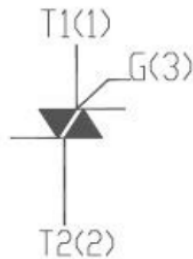




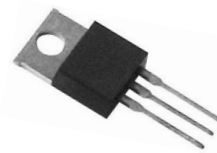
### Features

- High current triac
- Low thermal resistance with clip bonding
- High commutation (4 quadrant) or very high commutation (3 quadrant) capability

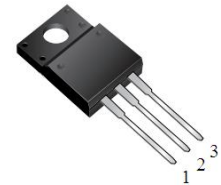


**VOLTAGE RANGE** 600/800 Volts

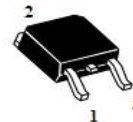
**CURRENT** 4 Ampere



TO-220AB



ITO-220AB



TO-252

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

### ELECTRICAL CHARACTERISTICS (T<sub>j</sub> = 25°C, unless otherwise specified)

| Symbol                               | Parameter                         | Conditions                    | Ratings | Unit             |
|--------------------------------------|-----------------------------------|-------------------------------|---------|------------------|
| V <sub>DRM</sub><br>V <sub>RDM</sub> | Repetitive Peak Off-State Voltage | BT136-600                     | 600     | V                |
|                                      |                                   | BT136-800                     | 800     |                  |
| I <sub>T(RMS)</sub>                  | R.M.S On-State Current            | T <sub>c</sub> =110°C         | 4       | A                |
| I <sub>TSM</sub>                     | Surge On-State Current            | tp=16.7ms/tp=10ms             | 25/27   | A                |
| I <sup>2</sup> t                     | I <sup>2</sup> t for fusing       | Tp=10ms                       | 3.1     | A <sup>2</sup> s |
| P <sub>G(AV)</sub>                   | Average Gate Power Dissipation    | T <sub>j</sub> =125°C         | 1       | W                |
| I <sub>GM</sub>                      | Peak Gate Current                 | tp=20us T <sub>j</sub> =125°C | 2       | A                |
| T <sub>j</sub>                       | Operating Junction Temperature    |                               | ~40~125 | °C               |
| T <sub>STG</sub>                     | Storage Temperature               |                               | ~40~150 | °C               |

