

# isc Silicon NPN Power Transistor

## BUW132H

### DESCRIPTION

High Switching Speed

- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 450V$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

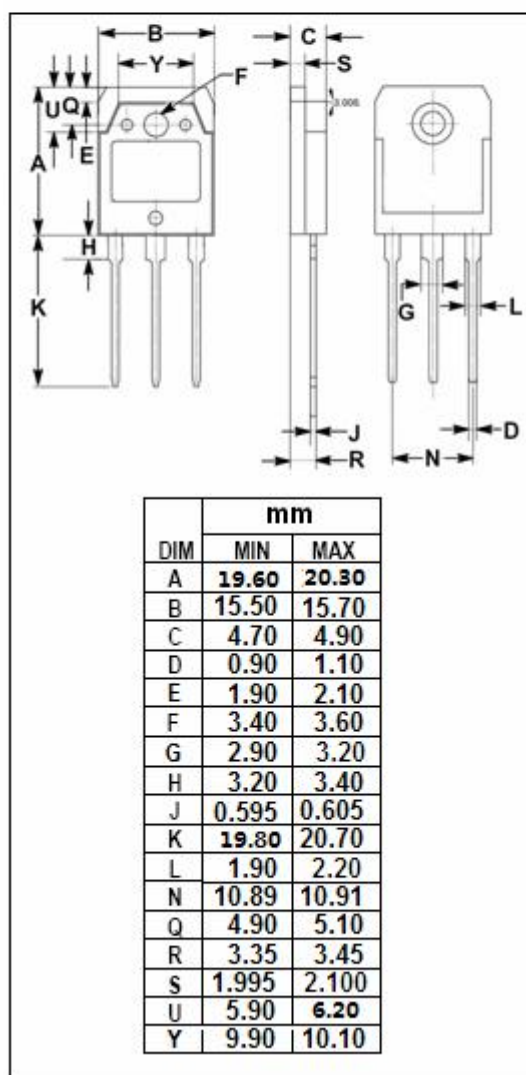
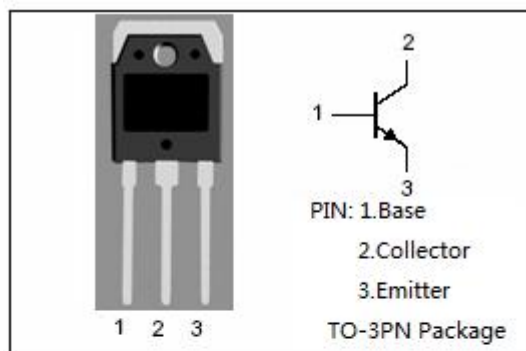
- Designed for use in very fast switching applications in inductive circuits.

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

| SYMBOL    | PARAMETER                                          | MAX     | UNIT        |
|-----------|----------------------------------------------------|---------|-------------|
| $V_{CES}$ | Collector- Emitter Voltage<br>( $V_{BE} = 0$ )     | 850     | V           |
| $V_{CEO}$ | Collector-Emitter Voltage                          | 450     | V           |
| $V_{EBO}$ | Emitter-Base Voltage                               | 6       | V           |
| $I_C$     | Collector Current-Continuous                       | 8       | A           |
| $I_{CM}$  | Collector Current-Peak                             | 16      | A           |
| $I_B$     | Base Current                                       | 6       | A           |
| $I_{BM}$  | Base Current-Peak                                  | 12      | A           |
| $P_C$     | Collector Power Dissipation<br>@ $T_C=25^{\circ}C$ | 125     | W           |
| $T_j$     | Junction Temperature                               | 150     | $^{\circ}C$ |
| $T_{stg}$ | Storage Temperature Range                          | -65~150 | $^{\circ}C$ |

### THERMAL CHARACTERISTICS

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



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## ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

| SYMBOL                 | PARAMETER                            | CONDITIONS                                                                                                                              | MIN | TYP. | MAX         | UNIT |
|------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----|------|-------------|------|
| V <sub>CEO(SUS)</sub>  | Collector-Emitter Sustaining Voltage | I <sub>C</sub> = 50mA ; I <sub>B</sub> = 0                                                                                              | 450 |      |             | V    |
| V <sub>CE(sat)-1</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> = 3A; I <sub>B</sub> = 0.3A                                                                                              |     |      | 2.5         | V    |
| V <sub>CE(sat)-2</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> = 5A; I <sub>B</sub> = 0.5A                                                                                              |     |      | 3.0         | V    |
| V <sub>BE(sat)</sub>   | Base-Emitter Saturation Voltage      | I <sub>C</sub> = 5A; I <sub>B</sub> = 0.5A                                                                                              |     |      | 1.5         | V    |
| I <sub>CBO</sub>       | Collector-Base Cutoff Current        | V <sub>CB</sub> =V <sub>CEO</sub> ; I <sub>E</sub> = 0<br>V <sub>CB</sub> =V <sub>CEO</sub> ; I <sub>E</sub> = 0; T <sub>J</sub> =100°C |     |      | 0.25<br>1.5 | mA   |
| I <sub>EBO</sub>       | Emitter Cutoff Current               | V <sub>EB</sub> = 6V; I <sub>C</sub> = 0                                                                                                |     |      | 1           | mA   |
| h <sub>FE</sub>        | DC Current Gain                      | I <sub>C</sub> = 8A ; V <sub>CE</sub> = 5V                                                                                              | 7   |      |             |      |
| C <sub>OB</sub>        | Output Capacitance                   | I <sub>E</sub> = 0 ; V <sub>CB</sub> = 10V; f <sub>test</sub> = 1kHz                                                                    |     |      | 350         | pF   |

## Switching Times , Resistive Load

|                  |              |                                                                     |  |     |  |    |
|------------------|--------------|---------------------------------------------------------------------|--|-----|--|----|
| t <sub>on</sub>  | Turn-On Time | I <sub>C</sub> = 5A ; I <sub>B1</sub> = 0.5A; I <sub>B2</sub> = -1A |  | 0.4 |  | μs |
| t <sub>stg</sub> | Storage Time |                                                                     |  | 1.5 |  | μs |
| t <sub>f</sub>   | Fall Time    |                                                                     |  | 0.1 |  | μs |

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