FutureWafer Evolution

MBS 240SU / 260SU / 260SU

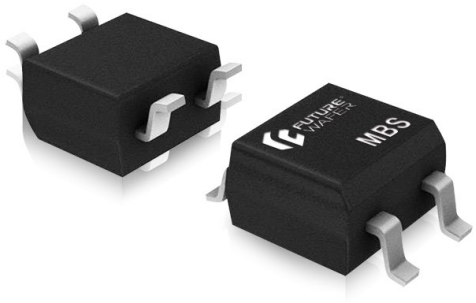
Low VF Schottky Bridge Rectifier

1. Feature

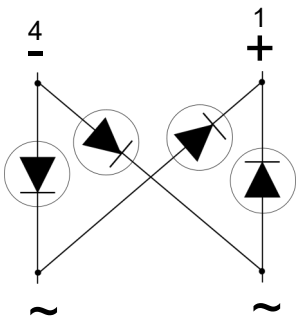
- Low Leakage Current
- Surge Overload Rating:50A Peak
- Saves Space On Printed Circuit Boards
- Meets MSL Level 1,per J-STD-020,LF
  Maximum Peak of 260°C

2. Mechanical Characteristics

- Case: TO-269AA(MBS)
- Packing: Tape and Reel
- Flammability rating UL 94V-0



TO-269AA(MBS)



3. Device Characteristics

Maximum Ratings@25°C Unless Otherwise Specified

Parameter		Symbol	MBS240SU	MBS260SU	MBS2100SU	Units
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	40	60	100	V
Maximum RMS Voltage		V_{RMS}	28	42	60	
Maximum DC Blocking Voltage		V_{DC}	40	60	100	
Maximum Forward Voltage	I_F = 2.0A	V_F	0.48	0.68	0.83	
Maximum Average Forward Rectified Current	T_A = 40°C	$I_{F(AV)}$	2.0 on Aluminum substrate			A
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed On Rated Load		I_{FSM}	50			
Maximum Reverse Current @ VR	T_A = 25°C	I_R	0.5			mA
	T_A = 125°C		20			
Typical Junction Capacitance Per Diode 4.0V,1MHz		C_J	200			pF
Typical Thermal Resistance		$R_{\theta JL}$	85			°C/W
		$R_{\theta JA}$	20			
Rating For Fusing	t < 8.3ms	I^2t	7.5			A^2S
Operating Temperature		T_J	-55 ~ +150			°C
Storage Temperature		T_{STG}				

