

isc Silicon NPN Power Transistor
MJE13007A
DESCRIPTION

- Collector–Emitter Sustaining Voltage
: $V_{CEO(SUS)} = 400V(\text{Min.})$
- Collector Saturation Voltage
: $V_{CE(sat)} = 2.0(\text{Max}) @ I_C = 5.0A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

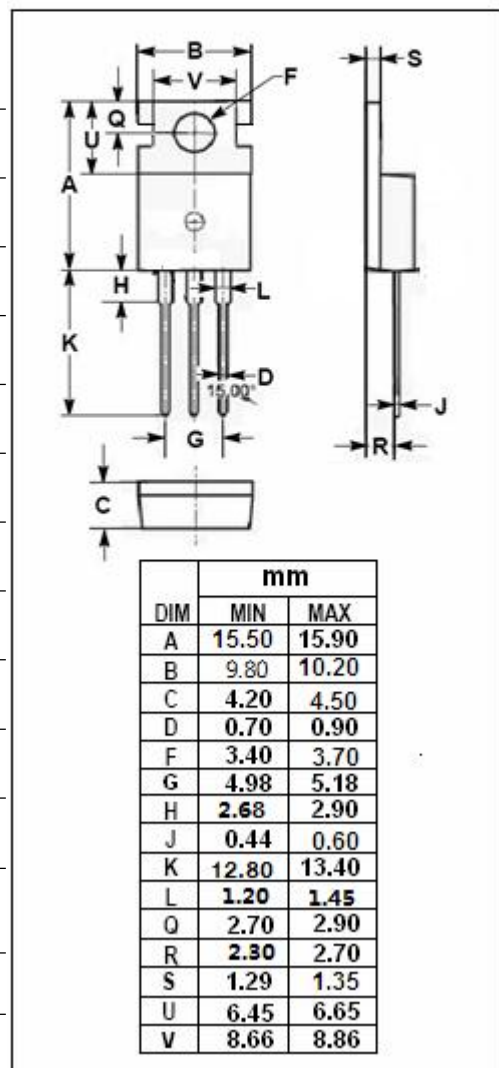
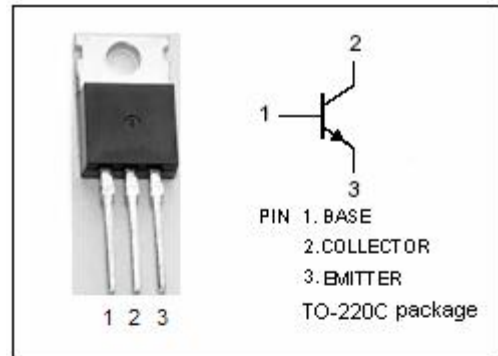
- Designed for use in high-voltage, high-speed.

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEV}	Collector-Emitter Voltage	850	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-peak	16	A
I_B	Base Current	4	A
I_{BM}	Base Current-Peak	8	A
P_C	Collector Power Dissipation $T_C=25^\circ\text{C}$	80	W
T_i	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.56	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

T_c =25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 10mA; I _B = 0	400		V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 2A ;I _B = 0.4A		1.0	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 5A ;I _B = 1A		2.0	V
V _{CE(sat)-3}	Collector-Emitter Saturation Voltage	I _C = 8A ;I _B = 2A		3.0	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage	I _C = 2A ;I _B = 0.4A		1.2	V
V _{BE(sat)-2}	Base-Emitter Saturation Voltage	I _C = 5A ;I _B = 1A		1.6	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 700V; I _E =0		0.1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 9V; I _C = 0		0.1	mA
h _{FE-1}	DC Current Gain	I _C = 2A; V _{CE} = 5V	8	40	
h _{FE-2}	DC Current Gain	I _C = 5A; V _{CE} = 5V	5	30	

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