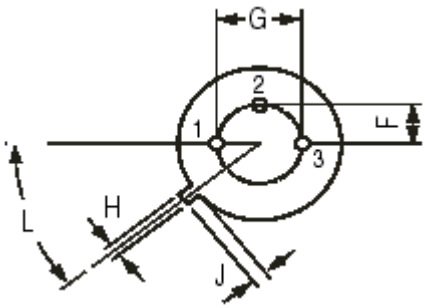
- PNP Silicon Planar RF Transistor.
- Small Signal General Purpose Amplifier, Transistor.

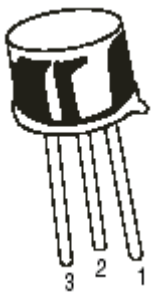
TO-39 Metal Can Package



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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multicomp

Absolute Maximum Ratings (T_a = 25°C unless specified otherwise)

Parameter	Symbol	Rating	Units
Collector Emitter Voltage	V_{CEO}	80	V
Collector Base Voltage	V_{CBO}		
Emitter Base Voltage	V_{EBO}	5	
Collector Current	I_{CM}	1	A
Power Dissipation at T_a = 25°C Derate above 25°C	P_D	800 4.6	mW mW/°C
Power Dissipation at T_c = 25°C Derate above 25°C		4 22.85	W mW/°C
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-65 to +200	°C

Electrical Characteristics (T_a = 25°C unless specified otherwise)

Parameter	Symbol	Test Condition	Minimum	Maximum	Units
Collector Emitter Breakdown Voltage	BV_{CEO*}	I_C = 10mA, I_B = 0	80	-	V
Collector Base Breakdown Voltage	BV_{CBO}	I_C = 10µA, I_E = 0		-	
Emitter Base Breakdown Voltage	BV_{EBO}	I_E = 10µA, I_C = 0	5	-	
Collector Leakage Current	I_{CBO}	V_{CB} = 60V, I_E = 0 V_{CB} = 60V, T_A = 150ºC	-	50 50	nA µA
Emitter Leakage Current	I_{EBO}	V_{EB} = 5V, I_C = 0	-	10	µA
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$ *	I_C = 150mA, I_B = 15mA I_C = 500mA, I_B = 50mA		0.15 0.5	V
Base Emitter Saturation Voltage	$V_{BE(Sat)}$ *	I_C = 150mA, I_B = 15mA	-	0.9	
Base Emitter On Voltage	$V_{BE(on)}$ *	I_C = 500mA, V_{CE} = 0.5V	-	1.1	
DC Current Gain	h_{FE*}	I_C = 100mA, V_{CE} = 5V I_C = 100mA, V_{CE} = 5V I_C = 100mA, V_{CE} = 5V, T_a = -55°C I_C = 1A, V_{CE} = 5V	75 100 40 25	300	-
Small Signal Characteristics					
Transition Frequency	f_T	I_C = 50mA, V_{CE} = 10V, f = 100MHz	150	500	MHz
Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz	-	20	pF
Input Capacitance	C_{ib}	V_{BE} = 0.5V, I_C = 0, f = 1MHz	-	110	
Turn on Time	t_{on}	I_C = 500mA, I_{B1} = 50mA	-	100	nS
Storage Time		I_C = 500mA, I_{B1} = I_{B2} = 50mA	-	350	
Fall Time	t_f	I_C = 500mA, I_{B1} = I_{B2} = 50mA	-	50	

*Pulse Test: Pulse Width ≤300µs, Duty Cycle ≤2%

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Specifications

V_{CEO} (V)	V_{CBO} maximum (V)	I_C (A)	h_{FE} minimum at I_C = 100mA	f_T minimum (MHz)	P_{tot} (mW)	Package	Type	Part Number
80	80	1	100	150	800	TO-39	PNP	2N4033

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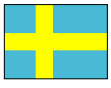

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