



Glass Passivated Rectifier Diode Modules

VRRM 800 to 1800V
IFAV 70 A

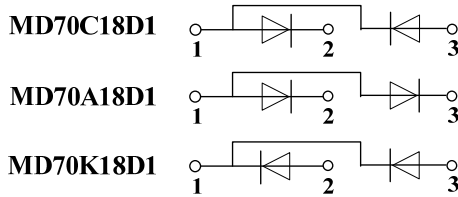
Applications

- Non-controllable rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controllers
- Field supply for DC motors

Features

- Blocking voltage: 800 to 1800V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip
- UL recognized applied for file no. E360040

Circuit



Module Type

| TYPE | | | VRRM | V _{RSM} |
|-----------|-----------|-----------|-------|------------------|
| MD70C08D1 | MD70A08D1 | MD70K08D1 | 800V | 900V |
| MD70C12D1 | MD70A12D1 | MD70K12D1 | 1200V | 1300V |
| MD70C16D1 | MD70A16D1 | MD70K16D1 | 1600V | 1700V |
| MD70C18D1 | MD70A18D1 | MD70K18D1 | 1800V | 1900V |

Maximum Ratings

| Symbol | Conditions | Values | Units |
|-------------------|---|------------|------------------|
| IFAV | Single phase ,half wave 180° conduction T _c =102°C | 70 | A |
| IFSM | t=10mS T _{vj} =45°C | 1400 | A |
| i ² t | t=10mS T _{vj} =45°C | 9800 | A ² s |
| V _{isol} | a.c.50HZ;r.m.s.;1min | 3000 | V |
| T _{vj} | | -40 to 150 | °C |
| T _{stg} | | -40 to 125 | °C |
| M _t | To terminals(M5) | 3±15% | Nm |
| M _s | To heatsink(M6) | 5±15% | Nm |
| Weight | Module (Approximately) | 100 | g |

Thermal Characteristics

| Symbol | Conditions | Values | Units |
|----------------------|------------|--------|-------|
| R _{th(j-c)} | Per diode | 0.51 | °C/W |
| R _{th(c-s)} | Module | 0.1 | °C/W |



Electrical Characteristics

| Symbol | Conditions | Values | | | Units |
|----------|--|--------|------|------|------------|
| | | Min. | Typ. | Max. | |
| V_{FM} | $T=25^{\circ}C$ $I_F=200A$ | — | 1.20 | 1.30 | V |
| V_{FO} | $T_J=25^{\circ}C$ | — | 0.94 | — | V |
| | $T_J=150^{\circ}C$ | — | 0.96 | — | V |
| r_F | $T_J=25^{\circ}C$ | — | 1.31 | — | m Ω |
| | $T_J=150^{\circ}C$ | — | 2.07 | — | m Ω |
| I_{RD} | $T_{vj}=150^{\circ}C$ $V_{RD}=V_{RRM}$ | — | — | 5 | mA |

