



## Rectifier Diode Module

**VRRM** 2200 to 2800V

**IFAV** 300A

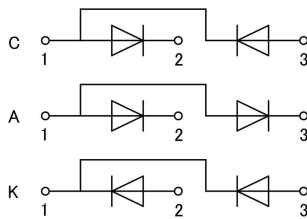
### Applications

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

### Features

- International standard package
- High Surge Capability
- Simple Mounting

### Circuit



### Blocking Characteristics

| TYPE       |            |            | VRRM | VRS  | Units |
|------------|------------|------------|------|------|-------|
| MD300C22D3 | MD300A22D3 | MD300K22D3 | 2200 | 2400 | V     |
| MD300C24D3 | MD300A24D3 | MD300K24D3 | 2400 | 2600 | V     |
| MD300C26D3 | MD300A26D3 | MD300K26D3 | 2600 | 2800 | V     |
| MD300C28D3 | MD300A28D3 | MD300K28D3 | 2800 | 3000 | V     |

### Maximum Ratings

| Symbol           | Conditions                                      | Values     | Units            |
|------------------|-------------------------------------------------|------------|------------------|
| IFAV             | Single phase ,half wave 180° conduction Tc=100℃ | 300        | A                |
| IFSM             | t=10ms Tvj=TvjM                                 | 10000      | A                |
| i <sup>2</sup> t | t=10ms Tvj=TvjM                                 | 500000     | A <sup>2</sup> s |
| Visol            | a.c.50HZ;r.m.s.;1min,Iiso :2mA(max)             | 3000       | V                |
| Tvj              |                                                 | -40 to 150 | ℃                |
| Tstg             |                                                 | -40 to 125 | ℃                |
| Mt               | To terminals(M8)                                | 12±15%     | Nm               |
| Ms               | To heatsink(M6)                                 | 6±15%      | Nm               |
| Weight           | Module (Approximately)                          | 690        | g                |

### Thermal Characteristics

| Symbol   | Conditions | Values | Units |
|----------|------------|--------|-------|
| Rth(j-c) | per diode  | 0.12   | ℃/W   |
| Rth(c-s) | per diode  | 0.04   | ℃/W   |

### Electrical Characteristics

| Symbol | Conditions      | Values |      |      | Units |
|--------|-----------------|--------|------|------|-------|
|        |                 | Min.   | Typ. | Max. |       |
| VFM    | T=25℃ IF =900A  |        |      | 1.45 | V     |
| IRRM   | Tvj=TvjM V=VRRM |        |      | 20   | mA    |
| VFO    | Tvj=TvjM        |        |      | 0.96 | V     |
| rF     | Tvj=TvjM        |        |      | 0.5  | mΩ    |



