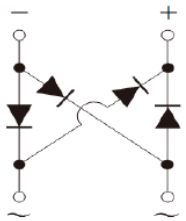
MB12S THRU MB120S

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	
DC Blocking Voltage	V_{DC}	20	30	40	45	50	60	80	100	150	200	
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				
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

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Rating and Characteristics Curves

FIG. 1- FORWARD CURRENT DERATING CURVE

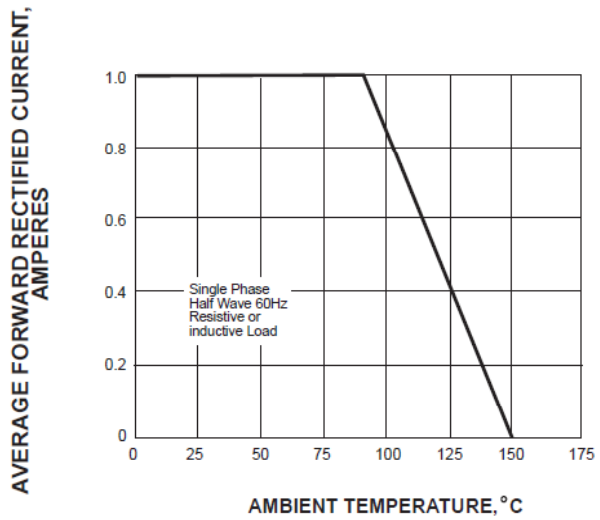


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

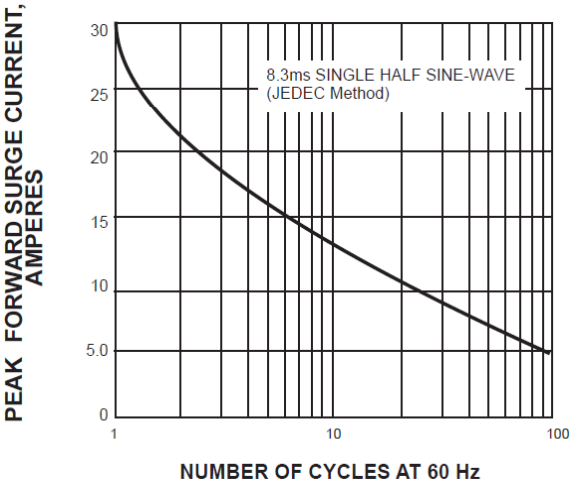


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

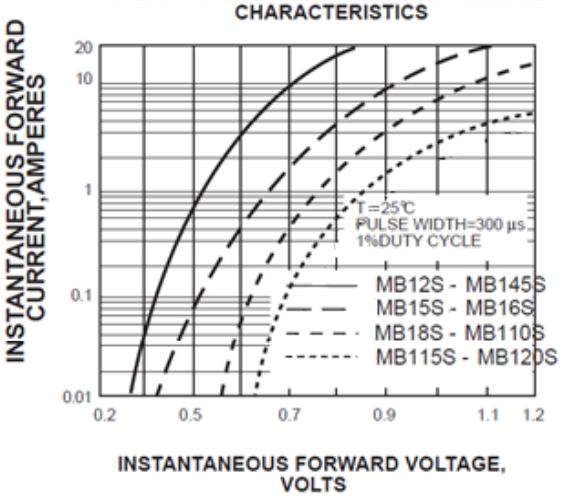


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

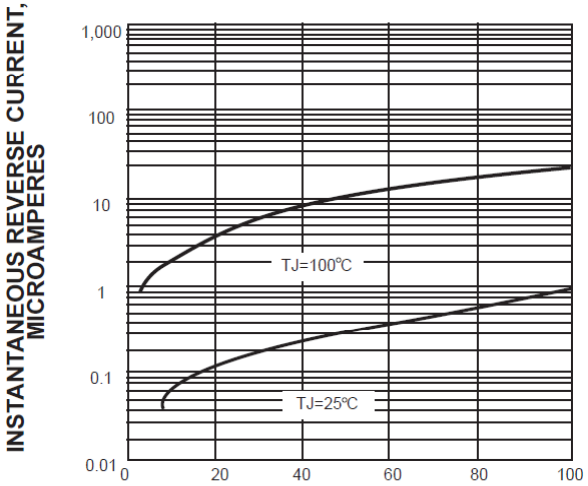
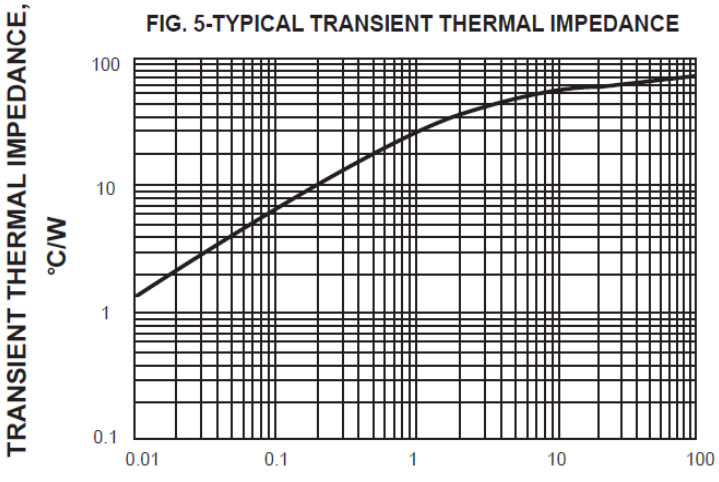


