

MRS55.16

Diodes module

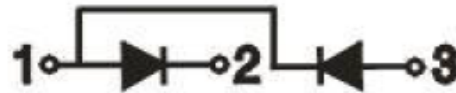
Features:

- International standard package
- Low forward voltage drop
- Isolation voltage 2500V ~
- Simple mounting
- UL recognized, file no. E312789



Typical applications:

- Various rectifier power
- AC/DC motor control
- Heater control
- Frequency converters



| Symbol | Characteristics | Test Conditions | Value | | | Unit |
|------------------------|---|---|-------|------|------|------------------|
| | | | Min | Typ | Max | |
| $V_{RSM/DSM}$ | Non-repetitive reverse/forward blocking voltage | $T_j = 25^\circ\text{C}$ | | | 1700 | V |
| $V_{RRM/DRM}$ | Repetitive reverse/forward blocking voltage | $T_j = 25^\circ\text{C}$ | | | 1600 | V |
| $I_{F(AV)}$ | Forward average current | 180° half sine wave 50Hz $T_c = 100^\circ\text{C}$ | | | 55 | A |
| $I_{F(RMS)}$ | Forward square root current | 180° half sine wave 50Hz $T_c = 100^\circ\text{C}$ | | | 86 | A |
| I_{RRM} I_{DRM} | Repetitive peak current | at V_{DRM}/V_{RRM} $T_j = 150^\circ\text{C}$ | | | 5 | mA |
| I_{FSM} | Forward surge current | 10ms half sine wave, $T_j = 45^\circ\text{C}$ | | | 1300 | A |
| $I^2 t$ | $I^2 t$ for fusing coordination | $V_R = 0.6 V_{RRM}$, $T_j = 45^\circ\text{C}$ | | | 8450 | A ² s |
| V_{FO} | Threshold voltage | $T_j = 150^\circ\text{C}$ | | | 0.80 | V |
| r_T | Forward slope resistance | $T_j = 150^\circ\text{C}$ | | | 3.5 | mΩ |
| V_{FM} | Peak forward voltage | $T = 25^\circ\text{C}$; $I_T = 165\text{A}$ | | 1.10 | 1.20 | V |
| $R_{th(j-c)}$ | Thermal resistance junction to case | Single side cooled per chip | | | 0.70 | °C/W |
| $R_{th(c-s)}$ | Thermal resistance case to sink | Single side cooled per chip | | | 0.20 | °C/W |
| V_{ISO} | Isolation voltage | 50Hz, RMS, $t = 1\text{min}$ | | | 2500 | V |
| F_M | Mounting torque - copper plate (M6) | | 4 | | 6 | N·m |
| | Mounting torque - terminal (M5) | | 2.5 | | 4.5 | N·m |
| T_{stg} | Storage Temperature | | -40 | | 150 | °C |
| T_j | Operating Temperature | | -40 | | 150 | °C |
| W_t | Weight | | | 120 | | g |
| Outline | M01-1 | | | | | |

