



Pb Free Plating Product

E13005-225

MJE Power Transistor

Silicon NPN Power Transistor

Product specification

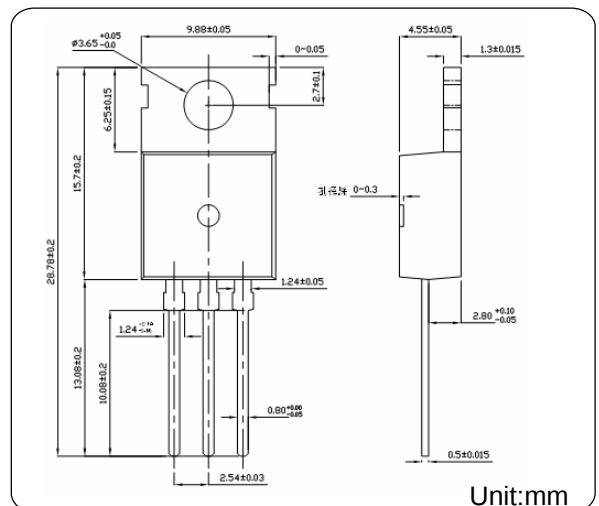
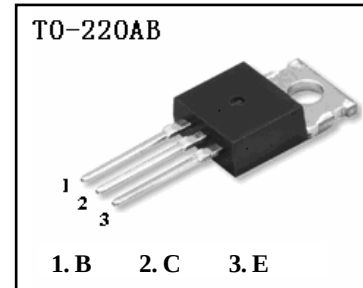
MJE13005 series

DESCRIPTION

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

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

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	4.0	A
Base Current	I_B	2.0	A
Total Dissipation at	P_{tot}	70	W
Max. Operating Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~150	$^\circ\text{C}$

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector Cut-off Current	I_{CBO}	$V_{CE}=700\text{V}, I_E=0$	—	—	10	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=6.0\text{V}, I_C=0$	—	—	10	μA
Collector-Emitter Sustaining Voltage	V_{CEO}	$I_C=10\text{mA}, I_B=0$	400	—	—	V
DC Current Gain	h_{FE}	$V_{CE}=5\text{V}, I_C=1.0\text{A}$	15	—	30	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=4.0\text{A}, I_B=1.0\text{A}$	—	—	1.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=2.0\text{A}, I_B=0.5\text{A}$	—	—	1.6	V
Current Gain Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=0.5\text{A}$	4	—	—	MHz
Turn Off Time	t_S	$I_{B1}=-I_{B2}=0.5\text{A},$	2.0	2.5	4.0	μs