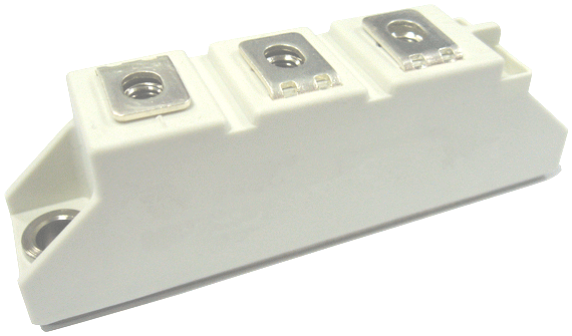
# MSKD100 ; MSAD100 ; MSCD100



## Glass Passivated Rectifier Diode Modules

**$V_{RRM}$** 800 to 1800V
**$I_{FAV}$** 100 Amp

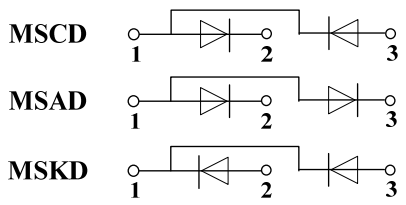
### Applications

- 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
- UL E243882 approved

**Circuit**




### Module Type

| TYPE | | | $V_{RRM}$ | $V_{RSM}$ |
|---|---|---|---|---|
| MSCD100-08 | MSAD100-08 | MSKD100-08 | 800V | 900V |
| MSCD100-12 | MSAD100-12 | MSKD100-12 | 1200V | 1300V |
| MSCD100-16 | MSAD100-16 | MSKD100-16 | 1600V | 1700V |
| MSCD100-18 | MSAD100-18 | MSKD100-18 | 1800V | 1900V |

### Maximum Ratings

| Symbol | Conditions | Values | Units |
|---|---|---|---|
| $I_{FAV}$ | Single phase ,half wave 180° conduction Tc=109℃ | 100 | A |
| $I_{F(RMS)}$ | Single phase ,half wave 180° conduction Tc=97℃ | 150 | A |
| $I_{FSM}$ | t=10mS Tvj =45℃ | 2500 | A |
| $i^2t$ | t=10mS Tvj =45℃ | 31250 | $A^2s$ |
| $V_{isol}$ | a.c.50HZ;r.m.s.;1min | 3000 | V |
| $T_{vj}$ | | -40 to +150 | ℃ |
| $T_{stg}$ | | -40 to +125 | ℃ |
| 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 |
|---|---|---|---|
| $R_{th(j-c)}$ | Per diode | 0.35 | ℃/W |
| $R_{th(c-s)}$ | Module | 0.1 | ℃/W |

### Electrical Characteristics

| Symbol | Conditions | Values | | | Units |
|---|---|---|---|---|---|
| | | Min. | Typ. | Max. | |
| $V_{FM}$ | T=25℃ $I_F$ =300A | — | 1.22 | 1.35 | V |
| $I_{RD}$ | $T_{vj}$=150℃ $V_{RD}$=$V_{RRM}$ | — | — | 5 | mA |

