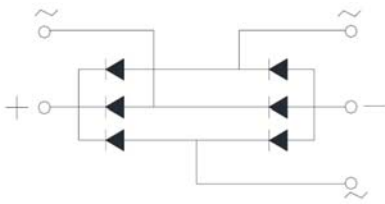




# MT5004A THRU MT5016A

## Three Phase Bridge Rectifiers



### Features

- UL recognition, file #E230084
- Low thermal resistance
- Glass passivated chip junction
- High surge current capability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

### Typical Applications

General purpose use in AC/DC bridge full wave rectification for Server、Frequency converter、Industrial power supply.

### Mechanical Data

- **Package:** MT  
Molding compound meets UL 94 V-0 flammability rating
- **Terminals:** Au plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked on body

### ■Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified )

| PARAMETER   | SYMBOL           | UNIT             | MT5004A    | MT506A  | MT5008A | MT5010A | MT5012A | MT5014A | MT5016A |
|---|------------------|------------------|------------|---------|---------|---------|---------|---------|---------|
| Device marking code   |                  |                  | MT5004A    | MT5006A | MT5008A | MT5010A | MT5012A | MT5014A | MT5016A |
| Maximum Repetitive Peak Reverse Voltage   | VRRM             | V                | 400        | 600     | 800     | 1000    | 1200    | 1400    | 1600    |
| Maximum RMS Voltage   | VRMS             | V                | 280        | 420     | 560     | 700     | 840     | 980     | 1120    |
| Maximum DC blocking Voltage   | VDC              | V                | 400        | 600     | 800     | 1000    | 1200    | 1400    | 1600    |
| Average rectified output current<br>@60Hz sine wave, R-load                                   | IO               | A                | 50         |         |         |         |         |         |         |
| With heatsink<br>T <sub>c</sub> =90°C   |                  |                  |            |         |         |         |         |         |         |
| Forward Surge Current (Non-repetitive)<br>@8.3ms,Half-sine wave,1 cycle, T <sub>j</sub> =25°C | IFSM             | A                | 500        |         |         |         |         |         |         |
| Forward Surge Current (Non-repetitive)<br>@1ms, square wave, 1 cycle, T <sub>j</sub> =25°C    |                  |                  | 1000       |         |         |         |         |         |         |
| Current squared time<br>@1ms≤t≤8.3ms T <sub>j</sub> =25°C, Rating of per diode                | I <sup>2</sup> t | A <sup>2</sup> s | 1038       |         |         |         |         |         |         |
| Storage temperature   | T <sub>stg</sub> | °C               | -55 ~ +150 |         |         |         |         |         |         |
| Junction temperature  | T <sub>j</sub>   | °C               | -55 ~ +150 |         |         |         |         |         |         |
| Dielectric strength<br>@ Terminals to case, AC 1 minute                                       | V <sub>dis</sub> | KV               | 2.5        |         |         |         |         |         |         |
| Mounting torque<br>@Recommend torque: 5kg·cm  | Tor              | kg·cm            | 8          |         |         |         |         |         |         |



# MT5004A THRU MT5016A

## ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER   | SYMBOL         | UNIT | TEST CONDITIONS   | MT5004A | MT506A | MT5008A | MT5010A | MT5012A | MT5014A | MT5016A |
|---|----------------|------|---|---------|--------|---------|---------|---------|---------|---------|
| Maximum instantaneous forward voltage drop per diode              | V <sub>F</sub> | V    | I <sub>FM</sub> =25A                                      | 1.15    |        |         |         |         |         |         |
| Maximum DC reverse current at rated DC blocking voltage per diode | I <sub>R</sub> | μA   | T <sub>j</sub> =25°C                                      | 5       |        |         |         |         |         |         |
|   |                |      | T <sub>j</sub> =125°C                                     | 500     |        |         |         |         |         |         |
| Typical junction capacitance                                      | C <sub>j</sub> | pF   | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C | 240     |        |         |         | 185     |         |         |

## ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                  |  | SYMBOL            | UNIT | MT5004A | MT506A | MT5008A | MT5010A | MT5012A | MT5014A | MT5016A |
|----------------------------|--|-------------------|------|---------|--------|---------|---------|---------|---------|---------|
| Typical Thermal Resistance | Between junction and case, With heatsink | R <sub>θJ-C</sub> | °C/W | 0.8     |        |         |         |         |         |         |

Note: Device mounted on 75mm x 45mm x 5.5mm Aluminum Plate Heatsink.