4. Rating and Characteristic Curve

Fig 1 Forward Current Derating Curve

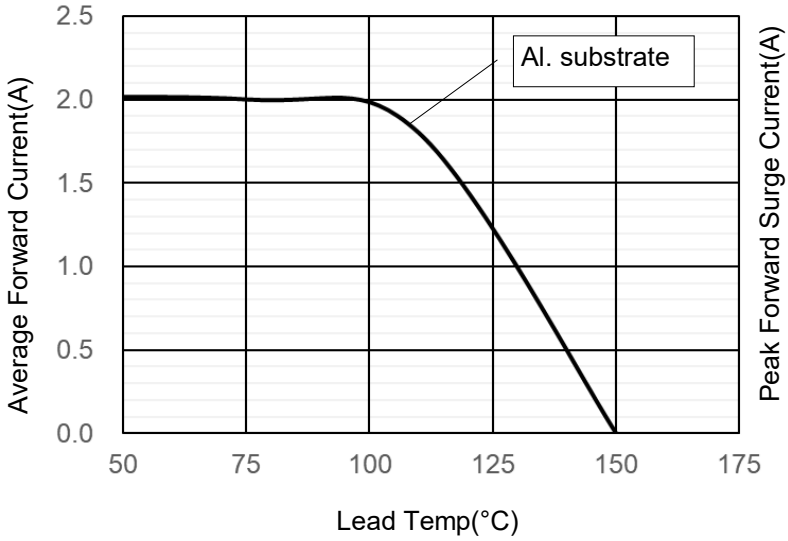


Fig 2 Typical Forward Characteristics

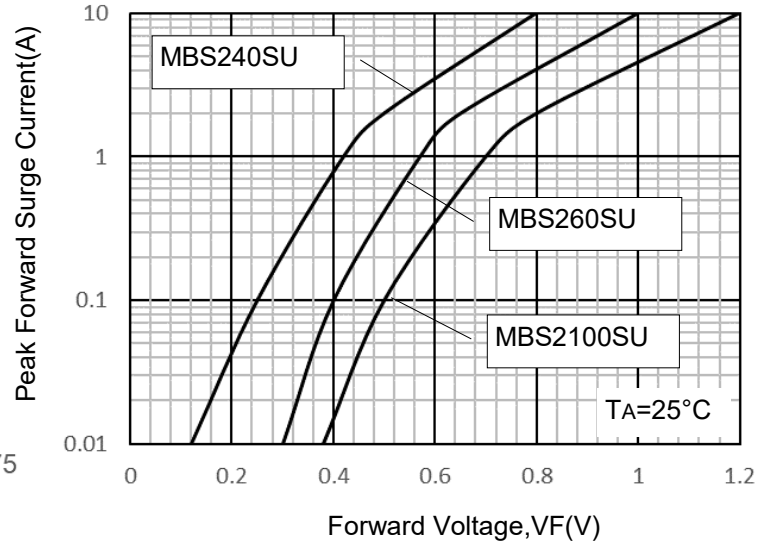


Fig 3 Maximum Non-Repetitive Forward Surge Current