## Performance Curves

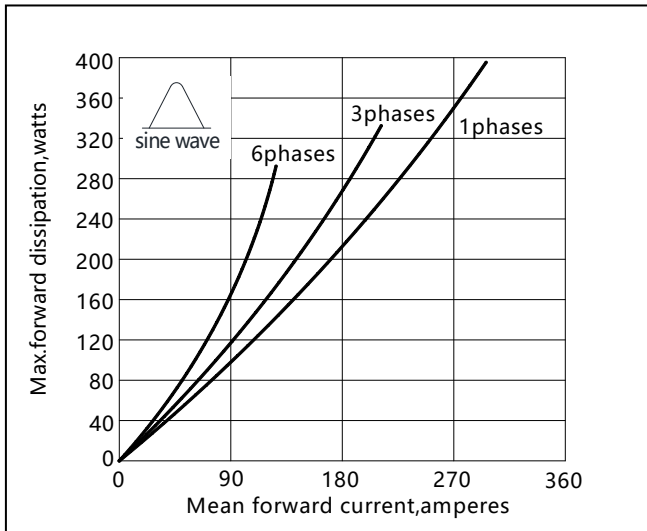


Fig1. Power dissipation

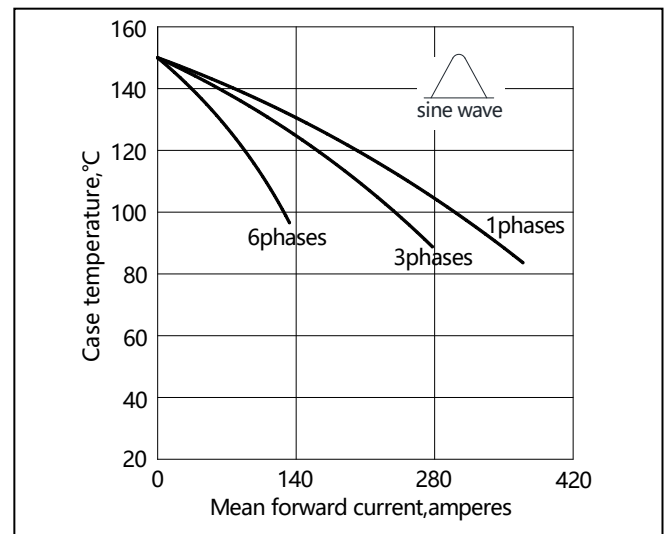


Fig2. Forward Current Derating Curve

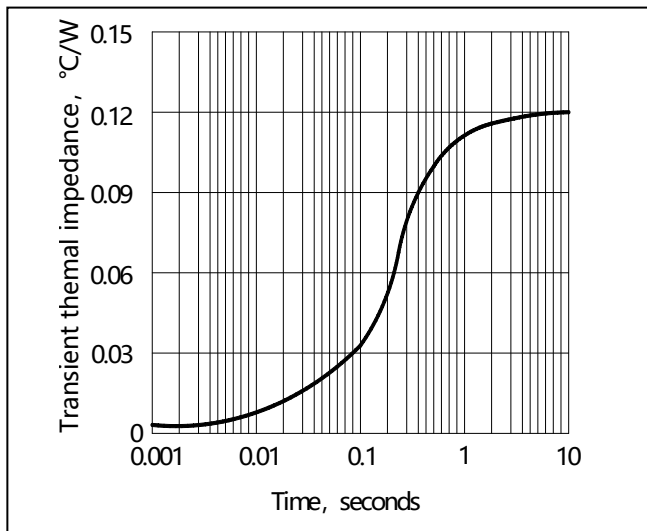


Fig3. Transient thermal impedance

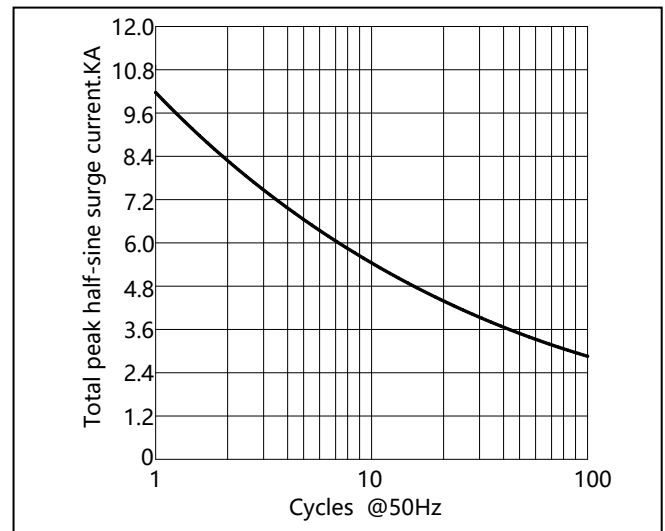


Fig4. Max Non-Repetitive Forward Surge Current

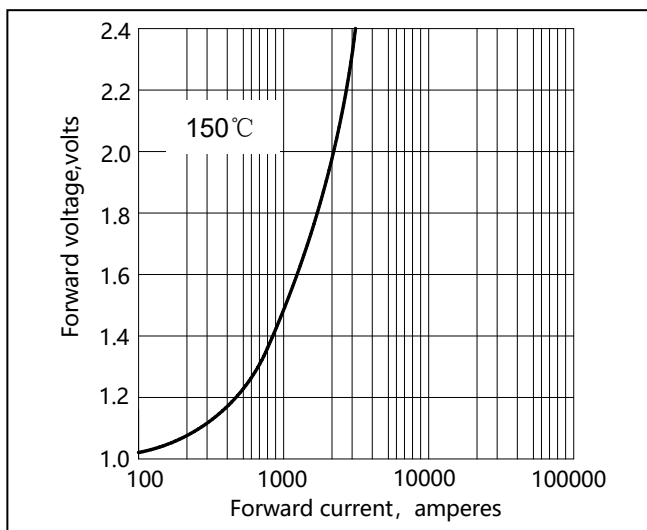
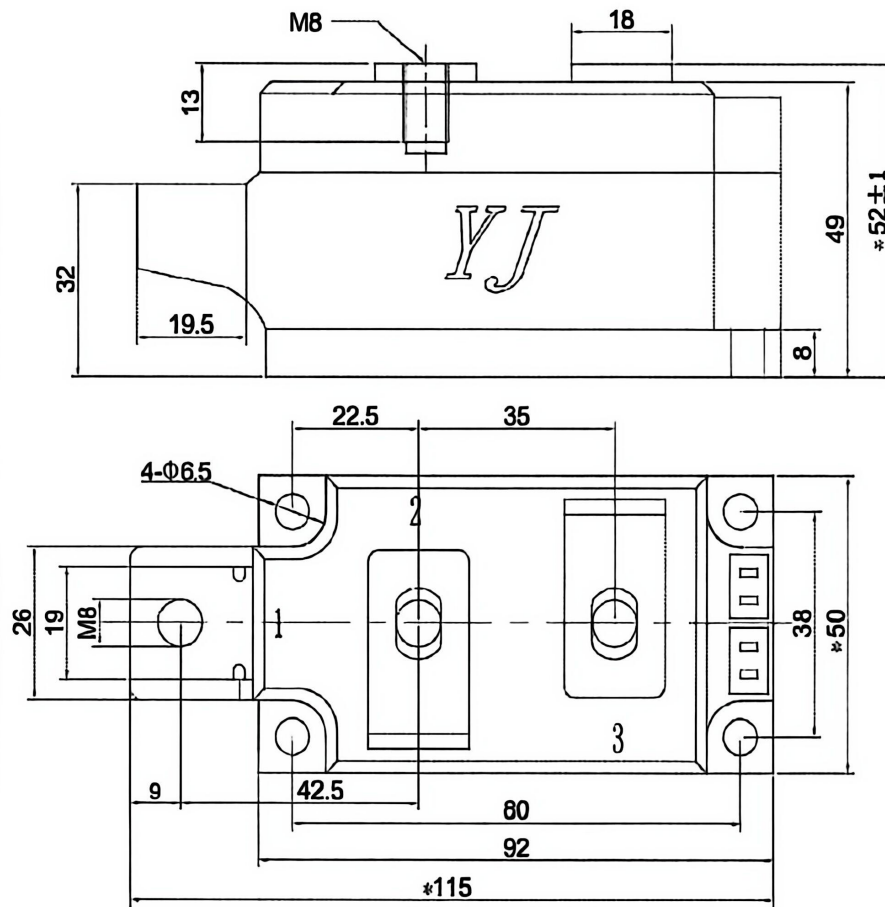


Fig5. Forward Characteristics

## Package Outline Information

CASE: D3



Dimensions in mm

Unmarked dimensional tolerance:  $\pm 0.5$ mm



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