



Glass Passivated Rectifier Diode Modules

VRRM 800 to 1800V
IFAV 100 Amp

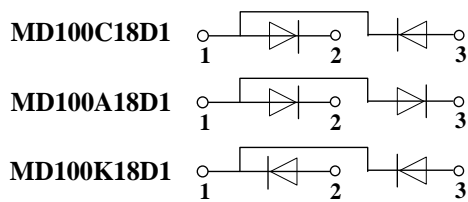
Applications

- 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 |
|------------|------------|------------|-------|-------|
| MD100C08D1 | MD100A08D1 | MD100K08D1 | 800V | 900V |
| MD100C12D1 | MD100A12D1 | MD100K12D1 | 1200V | 1300V |
| MD100C16D1 | MD100A16D1 | MD100K16D1 | 1600V | 1700V |
| MD100C18D1 | MD100A18D1 | MD100K18D1 | 1800V | 1900V |

Maximum Ratings

| Symbol | Conditions | Values | Units |
|------------------|--|-------------|------------------|
| IFAV | Single phase ,half wave 180° conduction Tc=109°C | 100 | A |
| IF(RMS) | Single phase ,half wave 180° conduction Tc=97°C | 150 | A |
| IFSM | t=10mS Tvj =45°C | 2500 | A |
| i ² t | t=10mS Tvj =45°C | 31250 | A ² 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) | 100 | g |

Thermal Characteristics

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

Electrical Characteristics

| Symbol | Conditions | Values | | | Units |
|--------|--------------------|--------|------|------|-------|
| | | Min. | Typ. | Max. | |
| VFM | T=25°C IF =300A | — | 1.22 | 1.35 | V |
| IRD | Tvj=150°C VRD=VRRM | — | — | 5 | mA |

