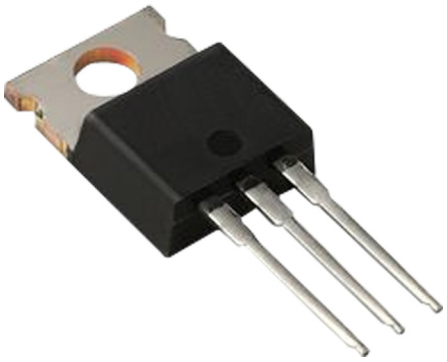
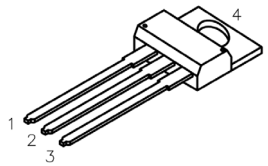
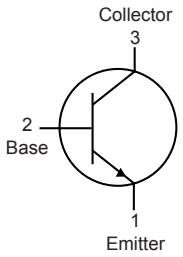
General Purpose Transistor

RoHS Compliant







Description:

A silicon NPN transistor in a standard TO-220 type package designed for use in general purpose amplifier and switching applications

Maximum Ratings:

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}		
Emitter-Base Voltage	V_{EBO}	5	
Continuous Collector Current	I_C	4	A
Base Current	I_B	1	
Total Device Dissipation (T_C = +25°C) Derate Above 25°C	P_D	40 320	W mW/°C
Operating Junction Temperature Range	T_J	-65 to +150	°C
Storage Temperature Range	T_{stg}		

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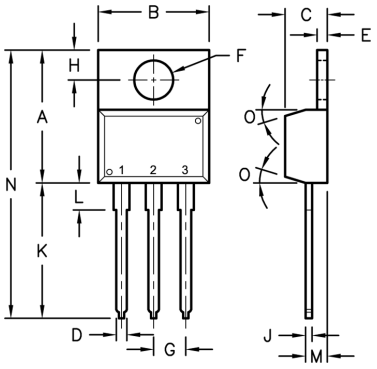
Electrical Characteristics (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
OFF Characteristics					
Collector-Emitter Breakdown Voltage (Note 1)	$V_{(BR)CEO}$	I_C = 0.1A, I_B = 0	80	-	V
Collector Cut-Off Current	I_{CEX}	V_{CE} = 80V, $V_{EB(off)}$ = 1.5V	-	0.1	mA
	I_{CBO}	V_{CB} = 80V, I_E = 0			
	I_{CEO}	V_{EB} = 80V, I_B = 0		1	
Emitter Cut-Off Current	I_{EBO}	V_{EB} = 5V, I_C = 0			
ON Characteristics (Note 1)					
DC Current Gain	h_{FE}	V_{CE} = 2V, I_C = 1.5A	20	80	-
		V_{CE} = 2V, I_C = 2A	7	-	
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 1.5A, I_B = 0.15A	-	0.6	V
		I_C = 4A, I_B = 1A		1.4	
Base - Emitter on Voltage	$V_{BE(on)}$	I_C = 1.5A, V_{CE} = 2V		1.2	
Small Signal Characteristics					
Current Gain-Bandwidth Product	f_T	V_{CE} = 4V, I_C = 1A, f = 1MHz	2.5	-	MHz
Small-Signal Current Gain	h_{fe}	V_{CE} = 2V, I_C = 0.1A, f = 1kHz			-

Note 1 : Pulse Test : Pulse Width ≦ 300μs, Duty Cycle ≦ 2%

Dim.	A	B	C	D	E	F	G	H	J	K	L	M	N	O
Min.	14.42	9.63	3.56	-	1.15	3.75	2.29	2.54	-	12.7	2.8	2.03	-	7°
Max.	16.51	10.67	4.83	0.9	1.4	3.88	2.79	3.43	0.56	14.73	4.07	2.92	31.24	

Dimensions : Millimetres



Pin Configuration
1. Base
2. Collector
3. Emitter
4. Collector

Part Number Table

Description	Part Number
Transistor, NPN, 4A, 80V, TO-220	2N6123

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