

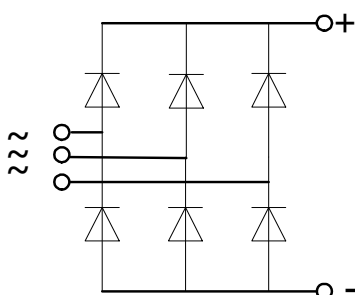
## Features

- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix Designates Compliant. See Ordering Information)
- Heat Transfer Through Aluminum Oxide DBC Ceramic Isolated Metal Baseplate
- Blocking voltage:1600V
- Glass passivated chip

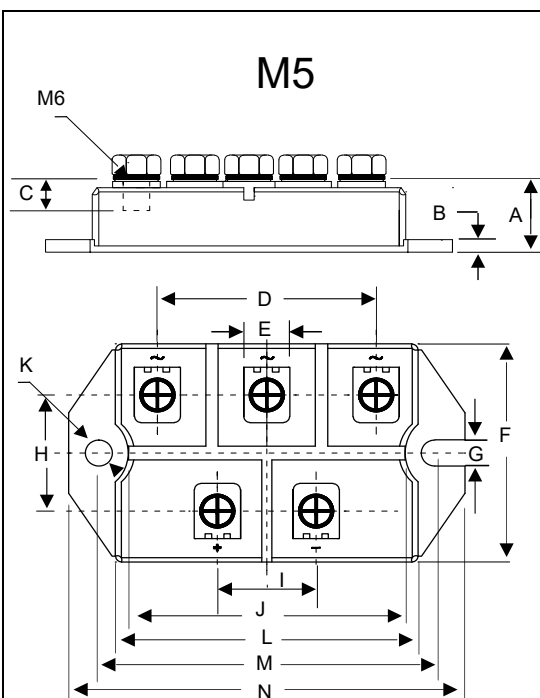
## Applications

- Three phase rectifiers for power supplies
- Rectifiers for DC motor field supplies
- Battery charger rectifiers

| MCC Part Number | $V_{RRM}$ | $V_{RSM}$ |
|-----------------|-----------|-----------|
| MD100S16M5      | 1600V     | 1700V     |



# 100 Amp GLASS PASSIVATED THREE PHASE RECTIFIER BRIDGE 160 Volts



| DIM | INCHES |       | MM    |       | NOTE |
|-----|--------|-------|-------|-------|------|
|     | MIN    | MAX   | MIN   | MAX   |      |
| A   | 0.650  | 0.689 | 16.50 | 17.50 |      |
| B   | 0.098  | 0.138 | 2.50  | 3.50  |      |
| C   | 0.256  | 0.295 | 6.50  | 7.50  |      |
| D   | 2.028  | 2.067 | 51.50 | 52.50 |      |
| E   | 0.453  | 0.492 | 11.50 | 12.50 |      |
| F   | 2.106  | 2.146 | 53.50 | 54.50 |      |
| G   | 0.236  | 0.276 | 6.00  | 7.00  |      |
| H   | 1.043  | 1.083 | 26.50 | 27.50 |      |
| I   | 0.965  | 1.004 | 24.50 | 25.50 |      |
| J   | 2.579  | 2.618 | 65.50 | 66.50 |      |
| K   | 0.256  |       | 6.50  |       | Φ    |
| L   | 2.815  | 2.854 | 71.50 | 72.50 |      |
| M   | 3.130  | 3.169 | 79.50 | 80.50 |      |
| N   | 3.681  | 3.720 | 93.50 | 94.50 |      |

Note:1. High Temperature Solder Exemptions Applied, See EU Directive Annex 7a.

