

MITSUBISHI DIODE MODULES  
**RM50TC-M,-H,-24,-2H**

MEDIUM POWER GENERAL USE  
 INSULATED TYPE

RM50TC-M,-H,-24,-2H



- **I<sub>o</sub>** DC output current ..... **100A**
- **VRRM** Repetitive peak reverse voltage  
 ..... **400/800/1200/1600V**

- **3 phase bridge**
- **Insulated Type**
- **UL Recognized**

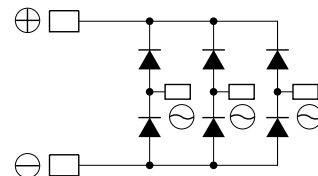
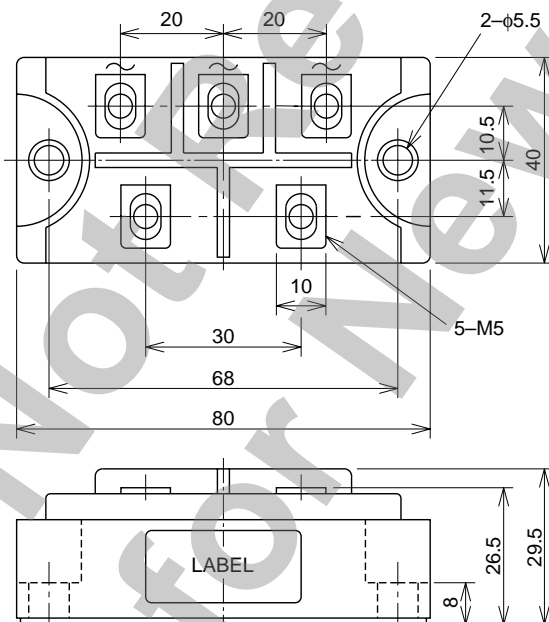
Yellow Card No. E80276 (N)  
 File No. E80271

**APPLICATION**

AC motor controllers , DC motor controllers, Battery DC power supplies,  
 DC power supplies for control panels, and other general DC power equipment

**OUTLINE DRAWING & CIRCUIT DIAGRAM**

Dimensions in mm



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## ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter                           | Voltage class |     |      |      | Unit |
|--------|-------------------------------------|---------------|-----|------|------|------|
|        |                                     | M             | H   | 24   | 2H   |      |
| VRRM   | Repetitive peak reverse voltage     | 400           | 800 | 1200 | 1600 | V    |
| VRSM   | Non-repetitive peak reverse voltage | 480           | 960 | 1350 | 1700 | V    |
| Ea     | Recommended AC input voltage        | 110           | 220 | 370  | 440  | V    |

| Symbol           | Parameter                              | Conditions   | Ratings               | Unit             |
|------------------|--|--|-----------------------|------------------|
| Io               | DC output current                      | Three-phase full wave rectifying circuit, Tc=102°C | 100                   | A                |
| IFSM             | Surge (non-repetitive) forward current | One half cycle at 60Hz, peak value                 | 1000                  | A                |
| I <sup>2</sup> t | I <sup>2</sup> t for fusing            | Value for one cycle of surge current               | 4.2 × 10 <sup>3</sup> | A <sup>2</sup> s |
| f                | Maximum operating frequency            |  | 1000                  | Hz               |
| Tj               | Junction temperature                   |  | -40~+150              | °C               |
| Tstg             | Storage temperature                    |  | -40~+125              | °C               |
| Viso             | Isolation voltage                      | Charged part to case                               | 2500                  | V                |
| —                | Mounting torque                        | Main terminal screw M5                             | 1.47~1.96             | N·m              |
|                  |  |  | 15~20                 | kg·cm            |
|                  |  | Mounting screw M5                                  | 1.47~1.96             | N·m              |
|                  |  |  | 15~20                 | kg·cm            |
| —                | Weight                                 | Typical value                                      | 220                   | g                |