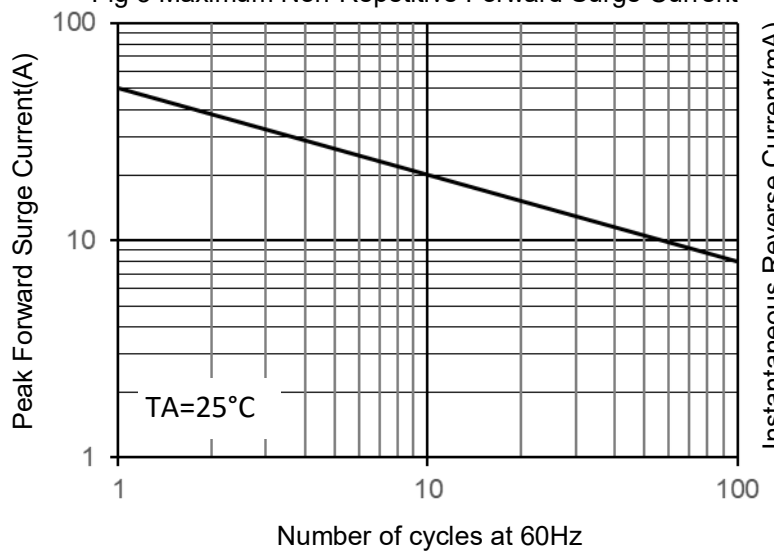


Fig 4 Typical Reverse Characteristics

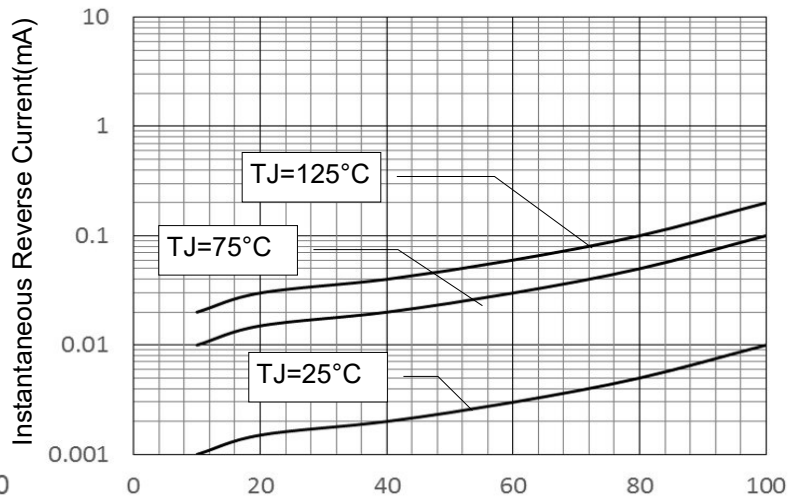
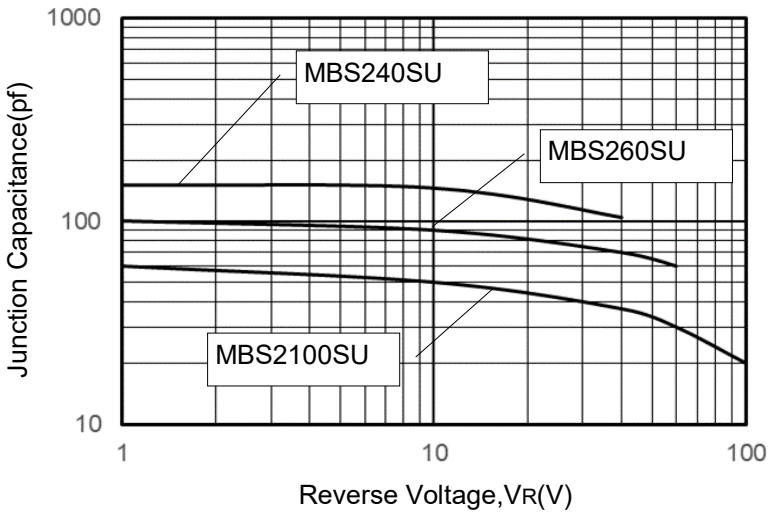
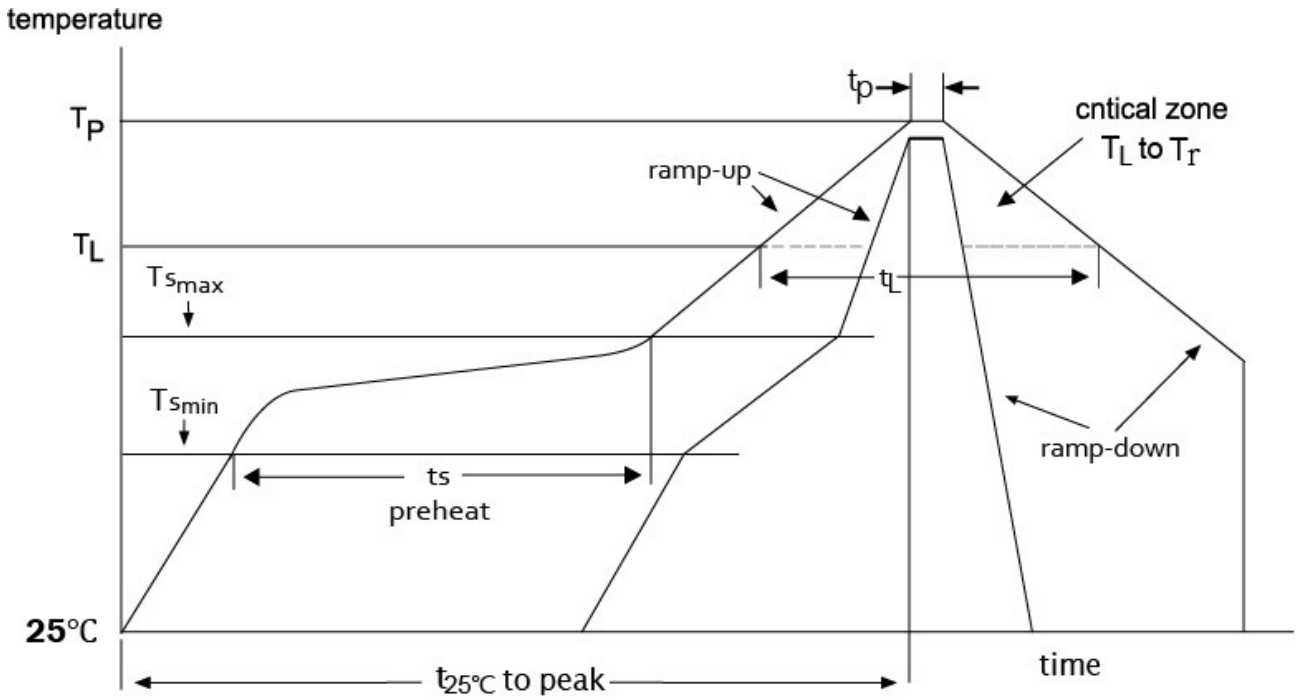


