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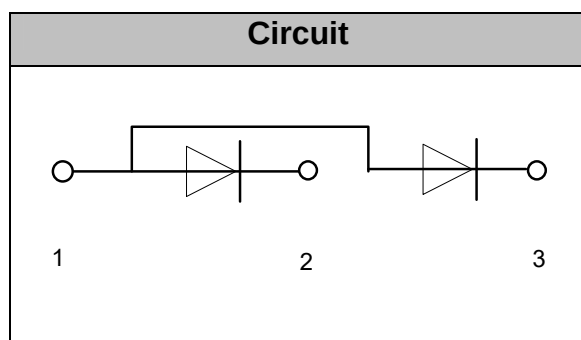
**MD100A08D1**  
**MD100A12D1**  
**MD100A16D1**  
**MD100A18D1**

## Features

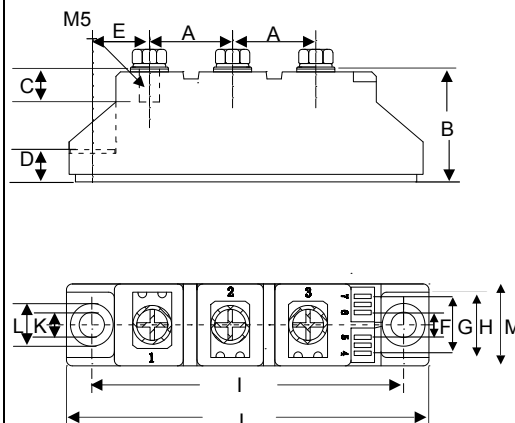
- Lead Free Finish/RoHS Compliant (NOTE 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Blocking Voltage: 800 to 1800V
- Heat transfer through aluminum oxide DBC ceramic isolated metal baseplate
- Glass passivated chip

## Applications

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



**D1**



| DIMENSIONS |        |       |       |       |      |
|------------|--------|-------|-------|-------|------|
| DIM        | INCHES |       | MM    |       | NOTE |
|            | MIN    | MAX   | MIN   | MAX   |      |
| A          | .776   | .799  | 19.70 | 20.30 |      |
| B          | 1.169  | 1.193 | 29.70 | 30.30 |      |
| C          | .343   | .366  | 8.70  | 9.30  |      |
| D          | .323   | .346  | 8.20  | 8.80  |      |
| E          | .602   | .622  | 15.30 | 15.80 |      |
| F          | .224   | .248  | 5.70  | 6.30  |      |
| G          | .539   | .563  | 13.70 | 14.30 |      |
| H          | .657   | .681  | 16.70 | 17.30 |      |
| I          | 3.138  | 3.161 | 79.70 | 80.30 |      |
| J          | 3.650  | 3.673 | 92.70 | 93.30 |      |
| K          | .256   |       | 6.50  |       | Ø    |
| L          | .421   | .445  | 10.70 | 11.30 |      |
| M          | .815   | .839  | 20.70 | 21.30 |      |

## Module Type

| TYPE       | VRRM  | VRSM  |
|------------|-------|-------|
| MD100A08D1 | 800V  | 900V  |
| MD100A12D1 | 1200V | 1300V |
| MD100A16D1 | 1600V | 1700V |
| MD100A18D1 | 1800V | 1900V |

## Maximum Ratings

| Symbol           | Conditions                                       | Values      | Units            |
|------------------|--------------------------------------------------|-------------|------------------|
| IFAV             | Single phase ,half wave 180° conduction Tc=109°C | 100         | A                |
| IFSM             | t=10mS Tvj =45°C                                 | 2500        | A                |
| i <sup>2</sup> t | t=10mS Tvj =45°C                                 | 31250       | A <sup>2</sup> 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                |

