

isc Silicon NPN Power Transistor
MJW16010A
DESCRIPTION

- Low Collector Saturation Voltage
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 500V(\text{Min})$
- Wide Area of Safe Operation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

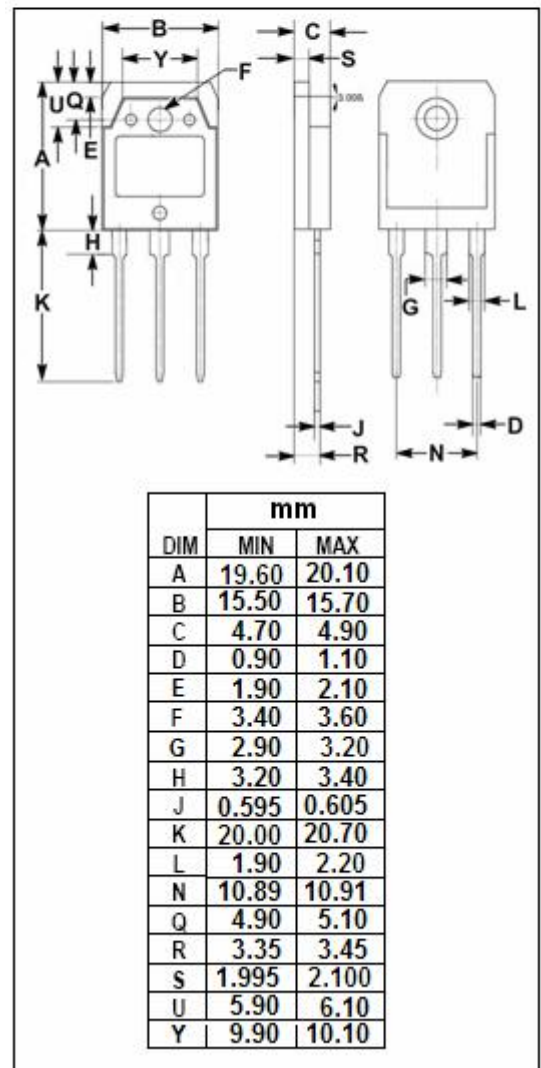
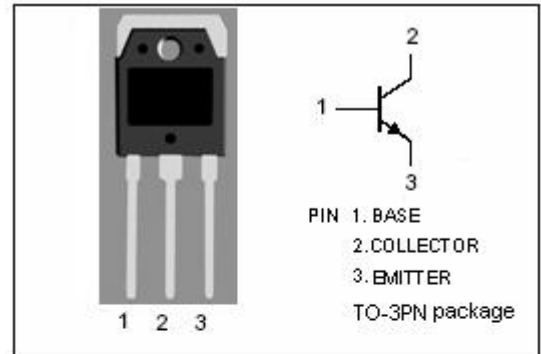
- Designed for high-voltage, high-speed, power switching in inductive circuits where fall time is critical. They are particularly suited for line-operated switchmode applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Emitter Voltage	1000	V
V_{CEO}	Collector-Emitter Voltage	500	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak	20	A
I_B	Base Current	10	A
I_{BM}	Base Current-Peak	15	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	135	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.92	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**MJW16010A****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=100\text{mA}; I_B=0$	500			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=1\text{A}$			0.7	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=2\text{A}$ $I_C=10\text{A}; I_B=2\text{A}; T_C=100^\circ\text{C}$			1.0 1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=10\text{A}; I_B=2\text{A}$ $I_C=10\text{A}; I_B=2\text{A}; T_C=100^\circ\text{C}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=1000\text{V}; I_E=0$ $T_C=100^\circ\text{C}$			0.15 1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$			0.15	mA
h_{FE}	DC Current Gain	$I_C=15\text{A}; V_{CE}=5\text{V}$	5	8		

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