UMSB Plastic-Encapsulate Bridge Rectifier

Features

- Ideal for printed circuit board
- Low forward voltage drop
- High surge current capability
- Glass passivated chip junction

Reverse Voltage
50-1000 V
Forward Current
3.0 Ampere

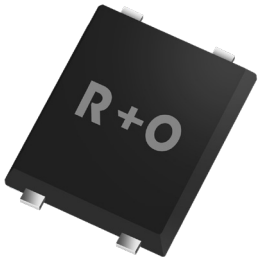
Applications

General purpose 1 phase Bridgerectifier applications

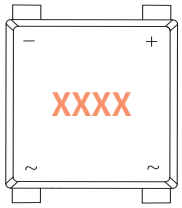
Mechanical Data

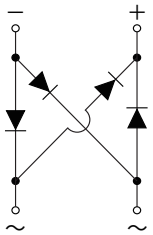
- Case: UMSB
  Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026

UMSB



Function Diagram





Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MSB 30A-S	MSB 30B-S	MSB 30D-S	MSB 30G-S	MSB 30J-S	MSB 30K-S	MSB 30M-S
Device marking code			MSB30AS	MSB30BS	MSB30DS	MSB30GS	MSB30JS	MSB30KS	MSB30MS
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	50	100	200	400	600	800	1000
Maximum RMS Voltage	V_{RMS}	V	35	70	140	280	420	560	700
Maximum DC blocking Voltage	V_{DC}	V	50	100	200	400	600	800	1000
Maximum Average Forward Rectified Current @60Hz sinewave, Resistance load,TL (Fig.1)	$I_{F(AV)}$	A	3.0						
Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave	I_{FSM}	A	80						
Rating for fusing (t=8.3ms, Ta=25 °C)	I^2t	A^2S	26.56						
Storage temperature	T_{stg}	°C	-55 ~ +150						
Junction temperature	T_j	°C	-55 ~ +150						
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	55						
	$R_{\theta J-L}$	°C /W	15						

Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	MSB 30A-S	MSB 30B-S	MSB 30D-S	MSB 30G-S	MSB 30J-S	MSB 30K-S	MSB 30M-S
Maximum instantaneous forward voltage	I_F=3.0A	V_F	V	1.1						
Maximum DC reverse currentat rated DC blocking voltage	V_R=V_{DC}, T_A=25°C	I_{R1}	μA	5.0						
	V_R=V_{DC}, T_A=100°C	I_{R2}		500						

