

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

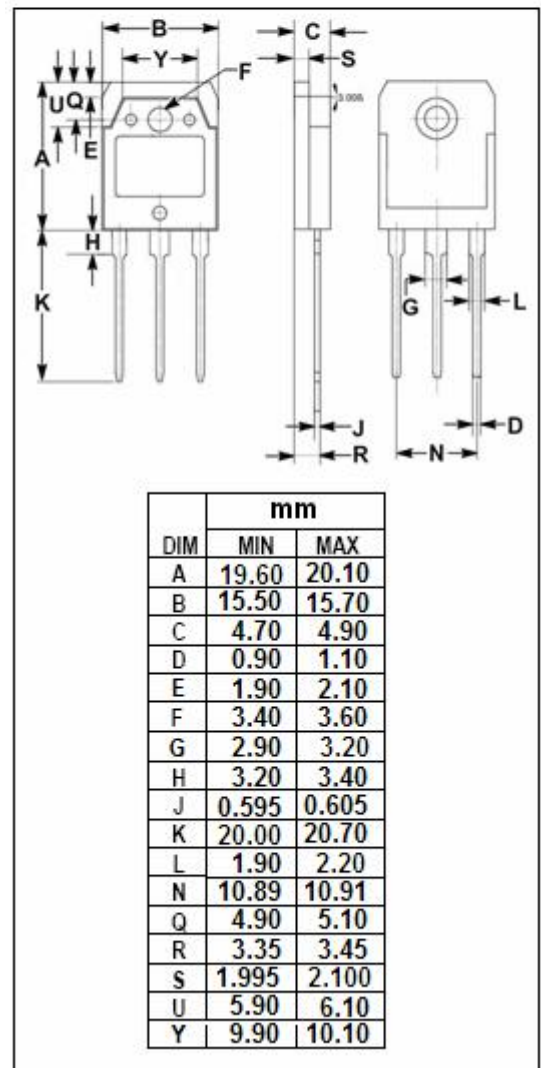
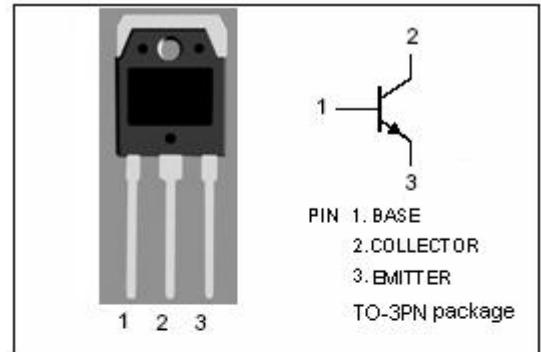
- Designed for high-voltage, high-speed, power switching in inductive circuits where fall time is critical. They are particularly suited for line-operated switchmode applications.

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 | $^\circ\text{C/W}$ |



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ELECTRICAL CHARACTERISTICS

 T_C=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|------------------------|--------------------------------------|---|-----|------|-------------|------|
| V _{CEO(SUS)} | Collector-Emitter Sustaining Voltage | I _C = 100mA ;I _B =0 | 500 | | | V |
| V _{CE(sat)-1} | Collector-Emitter Saturation Voltage | I _C = 5A; I _B = 1A | | | 0.7 | V |
| V _{CE(sat)-2} | Collector-Emitter Saturation Voltage | I _C = 10A; I _B = 2A I _C = 10A; I _B = 2A; T _C =100°C | | | 1.0 1.5 | V |
| V _{BE(sat)} | Base-Emitter Saturation Voltage | I _C = 10A; I _B = 2A I _C = 10A; I _B = 2A; T _C =100°C | | | 1.5 | V |
| I _{CBO} | Collector Cutoff Current | V _{CB} =1000V; I _E =0 T _C =100°C | | | 0.15 1.0 | mA |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = 6V; I _C =0 | | | 0.15 | mA |
| h _{FE} | DC Current Gain | I _C = 15A ; V _{CE} = 5V | 5 | 8 | | |

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