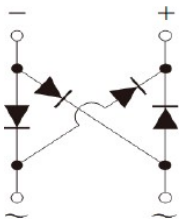
FUZETEC

MB12S THRU MB120S

Surface Mount Schottky Bridge Rectifier

MBS



Features

- Schottky Barrier Chip
- Low Power Loss,High Efficiency
- Ideally Suited for Automatic Assembly
- Surge Overload Rating to 30A Peak
- Plastic Case Material has UL Flammability Classification Rating 94V-0

Mechanical Data

- Case：MBS, molded plastic
- Terminals：plated leads solderable per MIL-STD-202, Method 208
- Polarity：as marked on case
- Mounting position：Any
- Marking：type number
- Lead Free：For RoHS / Lead Free Version,

Ordering Information

Part No.	Remark	Package	Packing
MB12S THRU MB120S	General	MBS	3000 / Tape & Reel
MB12S THRU MB120S-H	Halogen Free		

Maximum Ratings and Electrical Characteristics (TA=25°C unless otherwise noted)

Patameter	Symbol	MB 12S	MB 13S	MB 14S	MB 145S	MB 15S	MB 16S	MB 18S	MB 110S	MB 115S	MB 120S	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	20	30	40	45	50	60	80	100	150	200	V
RMS Reverse Voltage	V_{RMS}	14	21	28	31	35	42	56	70	105	140	V
DC Blocking Voltage	V_{DC}	20	30	40	45	50	60	80	100	150	200	V
Average forward rectified current@T_A =90°C (Note 1)	I_F	1.0										A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30										A
I2t Rating for Fusing (t < 8.3ms)	I^2t	3.735										A^2s
Forward Voltage per element	V_{FM}	0.55				0.7		0.85		0.9		V
At Rated DC Blocking Voltage @T_A =25°C	I_R	0.1						0.05				mA
Peak Reverse Current @T_A =100°C		10						5				mA
Typical Junction Capacitance per leg	C_J	28										pF
Typical Thermal Resistance per leg (Note 2)	$R_{\theta JA}$	75										°C/W
Operating and Storage Temperature Range	T_J,T_{STG}	-55~+150										°C

Notes:

