

ISC Silicon NPN Power Transistors

BUW132/A

DESCRIPTION

- High Switching Speed
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 450V$  (Min)-BUW132  
500V (Min)-BUW132A

APPLICATIONS

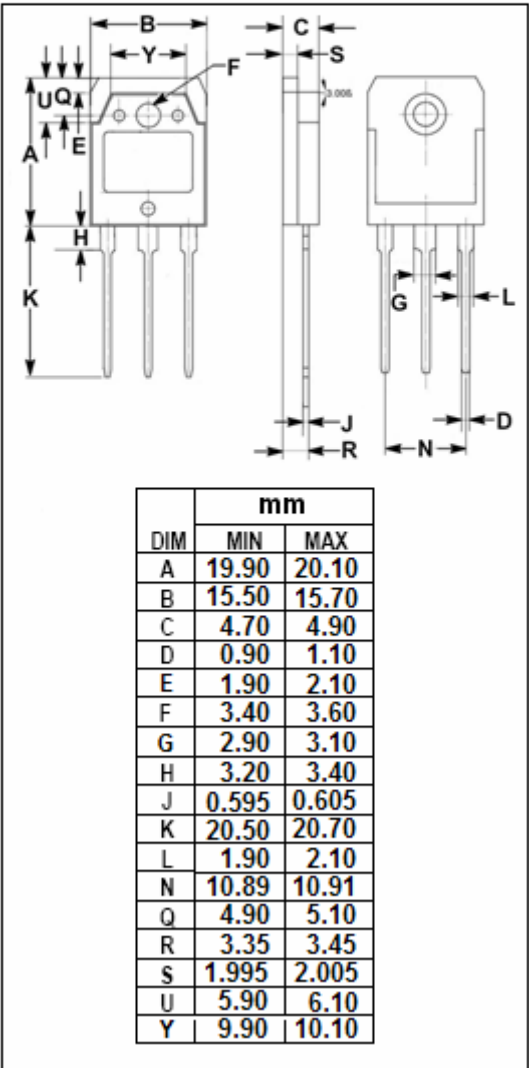
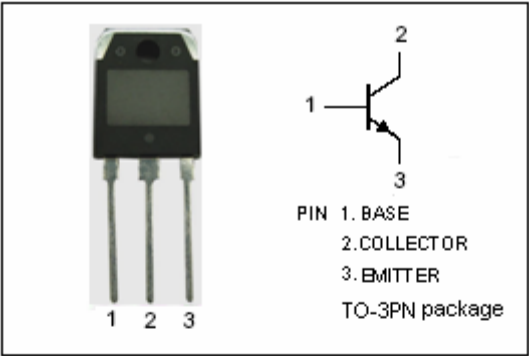
- Designed for use in very fast switching applications in inductive circuits.

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

| SYMBOL    | PARAMETER                                          |         | MAX     | UNIT        |
|-----------|----------------------------------------------------|---------|---------|-------------|
| $V_{CES}$ | Collector- Emitter Voltage( $V_{BE}= 0$ )          | BUW132  | 850     | V           |
|           |                                                    | BUW132A | 1000    |             |
| $V_{CEO}$ | Collector-Emitter Voltage                          | BUW132  | 450     | V           |
|           |                                                    | BUW132A | 500     |             |
| $V_{EBO}$ | 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                               |         | 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 | $^{\circ}C/W$ |



## ISC Silicon NPN Power Transistors

## BUW132/A

## 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 | BUW132  | $I_C = 0.1\text{A}$ ; $I_B = 0$ ; $L = 10\text{mH}$                                                                      | 450 |      |             | V    |
|                 |                                      | BUW132A |                                                                                                                          | 500 |      |             |      |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | BUW132  | $I_C = 3\text{A}$ ; $I_B = 0.4\text{A}$                                                                                  |     |      | 2.5         | V    |
|                 |                                      | BUW132A | $I_C = 3\text{A}$ ; $I_B = 0.6\text{A}$                                                                                  |     |      | 1.0         |      |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | BUW132  | $I_C = 5\text{A}$ ; $I_B = 0.66\text{A}$                                                                                 |     |      | 3.0         | V    |
|                 |                                      | BUW132A | $I_C = 5\text{A}$ ; $I_B = 1\text{A}$                                                                                    |     |      | 1.5         |      |
| $V_{BE(sat)}$   | Base-Emitter Saturation Voltage      | BUW132  | $I_C = 5\text{A}$ ; $I_B = 0.66\text{A}$                                                                                 |     |      | 1.5         | V    |
|                 |                                      | BUW132A | $I_C = 5\text{A}$ ; $I_B = 1\text{A}$                                                                                    |     |      | 1.5         |      |
| $I_{CEV}$       | Collector Cutoff Current             |         | $V_{CE}=V_{CESMmax}$ ; $V_{BE}=-1.5\text{V}$<br>$V_{CE}=V_{CESMmax}$ ; $V_{BE}=-1.5\text{V}$ ; $T_J=100^{\circ}\text{C}$ |     |      | 0.25<br>1.5 | mA   |
| $I_{EBO}$       | Emitter Cutoff Current               |         | $V_{EB} = 6\text{V}$ ; $I_C = 0$                                                                                         |     |      | 1           |      |
| $h_{FE}$        | DC Current Gain                      |         | $I_C = 8\text{A}$ ; $V_{CE} = 5\text{V}$                                                                                 | 5   |      |             |      |
| $C_{OB}$        | 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 | $I_C = 5\text{A}$ ; $I_{B1} = 0.66\text{A}$ ; $I_{B2} = -1.3\text{A}$ |  | 0.35 |  | $\mu\text{s}$ |
| $t_{stg}$ | Storage Time |                                                                       |  | 1.5  |  | $\mu\text{s}$ |
| $t_f$     | Fall Time    |                                                                       |  | 0.1  |  | $\mu\text{s}$ |