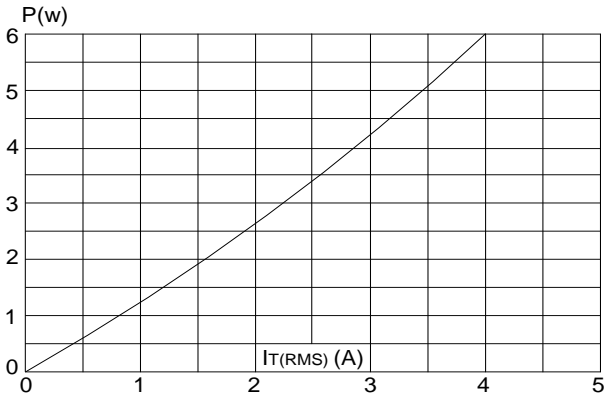
# BT136

## Electrical Characteristics (T<sub>J</sub>=25°C unless otherwise specified)

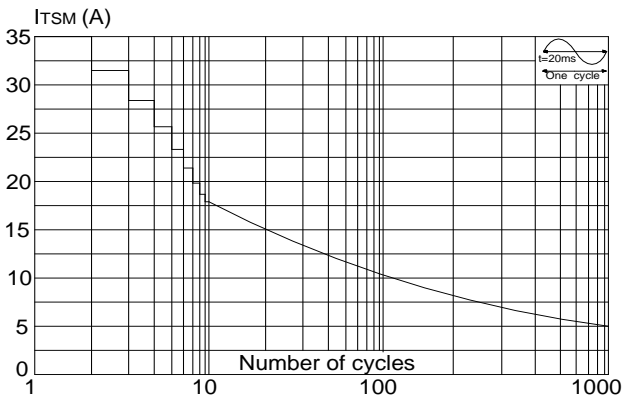
| Symbol | Parameter                                     | Test Conditions  | Value    |     |     |     | Unit  |    |
|--------|---|--|----------|-----|-----|-----|-------|----|
|        |   |  | D        | E   | F   | G   |       |    |
| IDRM   | Repetitive Peak Off-State Current             | T <sub>J</sub> =25°C   | ≤10      |     |     |     | uA    |    |
|        |   | T <sub>J</sub> =125°C  | ≤0.5     |     |     |     | mA    |    |
| IRRM   | Repetitive Peak Reverse Current               | T <sub>J</sub> =25°C   | ≤10      |     |     |     | uA    |    |
|        |   | T <sub>J</sub> =125°C  | ≤0.5     |     |     |     | mA    |    |
| VTM    | Forward "on" voltage                          | I <sub>T</sub> =5A t <sub>p</sub> =380us                               | ≤1.7     |     |     |     | V     |    |
| VGD    | gate non-trigger voltage                      | V <sub>D</sub> =12V, T <sub>J</sub> =125°C                             | ≥0.2     |     |     |     | V     |    |
| IH     | Holding current                               | I <sub>T</sub> =100mA  | ≤10      | ≤25 | ≤30 | ≤60 | mA    |    |
| VGT    | Gate trigger voltage                          | V <sub>D</sub> =12V  | ≤1.5     |     |     |     | V     |    |
| IGT    | Gate trigger current                          | V <sub>D</sub> =12V, I <sub>GT</sub> =0.1A                             | I,II,III | 5   | 10  | 25  | 50    | mA |
|        |   |  | IV       | 10  | 25  | 70  | 100   | mA |
| di/dt  | Critical-rate of rise of commutation current. | I <sub>T</sub> =6A, I <sub>GT</sub> =0.2A, dI <sub>G</sub> /dt=0.2A/us | ≥50      |     |     |     | A /us |    |
|        |   |  | ≥10      |     |     |     | A /us |    |
| dv/dt  | Critical-rate of rise of commutation voltage  | T <sub>J</sub> =125°C<br>V <sub>D</sub> =2/3V <sub>DRM</sub> Gate      | 5        | 10  | 50  | 200 | V/us  |    |

## RATING AND CHARACTERISTIC CURVES (BT136)

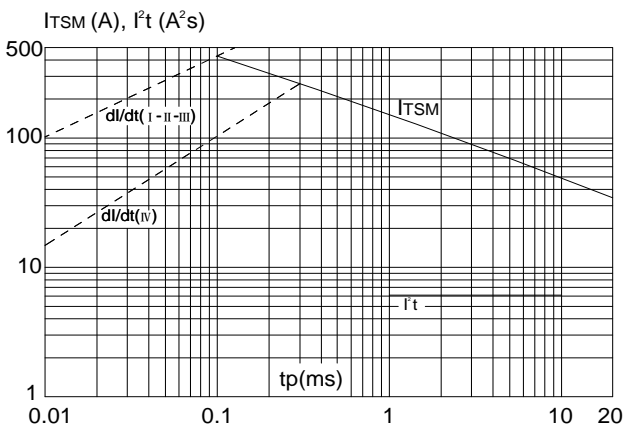
**FIG.1:** Maximum power dissipation versus RMS on-state current



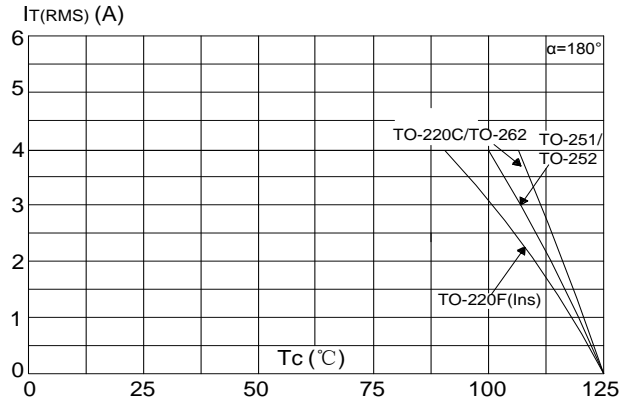
**FIG.3:** Surge peak on-state current versus number of cycles



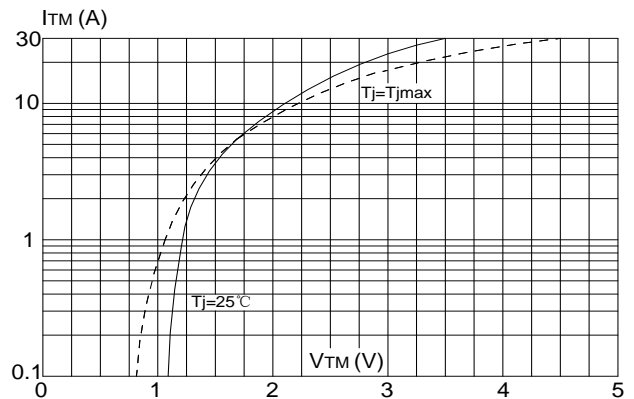
**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$ , and corresponding value of  $I t$  ( $di/dt^2 < 100\text{A}/\mu\text{s}$ )



