

**PRELIMINARY**

Notice: This is not a final specification.  
Some parametric limits are subject to change.

MITSUBISHI DIODE MODULES

# RM20TPM-24,-2H

HIGH VOLTAGE MEDIUM POWER GENERAL USE  
INSULATED TYPE

## RM20TPM-24,-2H



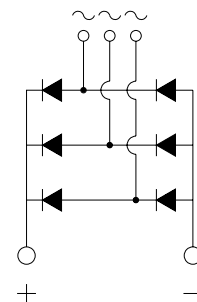
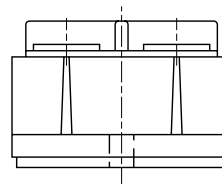
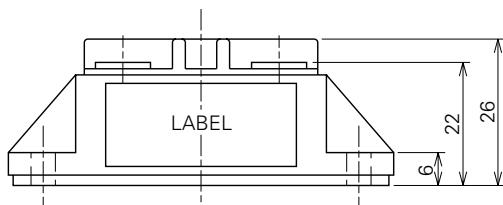
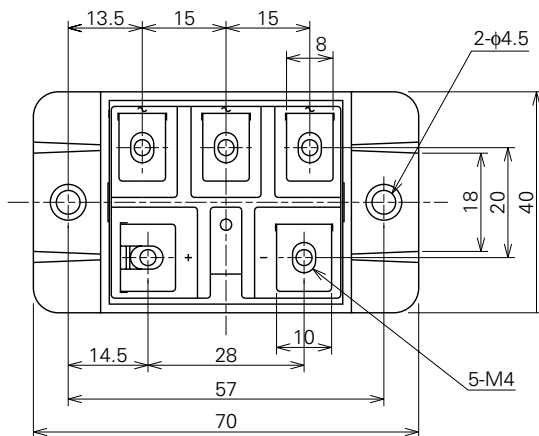
- **I<sub>o</sub>** DC output current ..... **40A**
- **V<sub>RRM</sub>** Repetitive peak reverse voltage  
..... **1200/1600V**
- **3 phase bridge**
- **Insulated Type**

## 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



**RM20TPM-24,-2H****HIGH VOLTAGE MEDIUM POWER GENERAL USE****INSULATED TYPE****ABSOLUTE MAXIMUM RATINGS**

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

| Symbol                      | Parameter                              | Conditions   | Ratings             | Unit             |
|-----------------------------|--|--|---------------------|------------------|
| Io                          | DC output current                      | Three-phase full wave rectifying circuit, Tc=125°C | 40                  | A                |
| IFSM                        | Surge (non-repetitive) forward current | One half cycle at 60Hz, peak value                 | 400                 | A                |
| I <sup>2</sup> <sub>t</sub> | I <sup>2</sup> <sub>t</sub> for fusing | Value for one cycle of surge current               | 6.7×10 <sup>2</sup> | A <sup>2</sup> s |
| f                           | Maximum operating frequency            |  | 1000                | Hz               |
| T <sub>j</sub>              | Junction temperature                   |  | −40~150             | °C               |
| T <sub>stg</sub>            | Storage temperature                    |  | −40~125             | °C               |
| V <sub>iso</sub>            | Isolation voltage                      | Charged part to case                               | 2500                | V                |
| —                           | Mounting torque                        | Main terminal screw M4                             | 0.98~1.47           | N·m              |
|                             |  |  | 10~15               | kg·cm            |
|                             |  | Mounting screw M4                                  | 0.98~1.47           | N·m              |
|                             |  |  | 10~15               | kg·cm            |
| —                           | Weight                                 | Typical value                                      | 100                 | g                |

