# ·M·C·C·
Micro Commercial Components

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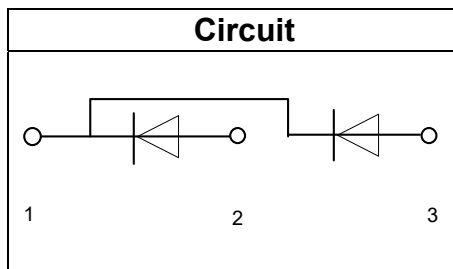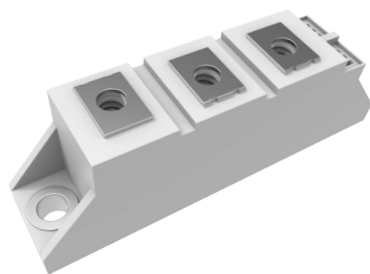## 36 Amp Glass Passivated Rectifier Diode Modules 800 ~ 1800 Volts

## Features

- Blocking Voltage:800V to 1600V
- Heat Transfer Through Aluminum Oxide DBC Ceramic Isolated Metal Baseplate
- Glass Passivated Chip
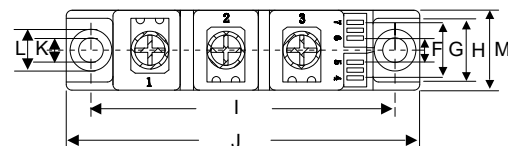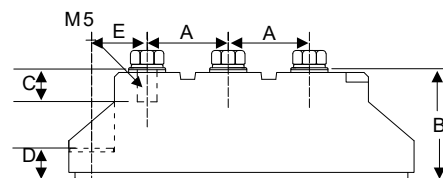
## Applications

- Non-controllable Rectifiers for AC/AC Converters
- Line Rectifiers for Transistorized AC Motor Controllers
- Field Supply for DC Motors

| MCC Part Number | $V_{RRM}$ | $V_{RSM}$ |
|---|---|---|
| MD36K08D1 | 800V | 900V |
| MD36K12D1 | 1200V | 1300V |
| MD36K16D1 | 1600V | 1700V |
| MD36K18D1 | 1800V | 1900V |

**D1**



### Circuit



| DIMENSIONS | | | | | |
|---|---|---|---|---|---|
| DIM | INCHES | | MM | | NOTE |
| | MIN | MAX | MIN | MAX | |
| A | 0.768 | 0.807 | 19.50 | 20.50 | |
| B | 1.161 | 1.201 | 29.50 | 30.50 | |
| C | 0.335 | 0.374 | 8.50 | 9.50 | |
| D | 0.315 | 0.354 | 8.00 | 9.00 | |
| E | 0.571 | 0.610 | 14.50 | 15.50 | |
| F | 0.217 | 0.256 | 5.50 | 6.50 | |
| G | 0.531 | 0.571 | 13.50 | 14.50 | |
| H | 0.650 | 0.689 | 16.50 | 17.50 | |
| I | 3.130 | 3.169 | 79.50 | 80.50 | |
| J | 3.642 | 3.681 | 92.50 | 93.50 | |
| K | 0.256 | | 6.50 | | Φ |
| L | 0.413 | 0.453 | 10.50 | 11.50 | |
| M | 0.807 | 0.846 | 20.50 | 21.50 | |

## Maximum Ratings

| Symbol | Conditions | Values | Units |
|--------|-----------|--------|-------|
| $I_{FAV}$ | Single phase ,half wave 180° conduction Tc=104℃ | 36 | A |
| $I_{FSM}$ | t=10mS Tvj =45℃ | 650 | A |
| $i^2t$ | t=10mS Tvj =45℃ | 2100 | $A^2s$ |
| $V_{isol}$ | a.c.50HZ;r.m.s.;1min | 3000 | V |
| $T_{vj}$ | | -40 to +150 | ℃ |
| $T_{stg}$ | | -40 to +125 | ℃ |
| Mt | T terminals(M5) | 3±15% | Nm |
| Ms | T heatsink(M6) | 5±15% | Nm |
| Weight | Module (Approximately) | 100 | g |

## Thermal Characteristics

| Symbol | Conditions | Values | Units |
|--------|-----------|--------|-------|
| $R_{th(j-c)}$ | Per diode | 0.6 | ℃/W |
| $R_{th(j-c)}$ | Per Module | 0.3 | ℃/W |
| $R_{th(c-s)}$ | Module | 0.1 | ℃/W |

## Electrical Characteristics

| Symbol | Conditions | Min. | Typ. | Max. | Units |
|--------|-----------|------|------|------|-------|
| | | **Values** | | | Units |
| $V_{FM}$ | T=25℃ $I_F$ =75A | | 1.0 | 1.18 | V |
| $V_{FM}$ | T=25℃ $I_F$ =100A | | 1.25 | 1.40 | V |
| $I_{RD}$ | Tvj=150℃ $V_{RD}=V_{RRM}$ | | | 5 | mA |

