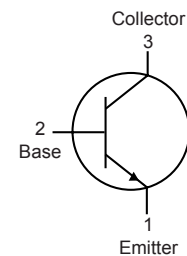
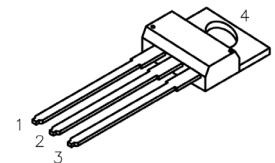
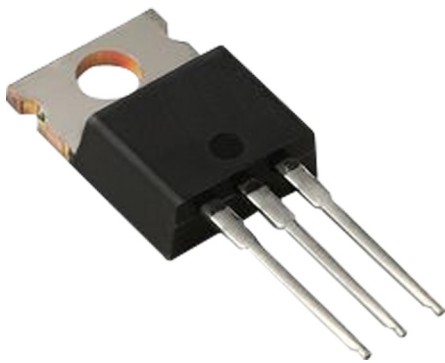


General Purpose Transistor



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 ($T_C = +25^\circ\text{C}$) Derate Above 25°C	P_D	40 320	W mW/ $^\circ\text{C}$
Operating Junction Temperature Range	T_J	-65 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}		



General Purpose Transistor

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

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
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OFF Characteristics

Collector-Emitter Breakdown Voltage (Note 1)	$V_{(BR)CEO}$	$I_C = 0.1\text{A}, I_B = 0$	80	-	V
Collector Cut-Off Current	I_{CEX}	$V_{CE} = 80\text{V}, V_{EB(off)} = 1.5\text{V}$	-	0.1	mA
	I_{CBO}	$V_{CB} = 80\text{V}, I_E = 0$			
	I_{CEO}	$V_{EB} = 80\text{V}, I_B = 0$			
Emitter Cut-Off Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$		1	

ON Characteristics (Note 1)

DC Current Gain	h_{FE}	$V_{CE} = 2\text{V}, I_C = 1.5\text{A}$	20	80	-
		$V_{CE} = 2\text{V}, I_C = 2\text{A}$	7	-	
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1.5\text{A}, I_B = 0.15\text{A}$	-	0.6	V
		$I_C = 4\text{A}, I_B = 1\text{A}$		1.4	
Base - Emitter on Voltage	$V_{BE(on)}$	$I_C = 1.5\text{A}, V_{CE} = 2\text{V}$		1.2	

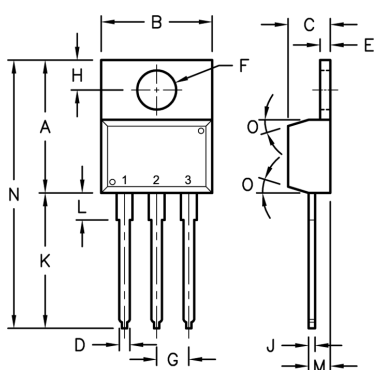
Small Signal Characteristics

Current Gain-Bandwidth Product	f_T	$V_{CE} = 4\text{V}, I_C = 1\text{A}, f = 1\text{MHz}$	2.5	-	MHz
Small-Signal Current Gain	h_{fe}	$V_{CE} = 2\text{V}, I_C = 0.1\text{A}, f = 1\text{kHz}$			-

Note 1 : Pulse Test : Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

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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