

## FEATURES

- | Schottky technology
- | Ideal for printed circuit board
- | High surge current capability



MBS

## MECHANICAL DATA

- | Case: Molded plastic, MBS
- | Epoxy: UL 94V-0 rate flame retardant
- | Mounting position: as Marking

## APPROVALS

RoHS Compliance with 2011/65/EU

## MAXIMUM RATINGS AND CHARACTERISTICS (T<sub>A</sub>=25°C)

Parameter	Symbol	MB12S	MB14S	MB16S	MB18S	MB110S	Unit
Marking		MB12S	MB14S	MB16S	MB18S	MB110S	
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	20	40	60	80	100	V
Maximum Rms Bridge Input Voltage	V <sub>RMS</sub>	14	28	42	56	70	
Maximum Dc Blocking Voltage	V <sub>DC</sub>	20	40	60	80	100	
Maximum Average Forward Rectified Output Current	I <sub>F(AV)</sub>	1.0					A
Peak Forward Surge Current Single Sine-wave Superimposed On Rated Load (Jedec Method)	I <sub>FSM</sub>	30					
Maximum Instantaneous Forward Voltage Drop Per Leg at 1.0A	V <sub>F</sub>	0.50	0.55	0.70	0.85		V
Maximum Dc Reverse Current At Rated DC Blocking Voltage Per Element	T <sub>A</sub> =25°C	0.5					mA
	T <sub>A</sub> =125°C	20					
Typical thermal resistance (Note 2)	R <sub>θJL</sub>	20					°C/W
	R <sub>θJA</sub>	70					
Typical Junction Capacitance (Note 1)	C <sub>J</sub>	120		80	40		pF
Operating junction temperature range	T <sub>J</sub>	-55 to +125			-55 to +150		°C
Storage temperature range	T <sub>STG</sub>	-55 to +150					°C

### NOTES:

- 1: Measured at 1 MHz and applied reverse voltage of 4.0 VDC. Note
- 2: Thermal resistance from junction to ambient and from junction to lead P.C.B. mounted on 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas.

