

MB05S THRU MB10S

Features

- Glass Passivated Diode Construction
- High Temperature Soldering Guaranteed:260°C/10 Second
- Saves Space On Printed Circuit Board
- Halogen free available upon request by adding suffix "-HF"
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)

Mechanical Data

- Terminals: Plated leads Solderable per MIL-STD-750, Method 2026
- UL Recognized File # E165989

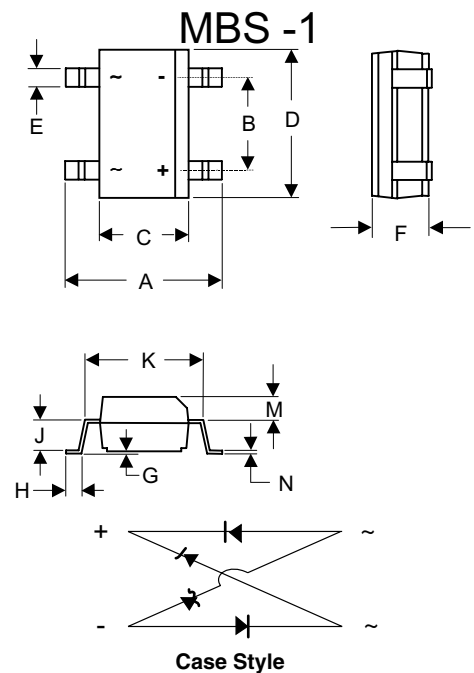
| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|--|---------------------|-----------------------------|
| MB05S | MB05S | 50V | 35V | 50V |
| MB1S | MB1S | 100V | 70V | 100V |
| MB2S | MB2S | 200V | 140V | 200V |
| MB4S | MB4S | 400V | 280V | 400V |
| MB6S | MB6S | 600V | 420V | 600V |
| MB8S | MB8S | 800V | 560V | 800V |
| MB10S | MB10S | 1000V | 700V | 1000V |

Electrical Characteristics @ 25°C Unless Otherwise Specified

| | | | |
|---|--|---|---|
| Average Forward Current | $I_{F(AV)}$ | 0.5 A ⁽²⁾ 0.8 A ⁽³⁾ | See Fig.1 |
| Peak Forward Surge Current | I_{FSM} | 35A | 8.3ms, half sine |
| Maximum Instantaneous Forward Voltage | V_F | 1.0V | $I_{FM} = 0.4A$; $T_A = 25^{\circ}C$ |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | I_R | 5uA 100uA | $T_A = 25^{\circ}C$ $T_A = 125^{\circ}C$ |
| Typical Thermal Resistance | R_{thJA} R_{thJA} R_{thJL} | 85°C/W ⁽²⁾ 70°C/W ⁽³⁾ 20°C/W ⁽²⁾ | per leg |
| Typical Junction Capacitance | C_J | 13pF | Measured at 1.0MHz, $V_R=4.0V$ |
| Rating For Fusing | I^2t | 5.0A ² s | t<8.30ms |
| Operating Junction and Storage Temperature Range | T_J T_{STG} | -55to+150 °C | |

- Notes:
1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7
 2. On glass epoxy P.C.B. mounted on 0.05 x 0.05"(1.3 x 1.3mm) pads
 3. On aluminum substrate P.C.B. with an area of 0.8" x 0.8"(20 x 20mm) mounted on 0.05 x 0.05"(1.3 x 1.3mm) solder pad

0.5 Amp Single Phase Glass Passivated Bridge Rectifier 50 to 1000 Volts



| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|------|------|------|------|
| | INCHES | | MM | | |
| A | .252 | .272 | 6.40 | 6.90 | |
| B | .095 | .106 | 2.41 | 2.70 | |
| C | .150 | .165 | 3.80 | 4.20 | |
| D | .179 | .195 | 4.55 | 4.95 | |
| E | .019 | .031 | 0.50 | 0.80 | |
| F | .090 | .106 | 2.30 | 2.70 | |
| G | .004 | .008 | 0.10 | 0.20 | |
| H | .027 | .043 | 0.70 | 1.10 | |
| J | .058 | .062 | 1.47 | 1.57 | |
| K | .195 | .205 | 4.95 | 5.21 | |
| M | .039 | .049 | 0.99 | 1.24 | |
| N | .006 | .016 | 0.15 | 0.41 | |