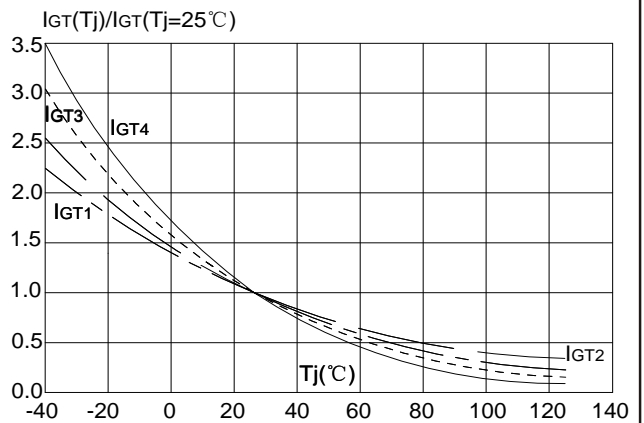
**FIG.2:** RMS on-state current versus case temperature



**FIG.4:** On-state characteristics (maximum values)

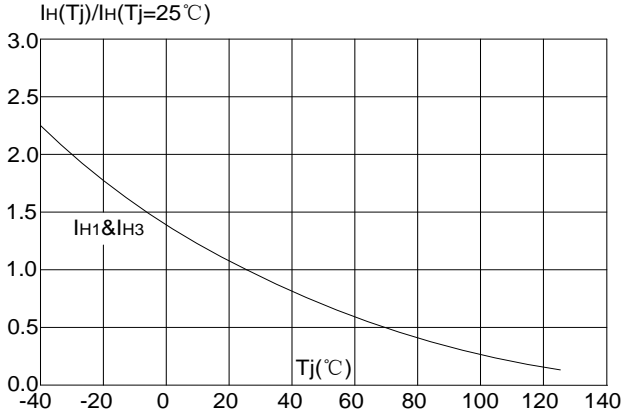


**FIG.6:** Relative variations of gate trigger current, holding current and latching current versus junction temperature

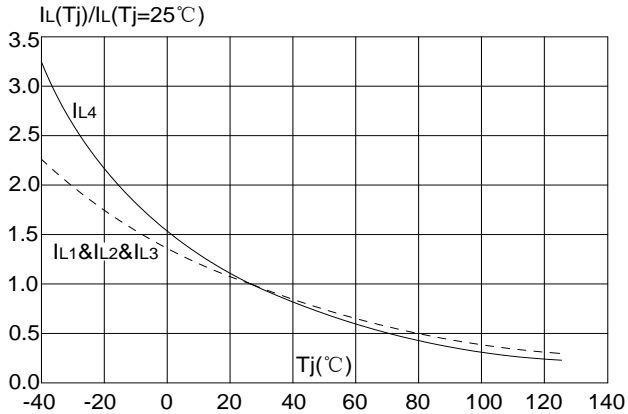


RATING AND CHARACTERISTIC CURVES (BT136)