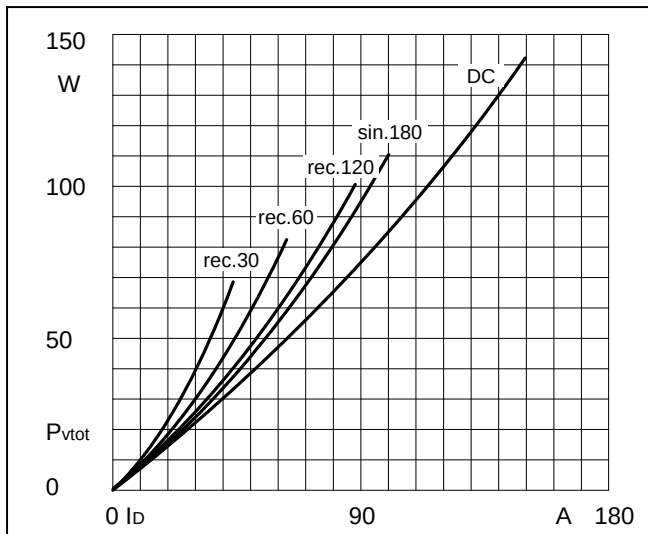
## Thermal Characteristics

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

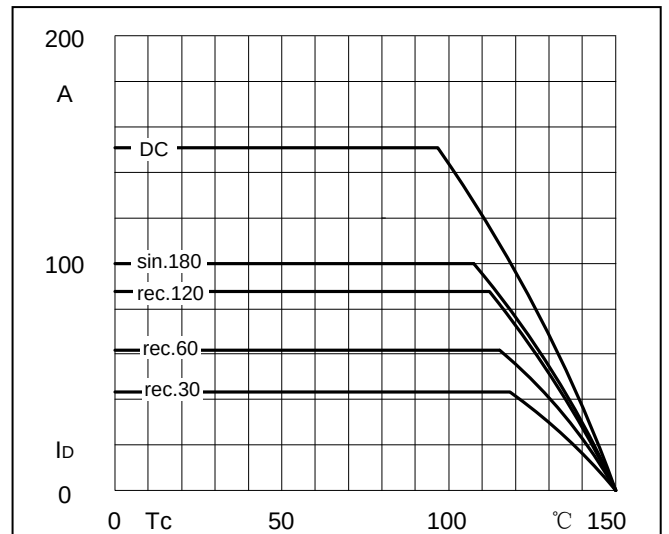
## Electrical Characteristics

| Symbol | Conditions         | Values |      |      | Units |
|--------|--------------------|--------|------|------|-------|
|        |                    | Min.   | Typ. | Max. |       |
| VFM    | T=25°C IF =300A    | —      | 1.20 | 1.40 | V     |
| IRD    | Tvj=150°C VRD=VRRM | —      | —    | 5    | mA    |

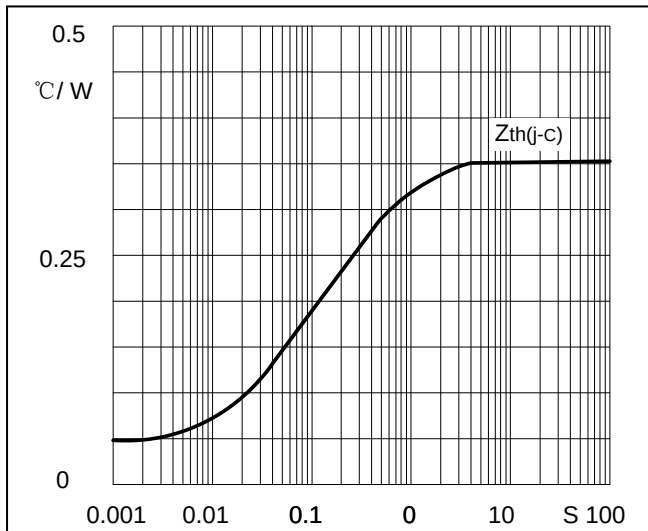
## Performance Curves



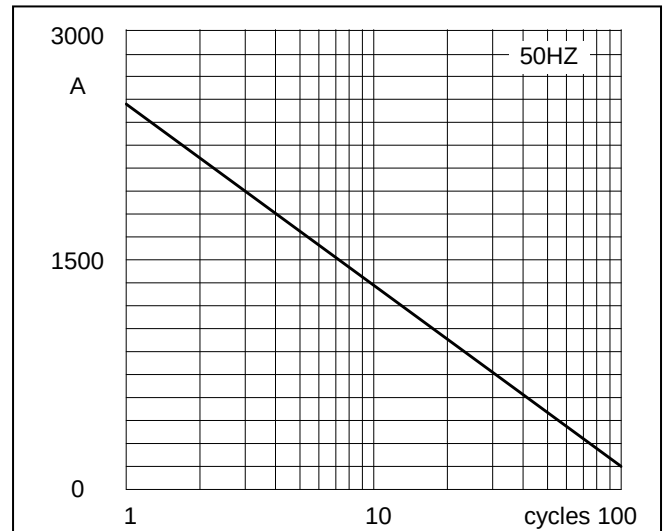
**Fig1. Power dissipation**



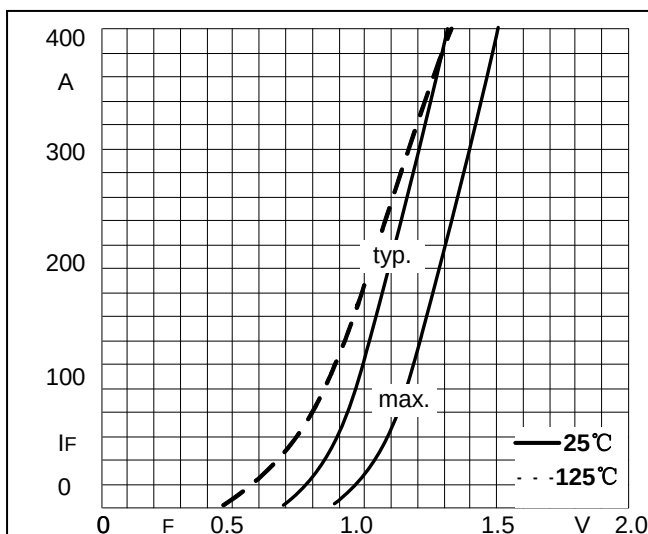
**Fig2. Forward Current Derating Curve**



**Fig3. Transient thermal impedance**



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



**Fig5. Forward Characteristics**

## Ordering Information :

| Device         | Packing                     |
|----------------|-----------------------------|
| Part Number-BP | Bulk: 10PCS/BOX ;100PCS/CTN |

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