



## Three Phase Rectifier Bridge Module

### Features

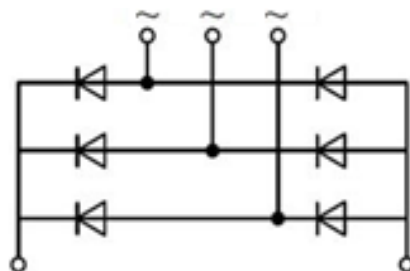
- Low forward voltage and leakage current
- Low inductance package
- High surge current capability

### Product Summary

| Parameter               | Value | Unit |
|-------------------------|-------|------|
| $V_{RRM}$               | 1600  | V    |
| $I_D$                   | 250   | A    |
| $I_{FSM}(@ t_p = 10ms)$ | 2500  | A    |
| $V_F(Max)$              | 1.55  | V    |

### Applications

- Field supply for DC motors
- Line rectifiers for transistorized AC motor controllers
- Non-controllable rectifiers for AC/DC converter



### Absolute Maximum Ratings (@ $T_C = 25^\circ\text{C}$ unless otherwise specified)

| Parameter                           | Conditions                                                | Symbol    | Values     | Unit                 |
|-------------------------------------|-----------------------------------------------------------|-----------|------------|----------------------|
| Repetitive peak reverse voltage     |                                                           | $V_{RRM}$ | 1600       | V                    |
| Non-repetitive peak reverse voltage |                                                           | $V_{RSM}$ | 1700       | V                    |
| Output current                      | $T_C = 100^\circ\text{C}$                                 | $I_D$     | 250        | A                    |
| Forward surge current               | 1/2 cycle, Sine wave, 50Hz<br>$T_{vj} = 25^\circ\text{C}$ | $I_{FSM}$ | 2500       | A                    |
| $I^2t$ value for fusing             |                                                           | $I^2t$    | 31250      | $\text{A}^2\text{s}$ |
| RMS isolation voltage               | A.C 50Hz(1s/1min)                                         | $V_{ISO}$ | 3600/3000  | V                    |
| Junction temperature range          |                                                           | $T_J$     | -40 ~ +150 | $^\circ\text{C}$     |
| Storage temperature range           |                                                           | $T_{stg}$ | -40 ~ +125 | $^\circ\text{C}$     |

**Electrical Characteristics (@  $T_C = 25^\circ\text{C}$  unless otherwise specified)**

| Parameter               | Conditions                                                        | Symbol    | Values |      |      | Unit       |
|-------------------------|-------------------------------------------------------------------|-----------|--------|------|------|------------|
|                         |                                                                   |           | Min.   | Typ. | Max. |            |
| Forward voltage         | $I_D = 250\text{A}$ , $T_{vj} = 25^\circ\text{C}$                 | $V_F$     |        | 1.35 | 1.55 | V          |
| Reverse leakage current | $V_R = V_{RRM}$ , $T_{vj} = 25^\circ\text{C}$                     | $I_{RRM}$ |        |      | 0.5  | mA         |
|                         | $V_R = V_{RRM}$ , $T_{vj} = 150^\circ\text{C}$                    |           |        |      | 10   | mA         |
| Threshold voltage       | For power loss calculation only<br>$T_{vj} = 150^\circ\text{C}$ , | $V_{TO}$  |        |      | 0.84 | V          |
| Dynamic resistance      |                                                                   | $r_T$     |        |      | 2.0  | m $\Omega$ |