## Maximum Ratings

| Symbol     | Conditions                                     | Values      | Units                |
|------------|------------------------------------------------|-------------|----------------------|
| $I_D$      | Three phase, full wave $T_c=100^\circ\text{C}$ | 100         | A                    |
| $I_{FSM}$  | $t=10\text{ms}$ $T_{vj}=45^\circ\text{C}$      | 920         | A                    |
| $i^2t$     | $t=10\text{ms}$ $T_{vj}=45^\circ\text{C}$      | 4200        | $\text{A}^2\text{s}$ |
| $V_{isol}$ | a.c.50HZ;r.m.s.;1min                           | 3000        | V                    |
| $T_{vj}$   |                                                | -40 to +150 | $^\circ\text{C}$     |
| $T_{stg}$  |                                                | -40 to +125 | $^\circ\text{C}$     |
| $M_t$      | To terminals(M6)                               | $5\pm15\%$  | Nm                   |
| $M_s$      | To heatsink(M6)                                | $5\pm15\%$  | Nm                   |
| Weight     | Module (Approximately)                         | 194         | g                    |

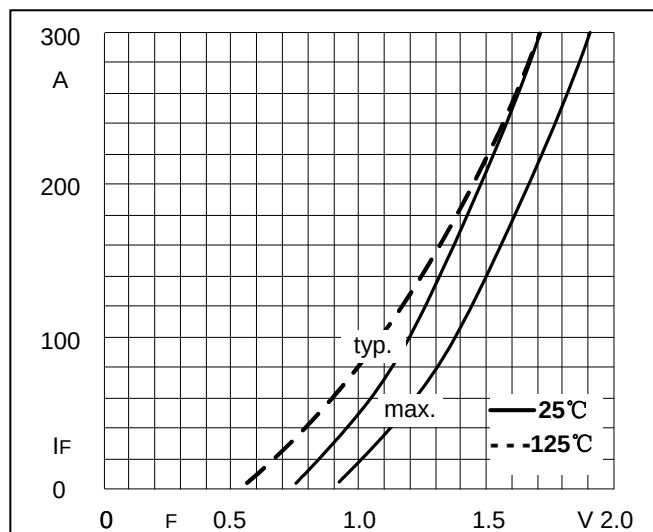
## Thermal Characteristics

| Symbol        | Conditions | Values | Units              |
|---------------|------------|--------|--------------------|
| $R_{th(j-c)}$ | Per diode  | 0.9    | $^\circ\text{C/W}$ |
| $R_{th(c-s)}$ | Module     | 0.03   | $^\circ\text{C/W}$ |

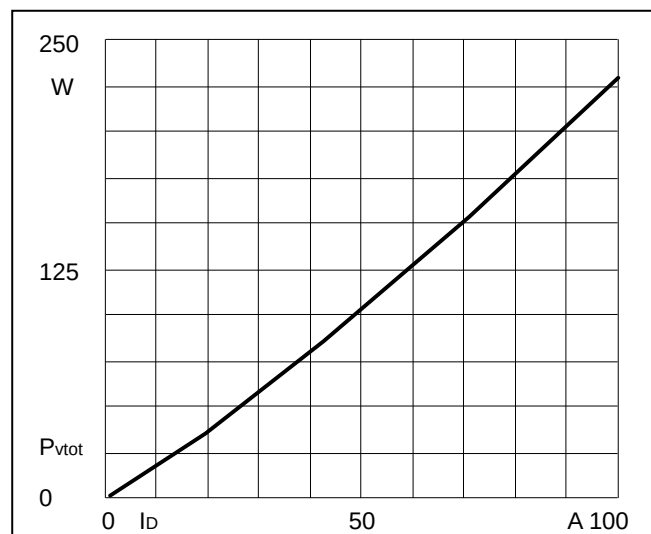
## Electrical Characteristics

| Symbol   | Conditions                                                                                | Values |      |          | Units    |
|----------|-------------------------------------------------------------------------------------------|--------|------|----------|----------|
|          |                                                                                           | Min.   | Typ. | Max.     |          |
| $V_{FM}$ | $T=25^\circ\text{C}$ $I_F=300\text{A}$                                                    | —      | 1.70 | 1.90     | V        |
| $I_{RD}$ | $T_{vj}=25^\circ\text{C}$ $V_{RD}=V_{RRM}$<br>$T_{vj}=150^\circ\text{C}$ $V_{RD}=V_{RRM}$ | —      | —    | 0.3<br>5 | mA<br>mA |

