Pb Free Plating Product

E13005D-213

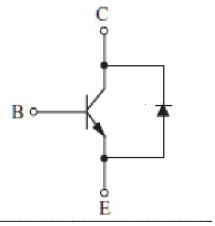
MJE Power Transistor with Damping Diode

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.

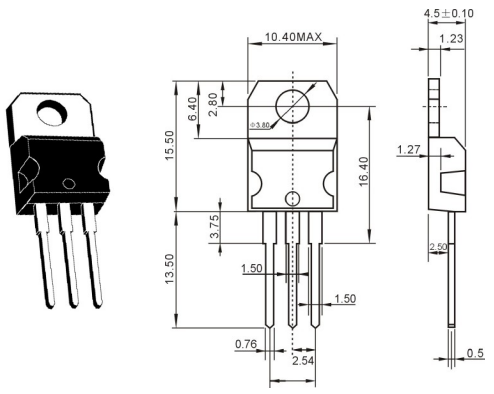
Equivalent Circuit



Active anti-saturation network

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



TO-220(M)

Unit:mm

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=1.0A	15	—	30	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=4.0A,I_B=1.0A	—	—	1.5	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
Turn Off Time	t_S	I_{B1}=-I_{B2}=0.5A,	2.0	2.5	4.0	us