

isc Silicon NPN Power Transistor
BUW38
DESCRIPTION

- High Current Capability
- Fast Switching Speed
- Low Saturation Voltage and High Gain
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

Designed for use in high frequency and efficiency converters such as motor controllers and industrial equipment such as:

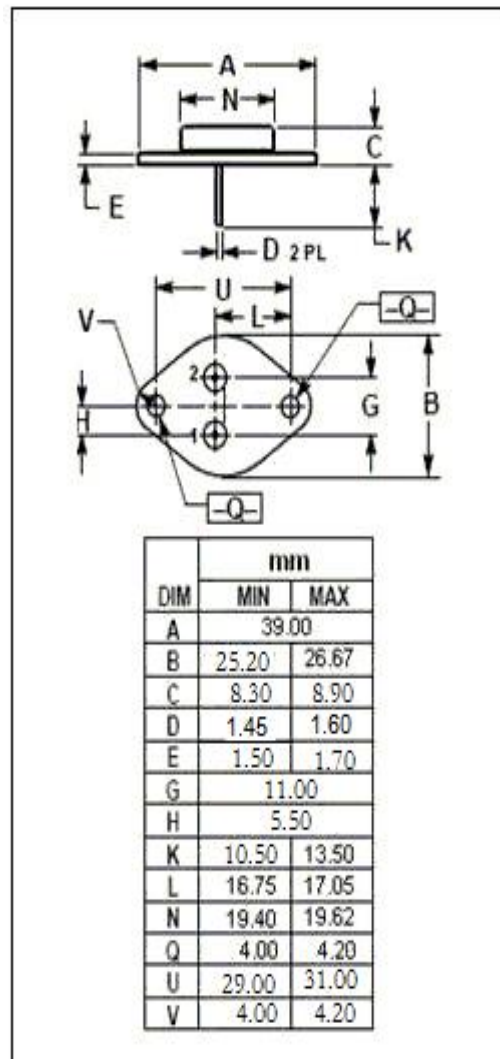
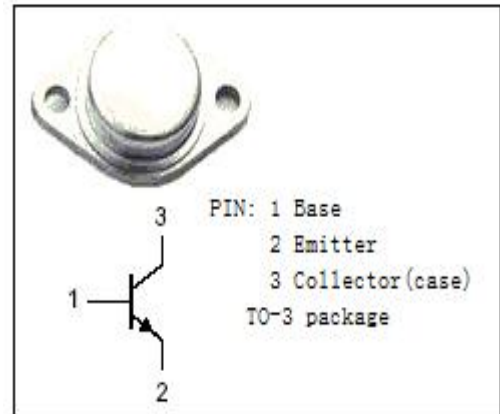
- Switching regulators
- Motor control
- High frequency and efficiency converters

Absolute maximum ratings(Ta=25°C)

| SYMBOL | PARAMETER | VALUE | UNIT |
|------------------|--|---------|------|
| V _{CB0} | Collector-Base Voltage | 120 | V |
| V _{CEO} | Collector-Emitter Voltage | 60 | V |
| V _{EBO} | Emitter-Base Voltage | 7 | V |
| I _C | Collector Current-Continuous | 30 | A |
| I _{CM} | Collector Current-Peak | 45 | A |
| I _B | Base Current-Continuous | 8 | A |
| I _{BM} | Base Current-peak | 20 | A |
| P _C | Collector Power Dissipation @T _C =25°C | 150 | W |
| T _j | Junction Temperature | 200 | °C |
| T _{stg} | Storage Temperature Range | -65~200 | °C |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------------|--------------------------------------|------|------|
| R _{th j-c} | Thermal Resistance, Junction to Case | 1.17 | °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 = 50mA; I _B = 0 | 60 | | | V |
| V _{(BR)EBO} | Emitter-Base Breakdown Voltage | I _E = 50mA; I _C = 0 | 7 | | | V |
| V _{CE(sat)-1} | Collector-Emitter Saturation Voltage | I _C = 20A; I _B = 2A | | | 0.6 | V |
| V _{CE(sat)-2} | Collector-Emitter Saturation Voltage | I _C = 40A; I _B = 4A | | | 1.4 | V |
| V _{BE(sat)} | Base-Emitter Saturation Voltage | I _C = 40A; I _B = 4A | | | 2.1 | V |
| I _{CEX} | Collector Cutoff Current | V _{CE} = V _{CEX} ; V _{BE} = -1.5V V _{CE} = V _{CEX} ; V _{BE} = -1.5V; T _C =100°C | | | 1.0 3.0 | mA |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = 5V; I _C = 0 | | | 1.0 | mA |
| h _{FE} | DC Current Gain | I _C = 5A; V _{CE} = 5V | 40 | | | |

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