# CHARACTERISTIC CURVES

Fig.1 -Forward Current Derating Curve

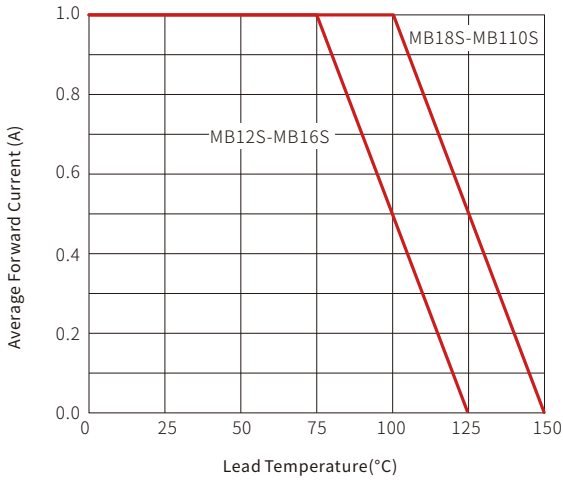


Fig.2 -Maximum Non-repetitive Peak Forward Surge Current

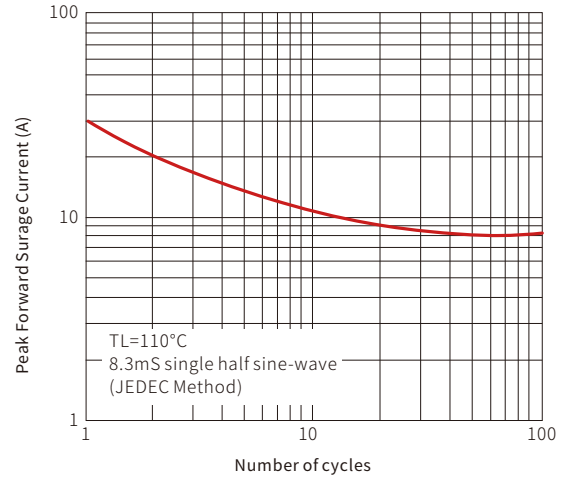


Fig.3 -Typical Instantaneous Forward Characteristics

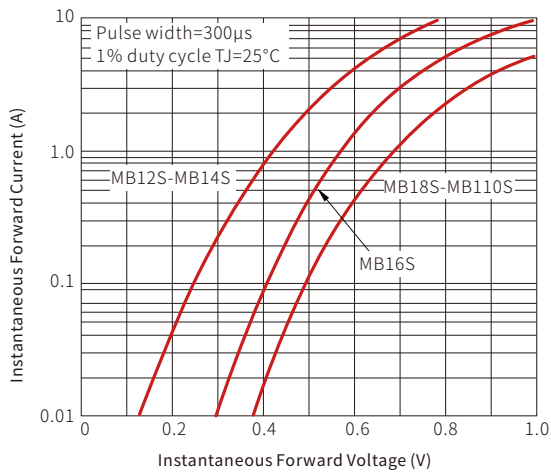
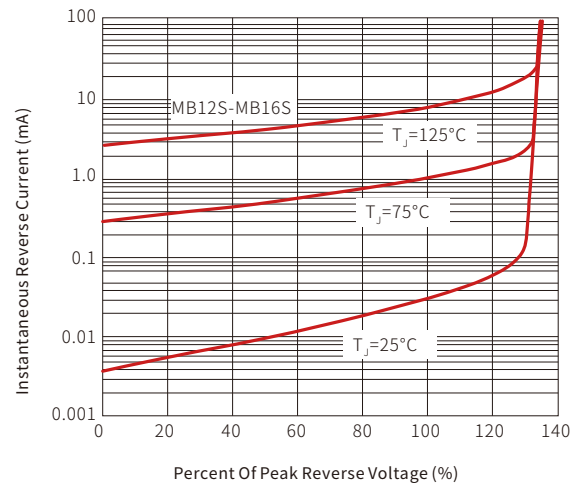
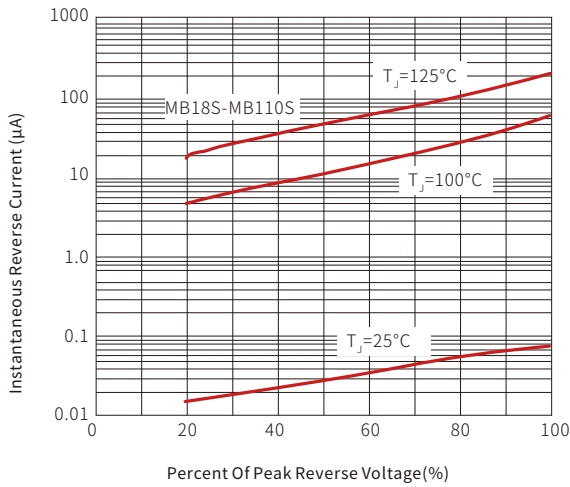
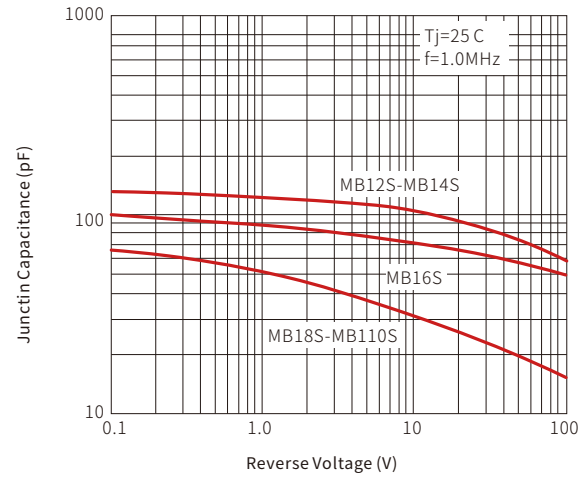