## ■ Ordering Information (Example)

| PREFERRED P/N     | PACKING CODE | UNIT WEIGHT(g)   | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|-------------------|--------------|------------------|----------------------|-------------------------|----------------------------|---------------|
| MT5004A ~ MT5016A | A1           | Approximate 17.5 | 50                   | 50                      | 500                        | Paper Box     |

## ■ Characteristics (Typical)

FIG1:I<sub>o</sub>-T<sub>c</sub> Curve

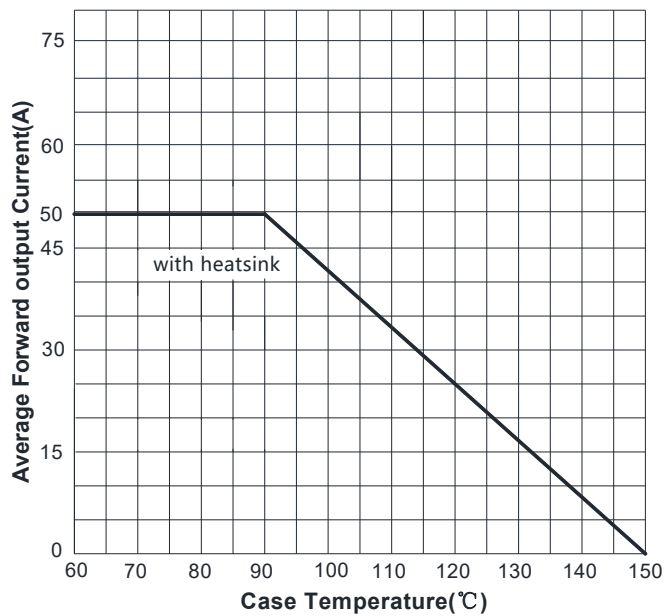
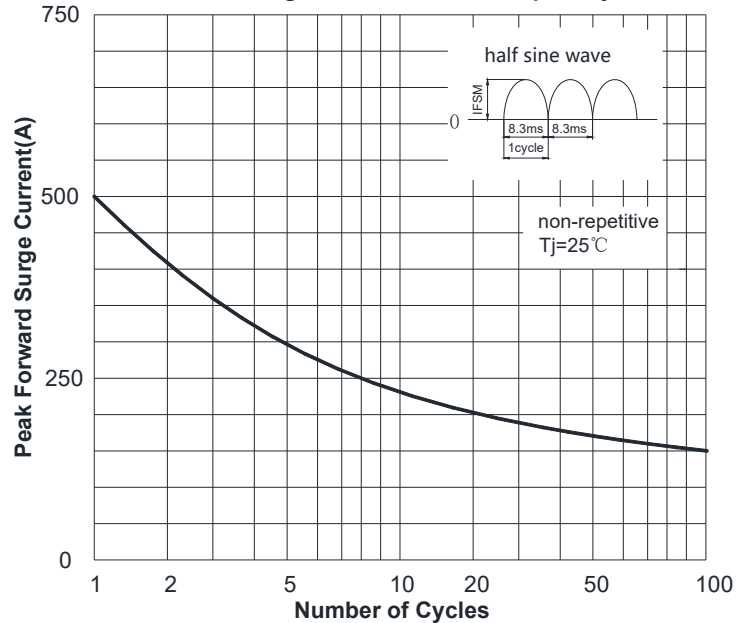


FIG2: Surge Forward Current Capability





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FIG3: Typical Forward Voltage

