

# MITSUBISHI DIODE MODULES

## RM150DZ/CZ/UZ-M,-H,-24,-2H

HIGH POWER GENERAL USE  
INSULATED TYPE

### RM150DZ/CZ/UZ-M,-H,-24,-2H



(DZ Type)

- **IF(AV)** Average forward current ..... **150A**
- **VRRM** Repetitive peak reverse voltage  
..... **400/800/1200/1600V**
- **DOUBLE ARMS**
- **Insulated Type**
- **UL Recognized**

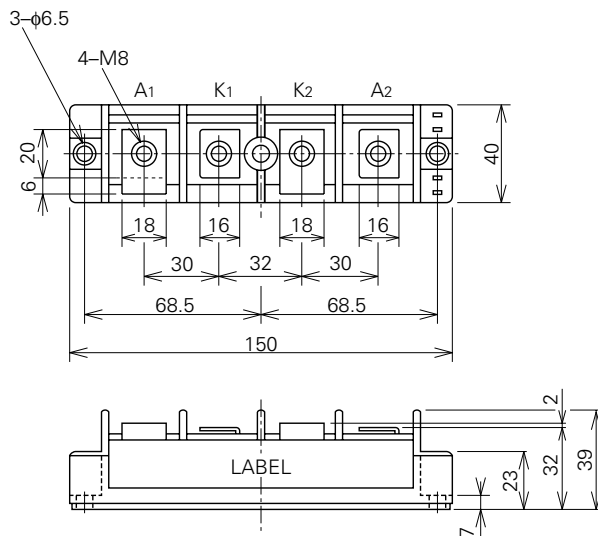
Yellow Card No. E80276 (N)  
File No. E80271

### APPLICATION

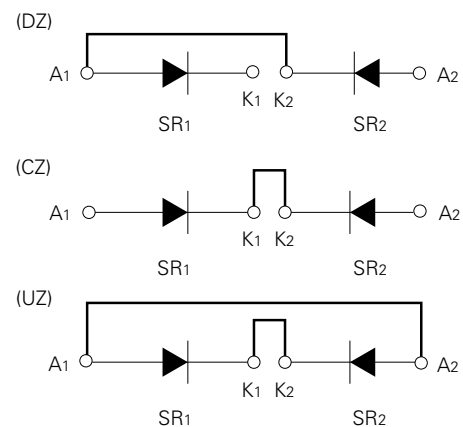
AC motor controllers, DC motor controllers, Battery DC power supplies,  
DC power supplies for control panels, and other general DC power equipment

### OUTLINE DRAWING & CIRCUIT DIAGRAM

Dimensions in mm



(DZ Type)



(Bold line is connective bar.)

**RM150DZ/CZ/UZ-M,-H,-24,-2H****HIGH POWER GENERAL USE  
INSULATED TYPE****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    |
| VR (DC) | Reverse DC voltage                  | 320           | 640 | 960  | 1280 | V    |

| Symbol           | Parameter                              | Conditions                                        | Ratings               | Unit             |
|------------------|----------------------------------------|---------------------------------------------------|-----------------------|------------------|
| IF (RMS)         | RMS forward current                    |                                                   | 235                   | A                |
| IF (AV)          | Average forward current                | Single-phase, half-wave 180° conduction, Tc=109°C | 150                   | A                |
| IFSM             | Surge (non-repetitive) forward current | One half cycle at 60Hz, peak value                | 3500                  | A                |
| I <sup>2</sup> t | I <sup>2</sup> t for fusing            | Value for one cycle of surge current              | 5.1 × 10 <sup>4</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 M8                            | 8.83~10.8             | N·m              |
|                  |                                        |                                                   | 90~110                | kg·cm            |
|                  |                                        | Mounting screw M6                                 | 1.96~3.92             | N·m              |
|                  |                                        |                                                   | 20~40                 | kg·cm            |
| —                | Weight                                 | Typical value                                     | 300                   | g                |

