

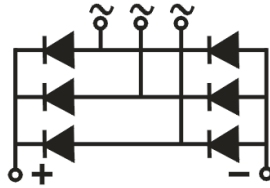
### Three Phase Rectifier Module MDS-100

#### Features

- ▶ International standard package
- ▶ Blocking voltage up to 1800V
- ▶ Low forward voltage drop
- ▶ Isolation voltage 2500V

#### Typical Applications

- ▶ DC power suppliers for apparatus device
- ▶ Input rectifying power supply for PWM converters
- ▶ Inverter welders



| Symbol | MDS-100-06F | MDS-100-08F | MDS-100-10F | MDS-100-12F | MDS-100-16F | MDS-100-18F | Unit |
|--------|-------------|-------------|-------------|-------------|-------------|-------------|------|
| VRRM   | 600         | 800         | 1000        | 1200        | 1600        | 1800        | V    |
| VRSM   | 700         | 900         | 1100        | 1300        | 1800        | 1900        | V    |

| Symbol           | Parameter                         | Test condition                                     | Rating      | Unit             |
|------------------|-----------------------------------|--|-------------|------------------|
| Id               | Output DC current                 | Three-phase whole wave rectifying circuit Tc:100°C | 100         | A                |
| IFSM             | Forward surge current             | t=10ms,50Hz,sin,Tjm                                | 1400        | A                |
| I <sup>2</sup> t | I <sup>2</sup> t value            | VR = 0.6VRRM, Tjm                                  | 9800        | A <sup>2</sup> S |
| VISO             | Isolation voltage                 | AC one min   | 2500        | V                |
| Tj               | Operating junction temperature    |  | -40 to +150 | °C               |
| Tjm              | Rated junction temperature        |  | 150         | °C               |
| Tstg             | Storage temperature               |  | -40 to +150 | °C               |
| Rth(j-c)         | Thermal impedance (junction-case) | Single-side heat dissipation, sine half- wave      | 0.36        | °C/W             |
| Md               | Mounting torque (copper plate) M6 |  | 5±15%       | N•M              |
|                  | Mounting torque (terminal) M5     |  | 3±15%       | N•M              |
| Wt               | weight                            |  | 185         | g                |

#### Electrical characteristics

| Symbol | Parameter                       | Test condition   | Rating |      |      | Unit |
|--------|---------------------------------|--|--------|------|------|------|
|        |                                 |  | Min.   | Typ. | Max. |      |
| IRRM   | Peak reverse repetitive current | Single-side heat dissipation, VR=VRRM, sine half wave,Tj=150°C | --     | --   | 5    | mA   |
| VFM    | Peak forward voltage            | IFM =100A, Tj=25°C   | --     | 1.0  | 1.2  | V    |

