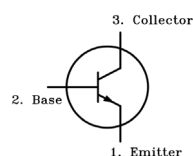
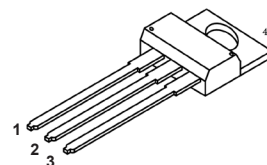
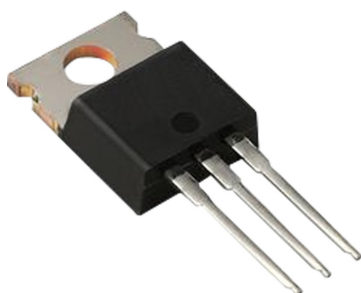


Bipolar Transistor



RoHS
Compliant



Description:

A Silicon NPN transistor in a TO-220 type package designed for high-voltage, high-speed power switching inductive circuits where fall time is critical. This device is particularly suited for 115V and 220V switch-mode applications such as switching regulators, inverters, motor controls, solenoid/relay drivers and deflection circuits

Maximum Ratings:

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	$V_{CEO(sus)}$	350	V
Collector-Base Voltage	V_{CBO}	6	
Collector Current - Continuous - Peak	I_C	5 10	A
Base Current - Continuous - Peak	I_B	2 12	
Total Power Dissipation ($T_C = +25^\circ\text{C}$), Derate Above 25°C	P_D	80 640	W mW/ $^\circ\text{C}$
Operating Junction Temperature	T_J	-65 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}		
Thermal Resistance, Junction-to-case	R_{thjc}	1.56	$^\circ\text{C/W}$
Lead Temperature (During Soldering, 1/8" from case, 5 sec)	T_L	+275	$^\circ\text{C}$



Bipolar Transistor



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

Parameter	Symbol	Test Conditions	Min.	Typ	Max.	Unit
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OFF Characteristics (Note 1)

Collector - Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 25\text{mA}, I_B = 0$	350	-	-	V
Collector Cutoff Current	I_{CEV}	$V_{CEV} = 450\text{V}, V_{BE(off)} = 1.5\text{V}$	-	-	1	mA
		$V_{CEV} = 225\text{V}, V_{BE(off)} = 1.5\text{V}, T_C = 100^\circ$	-	-	10	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 6\text{V}, I_C = 0$	-	-	1	mA

ON Characteristics (Note 1)

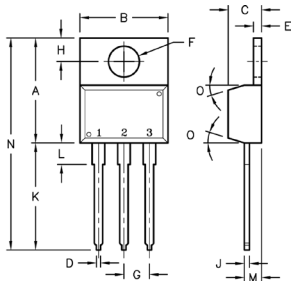
DC Current Gain	h_{FE}	$V_{CE} = 10\text{V}, I_C = 2.5\text{A}$	10	-	75	
		$V_{CE} = 10\text{V}, I_C = 5\text{A}$	3	-	-	
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 2.5\text{A}, I_B = .5\text{A}$	-	-	1.5	V
		$I_C = 5\text{A}, I_B = 2\text{A}$	-	-	5	V
Base - Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 2.5\text{A}, I_B = 0.5\text{A}$	-	-	1.5	V
		$I_C = 5\text{A}, I_B = 2\text{A}$	-	-	2.5	V

Dynamic Characteristics

Current Gain - Bandwidth Product	f_T	$V_{CE} = 10\text{V}, I_C = 250\text{mA}, f = 1\text{MHz}$	5	-	-	MHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 0.1\text{MHz}$	-	150	-	pF

Switching Characteristics (Resistive Load)

Note 1 : Pulse test : -Pulse width = 5ms, duty cycle $\leq 10\%$



Pin Configuration:

1. Emitter
2. Base
3. Collector

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

Part Number Table

Description	Part Number
Transistor, NPN, 5A, 350V, TO-220	2N6499

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