



## Glass Passivated Three Phase Rectifier Bridge

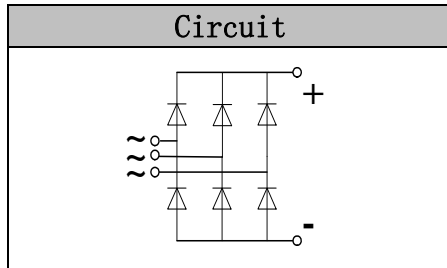
**VRRM** 800 to 1800V  
**ID** 100 A

### Applications

- Three phase rectifiers for power supplies
- Rectifiers for DC motor field supplies
- Battery charger rectifiers
- Input rectifiers for variable frequency drives

### Features

- Three phase bridge rectifier
- Blocking voltage: 800 to 1800V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip



### Module Type

| TYPE       | VRRM  | VRSM  |
|------------|-------|-------|
| MD100S08M8 | 800V  | 900V  |
| MD100S12M8 | 1200V | 1300V |
| MD100S16M8 | 1600V | 1700V |
| MD100S18M8 | 1800V | 1900V |

### Maximum Ratings

| Symbol           | Conditions                      | Values      | Units            |
|------------------|---------------------------------|-------------|------------------|
| ID               | Three phase, full wave Tc=100°C | 100         | A                |
| IFSM             | t=10mS Tvj =45°C                | 920         | A                |
| i <sup>2</sup> t | t=10mS Tvj =45°C                | 4200        | A <sup>2</sup> s |
| Visol            | a.c.50HZ;r.m.s.;1min            | 3000        | V                |
| Tvj              |                                 | -40 to +150 | °C               |
| Tstg             |                                 | -40 to +125 | °C               |
| Mt               | To terminals (M5)               | 3±15%       | Nm               |
| Ms               | To heatsink (M6)                | 5±15%       | Nm               |
| Weight           | Module (Approximately)          | 168         | g                |

### Thermal Characteristics

| Symbol   | Conditions | Values | Units |
|----------|------------|--------|-------|
| Rth(j-c) | Per diode  | 0.9    | °C/W  |
| Rth(c-s) | Module     | 0.03   | °C/W  |

### Electrical Characteristics

| Symbol          | Conditions         | Values |      |      | Units |
|-----------------|--------------------|--------|------|------|-------|
|                 |                    | Min.   | Typ. | Max. |       |
| V <sub>FM</sub> | T=25°C IF =300A    | —      | 1.70 | 1.90 | V     |
| IRD             | Tvj=25°C VRD=VRRM  | —      | —    | 0.3  | mA    |
|                 | Tvj=150°C VRD=VRRM | —      | —    | 5    | mA    |