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#### Performance Curves

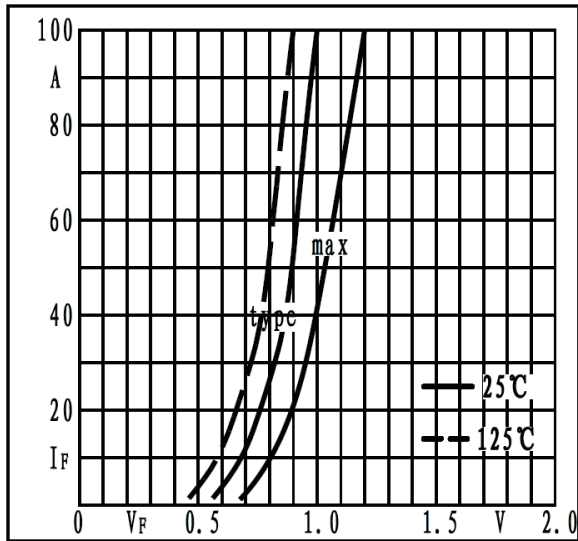


Fig1. Forward characteristics

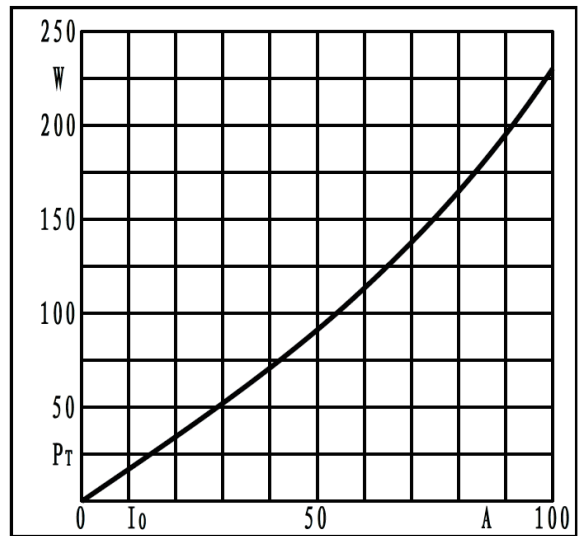


Fig2. Power dissipation

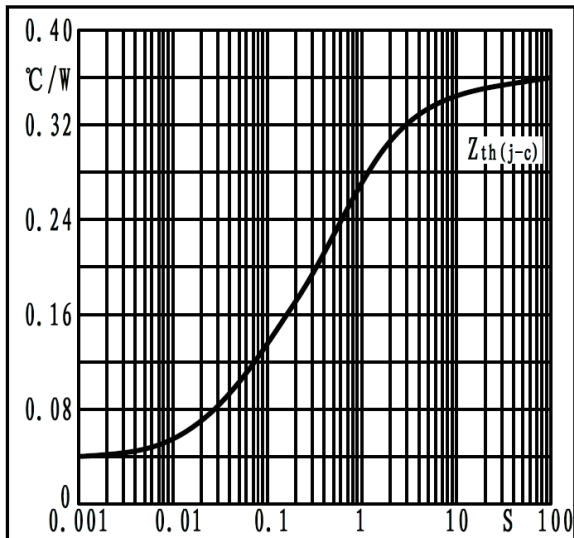


Fig3. Transient thermal impedance

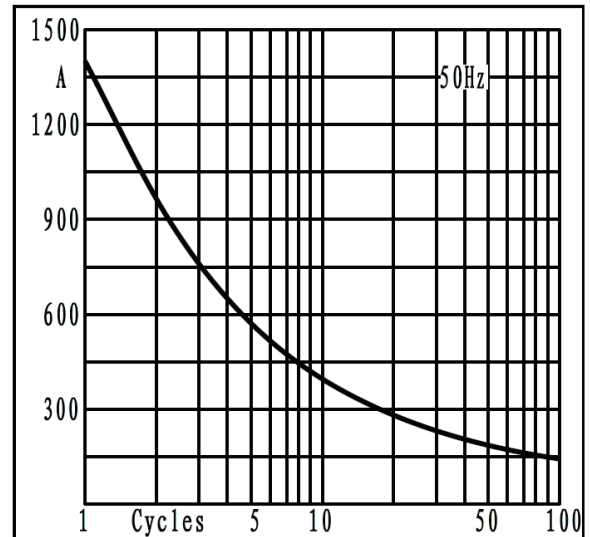


Fig4. Max non-repetitive forward surge current

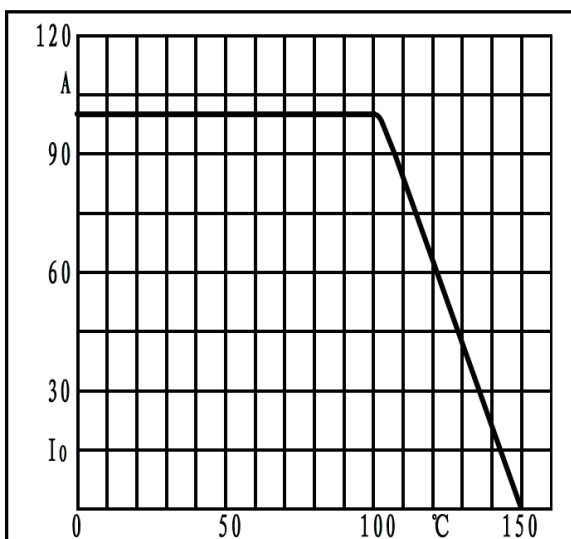


Fig5. Forward current derating curve

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Dimensions in mm

