TIGER ELECTRONIC CO.,LTD

Product specification

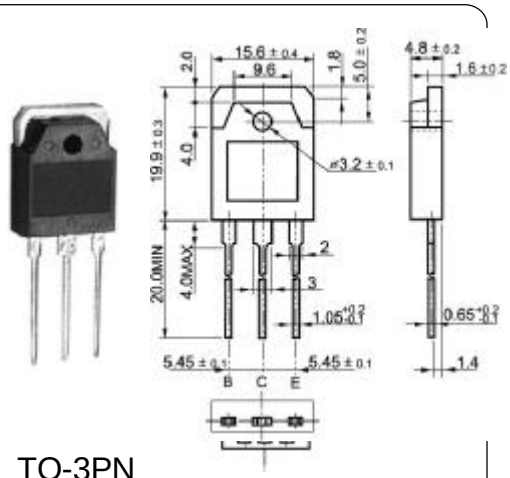
SWITCHMODE Series NPN Silicon Power Transistors — MJE13009

DESCRIPTION

These devices are designed for high –voltage, high –speed power switching inductive circuits where fall time is critical. They are particularly suited for 115 and 220 V SWITCHMODE such as Switching Regulator’ s, Inverters, Motor Controls,applications Solenoid/Relay drivers and Deflection circuits.

ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

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	12.0	A
Base Current	I_B	6.0	A
Total Dissipation at	P_{tot}	110	W
Max. Operating Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~150	°C



TO-3PN

ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector Cut-off Current	I_{CEO}	V_{CB}=400V, I_E=0	—	—	1.0	mA
Emitter Cut-off Current	I_{EBO}	V_{EB}=9V, I_C=0	—	—	1.0	mA
Collector-Emitter Sustaining Voltage	V_{CEO}	I_C=10mA, I_B=0	400	—	—	V
DC Current Gain	$h_{FE(1)}$	V_{CE}=5V, I_C=5.0A	8	—	40	
	$h_{FE(2)}$	V_{CE}=5V, I_C=8.0A	6	—	30	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=8.0A,I_B=1.6A	—	—	1.5	V
		I_C=12.0A,I_B=3.0A	—	—	3.0	
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=500mA	4	—	—	MHz
Storage Time	T_S	I_{B1}=I_{B2}=1.6A t_p=25us	—	3.5	4	us