

isc Silicon NPN Power Transistor

MJE8501

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 800V(\text{Min})$
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for high-voltage ,high-speed, power switching in inductive circuits where fall time is critical. They are particularly suited for line operated switch-mode applications.

Typical applications:

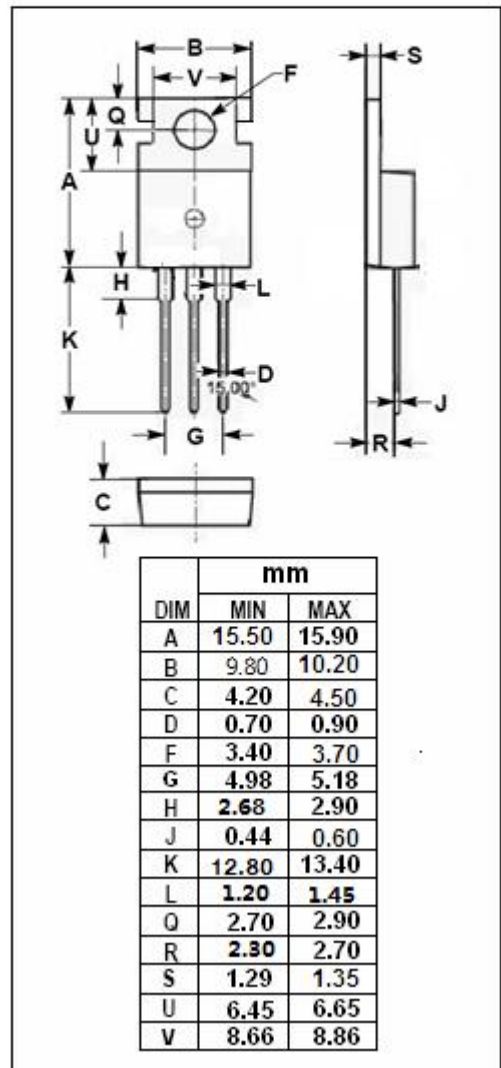
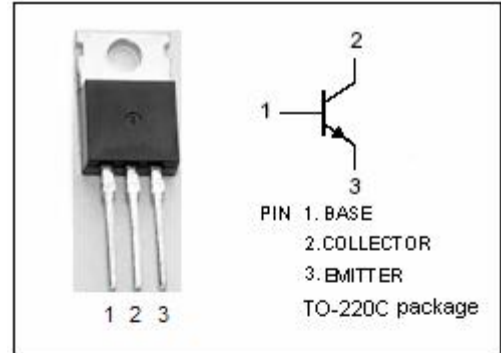
- Switching regulators
- Inverters
- Solenoid and relay drivers
- Motor controls
- Deflection circuits

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector- Base Voltage	1400	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	2.5	A
I_{CM}	Collector Current-Peak	5	A
I_B	Base Current-Continuous	2	A
I_{BM}	Base Current-Peak	4	A
P_C	Collector Power Dissipation@ $T_c=25^\circ\text{C}$	65	W
T_J	Junction Temperature	125	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65~125	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance,Junction to Case	1.54	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**MJE8501****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE0(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=10\text{mA}; I_B=0$	800			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.33\text{A}$ $I_C=1\text{A}; I_B=0.33\text{A}, T_C=100^{\circ}\text{C}$			2.0 3.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=2.5\text{A}; I_B=1\text{A}$			5.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.33\text{A}$ $I_C=1\text{A}; I_B=0.33\text{A}, T_C=100^{\circ}\text{C}$			1.5 1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=1400\text{V}; I_E=0$ $V_{CB}=1400\text{V}; I_E=0; T_C=100^{\circ}\text{C}$			0.25 5.0	mA
I_{CEO}	Collector Cutoff Current	$V_{CE}=800\text{V}; T_C=100^{\circ}\text{C}$			5.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=7\text{V}; I_C=0$			1.0	mA
h_{FE}	DC Current Gain	$I_C=0.5\text{A}; V_{CE}=5\text{V}$	7.5			
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1.0\text{kHz}$	50			pF

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