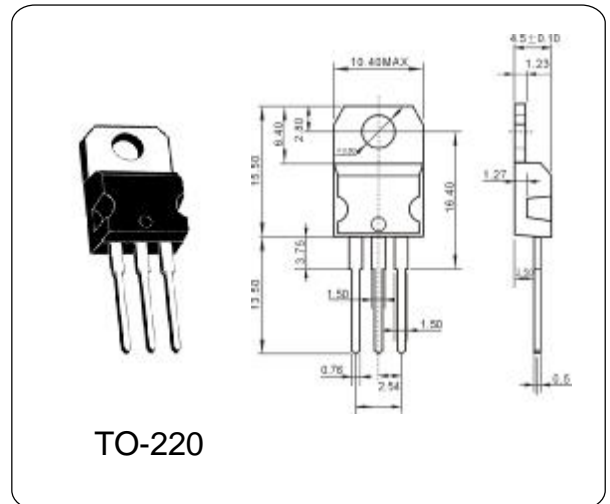


**Silicon NPN Power Transistor**
**MJE13007**
**DESCRIPTION**

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