



## Glass Passivated Rectifier Diode Modules

**VRRM** 800 to 1800V  
**IFAV** 100 A

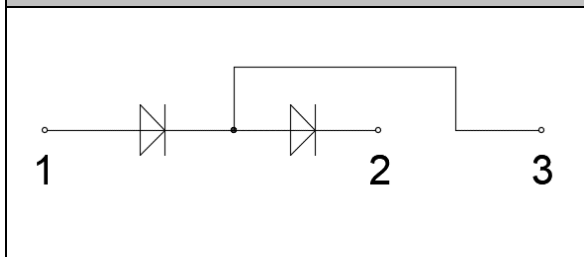
### Applications

- 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        | VRRM  | VRSM  |
|-------------|-------|-------|
| MD100CT08D1 | 800V  | 900V  |
| MD100CT12D1 | 1200V | 1300V |
| MD100CT16D1 | 1600V | 1700V |
| MD100CT18D1 | 1800V | 1900V |

### Maximum Ratings

| Symbol            | Conditions                                      | Values      | Units            |
|-------------------|-------------------------------------------------|-------------|------------------|
| IFAV              | Single phase ,half wave 180° conduction Tc=109℃ | 100         | A                |
| IFSM              | t=10mS Tvj =45℃                                 | 4000        | A                |
| i <sup>2</sup> t  | t=10mS Tvj =45℃                                 | 80000       | A <sup>2</sup> s |
| V <sub>isol</sub> | a.c.50HZ;r.m.s.;1min                            | 3000        | V                |
| Tvj               |                                                 | -40 to +150 | ℃                |
| Tstg              |                                                 | -40 to +125 | ℃                |
| Mt                | To terminals(M5)                                | 3±15%       | Nm               |
| Ms                | To heatsink(M6)                                 | 5±15%       | Nm               |
| Weight            | Module (Approximately)                          | 100         | g                |

### Thermal Characteristics

| Symbol   | Conditions | Values | Units |
|----------|------------|--------|-------|
| Rth(j-c) | Per diode  | 0.35   | ℃/W   |
| Rth(c-s) | Module     | 0.1    | ℃/W   |

### Electrical Characteristics

| Symbol          | Conditions        | Values |      |      | Units |
|-----------------|-------------------|--------|------|------|-------|
|                 |                   | Min.   | Typ. | Max. |       |
| V <sub>FM</sub> | T=25℃ IF =300A    | —      | 1.20 | 1.35 | V     |
| IRD             | Tvj=150℃ VRD=VRRM | —      | —    | 5    | mA    |