**ELECTRICAL CHARACTERISTICS**

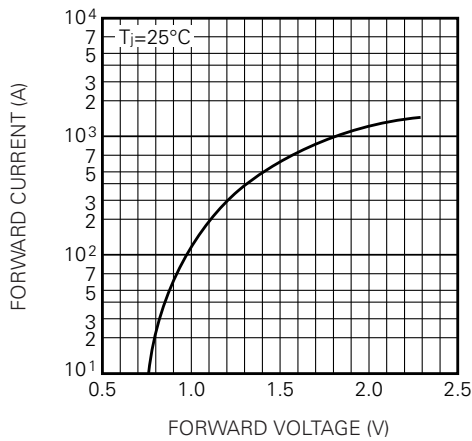
| Symbol    | Parameter                  | Test conditions                                                 | Limits |      |      | Unit |
|-----------|----------------------------|-----------------------------------------------------------------|--------|------|------|------|
|           |                            |                                                                 | Min.   | Typ. | Max. |      |
| IRRM      | Repetitive reverse current | Tj=150°C, VRRM applied                                          | —      | —    | 30   | mA   |
| VFM       | Forward voltage            | Tj=25°C, IFM=450A, instantaneous meas.                          | —      | —    | 1.35 | V    |
| Rth (j-c) | Thermal resistance         | Junction to case (per 1/2 module)                               | —      | —    | 0.22 | °C/W |
| Rth (c-f) | Contact thermal resistance | Case to fin, conductive grease applied (per 1/2 module)         | —      | —    | 0.1  | °C/W |
| —         | Insulation resistance      | Measured with a 500V megohmmeter between main terminal and case | 10     | —    | —    | MΩ   |

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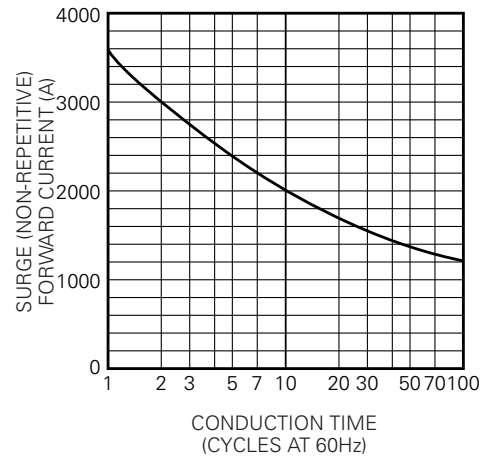
HIGH POWER GENERAL USE  
INSULATED TYPE

## PERFORMANCE CURVE

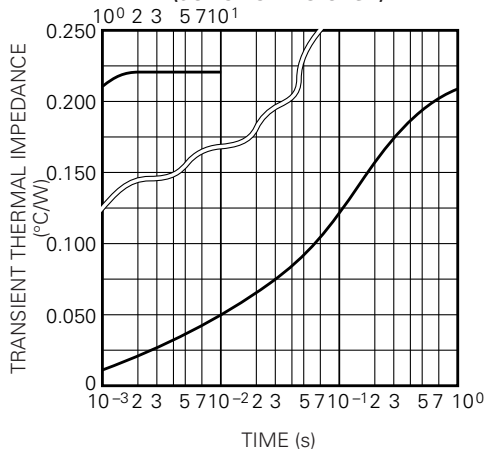
MAXIMUM FORWARD CHARACTERISTIC



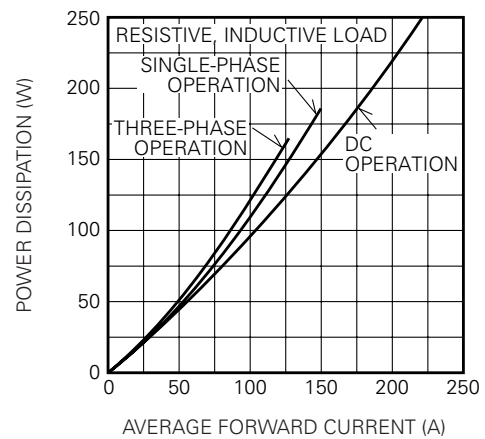
ALLOWABLE SURGE (NON-REPETITIVE)  
FORWARD CURRENT



MAXIMUM TRANSIENT THERMAL IMPEDANCE  
(JUNCTION TO CASE)



MAXIMUM POWER DISSIPATION



ALLOWABLE CASE TEMPERATURE  
VS. AVERAGE FORWARD CURRENT

