



Micro Commercial Components

Micro Commercial Components
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USA
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MD120C08D1
MD120C12D1
MD120C16D1
MD120C18D1

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

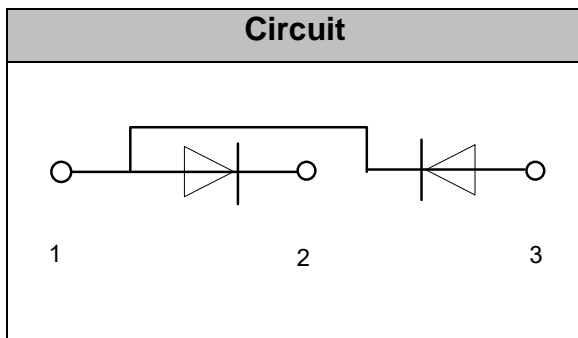
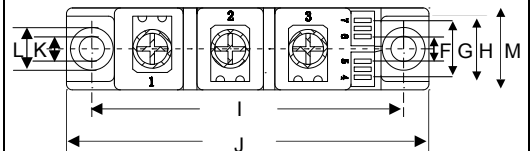
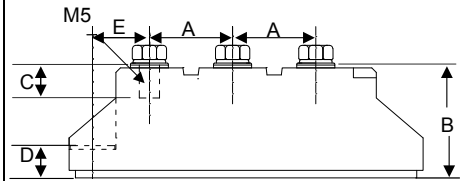
Applications

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



120 Amp
GLASS PASSIVATED
RECTIFIER DIODE
MODULES
800~1800 Volts

D1



| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|-------|-------|-------|------|
| | INCHES | | MM | | |
| 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 | 0.594 | 0.630 | 15.10 | 16.00 | |
| 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 | |

Module Type

| TYPE | VRRM | VRSM |
|------------|-------|-------|
| MD120C08D1 | 800V | 900V |
| MD120C12D1 | 1200V | 1300V |
| MD120C16D1 | 1600V | 1700V |
| MD120C18D1 | 1800V | 1900V |

Maximum Ratings

| Symbol | Conditions | Values | Units |
|------------------|--|-------------|------------------|
| IFAV | Single phase ,half wave 180° conduction Tc=106°C | 120 | A |
| IFSM | t=10mS Tvj =45°C | 2800 | A |
| i ² t | t=10mS Tvj =45°C | 39200 | 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 | 0.26 | °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 | 1.35 | V |
| IRD | Tvj=150°C VRD=VRRM | — | — | 6 | mA |

