TIGER ELECTRONIC CO.,LTD

Product specification

Silicon NPN Power Transistor — MJE13009

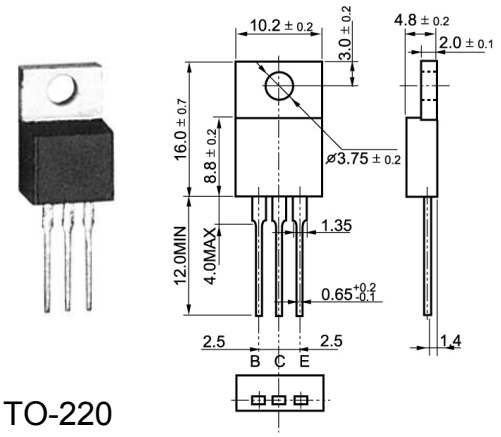
RoHS COMPLIANT

DESCRIPTION

The MJE13009 is a high voltage Multiepitaxial Mesa NPN transistor mounted in Jedec TO-220 plastic package. It uses a Hollow Emitter structure to enhance switching speeds.

Absolute Maximum Ratings (Ta = 25℃)

Parameter	I	Value	Unit
Collector-Base Voltage	V_{CBO}	700	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	9	V
Collector Current	I_C	12	A
Base Current	I_B	6	A
Total Dissipation at	P_{tot}	100	W
Max. Operating Junction Temperature	T_j	150	ºC
Storage Temperature	T_{stg}	-65~150	ºC



TO-220

Electrical Characteristics (Ta = 25℃)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector Cut-off Current	I_{CBO}	V_{CE}=700V, I_E=0	—	—	10	uA
Emitter Cut-off Current	I_{EBO}	V_{EB}=6.0V, I_C=0	—	—	10	uA
Collector-Emitter Sustaining Voltage	V_{CEO}	I_C=10mA, I_B=0	400	—	—	V
DC Current Gain	h_{FE}	V_{CE}= 5V, I_C= 5.0A	8.0	—	40	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=8.0A,I_B=1.6A	—	—	1.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=8.0A,I_B=1.6A	—	—	1.6	V
Current Gain Bandwidth Product	f_T	V_{CE}=10V, I_C=0.5A	4.0	—	—	MHz
Turn Off Time	t_S	I_{B1}=-I_{B2}=0.5A,	2.0	—	5.0	us

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