

MITSUBISHI FAST RECOVERY DIODE MODULES

RM300HA-24F

HIGH SPEED SWITCHING USE
INSULATED TYPE

RM300HA-24F



- **Idc** DC current **300A**
- **VRRM** Repetitive peak reverse voltage
..... **1200V**
- **trr** Reverse recovery time **0.8μs**
- **Insulated Type**
- **UL Recognized**

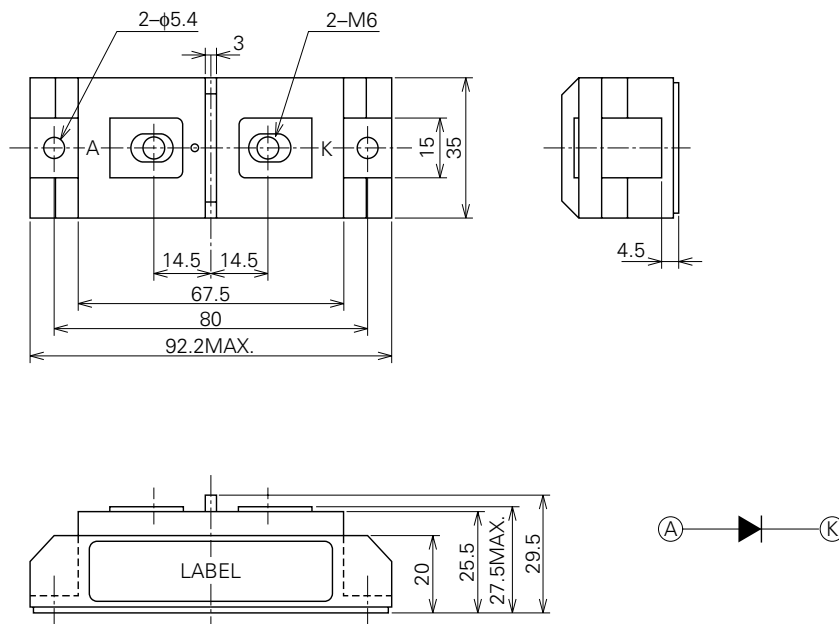
Yellow Card No. E80276 (N)
File No. E80271

APPLICATION

Free wheel use, Welders

OUTLINE DRAWING & CIRCUIT DIAGRAM

Dimensions in mm



Feb.1999



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HIGH SPEED SWITCHING USE
INSULATED TYPEABSOLUTE MAXIMUM RATINGS (T_j=25°C)

| Symbol | Parameter | Voltage class | | Unit |
|---------|-------------------------------------|---------------|--|------|
| | | 24 | | |
| VRRM | Repetitive peak reverse voltage | 1200 | | V |
| VDRM | Non-repetitive peak reverse voltage | 1350 | | V |
| VR (DC) | Reverse DC voltage | 960 | | V |

| Symbol | Parameter | Conditions | Ratings | Unit |
|-----------------------------|--|--------------------------------------|------------------------|------------------|
| I _{DC} | DC current | Resistive load, T _c =75°C | 300 | A |
| I _{FSM} | Surge (non-repetitive) forward current | One half cycle at 60Hz, peak value | 3000 | A |
| I ² _t | I ² _t for fusing | Value for one cycle surge current | 3.75 × 10 ⁴ | A ² s |
| T _j | Junction temperature | | -40~+150 | °C |
| T _{stg} | Storage temperature | | -40~+125 | °C |
| V _{iso} | Isolation voltage | Charged part to case | 2500 | V |
| — | Mounting torque | Main terminal screw M6 | 1.96~2.94 | N·m |
| | | | 20~30 | kg·cm |
| | | Mounting screw M5 | 1.47~1.96 | N·m |
| | | | 15~20 | kg·cm |
| — | Weight | Typical value | 200 | g |