## Performance Curves

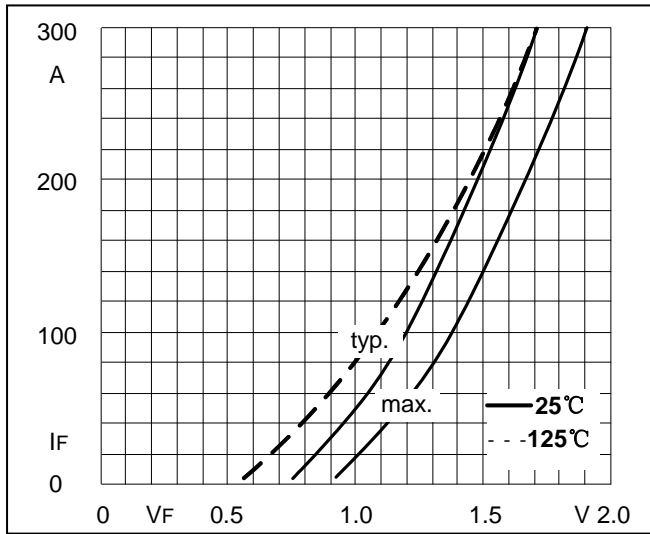


Fig1. Forward Characteristics

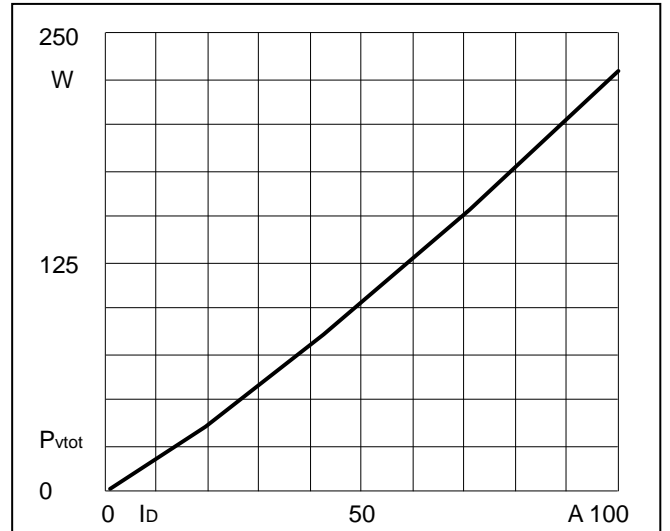


Fig2. Power dissipation

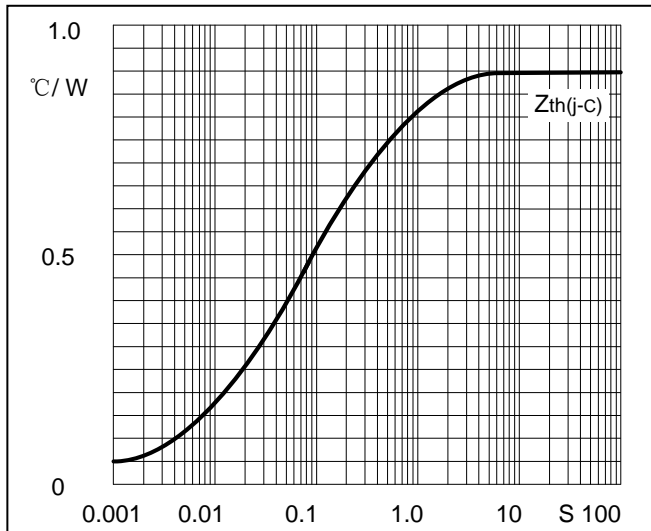


Fig3. Transient thermal impedance

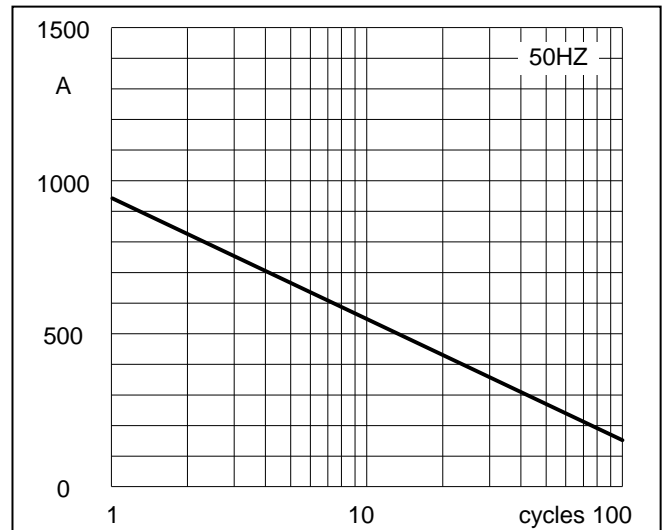