Performance Curves

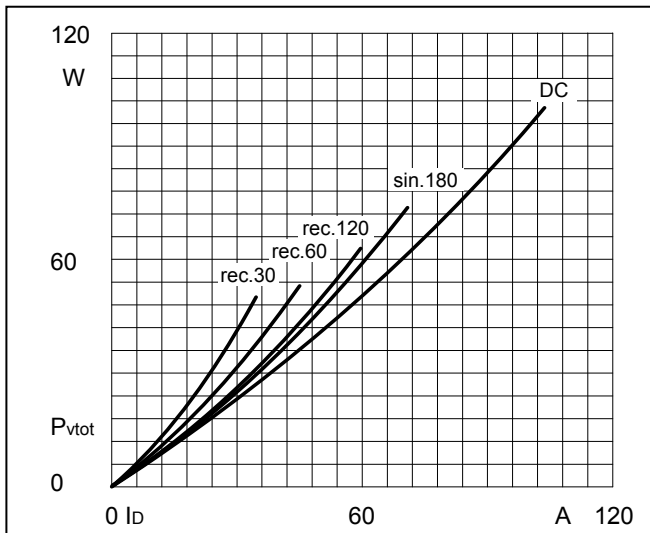


Fig1. Power dissipation

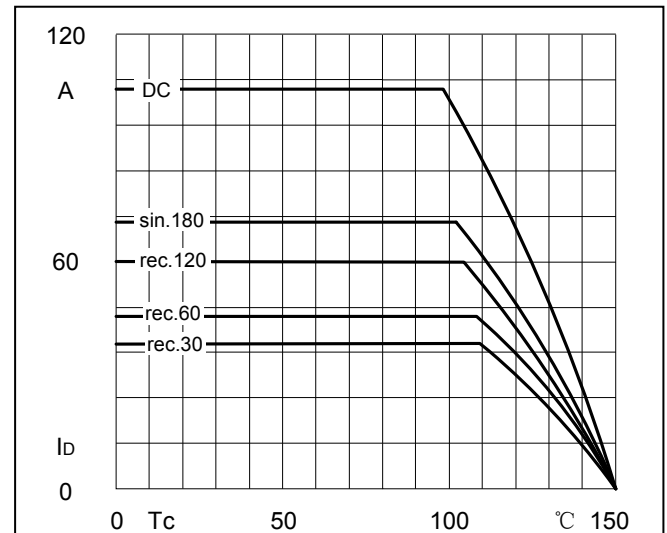


Fig2. Forward Current Derating Curve

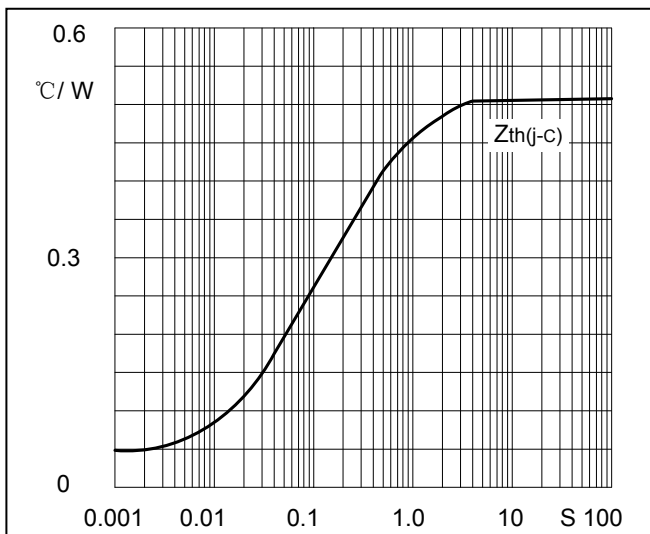


Fig3. Transient thermal impedance

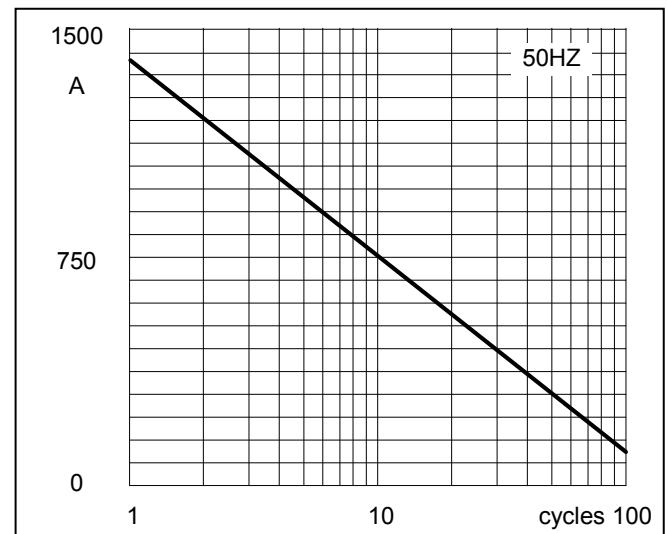


Fig4. Max Non-Repetitive Forward Surge Current

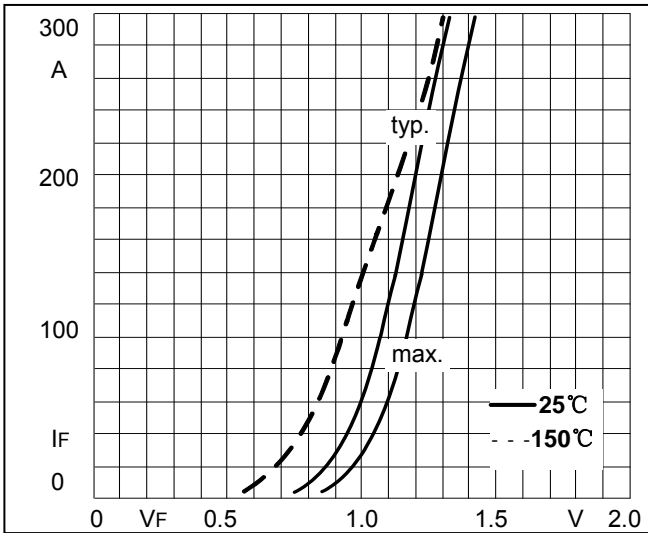


Fig5. Forward Characteristics

Package Outline Information