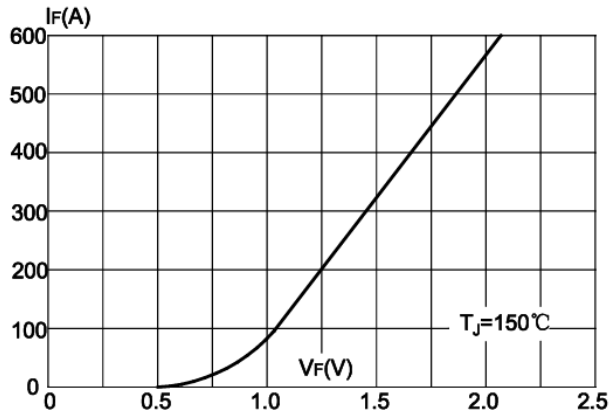
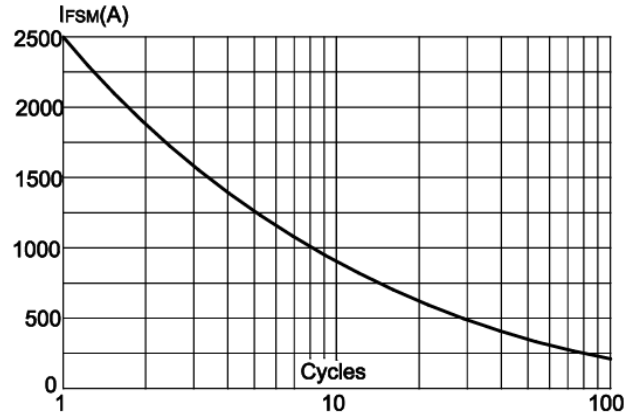
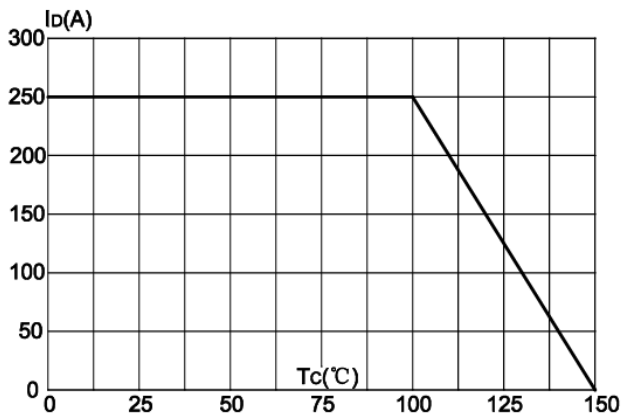
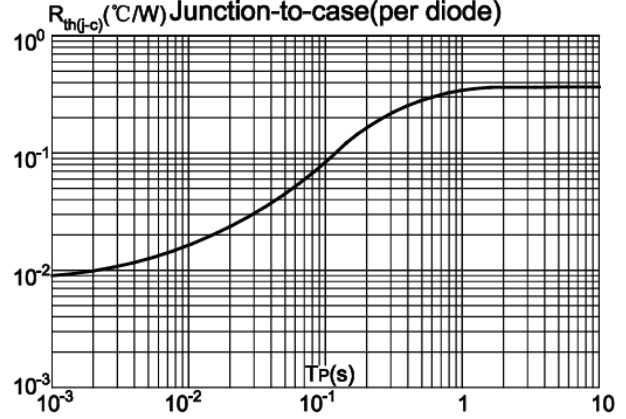
**Thermal Characteristics (@  $T_C = 25^\circ\text{C}$  unless otherwise specified)**

| Parameter                               | Conditions                         | Symbol        | Values |      |      | Unit |
|-----------------------------------------|------------------------------------|---------------|--------|------|------|------|
|                                         |                                    |               | Min.   | Typ. | Max. |      |
| Thermal impedance<br>(junction to case) | per diode                          | $R_{th(j-c)}$ |        |      | 0.36 | K/W  |
| Mounting torque                         | Base plate to heatsink<br>screw M6 | M             | 4.25   |      | 5.75 | N·m  |
|                                         | Electrode to terminal<br>screw M6  |               | 4.25   |      | 5.75 | N·m  |

