

# RM30TC-40

HIGH VOLTAGE MEDIUM POWER GENERAL USE  
INSULATED TYPE

RM30TC-40



- **I<sub>o</sub>** DC output current ..... **60A**
- **V<sub>RRM</sub>** Repetitive peak reverse voltage ..... **2000V**

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

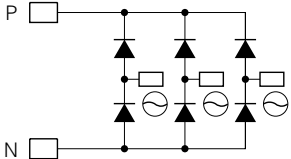
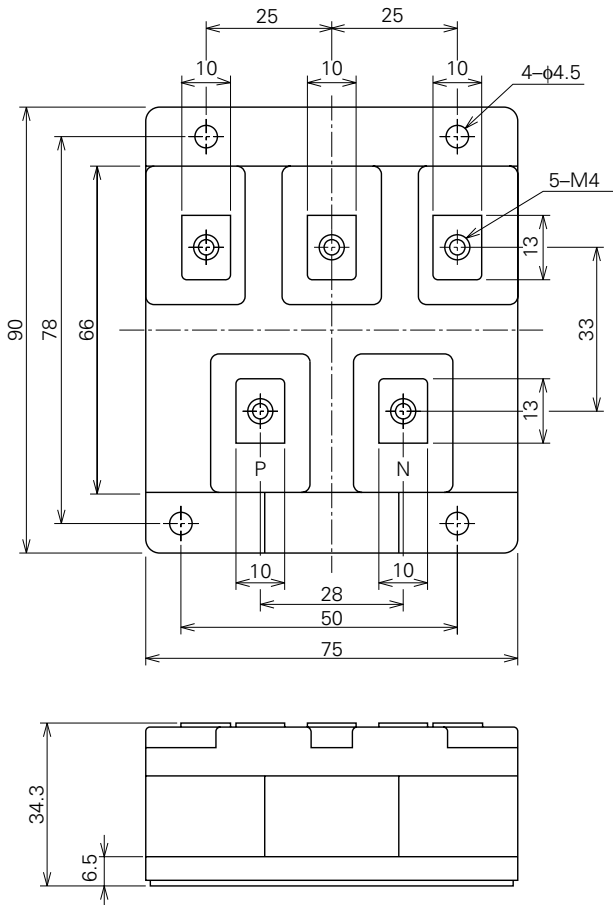
Yellow Card No. E80276 (N)  
File No. E80271

### 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 |
|--------|-------------------------------------|---------------|--|------|
|        |                                     | 40            |  |      |
| VRRM   | Repetitive peak reverse voltage     | 2000          |  | V    |
| VRSM   | Non-repetitive peak reverse voltage | 2100          |  | V    |
| Ea     | Recommended AC input voltage        | 1600          |  | V    |

| Symbol                      | Parameter                              | Conditions   | Ratings               | Unit             |
|-----------------------------|--|--|-----------------------|------------------|
| I <sub>o</sub>              | DC output current                      | Three-phase full wave rectifying circuit, T <sub>c</sub> =82°C | 60                    | A                |
| IFSM                        | Surge (non-repetitive) forward current | One half cycle at 60Hz, peak value                             | 1000                  | A                |
| I <sup>2</sup> <sub>t</sub> | I <sup>2</sup> <sub>t</sub> 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               |
| 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 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  | 405                   | g                |

**ELECTRICAL CHARACTERISTICS**

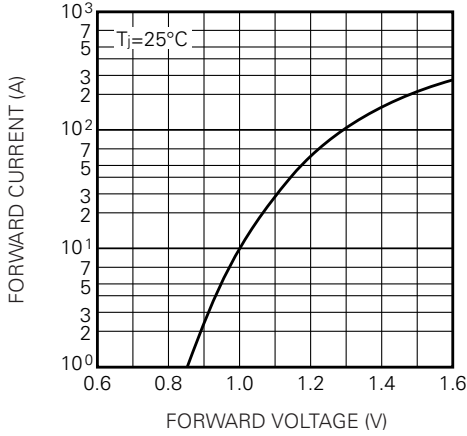
| Symbol               | Parameter                  | Test conditions   | Limits |      |      | Unit |
|----------------------|----------------------------|---|--------|------|------|------|
|                      |                            |   | Min.   | Typ. | Max. |      |
| I <sub>RRM</sub>     | Repetitive reverse current | T <sub>j</sub> =125°C, VRRM applied                             | —      | —    | 10   | mA   |
| V <sub>FM</sub>      | Forward voltage            | T <sub>j</sub> =25°C, IFM=60A, instantaneous meas.              | —      | —    | 1.2  | V    |
| R <sub>th(j-c)</sub> | Thermal resistance         | Junction to case  | —      | —    | 0.3  | °C/W |
| R <sub>th(c-f)</sub> | Contact thermal resistance | Case to fin, conductive grease applied                          | —      | —    | 0.04 | °C/W |
| —                    | Insulation resistance      | Measured with a 500V megohmmeter between main terminal and case | 10     | —    | —    | MΩ   |

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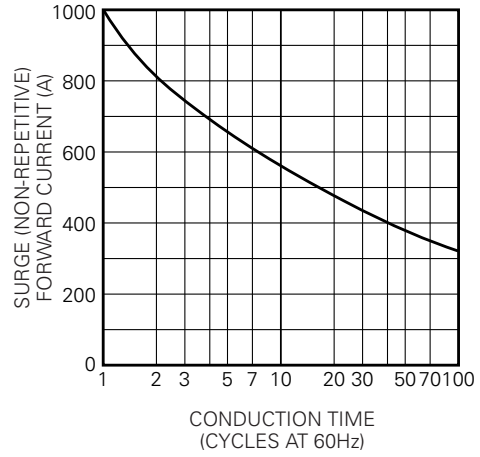
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## PERFORMANCE CURVES

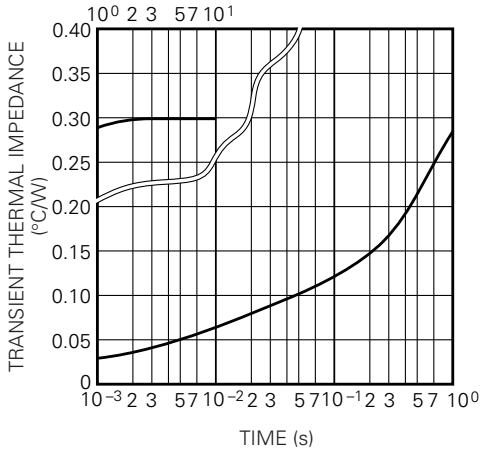
**MAXIMUM FORWARD CHARACTERISTIC**



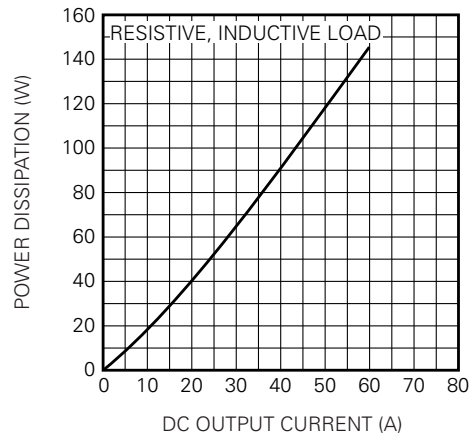
**ALLOWABLE SURGE (NON-REPETITIVE) FORWARD CURRENT**



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



**MAXIMUM POWER DISSIPATION**



**ALLOWABLE CASE TEMPERATURE VS. DC OUTPUT CURRENT**

