



E502650

Features

- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Glass Passivated Chip Junction
- Moisture Sensitivity Level 1
- Surface Mount Package
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note 1) ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value							Unit
		MB 05S	MB 1S	MB 2S	MB 4S	MB 6S	MB 8S	MB 10S	
Peak Repetitive Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	V _{RWM}								
DC Blocking Voltage	V _R								
RMS Reverse Voltage	V _{RMS}	35	70	140	280	420	560	700	V
Average Rectified Forward Current @ See Fig.1	I _{F(AV)}	0.5 ^(Note 2) 0.8 ^(Note 3)							A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	I _{FSM}	35							A
Non-Repetitive Peak Surge Current @ 1ms Square Wave		60							
Current Squared Time @1ms≤t≤8.3ms	I ² t	5							A ² s

Marking Code

Part Number	Marking Code
MB05S	MB05S
MB1S	MB1S
MB2S	MB2S
MB4S	MB4S
MB6S	MB6S
MB8S	MB8S
MB10S	MB10S

Internal Structure

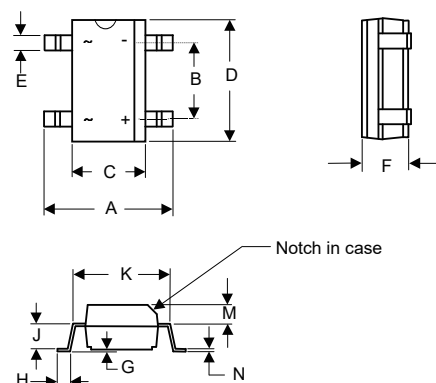
Simplified Outline	Graphic Symbol
XXXX = Marking Code	

Note:

1. High temperature solder exemption applied, see EU directive annex 7a.
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

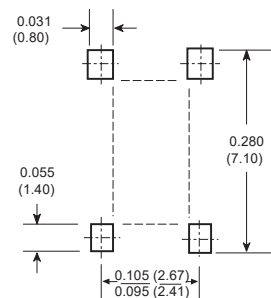
0.5 Amp Single Phase Bridge Rectifier 50 to 1000 Volts

MBS-1



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.252	0.276	6.40	7.00	
B	0.095	0.106	2.41	2.70	
C	0.142	0.165	3.60	4.20	
D	0.179	0.195	4.55	4.95	
E	0.019	0.031	0.50	0.80	
F	0.090	0.106	2.30	2.70	
G	0.002	0.008	0.05	0.20	
H	0.027	0.043	0.70	1.10	
J	0.058	0.062	1.47	1.57	
K	0.195	0.205	4.95	5.21	
M	0.039	0.049	0.99	1.24	
N	0.006	0.016	0.15	0.41	

Suggested Solder Pad Layout



Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_J	Operating Junction Temperature Range		-55		150	°C
T_{stg}	Storage Temperature Range		-55		150	°C
$R_{th(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		20		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		80		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 2		70		°C/W

Note:

1. On glass epoxy P.C.B. mounted on 0.05 x 0.05" (1.3 x 1.3mm) pads.

2. 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.

Electrical Characteristics @ 25°C Unless Otherwise Specified(Per Diode)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	V_F	$I_F=0.4A; T_J=25^{\circ}C$			1.0	V
Reverse Current	I_R	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$			5 100	μA
Junction Capacitance	C_J	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		13	35	pF