## Performance Curves

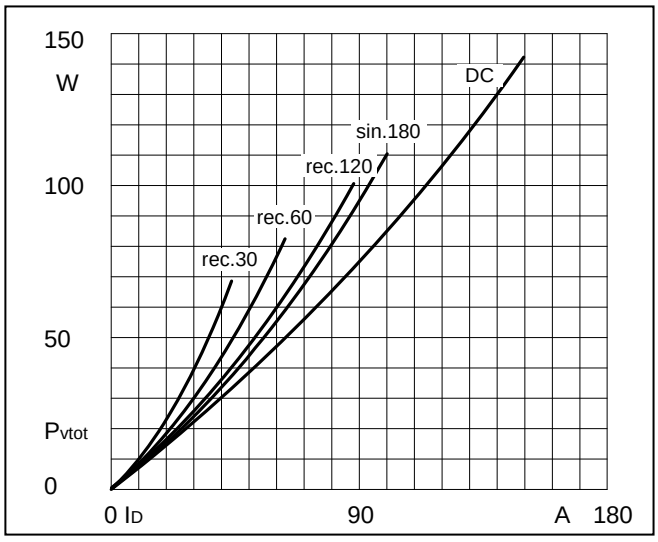



**Fig1. Power dissipation**

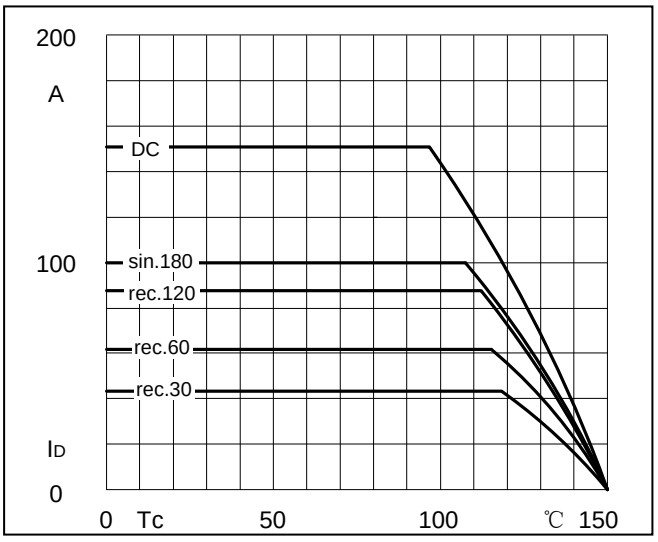



**Fig2.Forward Current Derating Curve**

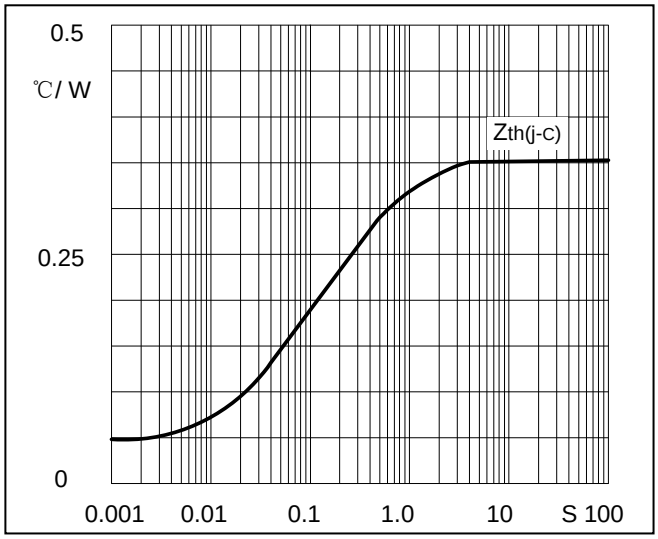



**Fig3. Transient thermal impedance**

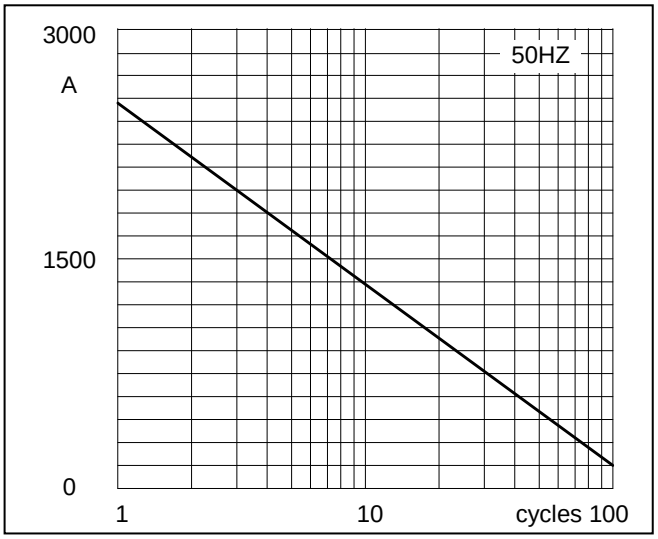



