

MITSUBISHI DIODE MODULES

# RM100D2Z-40

HIGH VOLTAGE MEDIUM POWER GENERAL USE  
INSULATED TYPE

RM100D2Z-40



- **IF(AV)** Average forward current ..... **100A**
- **VRRM** Repetitive peak reverse voltage  
..... **2000V**

- **DOUBLE ARMS**
- **Insulated Type**
- **UL Recognized**

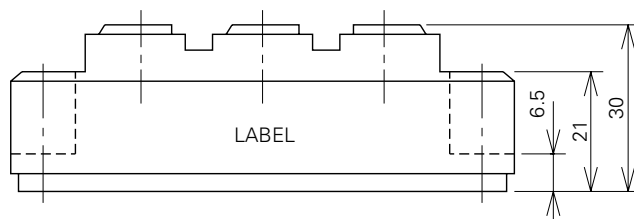
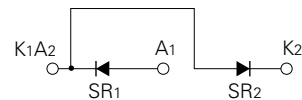
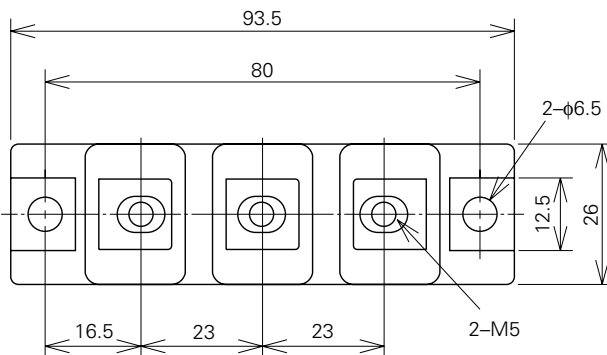
Yellow Card No. E80276 (N)  
File No. E80271

## 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 |
|---------|-------------------------------------|---------------|--|------|
|         |                                     | 40            |  |      |
| VRRM    | Repetitive peak reverse voltage     | 2000          |  | V    |
| VRSM    | Non-repetitive peak reverse voltage | 2100          |  | V    |
| VR (DC) | Reverse DC voltage                  | 1600          |  | V    |

| Symbol           | Parameter                              | Conditions                                       | Ratings               | Unit             |
|------------------|--|--|-----------------------|------------------|
| IF (RMS)         | RMS forward current                    |  | 155                   | A                |
| IF (AV)          | Average forward current                | Single-phase, half-wave 180° conduction, Tc=87°C | 100                   | A                |
| IFSM             | Surge (non-repetitive) forward current | One half cycle at 60Hz, peak value               | 2000                  | A                |
| I <sup>2</sup> t | I <sup>2</sup> t for fusing            | Value for one cycle of surge current             | 1.7 × 10 <sup>4</sup> | A <sup>2</sup> s |
| f                | Maximum operating frequency            |  | 1000                  | Hz               |
| T <sub>j</sub>   | Junction temperature                   |  | -40~+125              | °C               |
| T <sub>stg</sub> | Storage temperature                    |  | -40~+125              | °C               |
| V <sub>iso</sub> | Isolation voltage                      | Charged part to case                             | 3000                  | V                |
| —                | Mounting torque                        | Main terminal screw M5                           | 1.47~1.96             | N·m              |
|                  |  |  | 15~20                 | kg·cm            |
|                  |  | Mounting screw M6                                | 1.96~2.94             | N·m              |
| —                | Weight                                 | Typical value                                    | 20~30                 | kg·cm            |
|                  |  |  | 160                   | g                |