FIG. 5-TYPICAL TRANSIENT THERMAL IMPEDANCE



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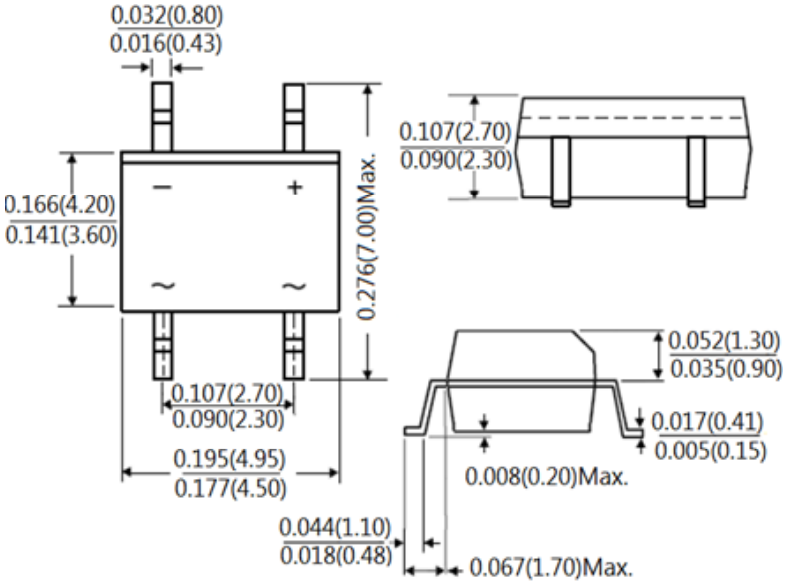
Package Outline Dimensions

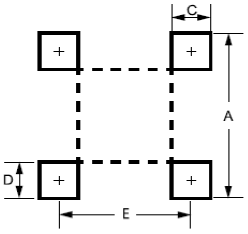


MBS

Dimensions in inches and (millimeters)

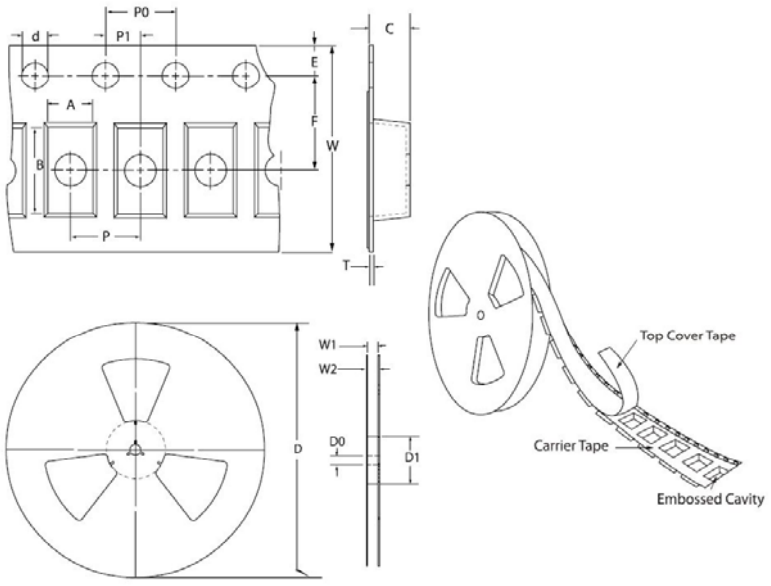
Suggested Pad Layout

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	Po	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



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