Performance Curves

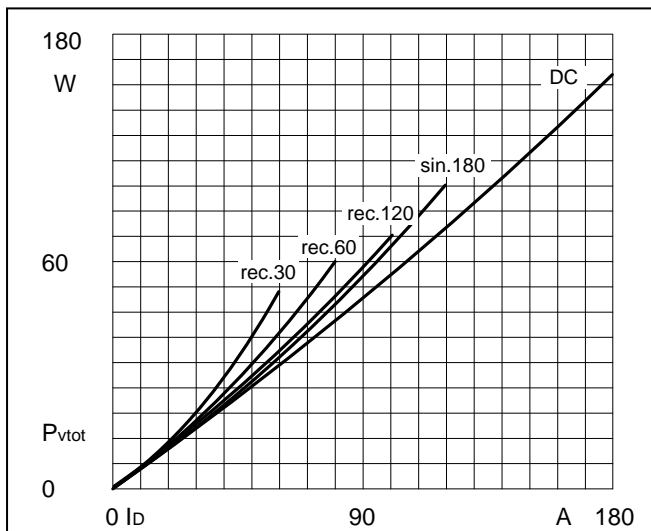


Fig1. Power dissipation

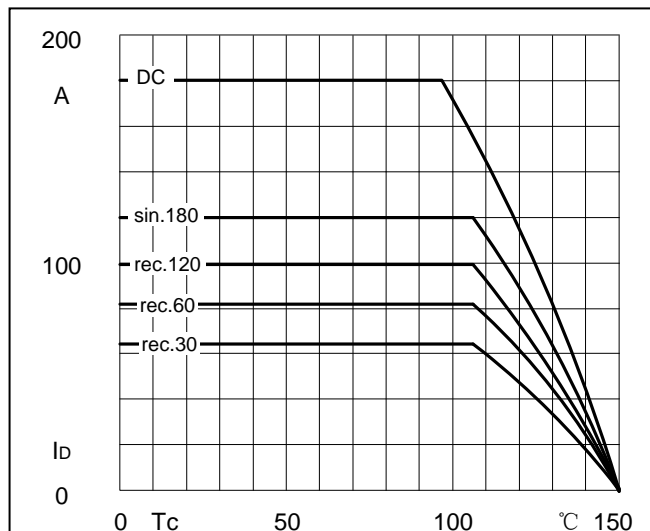


Fig2. Forward Current Derating Curve

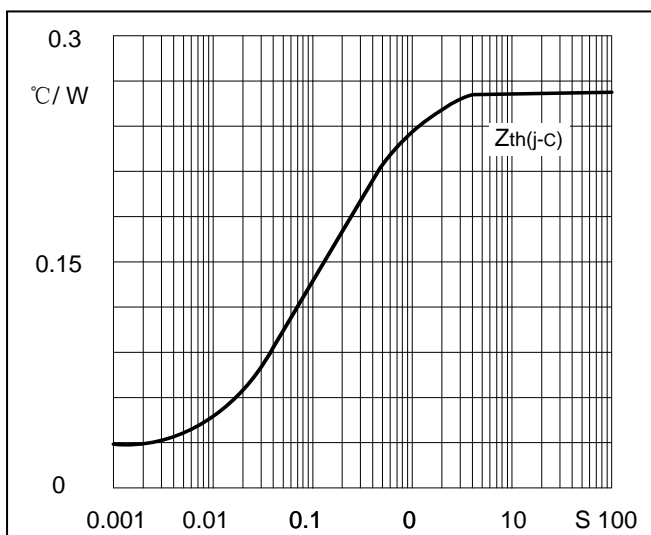


Fig3. Transient thermal impedance

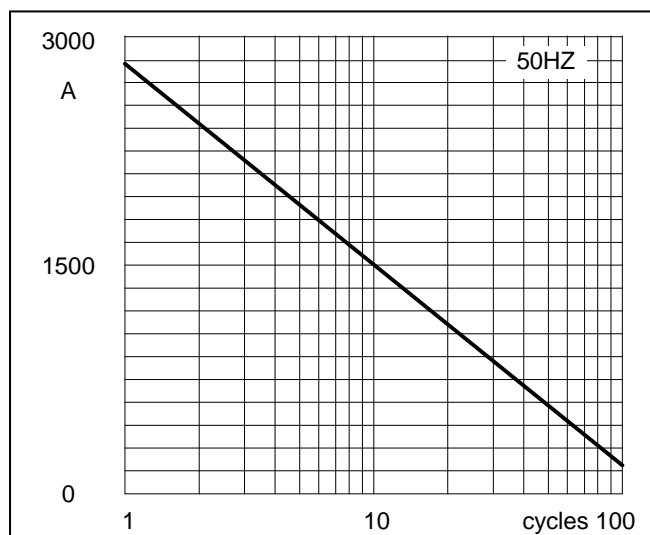


Fig4. Max Non-Repetitive Forward Surge Current

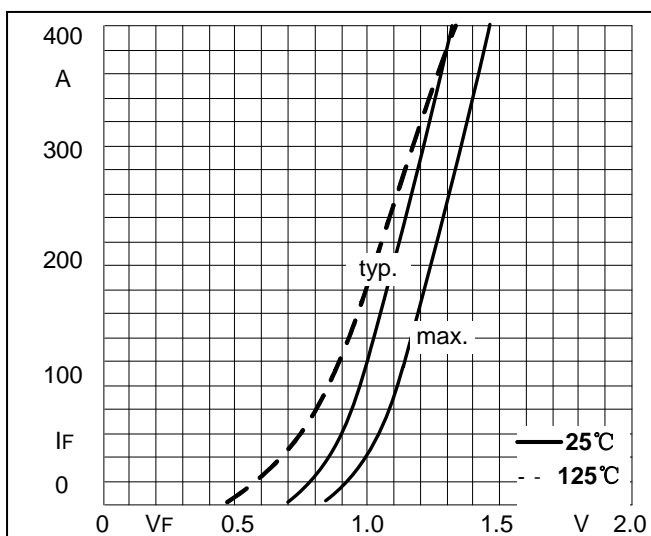


Fig5. Forward Characteristics



Micro Commercial Components®

Ordering Information :

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

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