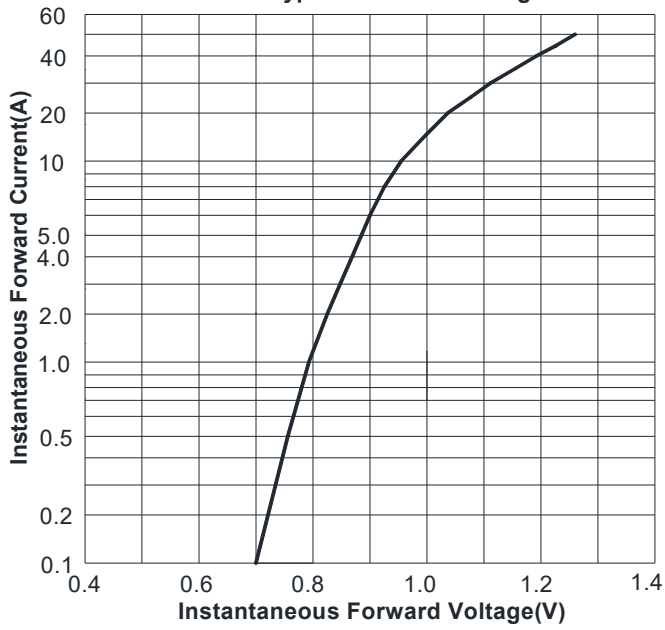
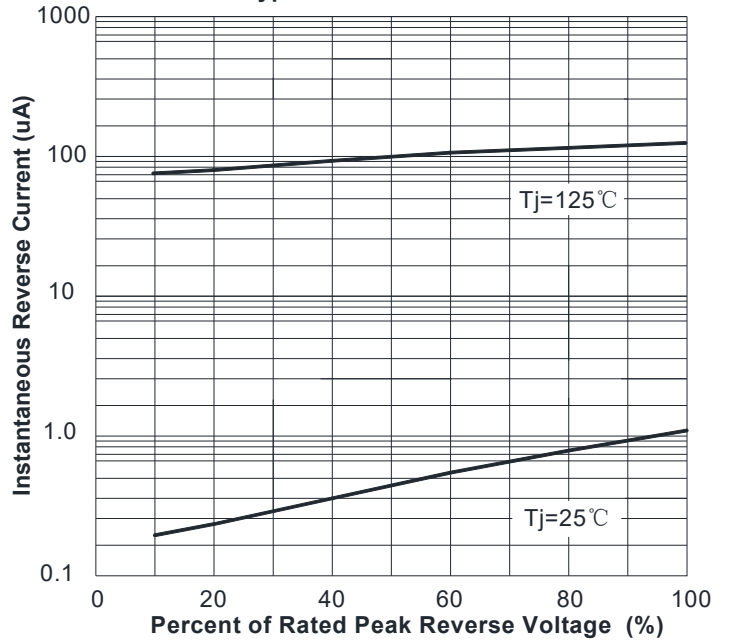
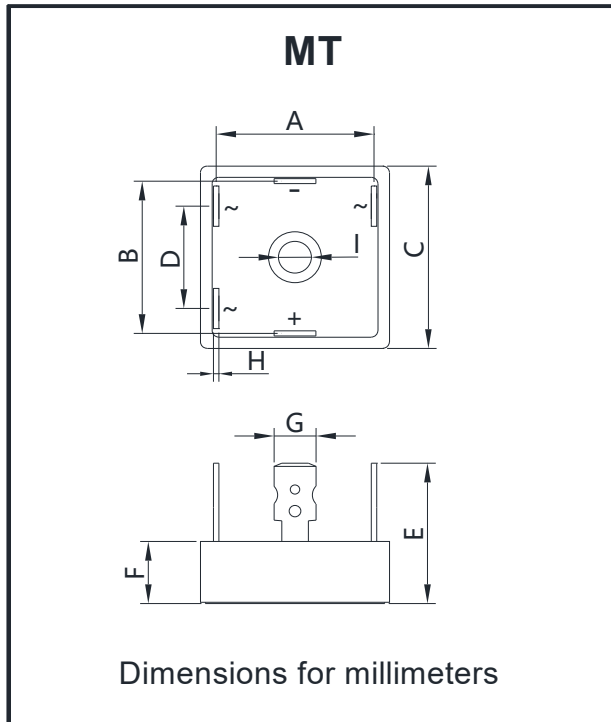


FIG4: Typical Reverse Characteristics



## ■ Outline Dimensions



| MT  |      |      |
|-----|------|------|
| Dim | Min  | Max  |
| A   | 23.3 | 24.3 |
| B   | 23.3 | 24.3 |
| C   | 28.2 | 28.8 |
| D   | 15.5 | 16.5 |
| E   | /    | 25   |
| F   | 9.0  | 10.0 |
| G   | 6.2  | 6.4  |
| H   | 0.75 | 0.85 |
| I   | 4.5  | 5.5  |



## MT5004A THRU MT5016A

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