## Performance Curves

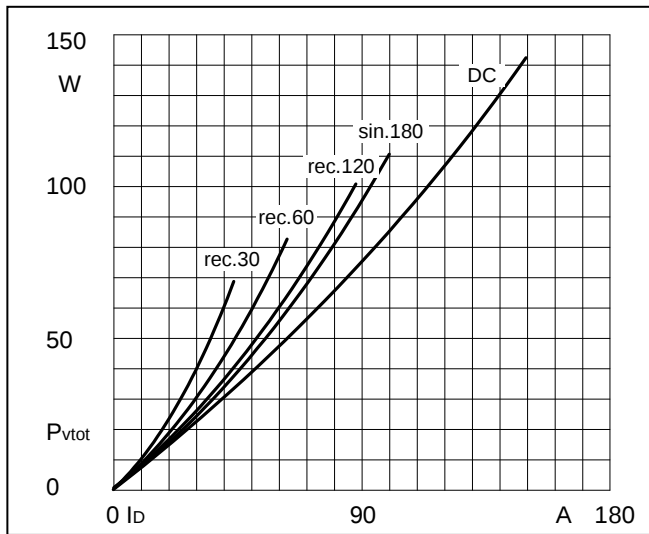


Fig1. Power dissipation

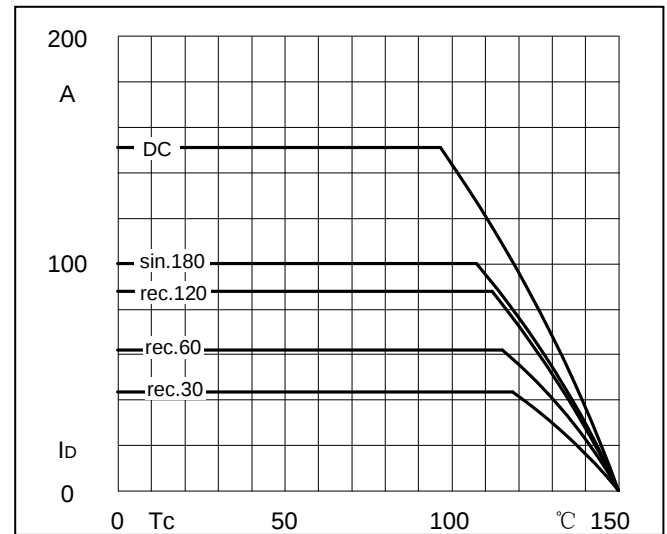


Fig2. Forward Current Derating Curve

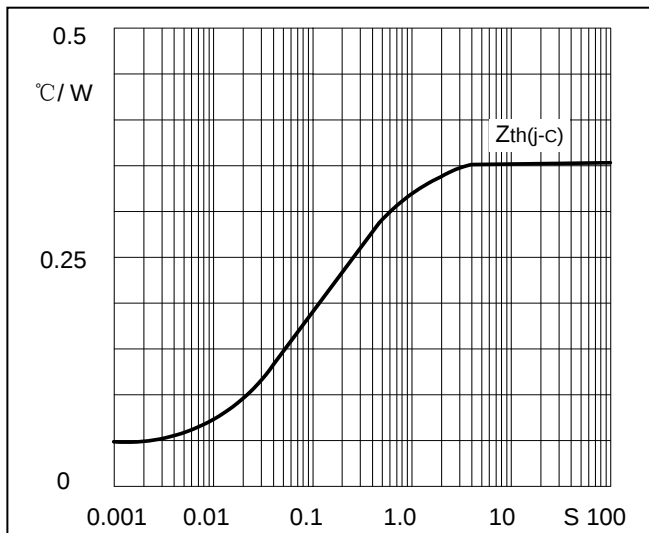


Fig3. Transient thermal impedance

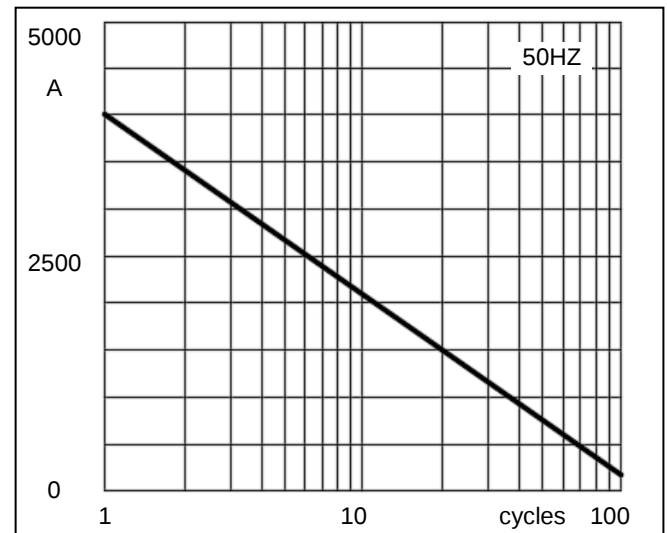


Fig4. Max Non-Repetitive Forward Surge Current

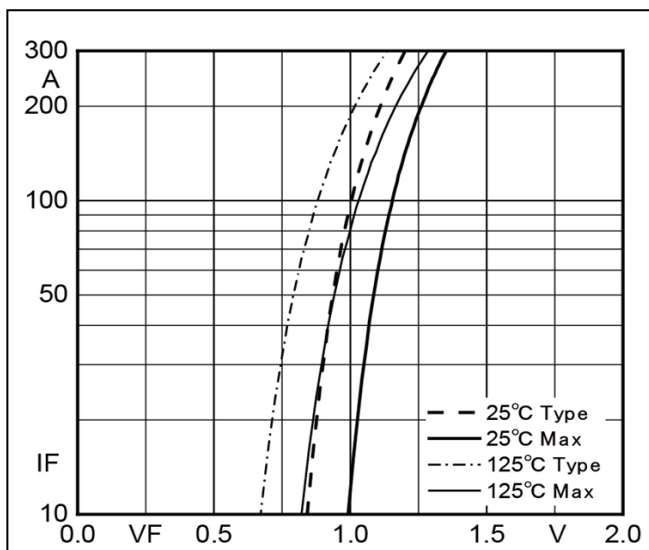
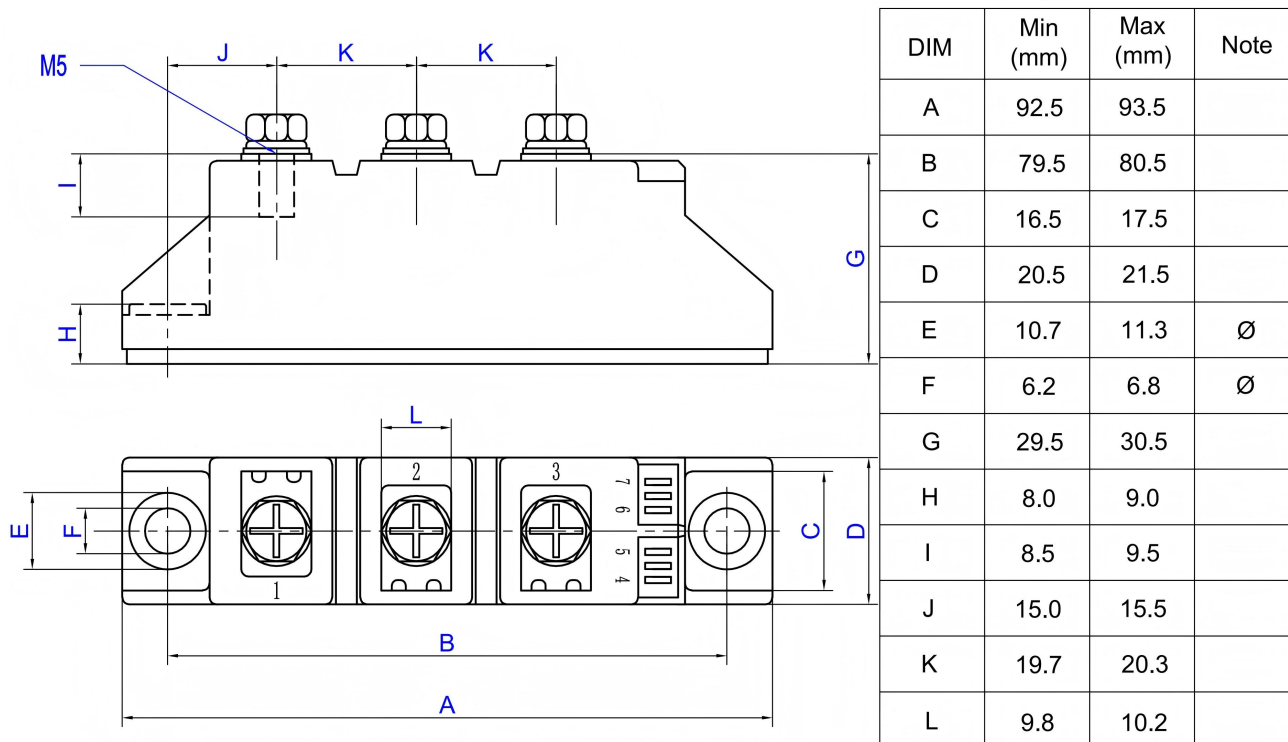


Fig5. Forward Characteristics

## Package Outline Information

### CASE: D1



## Packing Standard

| Item         | Length: A (mm) | Width: B (mm) | Height: C (mm) | Quantity (PCS) |
|--------------|----------------|---------------|----------------|----------------|
| Inner Box    | 276            | 258           | 40             | 10             |
| Outer Carton | 545            | 295           | 240            | 120            |



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