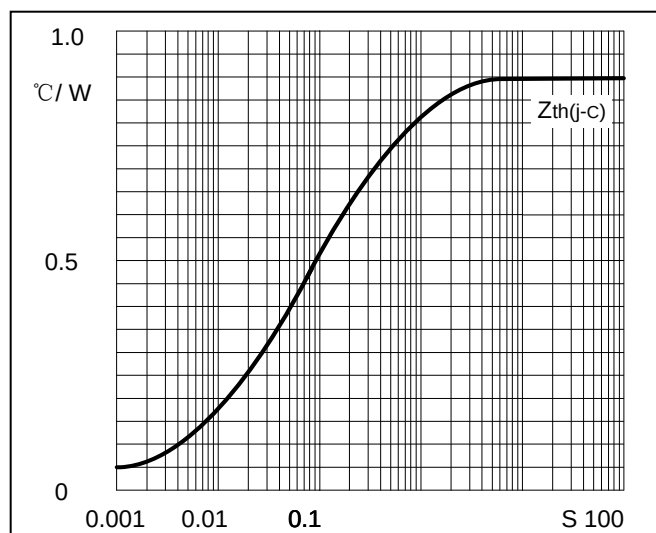
## Performance Curves



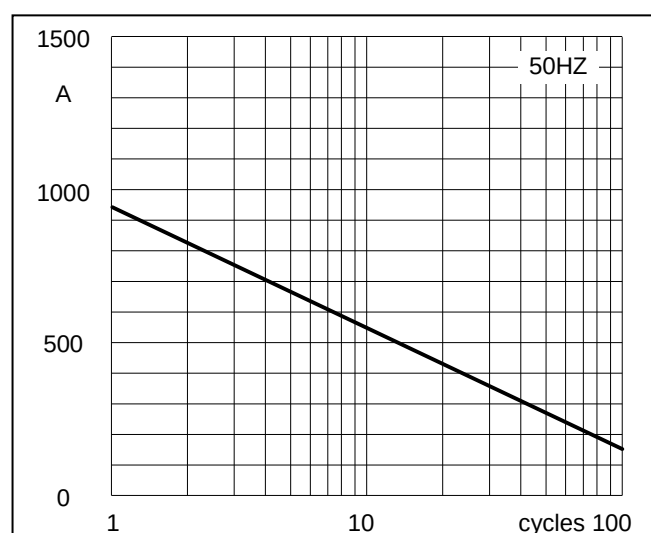
**Fig1. Forward Characteristics**



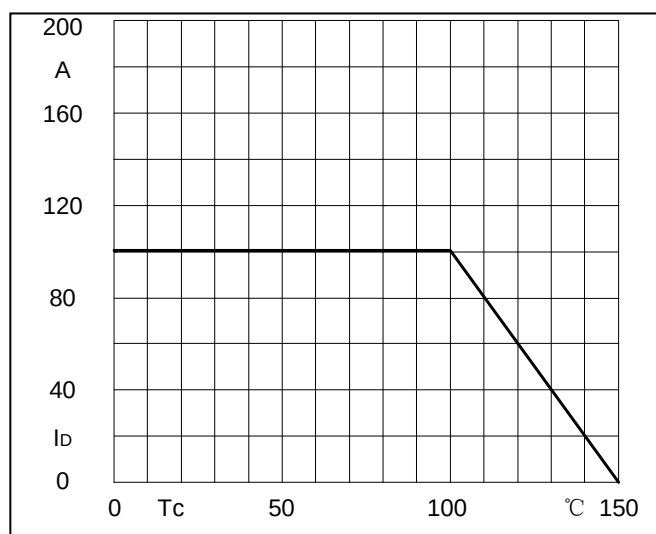
**Fig2. Power dissipation**



**Fig3. Transient thermal impedance**



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



**Fig5. Forward Current Derating Curve**

## Ordering Information

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

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