Mounting Pad Layout

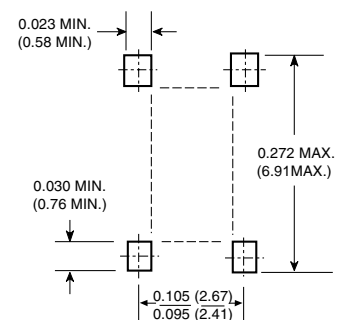


Figure 1. Derating Curve for Output Rectified Current

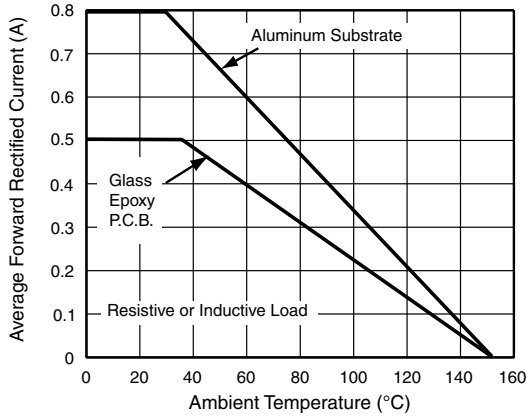
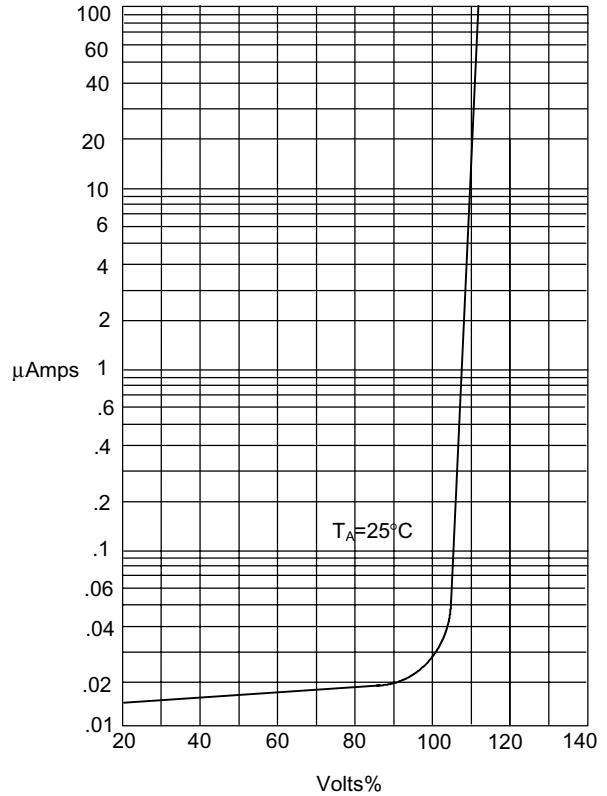
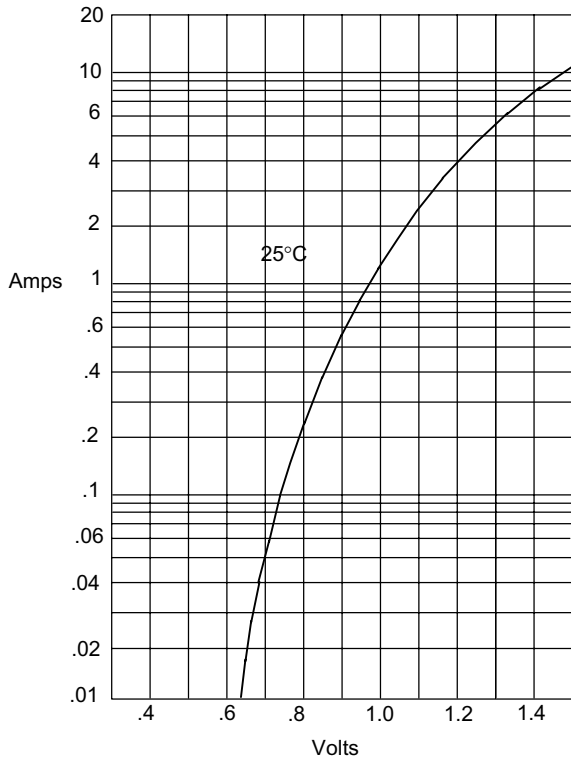


Figure 2
 Typical Reverse Characteristics



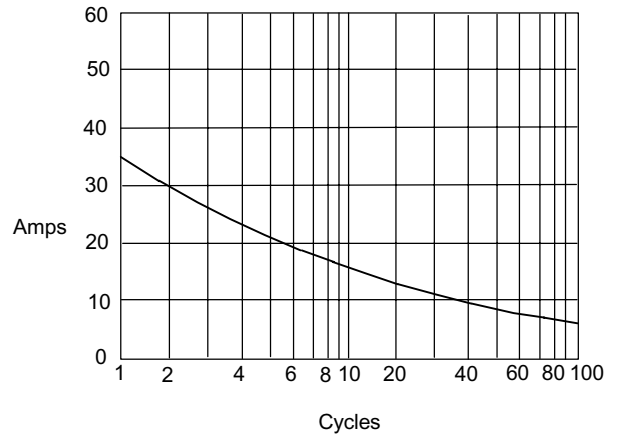
Instantaneous Reverse Leakage Current - MicroAmperes versus Percent Of Rated Peak Reverse Voltage - Volts%

Figure 3
 Typical Forward Characteristics



Instantaneous Forward Current - Amperes versus Instantaneous Forward Voltage - Volts

Figure 5
 Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus Number Of Cycles At 50Hz - Cycles



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Ordering Information

| Device | Packing |
|------------------|----------------------|
| (Part Number)-TP | Tape&Reel;3Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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