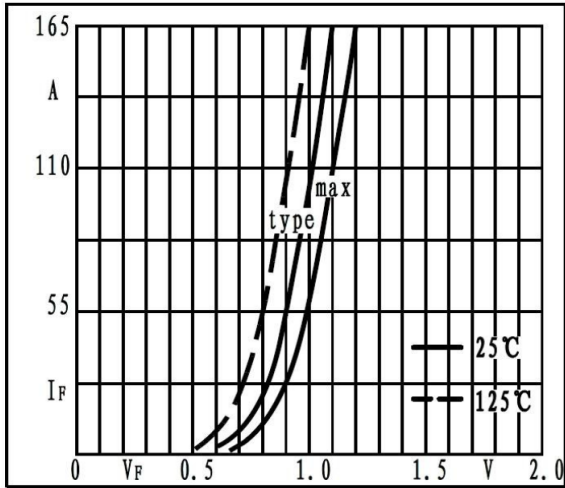


Fig1. Forward characteristics

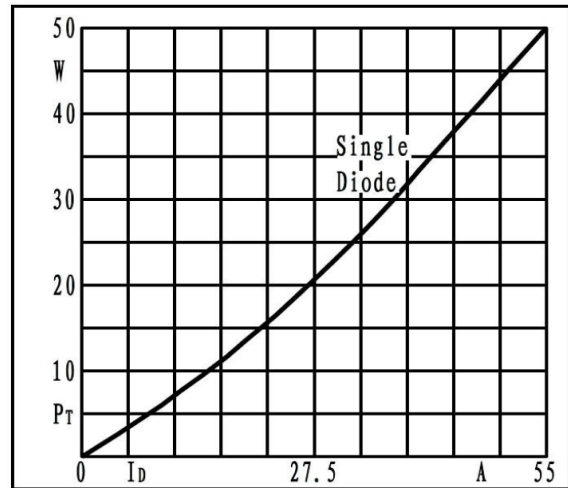


Fig2. Power dissipation

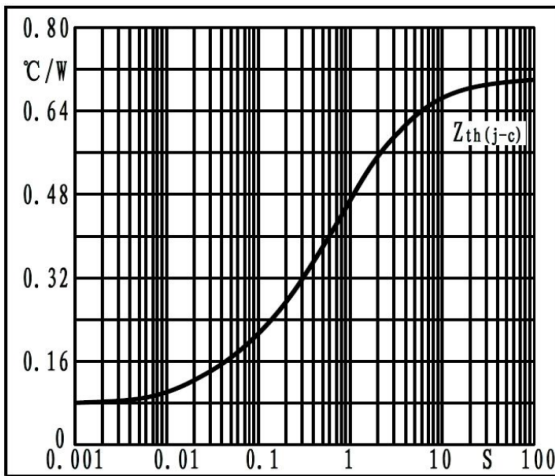


Fig3. Transient thermal impedance

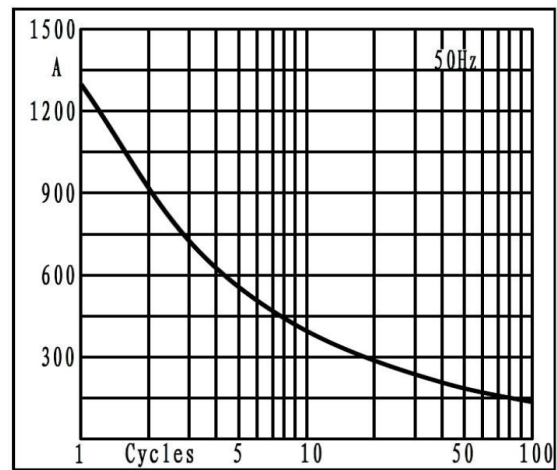


Fig4. Max non-repetitive forward surge current

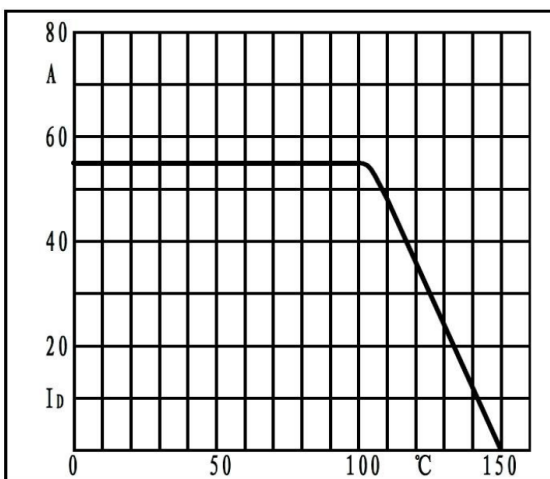
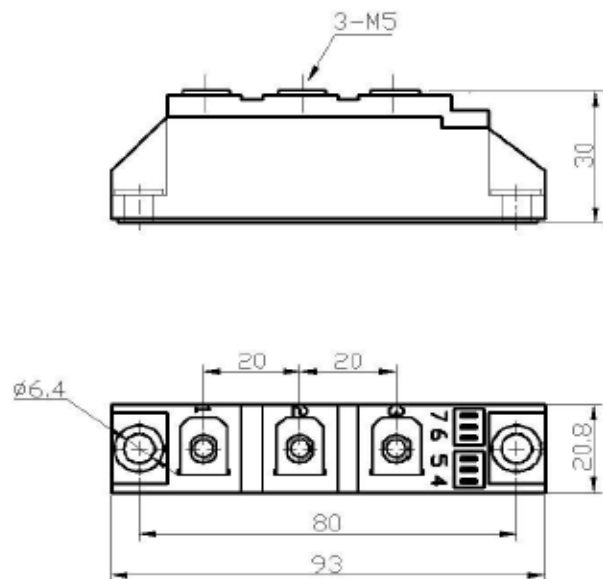


Fig5. Forward current derating curve



(dimensions in mm)

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