

MJE2801 HIGH-POWER NPN SILICON TRANSISTOR

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	60	Vdc
Collector-Base Voltage	V_{CB}	60	Vdc
Emitter-Base Voltage	V_{EB}	4.0	Vdc
Collector Current	I_C	10	Adc
Base Current	I_B	5.0	Adc
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_{D1}	90 0.72	Watts W/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150	°C

THERMAL CHARACTERISTICS

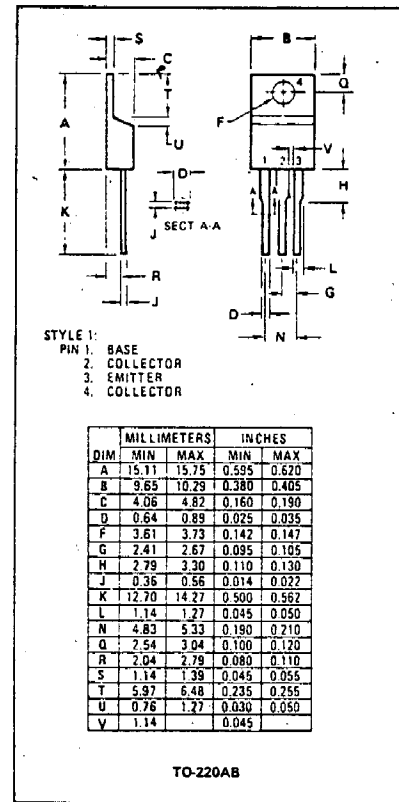
Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	θ_{JC}	1.39	°C/W

†Safe Area Curves are indicated by Figure 1. Both limits are applicable and must be observed.

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage (1) ($I_C = 200 \text{ mA}, I_B = 0$)	BV_{CEO}	60	—	Vdc
Collector-Cutoff Current ($V_{CB} = 60 \text{ Vdc}, I_E = 0$) ($V_{CB} = 60 \text{ Vdc}, I_E = 0, T_C = 150^\circ\text{C}$)	I_{CBO}	—	0.1 2.0	mAdc
Emitter Cutoff Current ($V_{BE} = 4.0 \text{ Vdc}, I_C = 0$)	I_{EBO}	—	1.0	mAdc
ON CHARACTERISTICS				
DC Current Gain ($I_C = 3.0 \text{ Adc}, V_{CE} = 2.0 \text{ Vdc}$)	h_{FE}	25	100	—
Base-Emitter Voltage ($I_C = 3.0 \text{ Adc}, V_{CE} = 2.0 \text{ Vdc}$)	V_{BE}	—	1.4	Vdc

(1) Pulse Test: Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 2.0\%$.



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