

# 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

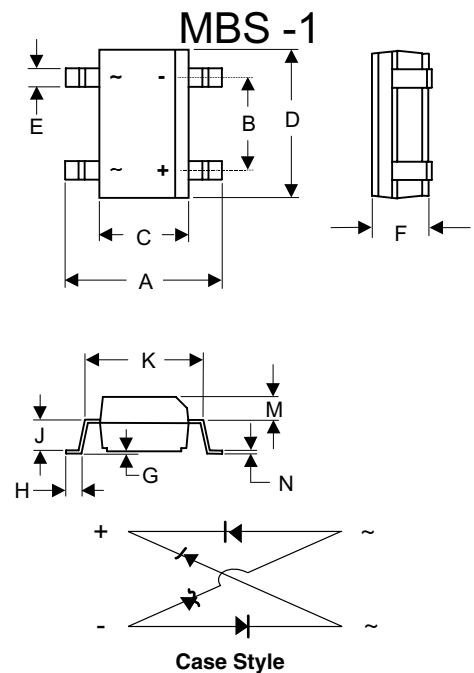
MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MB05S	MB05S	50V	35V	50V
MB1S	MB1S	100V	70V	100V
MB2S	MB2S	200V	140V	200V
MB4S	MB4S	400V	280V	400V
MB6S	MB6S	600V	420V	600V
MB8S	MB8S	800V	480V	800V
MB10S	MB10S	1000V	700V	1000V

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	0.5 A <sup>(2)</sup> 0.8 A <sup>(3)</sup>	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 <sup>(2)</sup> 70°C/W <sup>(3)</sup> 20°C/W <sup>(2)</sup>	per leg
Typical Junction Capacitance	$C_J$	13pF	Measured at 1.0MHz, $V_R=4.0V$
Rating For Fusing	$I^2t$	5.0A <sup>2</sup> 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

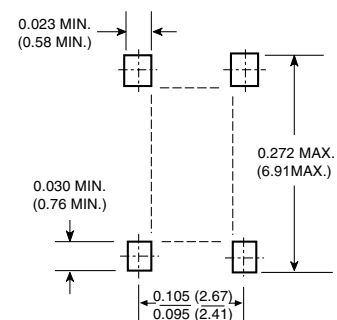


Figure 1. Derating Curve for Output Rectified Current

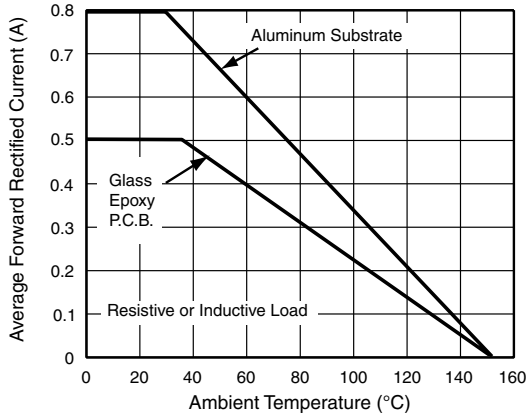
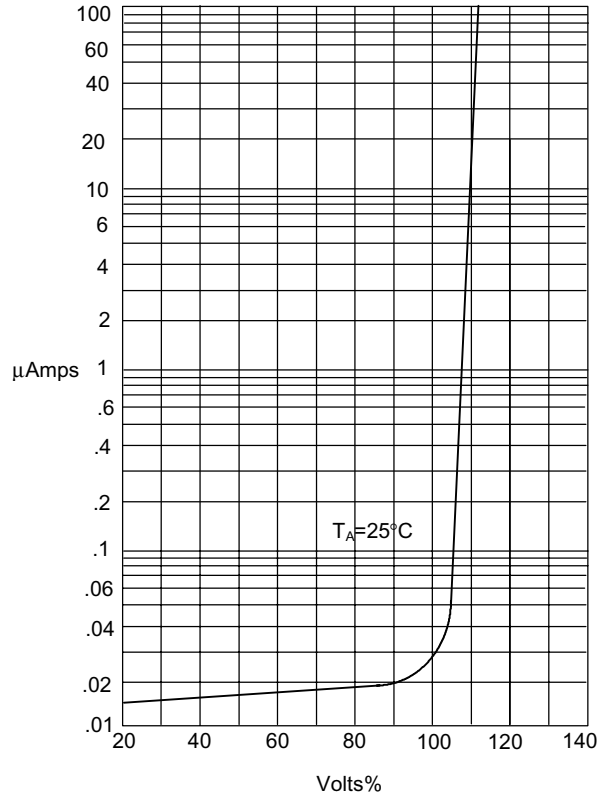
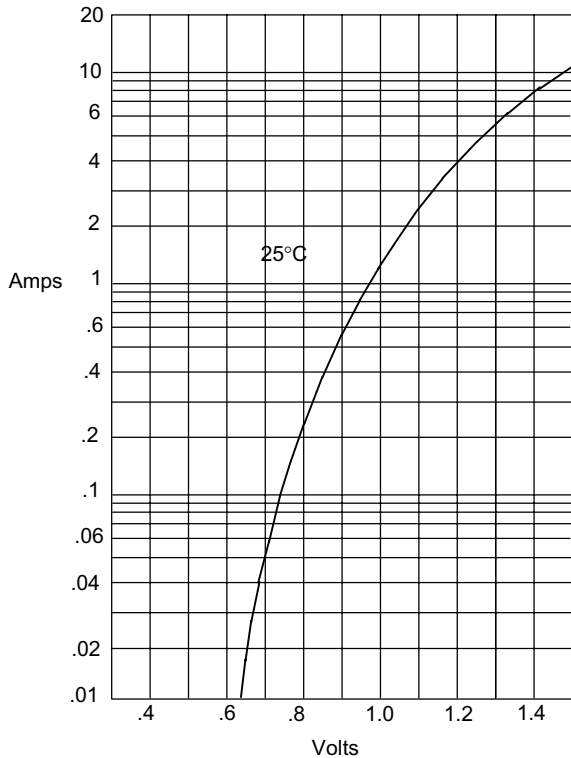


Figure 2  
Typical Reverse Characteristics



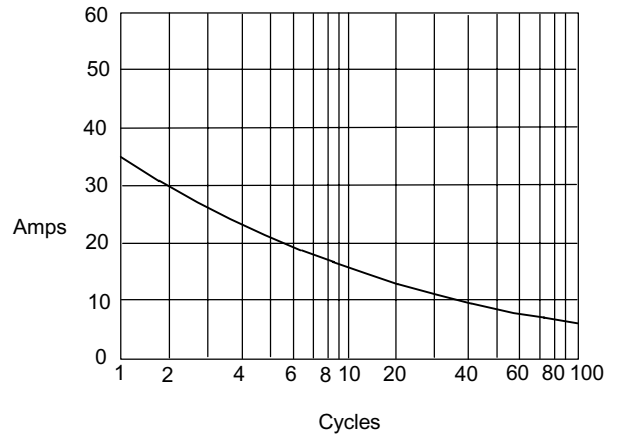
Instantaneous Reverse Leakage Current - MicroAmperes versus Percent Of Rated Peak Reverse Voltage - Volts%

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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