**ELECTRICAL CHARACTERISTICS**

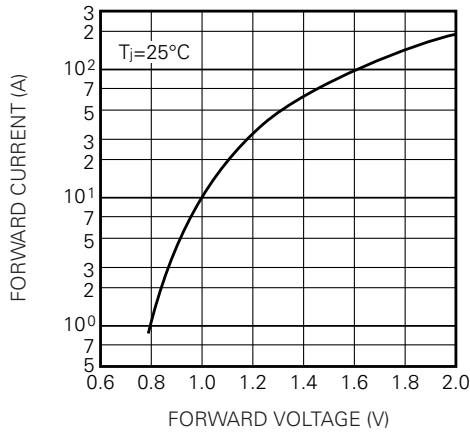
| Symbol                | Parameter                  | Test conditions   | Limits |      |      | Unit |
|-----------------------|----------------------------|---|--------|------|------|------|
|                       |                            |   | Min.   | Typ. | Max. |      |
| IRRM                  | Repetitive reverse current | T <sub>j</sub> =125°C, VRRM applied                             | —      | —    | 10   | mA   |
| VFM                   | Forward voltage            | T <sub>j</sub> =25°C, IFM=40A, instantaneous meas.              | —      | —    | 1.25 | V    |
| R <sub>th (j-c)</sub> | Thermal resistance         | Junction to case  | —      | —    | 0.35 | °C/W |
| R <sub>th (c-f)</sub> | Contact thermal resistance | Case to fin, conductive grease applied                          | —      | —    | 0.09 | °C/W |
| —                     | Insulation resistance      | Measured with a 500V megohmmeter between main terminal and case | 10     | —    | —    | MΩ   |

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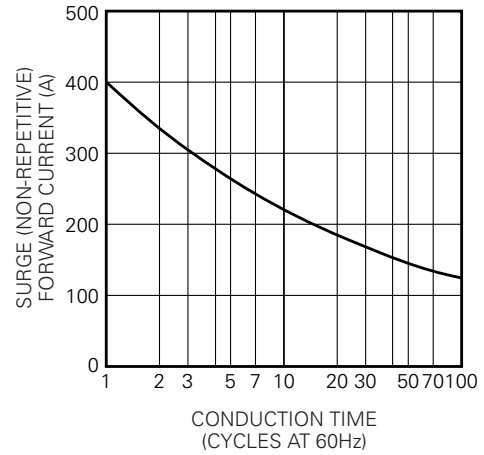
HIGH VOLTAGE MEDIUM POWER GENERAL USE  
INSULATED TYPE

## PERFORMANCE CURVES

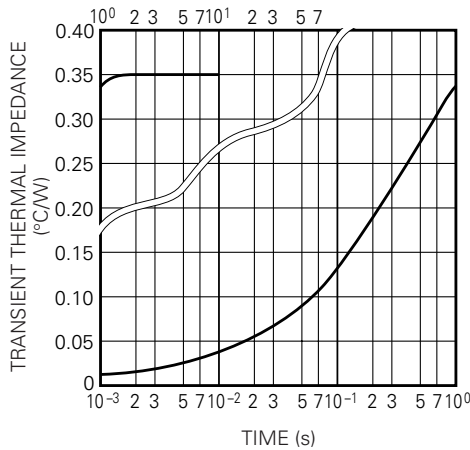
MAXIMUM FORWARD CHARACTERISTIC



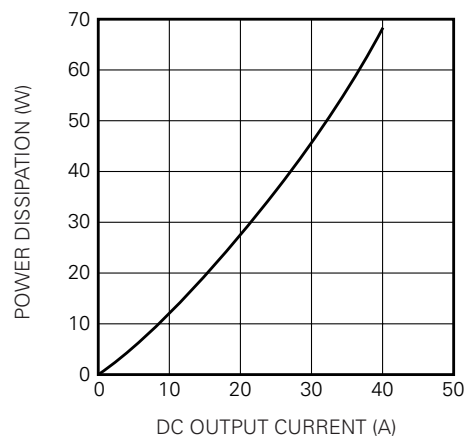
ALLOWABLE SURGE (NON-REPETITIVE)  
FORWARD CURRENT



MAXIMUM TRANSIENT THERMAL IMPEDANCE  
(JUNCTION TO CASE)



MAXIMUM POWER DISSIPATION



ALLOWABLE CASE TEMPERATURE  
VS. DC OUTPUT CURRENT