Performance Curves

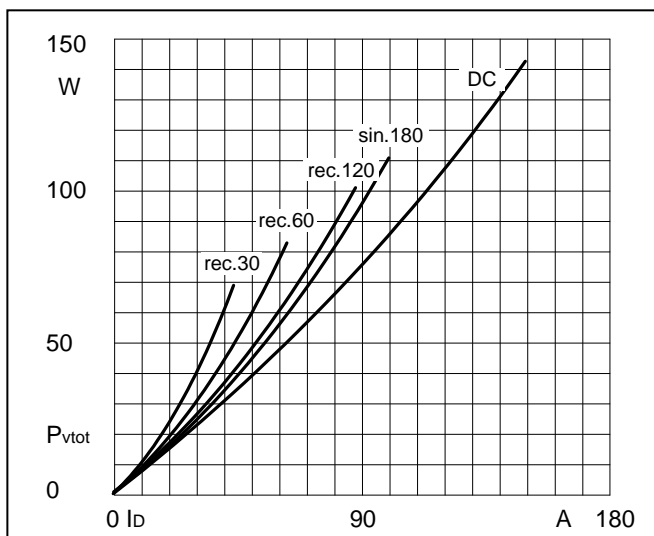


Fig1. Power dissipation

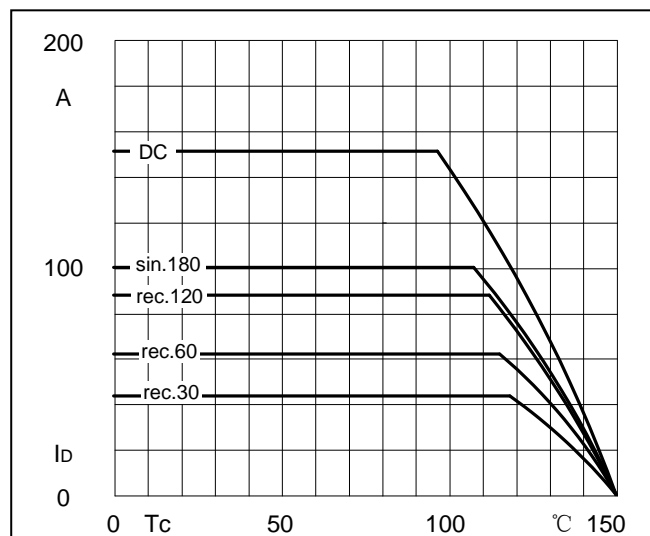


Fig2. Forward Current Derating Curve

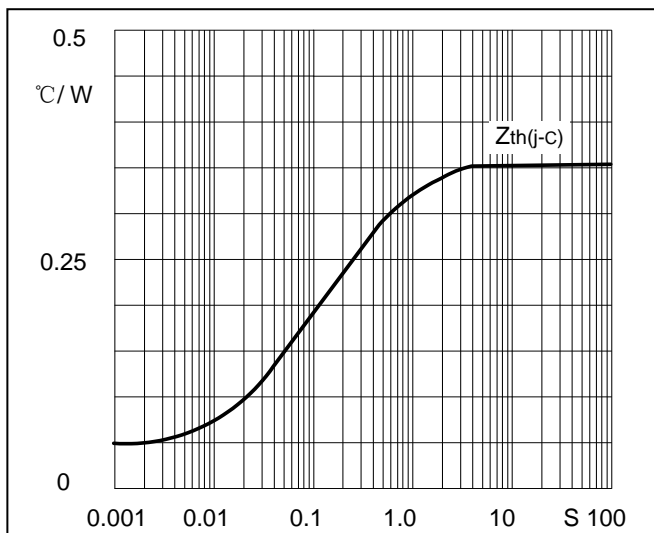


Fig3. Transient thermal impedance

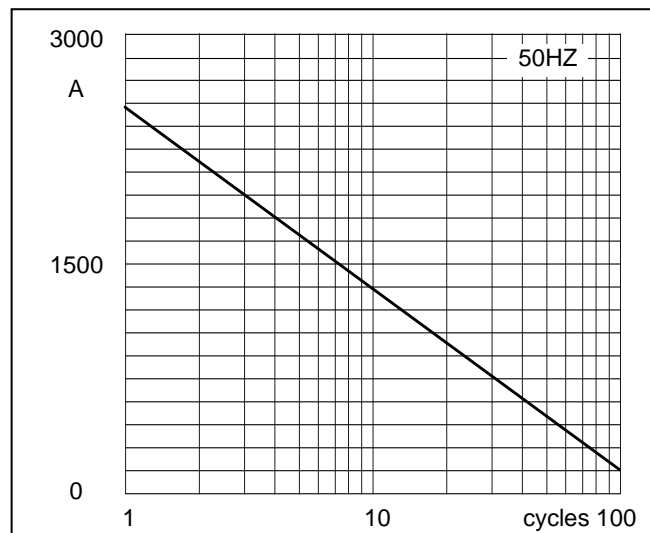


Fig4. Max Non-Repetitive Forward Surge Current

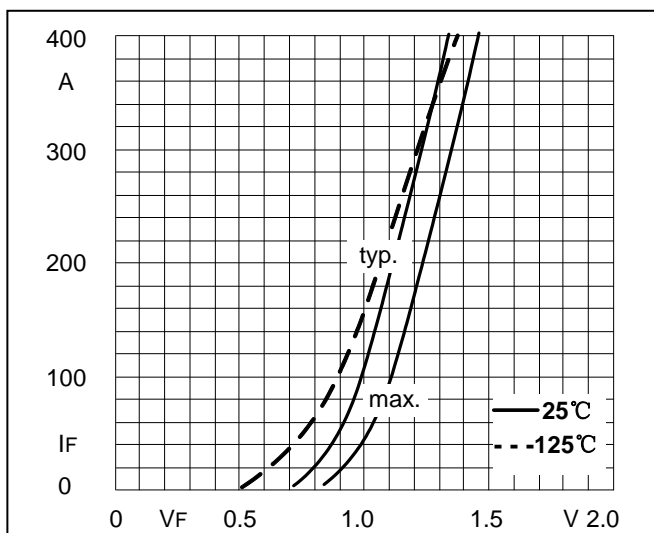
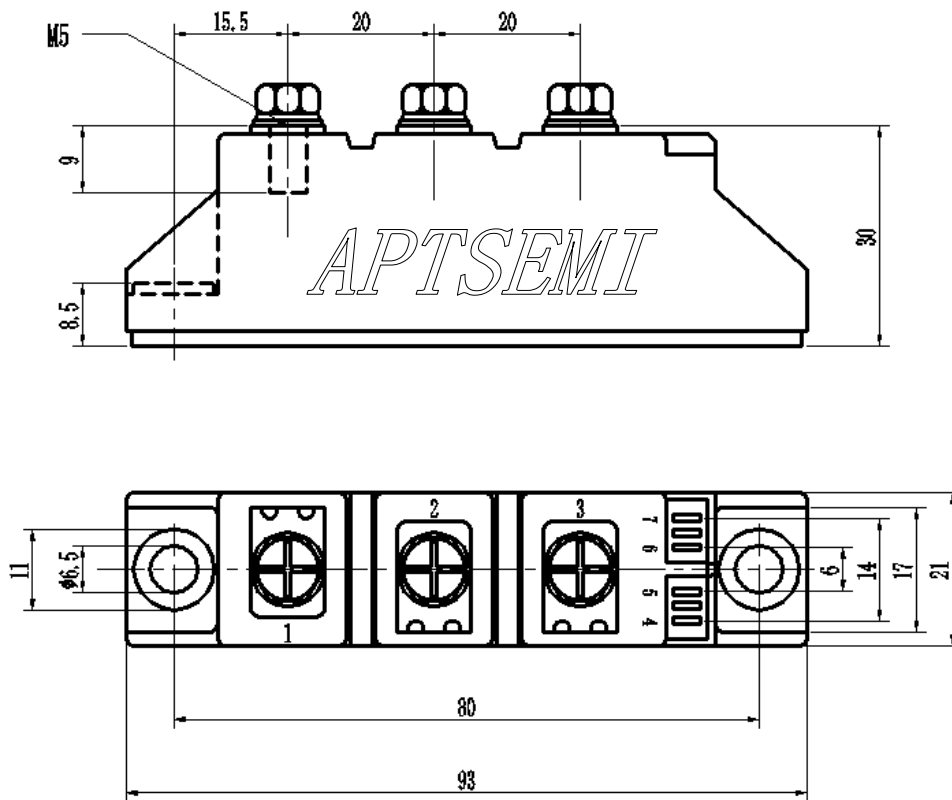


Fig5. Forward Characteristics

Package Outline Information

CASE: D1



Dimensions in mm

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