Fig4. Max Non-Repetitive Forward Surge Current

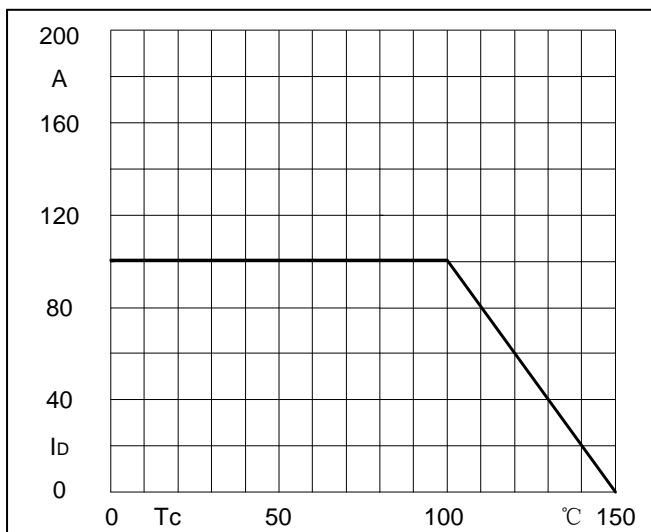
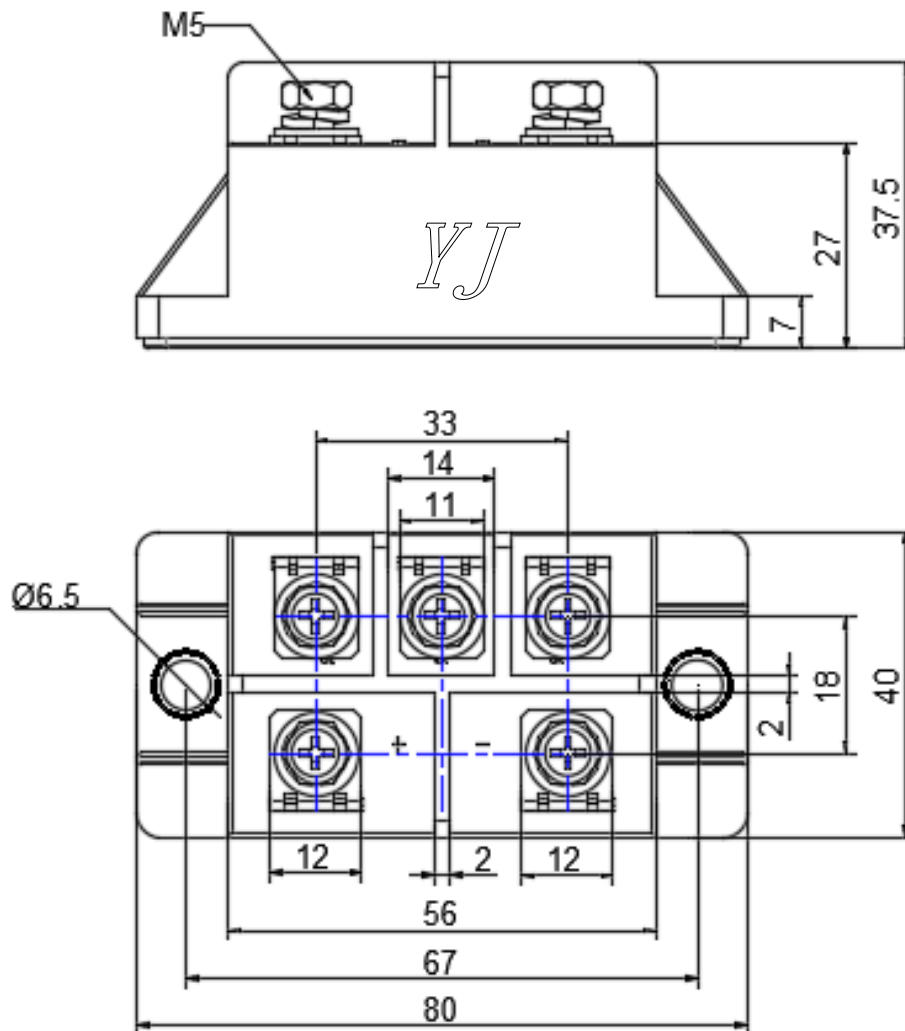


Fig5. Forward Current Derating Curve

## Package Outline Information

CASE: M8



Dimensions in mm  
Tolerance: 0.5mm