

isc Silicon NPN Power Transistor

BUW132H

DESCRIPTION

- High Switching Speed
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 450V$

APPLICATIONS

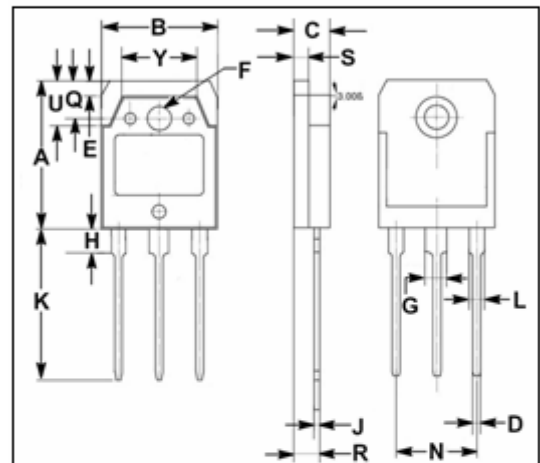
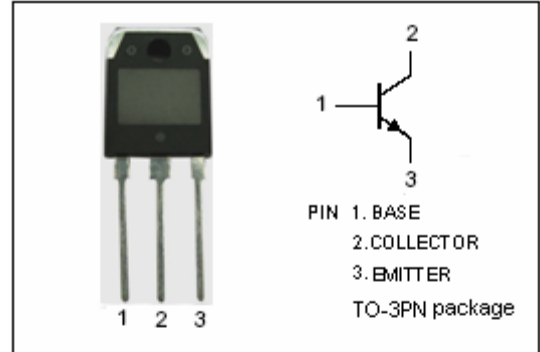
- Designed for use in very fast switching applications in inductive circuits.

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

| SYMBOL | PARAMETER | MAX | UNIT |
|-----------|--|---------|------------|
| V_{CES} | Collector- Emitter Voltage ($V_{BE} = 0$) | 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 @ $T_c=25^\circ C$ | 125 | W |
| T_j | Junction Temperature | 200 | $^\circ C$ |
| T_{stg} | Storage Temperature Range | -65~200 | $^\circ C$ |

THERMAL CHARACTERISTICS

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



| DIM | mm | |
|-----|-------|-------|
| | MIN | 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 |

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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 | $I_C=0.1\text{A}; I_B=0; L=10\text{mH}$ | 450 | | | V |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C=3\text{A}; I_B=0.3\text{A}$ | | | 2.5 | V |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C=5\text{A}; I_B=0.5\text{A}$ | | | 3.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C=5\text{A}; I_B=0.5\text{A}$ | | | 1.5 | V |
| I_{CEV} | Collector Cutoff Current | $V_{CE}=V_{CESMmax}; V_{BE}=-1.5\text{V}$ $V_{CE}=V_{CESMmax}; V_{BE}=-1.5\text{V}; T_J=100^{\circ}\text{C}$ | | | 0.25 1.5 | mA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB}=6\text{V}; I_C=0$ | | | 1 | mA |
| h_{FE} | DC Current Gain | $I_C=8\text{A}; V_{CE}=5\text{V}$ | 7 | | | |
| C_{OB} | Output Capacitance | $I_E=0; V_{CB}=10\text{V}; f_{test}=1\text{kHz}$ | | | 350 | pF |

Switching Times , Resistive Load

| | | | | | | |
|-----------|--------------|--|--|-----|--|---------------|
| t_{on} | Turn-On Time | $I_C=5\text{A}; I_{B1}=0.5\text{A}; I_{B2}=-1\text{A}$ | | 0.4 | | μs |
| t_{stg} | Storage Time | | | 1.5 | | μs |
| t_f | Fall Time | | | 0.1 | | μs |