## Performance Curves

### Fig1. Power dissipation



60 W

DC

sin.180

rec.120

rec.60

rec.30

30

Pvtot

0

0 ID          30          A 60
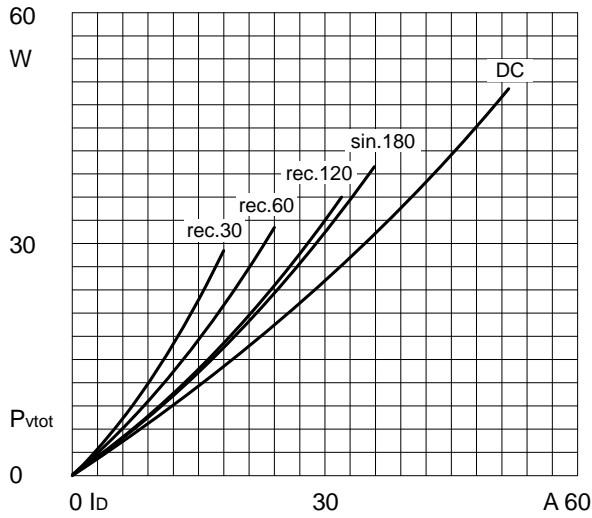
### Fig2.Forward Current Derating Curve



60 A

DC

sin.180

rec.120

rec.60

rec.30

30

ID

0

0  Tc        50       100    ℃  150
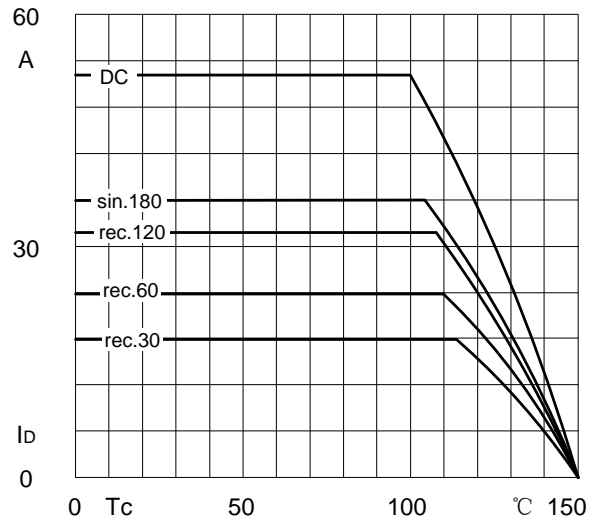
### Fig3. Transient thermal impedance



0.9

℃/ W

Zth(j-C)

0.6

0.3

0

0.001   0.01   0.1   0   10   S 100
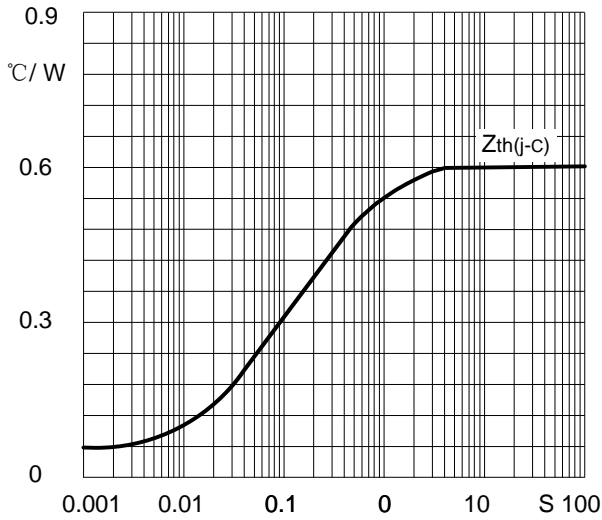
### Fig4. Max Non-Repetitive Forward Surge Current



1000 A

50HZ

500

0

1               10          cycles 100
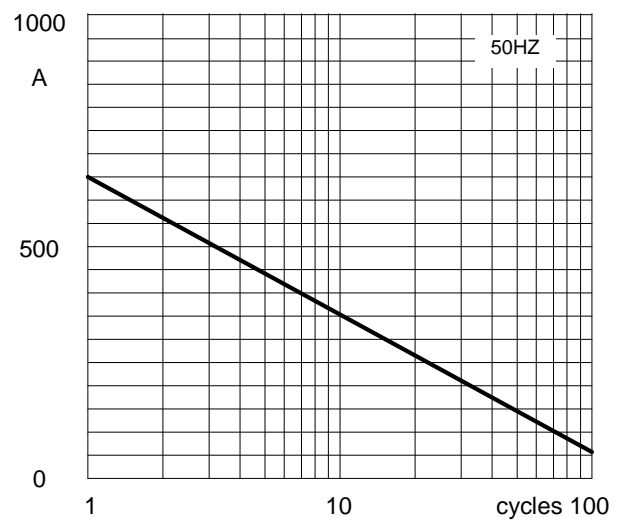
### Fig5. Forward Characteristics



200 A

typ.

100

max.

IF

0

25℃

125℃

0   VF   0.5      1.0      1.5   V  2.0
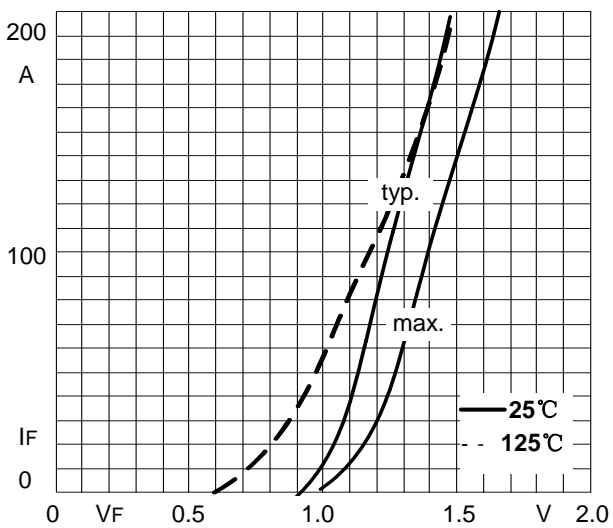
## Ordering Information

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

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