TIGER ELECTRONIC CO.,LTD

Product specification

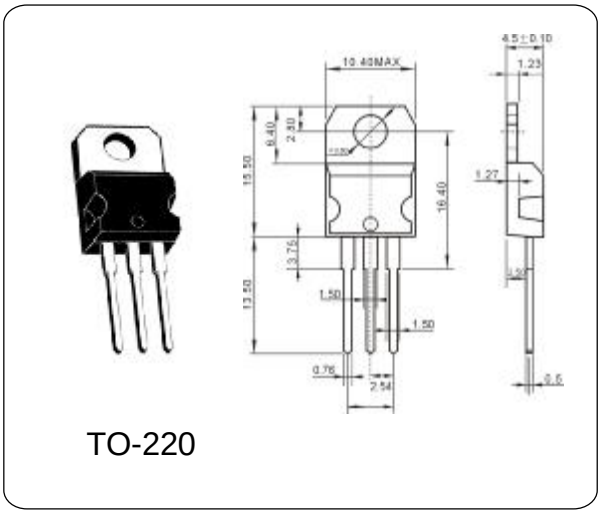
Silicon NPN Power Transistor — MJE13007

DESCRIPTION

Silicon NPN, high power transistors in a plastic envelope, primarily for use in high-speed power switching 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	8.0	A
Base Current	I_B	4	A
Total Dissipation at	P_{tot}	80	W
Max. Operating Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~150	°C



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Electrical Characteristics (Ta = 25 °C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector Cut-off Current	I_{CBO}	V_{CE}=700V, 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=2.0A	8	—	40	
	$h_{FE(2)}$	V_{CE}=5V, I_C=5.0A	6	—	30	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=8.0A,I_B=2.0A	—	—	3.0	V
		I_C=5.0A,I_B=1.0A	—	—	1.5	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=5.0A,I_B=1.0A	—	—	1.6	V
Current Gain Bandwidth Product	f_T	V_{CE}=10V, I_C=0.5A,f=1MHz	4	—	—	MHz
Output Capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=0.1MHz	—	110	—	pF
Turn Off Time	t_S	I_{B1}=-I_{B2}=1.6A,T_P=25 μ s	—	1.7	4.0	us