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

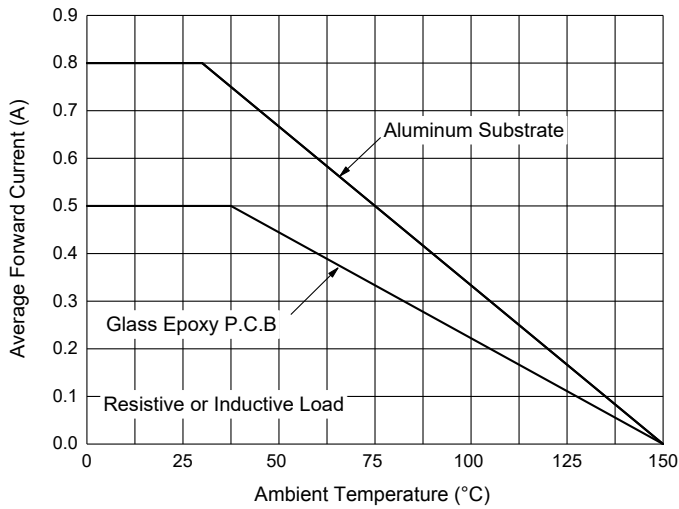


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

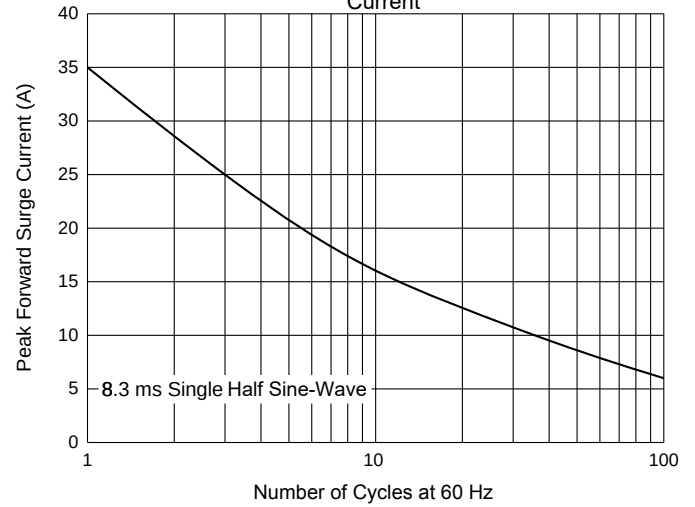


Fig. 3 - Typical Forward Characteristics

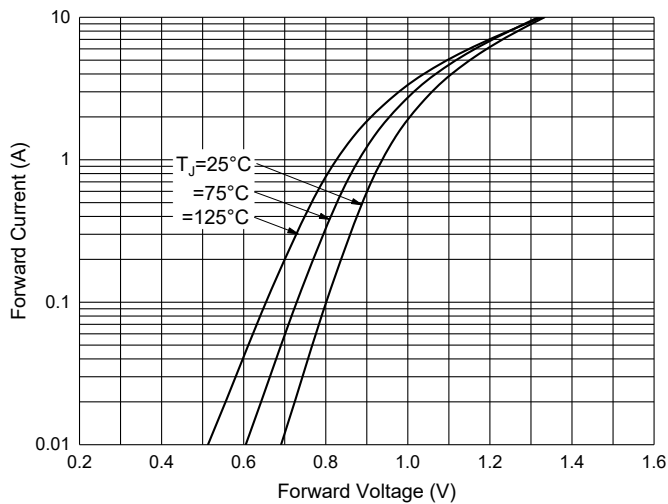


Fig. 4 - Typical Reverse Leakage Characteristics

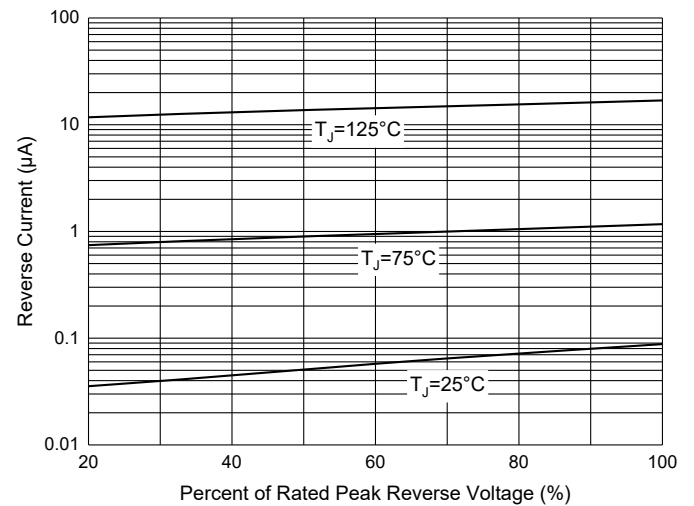
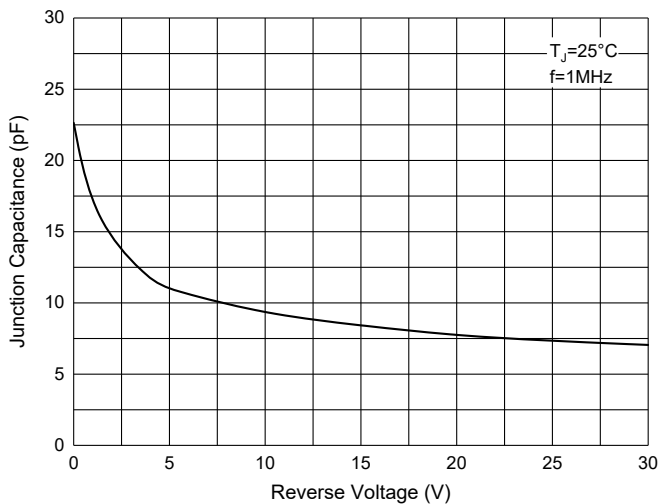


Fig. 5 - Typical Capacitance Characteristics



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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