



Glass Passivated Rectifier Diode Modules

V_{RRM} 800 to 1800V
I_{FAV} 50 A

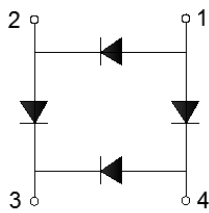
Applications

- 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

Circuit



Module Type

| TYPE | V _{RRM} | V _{RSM} |
|-----------|------------------|------------------|
| MD50H08FJ | 800V | 900V |
| MD50H12FJ | 1200V | 1300V |
| MD50H16FJ | 1600V | 1700V |
| MD50H18FJ | 1800V | 1900V |

Maximum Ratings

| Symbol | Conditions | Values | Units |
|-------------------|---------------------------------------------------------------|-------------|------------------|
| I _{FAV} | Single phase ,half wave 180° conduction T _c =104°C | 50 | A |
| I _{FSM} | t=10mS T _{vj} =45°C | 650 | A |
| i ² t | t=10mS T _{vj} =45°C | 2100 | 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 |
| Mt | To terminals(M4) | 1±15% | Nm |
| Ms | To heat sink(M4) | 1.2±15% | Nm |
| Weight | Module (Approximately) | 27 | g |

Thermal Characteristics

| Symbol | Conditions | Values | Units |
|----------------------|------------|--------|-------|
| R _{th(j-c)} | Per diode | 0.6 | °C/W |
| R _{th(c-s)} | Module | 0.1 | °C/W |

Electrical Characteristics

| Symbol | Conditions | Values | | | Units |
|-----------------|----------------------------------------------------------|--------|------|------|-------|
| | | Min. | Typ. | Max. | |
| V _{FM} | T=25°C I _F =100A | — | 1.25 | 1.40 | V |
| I _{RD} | T _{vj} =150°C V _{RD} =V _{RRM} | — | — | 1 | mA |



