

General Purpose Transistor



Pin Configuration

1. Emitter
2. Base
3. Collector

Features:

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

Absolute Maximum Ratings:

($T_a = 25^\circ\text{C}$ unless otherwise specified)

Characteristic	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	-80	V
Collector-Emitter Voltage	V_{CEO}		
Emitter-Base Voltage	V_{EBO}		
Collector Current	I_{CM}	-1	A
Power Dissipation at $T_a = 25^\circ\text{C}$ Derate above 25°C	P_{D}	800	mW
		4.6	mW/ $^\circ\text{C}$
Power Dissipation at $T_c = 25^\circ\text{C}$ Derate above 25°C		4	W
		22.85	mW/ $^\circ\text{C}$
Operating and Storage Temperature Range	T_j, T_{stg}	-65 to +200	$^\circ\text{C}$

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Electrical Characteristics:

(T_a = +25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Max.	Unit
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			
Collector Leakage Current	I _{CBO}	V _{CB} = 60V, I _E = 0	-	50	nA
		V _{CB} = 60V, T _A = 150°C			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	-	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)} *	I _C = 500mA, V _{CE} = 0.5V		1.1	
DC Current Gain	h _{FE} *	I _C = 100mA, V _{CE} = 5V	75	300	-
		I _C = 100mA, V _{CE} = 5V	100		
		I _C = 100mA, V _{CE} = 5V, T _a = -55°C	40		
		I _C = 1A, V _{CE} = 5V	25		

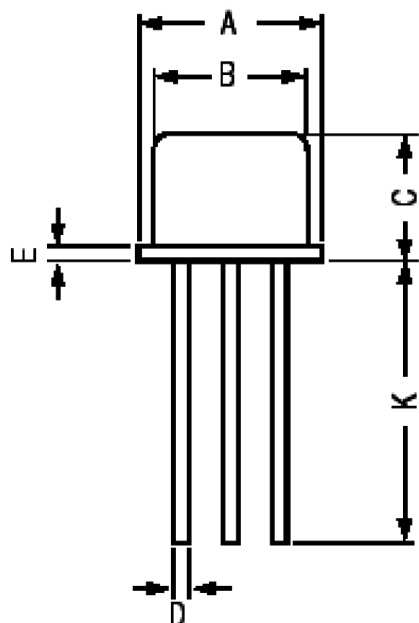
Small Signal Characteristics

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%

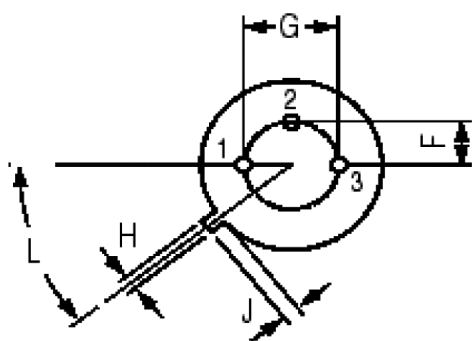
General Purpose Transistor

TO-39 Metal Can Package



Dim.	Min.	Max.
A	8.5	9.39
B	7.74	8.5
C	6.09	6.6
D	0.4	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	12.7	-
L	42°	48°

Dimensions : Millimetres



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2. Base
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Part Number Table

Description	Part Number
Transistor, PNP, TO-39	2N4033

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