1. Mounted on aluminum substrate PC board with 1.3mm^2 solder pad.
2. Thermal Resistance From Junction to Ambient

Surface Mount Schottky Bridge Rectifier

Rating and Characteristics Curves

FIG. 1- FORWARD CURRENT DERATING CURVE

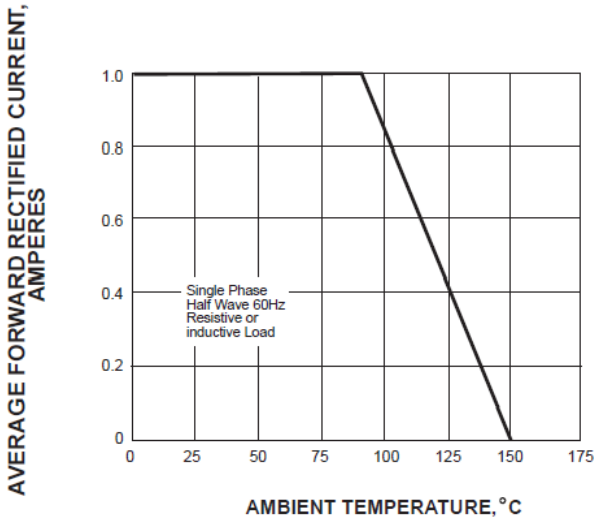


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

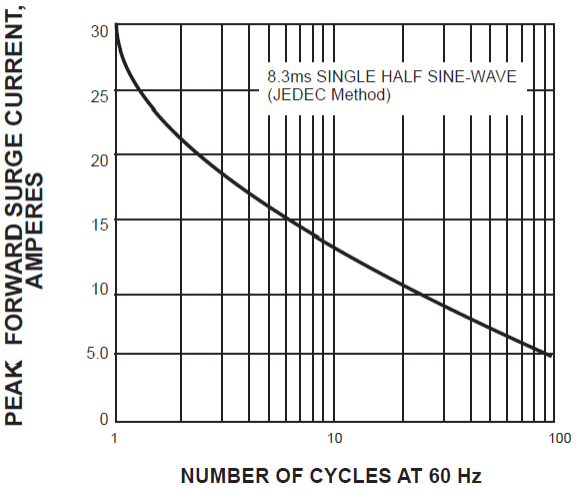


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

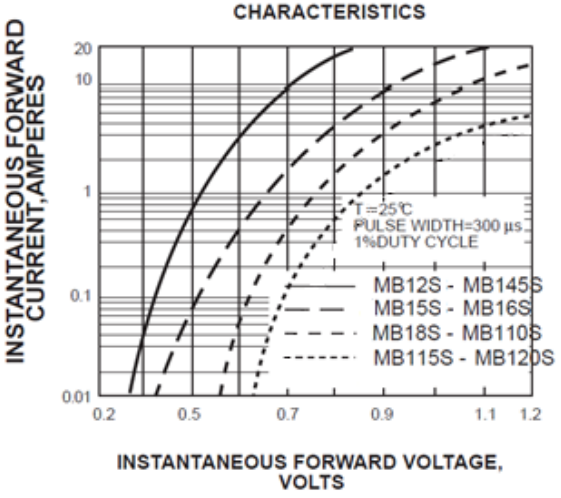


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

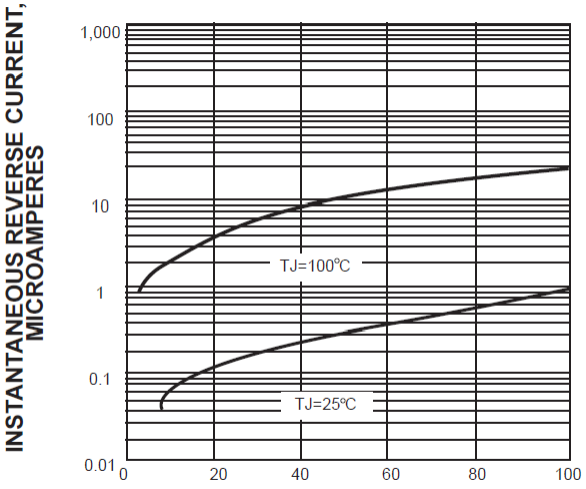
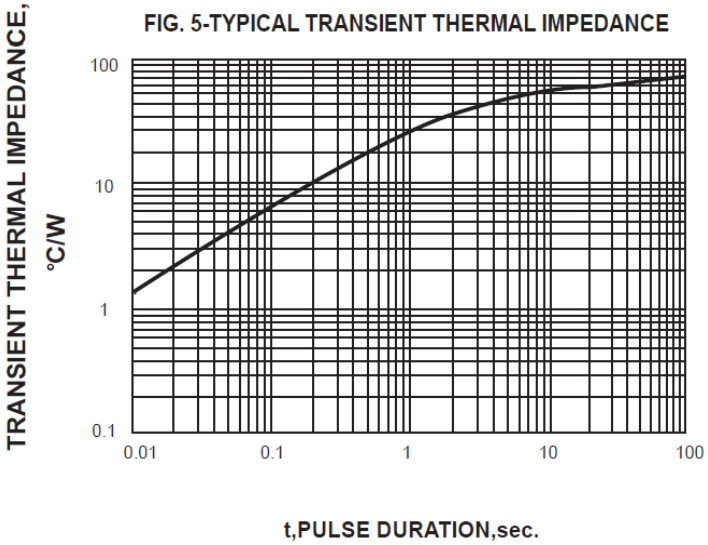
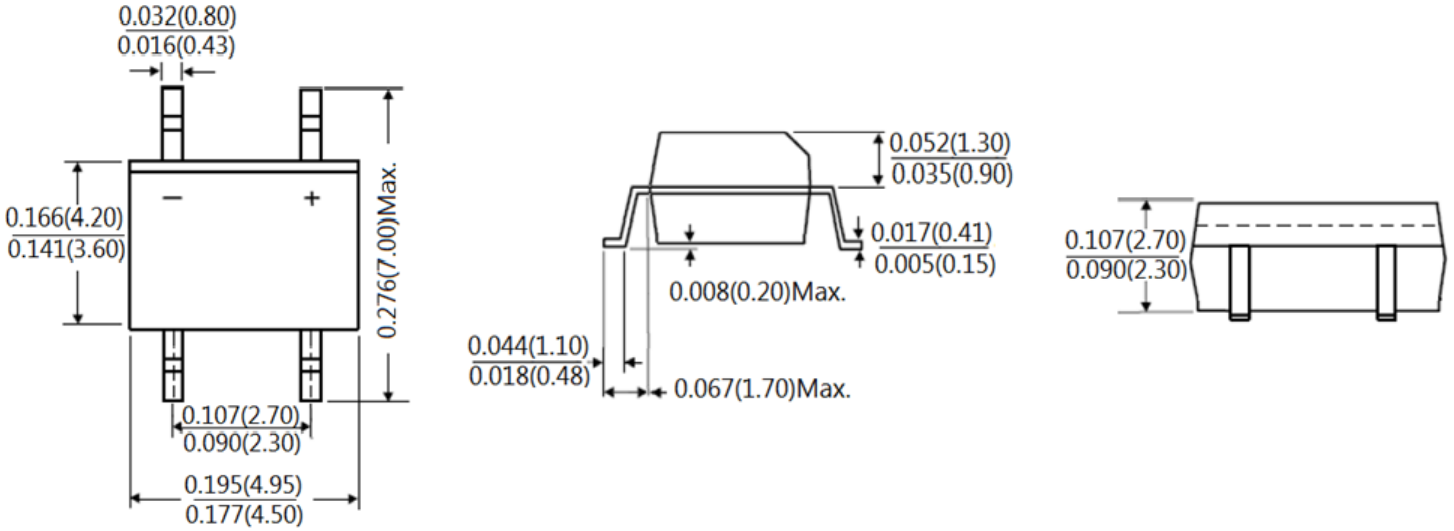