Performance Curves

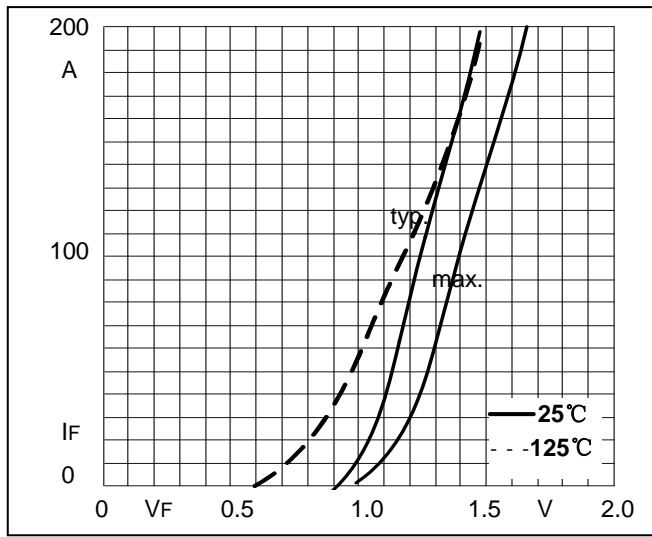


Fig1 Forward Characteristics

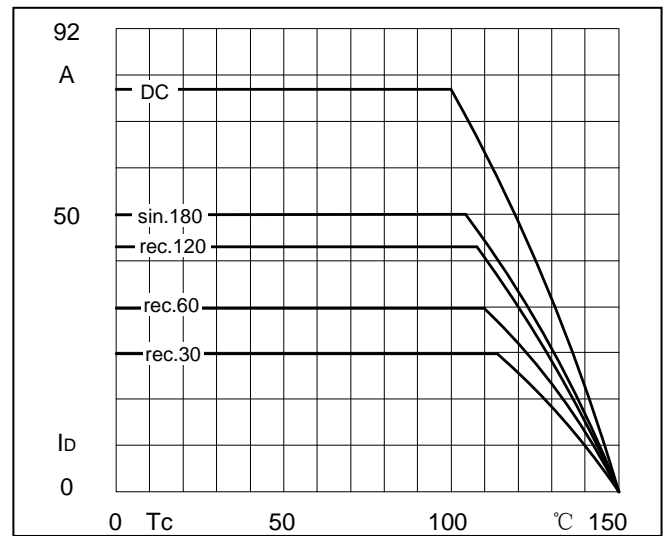


Fig2 Forward Current Derating Curve

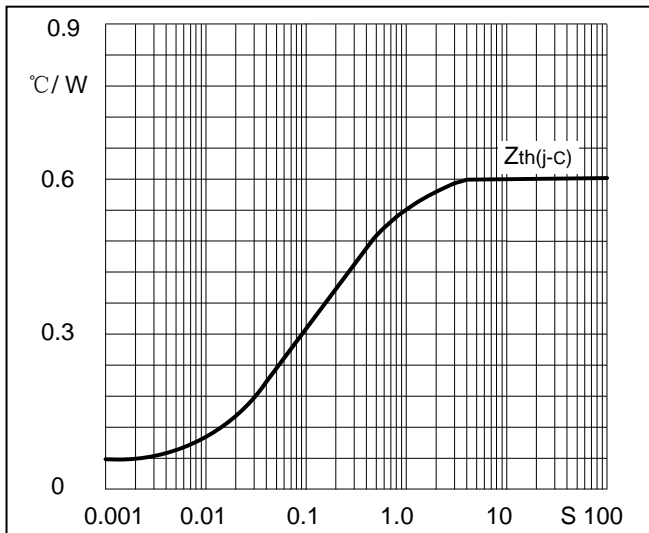


Fig3. Transient thermal impedance

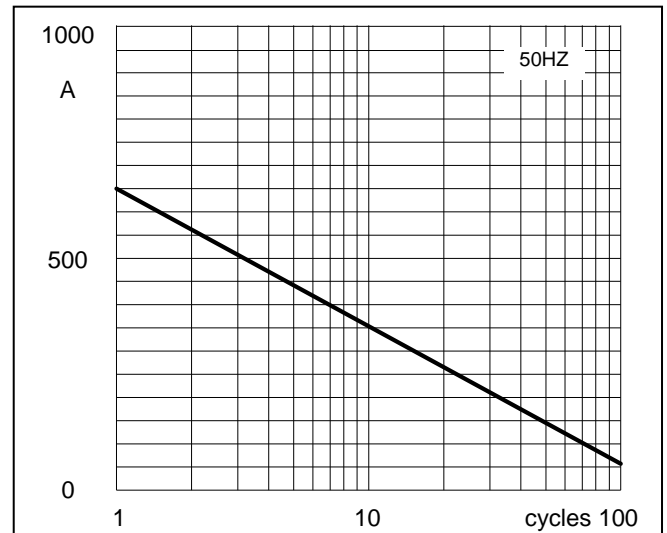
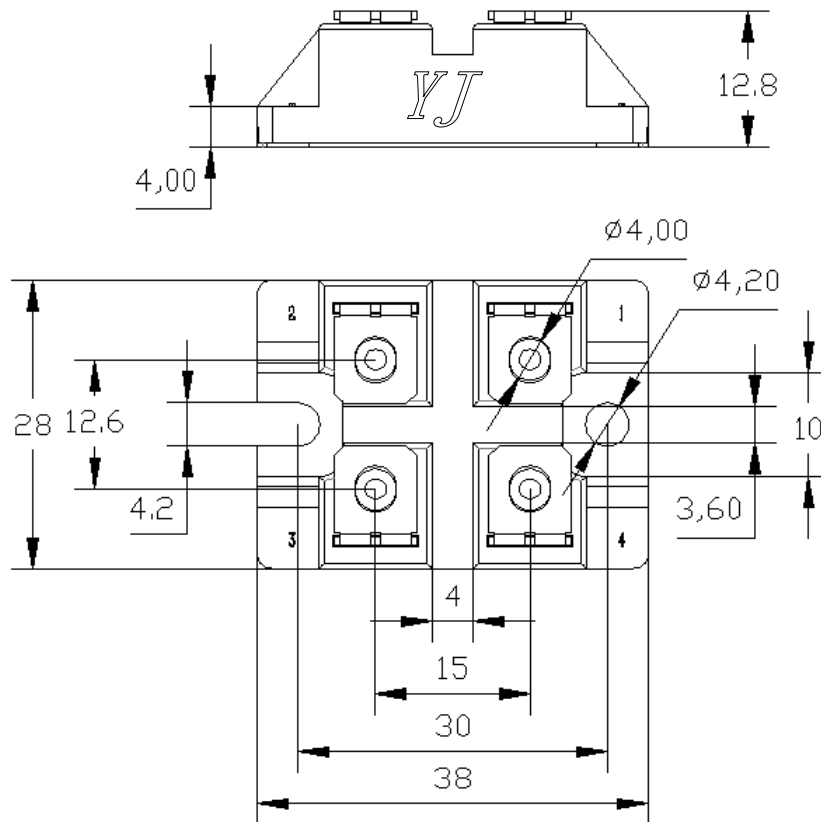


Fig4. Max Non-Repetitive Forward Surge Current

Package Outline Information

CASE:FJ



Dimensions in mm