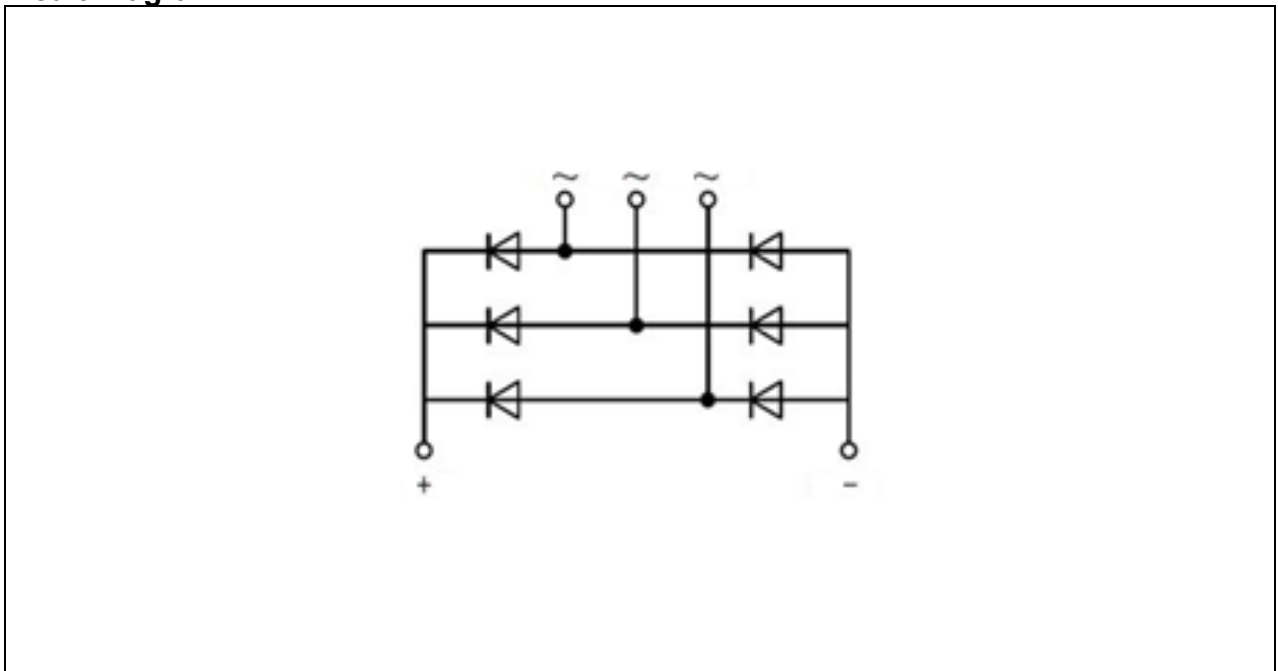
**Ordering Information**

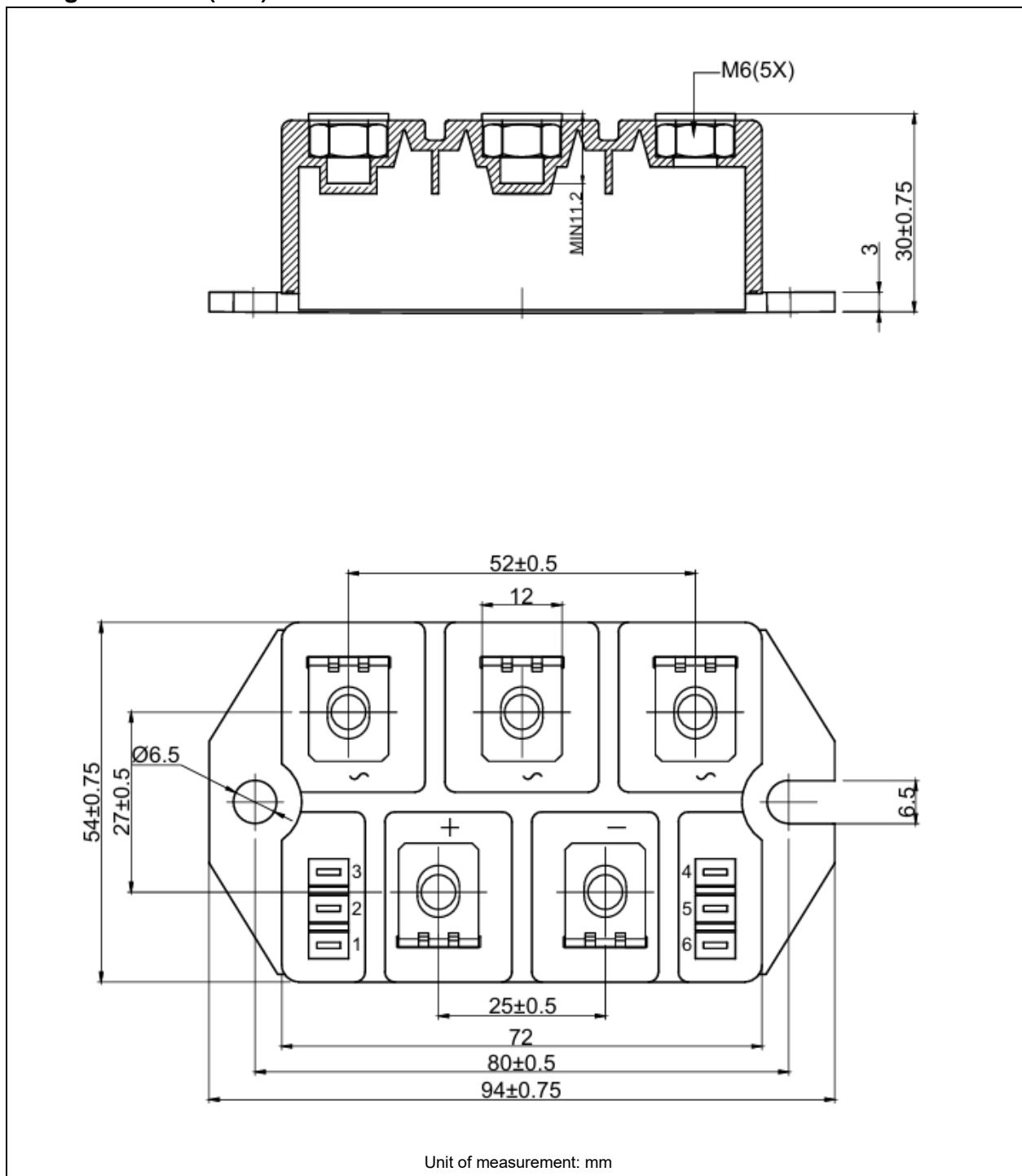
| Device       | Marking      | Package | Weight   | Inner Box | Per Carton |
|--------------|--------------|---------|----------|-----------|------------|
| JMD250TD16D2 | JMD250TD16D2 | D2      | 240g/PCS | 2 PCS     | 24 PCS     |

## Typical Electrical & Thermal Characteristics

**FIG.1: Forward characteristics(per diode)**

**FIG.2: Peak on-state surge current**

**FIG.3: Forward current vs. case temperature**

**FIG.4: Maximum transient thermal impedance**


## Circuit Diagram



**Package Outlines (mm)**




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