## ELECTRICAL CHARACTERISTICS

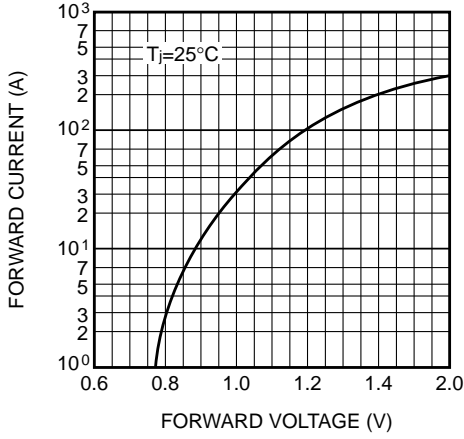
| Symbol               | Parameter                  | Test conditions  | Limits |      |      | Unit |
|----------------------|----------------------------|--|--------|------|------|------|
|                      |                            |  | Min.   | Typ. | Max. |      |
| I <sub>RRM</sub>     | Repetitive reverse current | T <sub>j</sub> =150°C, VRRM applied                              | —      | —    | 10   | mA   |
| V <sub>FM</sub>      | Forward voltage            | T <sub>j</sub> =25°C, I <sub>FM</sub> =100A, instantaneous meas. | —      | —    | 1.2  | V    |
| R <sub>th(j-c)</sub> | Thermal resistance         | Junction to case   | —      | —    | 0.2  | °C/W |
| R <sub>th(c-f)</sub> | Contact thermal resistance | Case to fin, conductive grease applied                           | —      | —    | 0.06 | °C/W |
| —                    | Insulation resistance      | Measured with a 500V megohmmeter between main terminal and case  | 10     | —    | —    | MΩ   |

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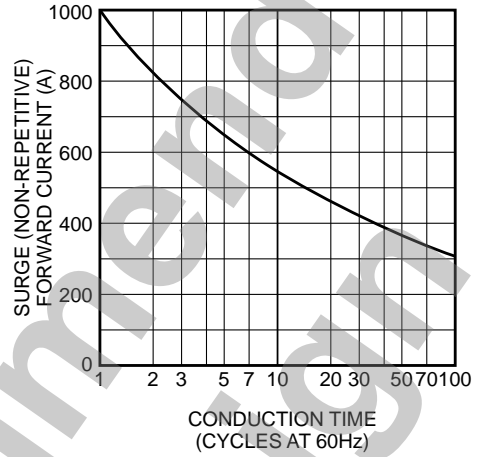
MEDIUM POWER GENERAL USE  
INSULATED TYPE

## PERFORMANCE CURVE

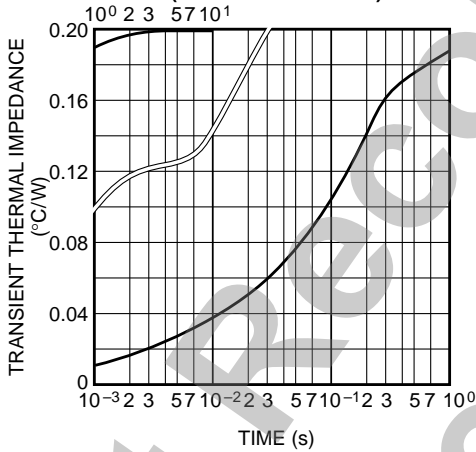
MAXIMUM FORWARD CHARACTERISTIC



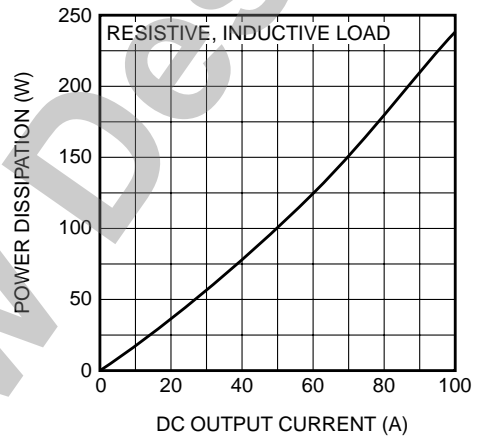
ALLOWABLE SURGE (NON-REPETITIVE) FORWARD CURRENT



MAXIMUM TRANSIENT THERMAL IMPEDANCE (JUNCTION TO CASE)



MAXIMUM POWER DISSIPATION



ALLOWABLE CASE TEMPERATURE VS. DC OUTPUT CURRENT

