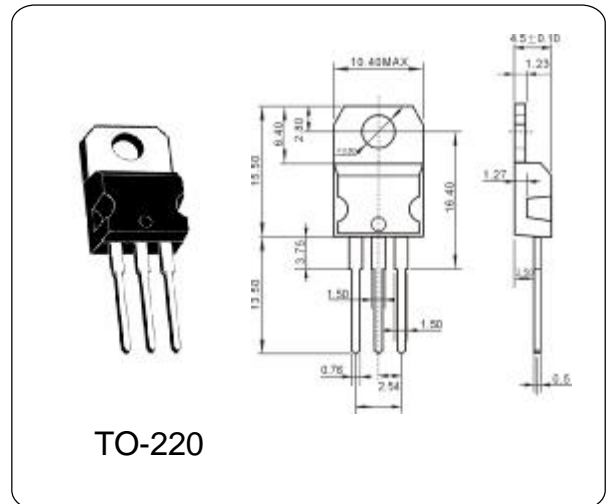


Silicon NPN Power Transistor
MJE13007
DESCRIPTION

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


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	$I_{B1}=-I_{B2}=1.6A, T_P=25\mu s$	—	1.7	4.0	us