查询BUV48供应商 捷多邦，专业PCB打样工厂，24小时加急出货



# isc Silicon NPN Power Transistor BUV48

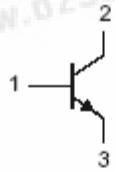
## DESCRIPTION

- High Voltage Capability
- High Current Capability
- Fast Switching Speed

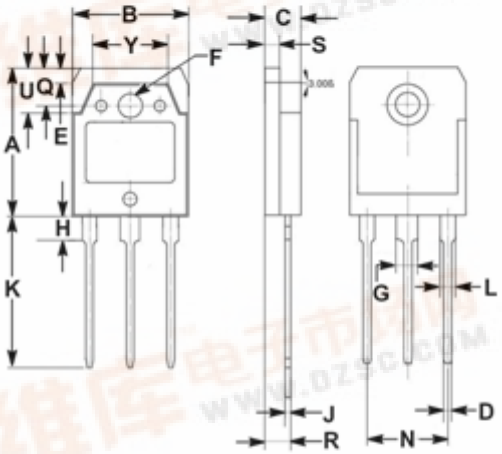
## APPLICATIONS

Designed for high-voltage,high-speed, power switching in inductive circuits where fall time is critical. They are particulary suited for line-operated swtchmode applications such as:

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




PIN 1. BASE
2. COLLECTOR
3. EMITTER
TO-3PN package




| DIM | mm MIN | mm MAX |
|---|---|---|
| A | 19.90 | 20.10 |
| B | 15.50 | 15.70 |
| C | 4.70 | 4.90 |
| D | 0.90 | 1.10 |
| E | 1.90 | 2.10 |
| F | 3.40 | 3.60 |
| G | 2.90 | 3.10 |
| H | 3.20 | 3.40 |
| J | 0.595 | 0.605 |
| K | 20.50 | 20.70 |
| L | 1.90 | 2.10 |
| N | 10.89 | 10.91 |
| Q | 4.90 | 5.10 |
| R | 3.35 | 3.45 |
| S | 1.995 | 2.005 |
| U | 5.90 | 6.10 |
| Y | 9.90 | 10.10 |

## Absolute maximum ratings(Ta=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CEX}$ | Collector-Emitter Voltage ($V_{BE}$= -1.5V) | 850 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 400 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 7 | V |
| $I_C$ | Collector Current-Continuous | 15 | A |
| $I_{CM}$ | Collector Current-Peak | 30 | A |
| $I_B$ | Base Current-Continuous | 5 | A |
| $I_{BM}$ | Base Current-peak | 20 | A |
| $P_C$ | Collector Power Dissipation @$T_C$=25℃ | 150 | W |
| $T_j$ | Junction Temperature | 175 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -65~175 | ℃ |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance,Junction to Case | 1.0 | ℃/W |

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C$= 0.2A ; $I_B$= 0; L= 25mH | 400 | | V |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage | $I_E$= 50mA; $I_C$= 0 | 7 | | V |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C$= 10A; $I_B$= 2A<br>$I_C$= 10A; $I_B$= 2A;$T_C$= 100℃ | | 1.5<br>2.0 | V |
| $V_{CE\ (sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C$= 15A ;$I_B$= 3A | | 5.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C$= 10A; $I_B$= 2A<br>$I_C$= 10A; $I_B$= 2A;$T_C$= 100℃ | | 1.6<br>1.6 | V |
| $I_{CER}$ | Collector Cutoff Current | $V_{CE}$=rated $V_{CER}$; $R_{BE}$= 10Ω<br>$V_{CE}$=rated $V_{CER}$; $R_{BE}$= 10Ω;$T_C$=125℃ | | 0.5<br>3.0 | mA |
| $I_{CEX}$ | Collector Cutoff Current | $V_{CE}$=rated $V_{CES}$; $V_{BE(off)}$= 1.5V<br>$V_{CE}$=rated $V_{CES}$; $V_{BE(off)}$= 1.5V;$T_C$=125℃ | | 0.2<br>2.0 | mA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= 5V; $I_C$= 0 | | 0.1 | mA |
| $h_{FE}$ | DC Current Gain | $I_C$= 10A ; $V_{CE}$= 5V | 8 | | |
| $C_{OB}$ | Output Capacitance | $I_E$= 0; $V_{CB}$= 10V, $f_{test}$= 1MHz | | 350 | pF |

Switching times Resistive Load

| | | | | | |
|---|---|---|---|---|---|
| $t_{on}$ | Turn-on Time | $I_C$= 10A ;$I_{B1}$=-$I_{B2}$= 2A; $V_{CC}$= 300V<br>$V_{BE(off)}$= 5V,Duty Cycle≤2% | | 0.9 | μs |
| $t_s$ | Storage Time | | | 2.0 | μs |
| $t_f$ | Fall Time | | | 0.4 | μs |