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

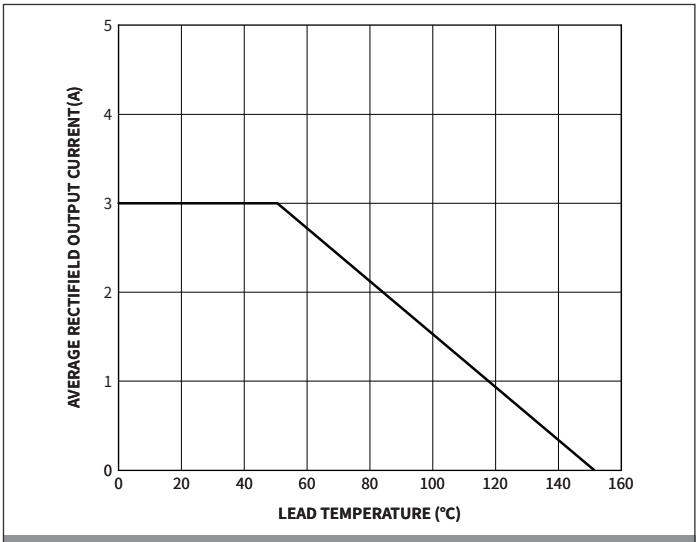


Fig.1 Forward Current Derating Curve

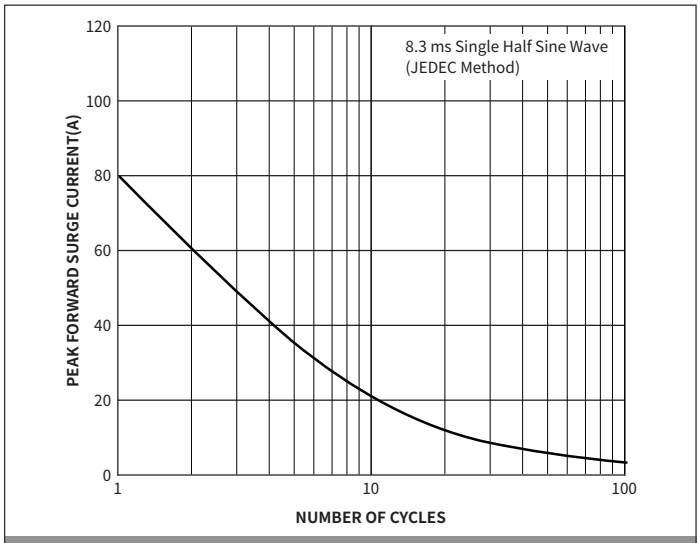


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

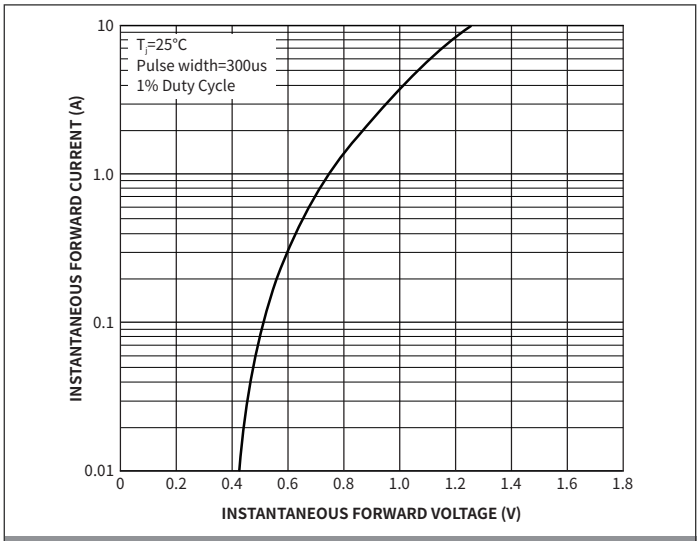


Fig.3 Typical Forward Voltage

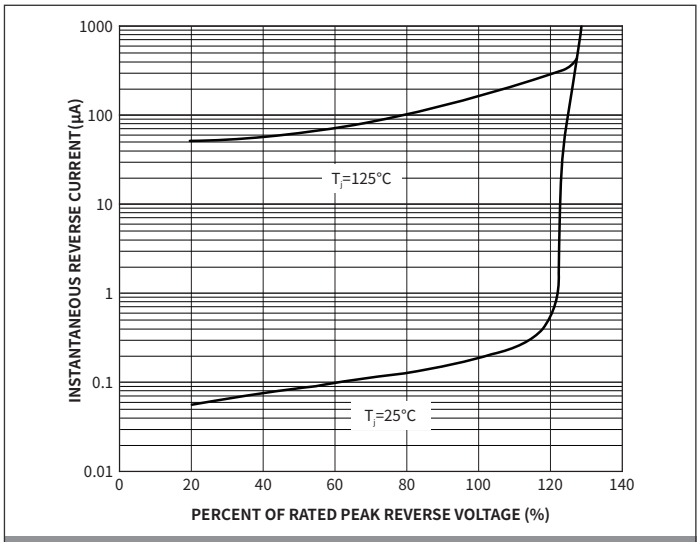
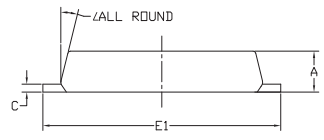


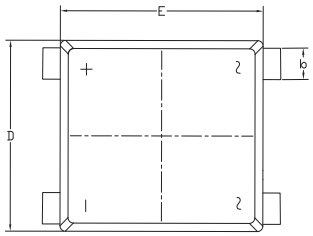
Fig.4 Typical Reverse Characteristics

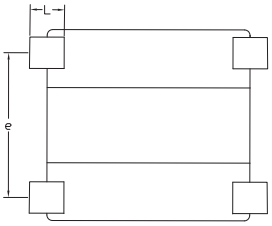
Ordering Information

PACKAGE	PACKAGE CODE	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
UMSB	R3	3000	6000	42000	13''

Package Outline Dimensions (UMSB)

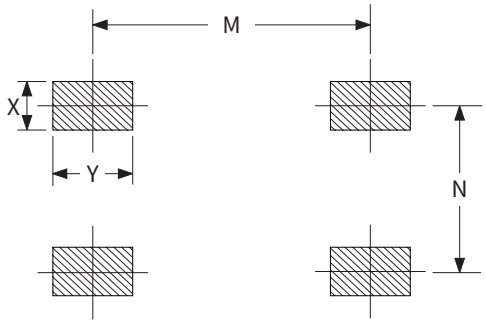






Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.3	1.5	0.051	0.059
C	0.27	0.40	0.011	0.016
D	6.5	7.0	0.256	0.276
E	7.2	7.4	0.283	0.291
E1	7.9	8.6	0.311	0.339
L	0.65	1.05	0.026	0.041
e	5.0	5.2	0.197	0.205
b	0.95	1.15	0.037	0.045
θ	10°			

Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
N	5.1	5.3	0.201	0.209
M	7.1	7.3	0.280	0.287
X	1.8	2.0	0.071	0.079
Y	1.3	1.5	0.051	0.059