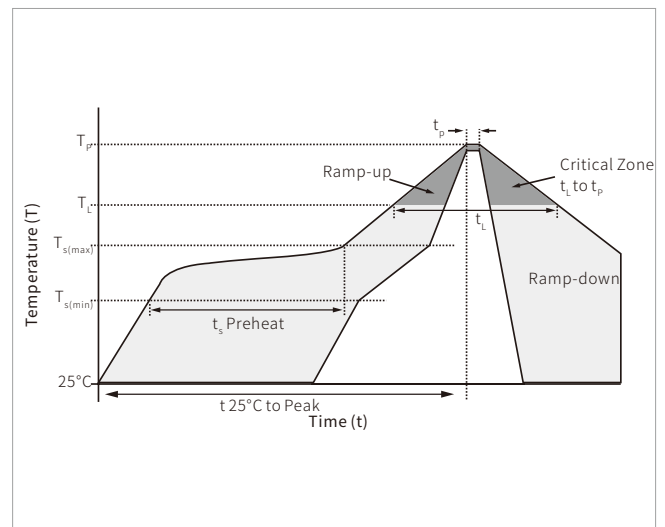
Fig.4A -Typical Reverse Characteristics



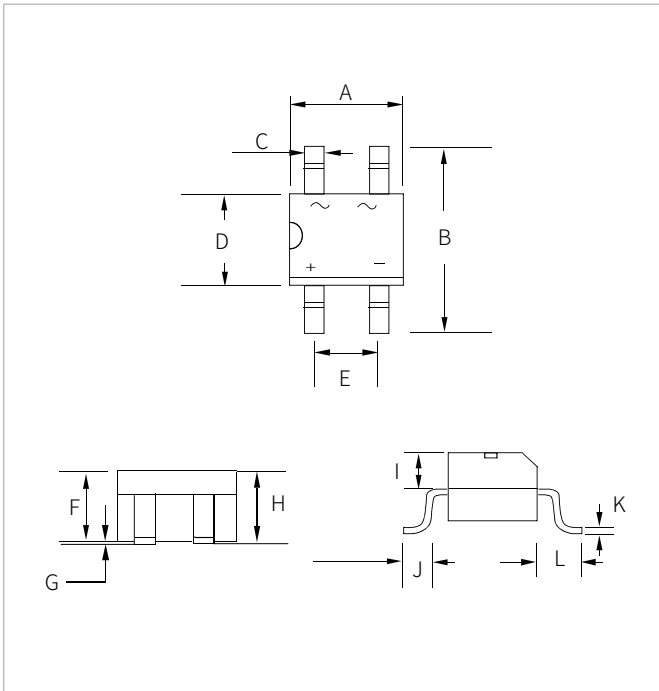
**Fig.4B-Typical Reverse Characteristics**

**Fig.4 -Typical Reverse Characteristics**


## SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ( $T_{s(min)}$ )	150°C
	Temperature Max ( $T_{s(max)}$ )	200°C
	Time (min to max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3°C/second max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/second max
Reflow	Temperature ( $T_L$ ) (Liquidus)	217°C
	Time (min to max) ( $t_L$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		260°C
Time within 5°C of actual peak Temperature ( $t_p$ )		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature ( $T_p$ )		8 minutes max.
Do not exceed		260°C



## MBS PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.50	4.90	0.177	0.193
B	7.00Max.		0.276Max.	
C	0.56	0.84	0.022	0.033
D	3.60	4.00	0.142	0.157
E	2.20	2.60	0.087	0.102
F	2.30	2.70	0.090	0.106
G	0.20Max.		0.008Max.	
H	3.0Max.		0.118Max.	
I	0.95	1.53	0.037	0.053
J	0.70	1.10	0.028	0.043
K	0.15	0.35	0.006	0.014
L	1.10	2.12	0.043	0.083

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
MB12S-MB110S	MBS	3000PCS	13"

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