ELECTRICAL CHARACTERISTICS

| Symbol | Parameter | Test conditions | Limits | | | Unit |
|-----------------------|----------------------------|--|--------|------|------|------|
| | | | Min. | Typ. | Max. | |
| I _{RRM} | Repetitive reverse current | T _j =150°C, VRRM applied | — | — | 40 | mA |
| V _{FM} | Forward voltage | T _j =25°C, I _{FM} =300A, Instantaneous meas. | — | — | 1.5 | V |
| t _{rr} | Reverse recovery time | I _{FM} =300A, T _j =150°C, di/dt=-600A/μs, V _R =600V | — | — | 0.8 | μs |
| Q _{rr} | Reverse recovery charge | | — | — | 80 | μC |
| R _{th (j-c)} | Thermal resistance | Junction to case | — | — | 0.2 | °C/W |
| R _{th (c-f)} | Contact thermal resistance | Case to fin, conductive grease applied | — | — | 0.15 | °C/W |

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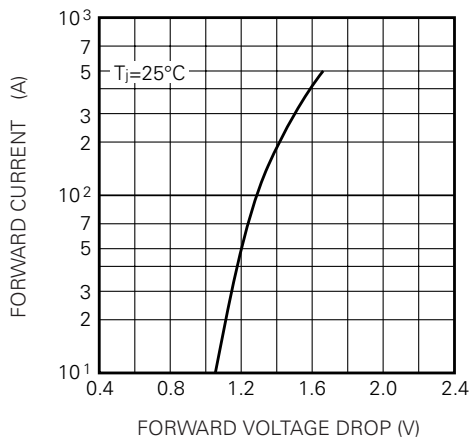
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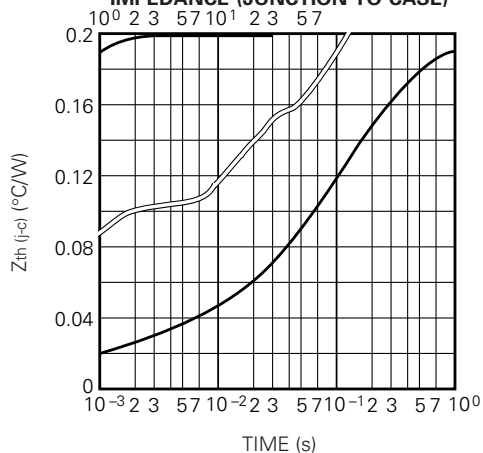
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INSULATED TYPE

PERFORMANCE CURVES

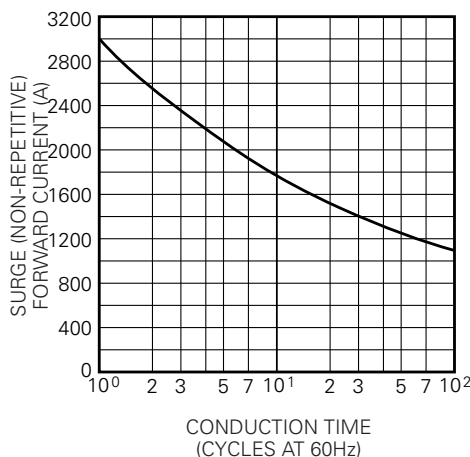
MAXIMUM FORWARD CHARACTERISTIC



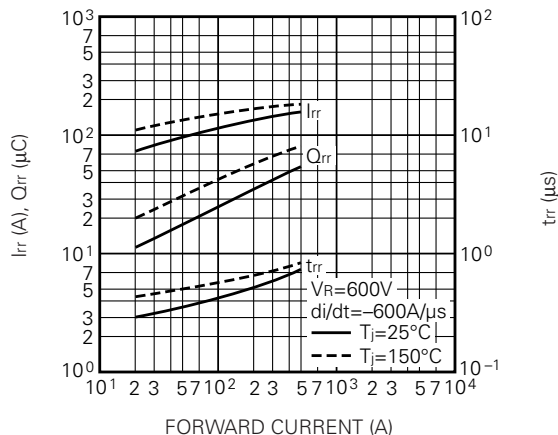
MAXIMUM TRANSIENT THERMAL IMPEDANCE (JUNCTION TO CASE)



RATED SURGE (NON-REPETITIVE) FORWARD CURRENT



REVERSE RECOVERY CHARACTERISTICS VS. FORWARD CURRENT (TYPICAL)



REVERSE RECOVERY CHARACTERISTICS VS. -di/dt (TYPICAL)