FIG. 5-TYPICAL TRANSIENT THERMAL IMPEDANCE



Surface Mount Schottky Bridge Rectifier

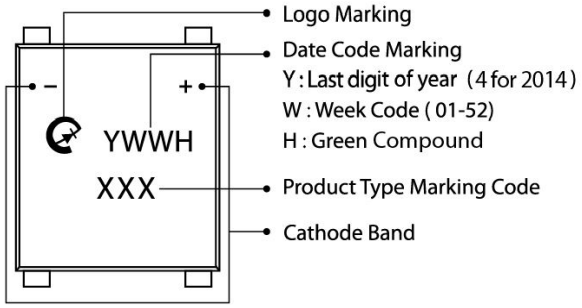
Package Outline Dimensions



MBS

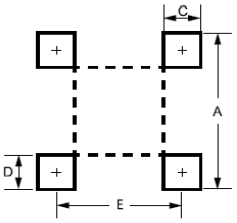
Dimensions in inches and (millimeters)

Marking Information



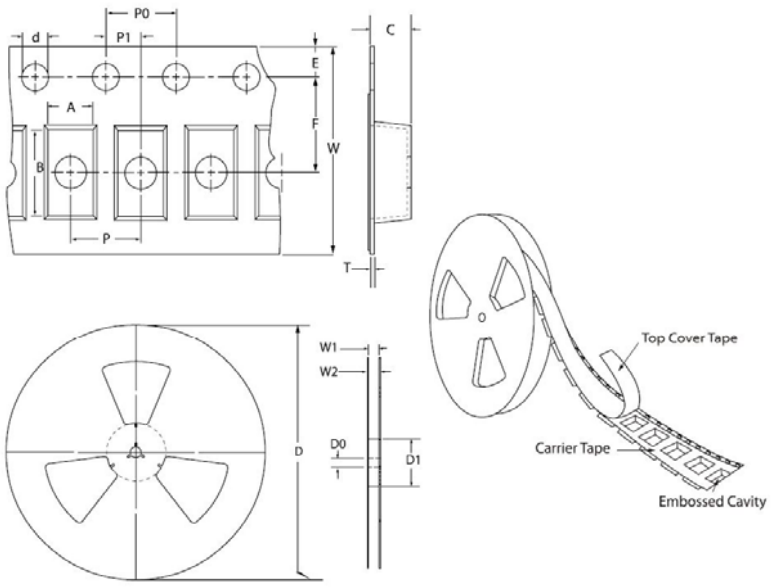
Suggested Pad Layout

Dimension \ Outline	MBS millimeters
A	6.91
C	0.90
D	1.50
E	2.67



Tape & Reel Specification

ITEM	SYMBOL	MBS (mm)
Carrier width	A	4.90±0.01
Carrier length	B	7.24±0.1
Carrier depth	C	2.88±0.1
Sprocket hole	d	1.55±0.05
Reel outside diameter	D	330±2.0
Feed hole diameter	D0	13±0.5
Reel inner diameter	D1	50(min)
Sprocket hole position	E	1.75±0.1
Punch hole position	F	5.5±0.05
Sprocket hole pitch	P	8.0±0.1
Sprocket hole pitch	P0	4.0±0.1
Embossment center	P1	2.0±0.05
Overall tape thickness	T	0.27±0.03
Tape width	W	12.0±0.3
Reel width	W2	18.4(max)
Reel width	W1	12.4+0.5



LEGAL DISCLAIMER

- The product is provided “AS IS” without any guarantees or warranty. In association with the product, Fuzetec Technology Corporation, its affiliates, and their directors, officers, employees, agents, successors and assigns (collectively, the “Fuzetec”) makes no warranties of any kind, either express or implied, including but not limited to warranties of merchantability, fitness for a particular purpose, of title, or of non-infringement of third party rights.
- The information in this document and any product described herein are subject to change without notice and should not be construed as a commitment by Fuzetec. Fuzetec assumes no responsibility for any errors that may appear in this document.
- Fuzetec does not assume any liability arising out of the application or use of this document or any product described herein, any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold Fuzetec and all the companies whose products are represented on Fuzetec website, harmless against all damages.
- No license, express or implied, by estoppels or otherwise, to any intellectual property is granted by this document or by any conduct of Fuzetec. Product name and markings notes herein may be trademarks of their respective owners.
- Fuzetec does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel.
- Should Customers purchase or use Fuzetec products for any unintended or unauthorized application, Customers shall indemnify and hold Fuzetec and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.
- The official text is written in English and the English version of this document is the only version endorsed by Fuzetec. Any discrepancies or differences created in the translations are not binding and have no legal effect on Fuzetec for compliance or enforcement purposes.