**FIG.7:** Relative variations of holding current versus junction temperature

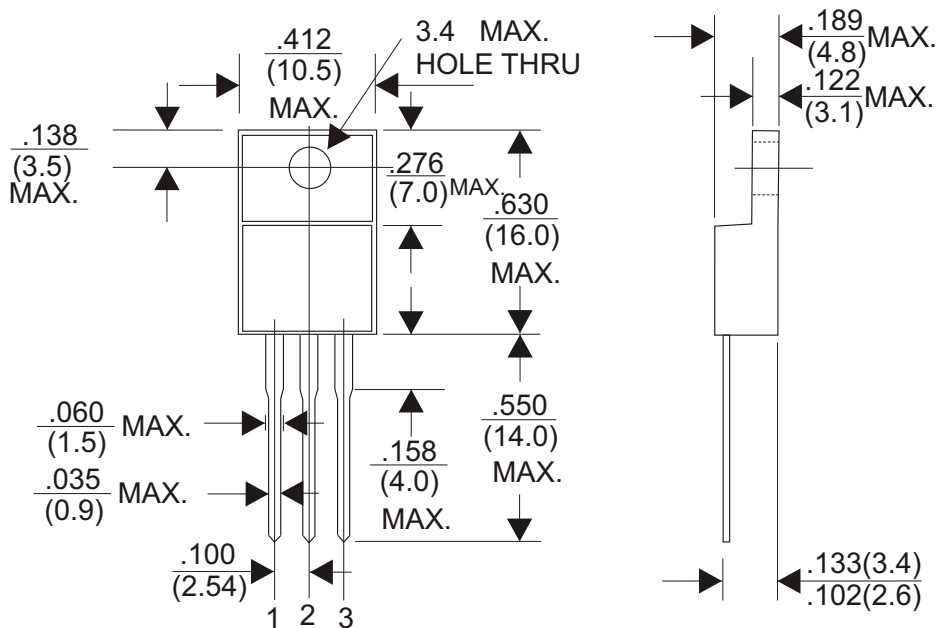


**FIG.8:** Relative variations of latching current versus junction temperature

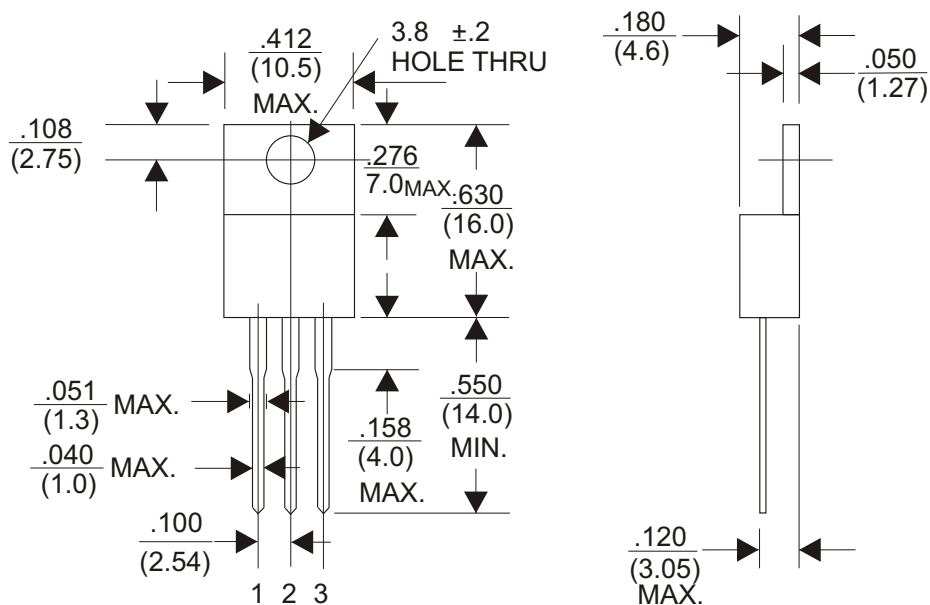




### ITO-220AB

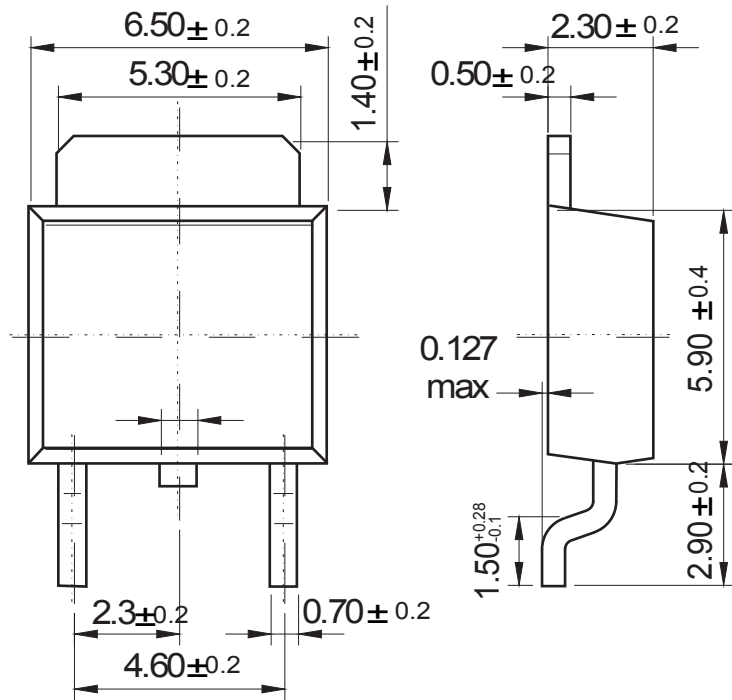


### TO-220AB



# TO-252

Unit: mm



Dimensions in inches and (millimeters)

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