Fig 5 Typical Junction Capacitance

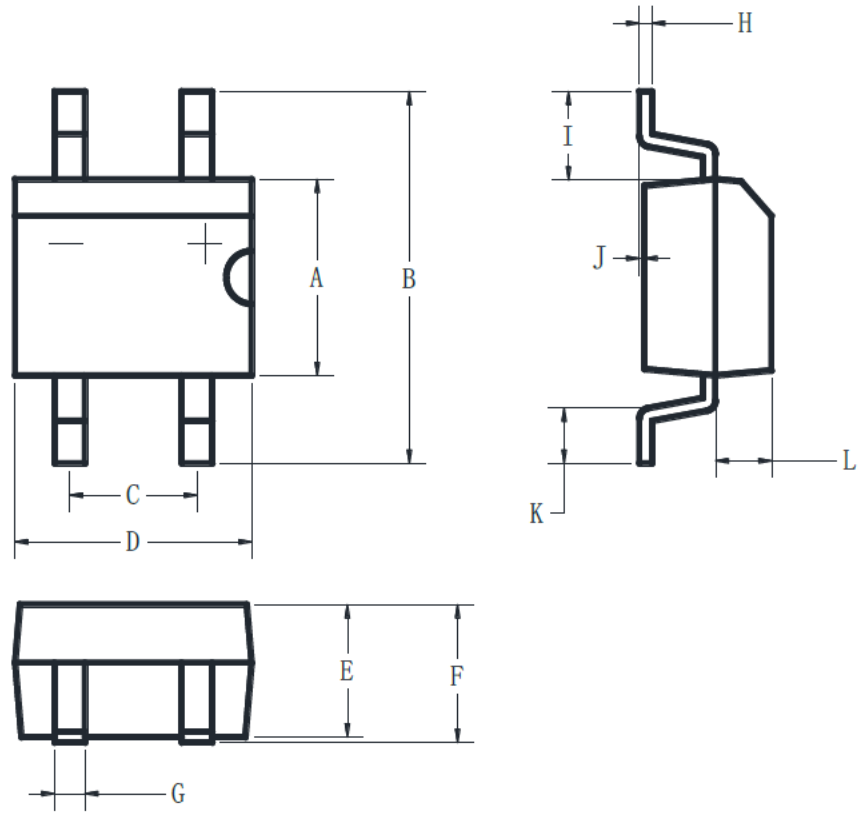


5. Soldering Parameters

Profile Feature	SnPb eutectic assembly	Pb-free assembly
Average ramp-up rate (Tsmax to Tp)	3 °C/s maximum	3 °C/s maximum
Preheat		
Temperature minimum (Tsmin)	100 °C	150 °C
Temperature maximum (Tsmax)	150 °C	200 °C
Time (tsmin to tsmax)	60 s to 120 s	60 s to 180 s
Time maintained above		
Temperature (TL)	183 °C	217 °C
Time (tL)	60 s to 150 s	60 s to 150 s
Peak/classificationtemperature(T)	235 °C	260 °C
Number of allowed reflow cycles	3	3
Time within 5 °C of actual peak temperature (tp)	10 s to 30 s	20 s to 40 s
Ramp-down rate	6 °C/s maximum	6 °C/s maximum
Time 25 °C to peak temperature	6 minutes maximum	8 minutes maximum



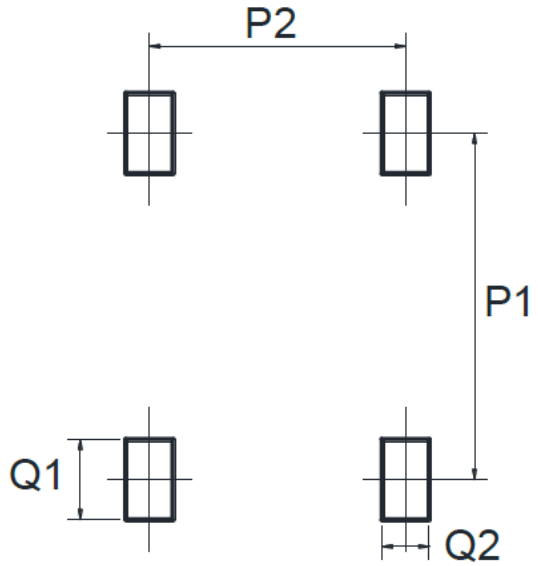
6. Package Outline Dimensions



MBS		
Dim	**Min**	**Max**
A	3.65	4.10
B	6.40	6.90
C	2.41	2.67
D	4.55	4.95
E	2.30	2.70
F	2.40	2.90
G	0.43	0.74
H	0.15	0.41
I	1.37	1.47
J	0.10	0.20
K	0.48	0.96
L	0.99	1.24

Unit: millimeters

7. Suggest Pad Layout



Dimension	Millimeter
P1	6.00
P2	2.40
Q1	1.84
Q2	1.20

8. Ordering information

Part No	Package	Marking	Packing
MBS240SU	MBS	2B4S	2,500pcs / 13” Reel
MBS260SU		2B6S	
MBS2100SU		2B10S	

9. History

Version	Date	File No.	Recording	Basis
A	12-Dec-2017	F41833L	New create	Market
B	23-May-2019		Update company information	System
C	17-Apr-2020		Update marking rule	Engineer
2.0	13-Jun-2021		Update Version	System

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