

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

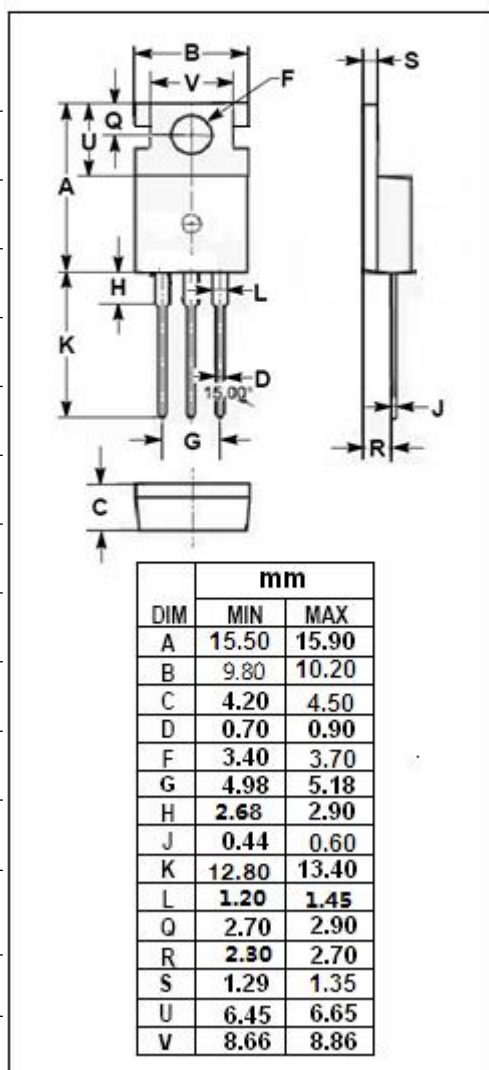
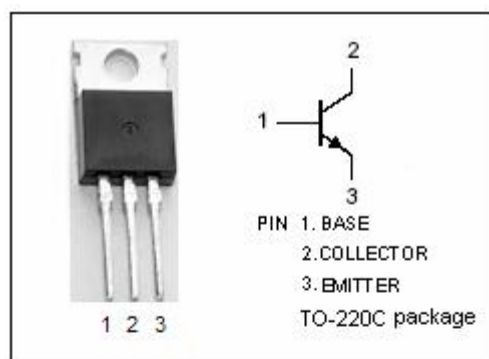
- Designed for use in high-voltage, high-speed.

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_j	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

 $T_c = 25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 10\text{mA}; I_B = 0$	400		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = 2\text{A}; I_B = 0.4\text{A}$		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = 5\text{A}; I_B = 1\text{A}$		2.0	V
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	$I_C = 8\text{A}; I_B = 2\text{A}$		3.0	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C = 2\text{A}; I_B = 0.4\text{A}$		1.2	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C = 5\text{A}; I_B = 1\text{A}$		1.6	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 700\text{V}; I_E = 0$		0.1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 9\text{V}; I_C = 0$		0.1	mA
h_{FE-1}	DC Current Gain	$I_C = 2\text{A}; V_{CE} = 5\text{V}$	8	40	
h_{FE-2}	DC Current Gain	$I_C = 5\text{A}; V_{CE} = 5\text{V}$	5	30	

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