**Fig4. Max Non-Repetitive Forward Surge Current**

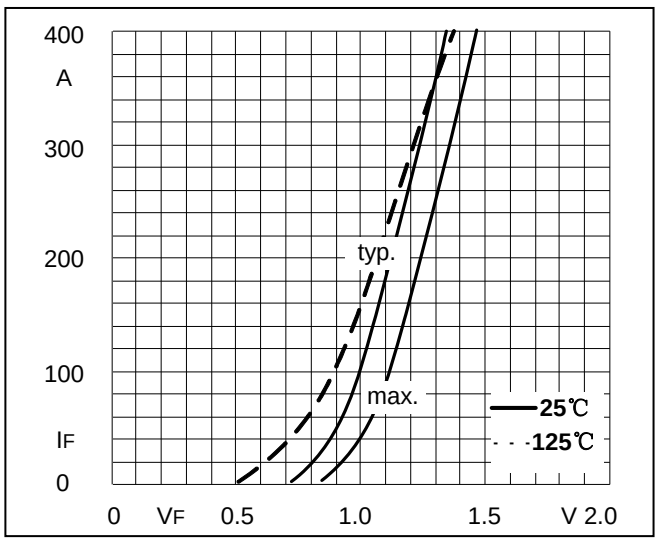
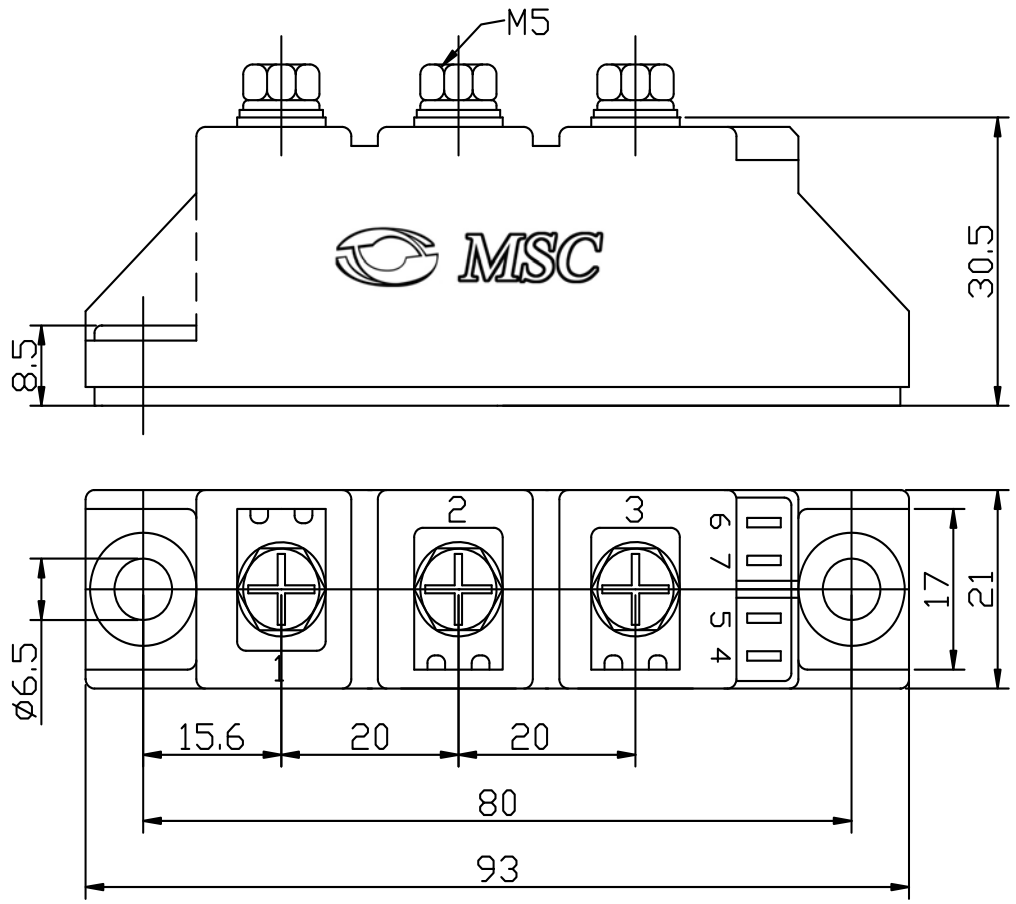



**Fig5. Forward Characteristics**

## Package Outline Information

**CASE: D1**




**Dimensions in mm**