**ELECTRICAL CHARACTERISTICS**

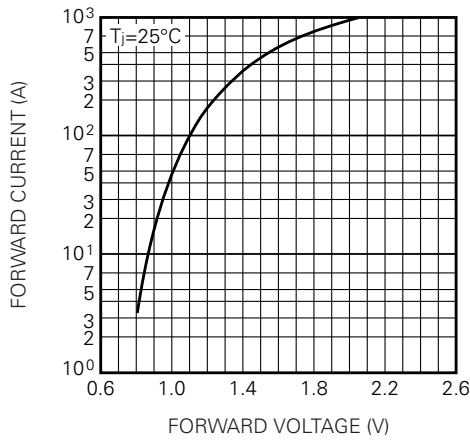
| Symbol                | Parameter                  | Test conditions  | Limits |      |      | Unit |
|-----------------------|----------------------------|--|--------|------|------|------|
|                       |                            |  | Min.   | Typ. | Max. |      |
| I <sub>RRM</sub>      | Repetitive reverse current | T <sub>j</sub> =125°C, V <sub>RRM</sub> applied                  | —      | —    | 15   | mA   |
| V <sub>FM</sub>       | Forward voltage            | T <sub>j</sub> =25°C, I <sub>FM</sub> =320A, instantaneous meas. | —      | —    | 1.35 | V    |
| R <sub>th (j-c)</sub> | Thermal resistance         | Junction to case (per 1/2 module)                                | —      | —    | 0.3  | °C/W |
| R <sub>th (c-f)</sub> | Contact thermal resistance | Case to fin, conductive grease applied (per 1/2 module)          | —      | —    | 0.2  | °C/W |
| —                     | Insulation resistance      | Measured with a 500V megohmmeter between main terminal and case  | 10     | —    | —    | MΩ   |

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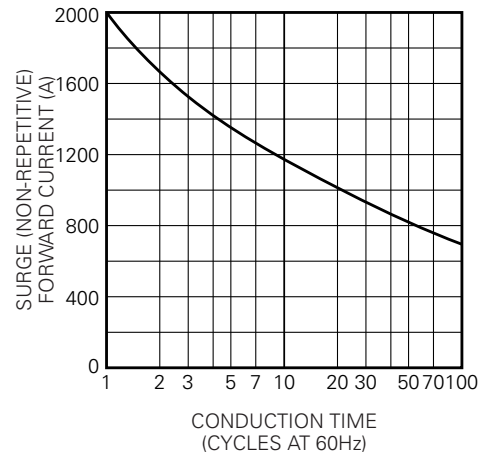
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## PERFORMANCE CURVES

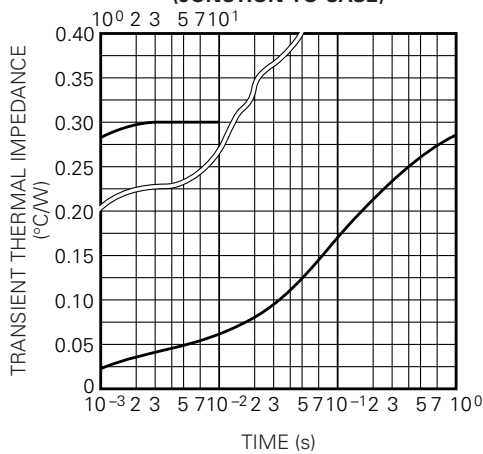
**MAXIMUM FORWARD CHARACTERISTIC**



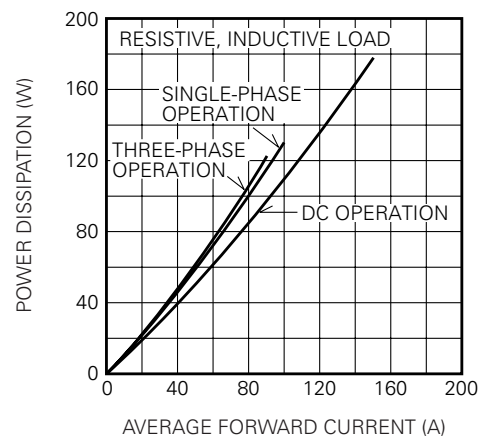
**ALLOWABLE SURGE (NON-REPETITIVE) FORWARD CURRENT**



**MAXIMUM TRANSIENT THERMAL IMPEDANCE (JUNCTION TO CASE)**



**MAXIMUM POWER DISSIPATION**



**ALLOWABLE CASE TEMPERATURE VS. AVERAGE FORWARD CURRENT**

