TIGER ELECTRONIC CO.,LTD

Product specification

Silicon NPN Power Transistor

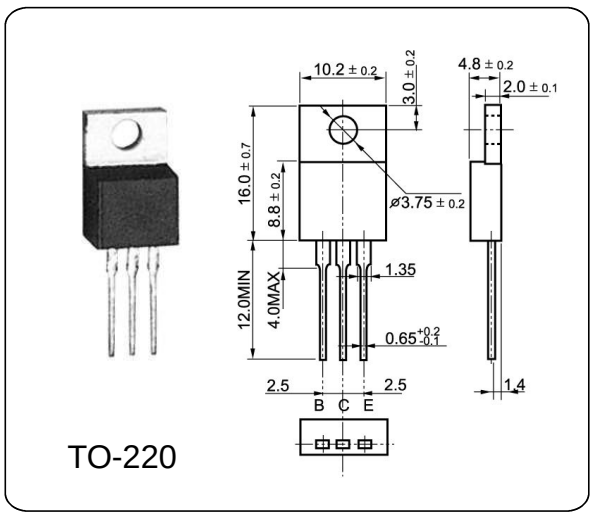
MJE13005

DESCRIPTION

Silicon NPN, high power transistors in a plastic envelope, primarily for use in high-speed power switching circuits.

Absolute Maximum Ratings (Ta = 25)

Parameter	Symbol	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	4.0	A
Base Current	I_B	2.0	A
Total Dissipation at	P_{tot}	75	W
Max. Operating Junction Temperature	T_j	150	^oC
Storage Temperature	T_{stg}	-55~150	^oC



Electrical Characteristics (Ta = 25)

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=1.0A	15		21	
	$h_{FE(2)}$	V_{CE}=5V, I_C=1.0A	21		32	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=4.0A,I_B=1.0A			1.0	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=2.0A,I_B=0.5A			1.6	V
Current Gain Bandwidth Product	f_T	V_{CE}=10V, I_C=0.5A	4			MHz
Output Capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=0.1MHz		65		pF
Turn Off Time	t_S	I_{B1}=-I_{B2}=1.6A,T_P=25 s		2.5	4.0	us