

UMSB Plastic-Encapsulate Bridge Rectifier

● Features

- Ideal for printed circuit board
- Small size, simple installation
- High surge current capability
- Reliable low cost construction utilizing molded plastic technique
- High temperature soldering guaranteed: 260/10 seconds at 5lbs., (2.3kg) tension

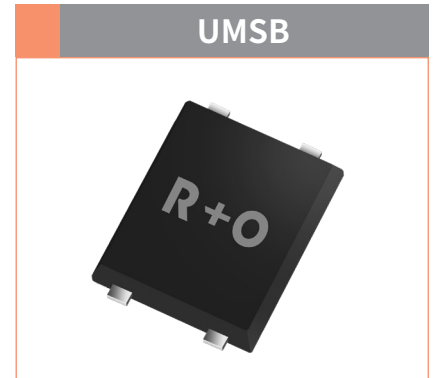
Reverse Voltage
50-1000 V
Forward Current
3.0 Ampere

● Applications

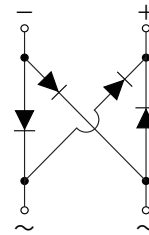
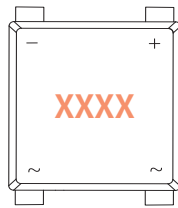
General purpose 1 phase Bridgerectifier applications

● 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
- Polarity: Cathode line denotes the cathode end



● Function Diagram



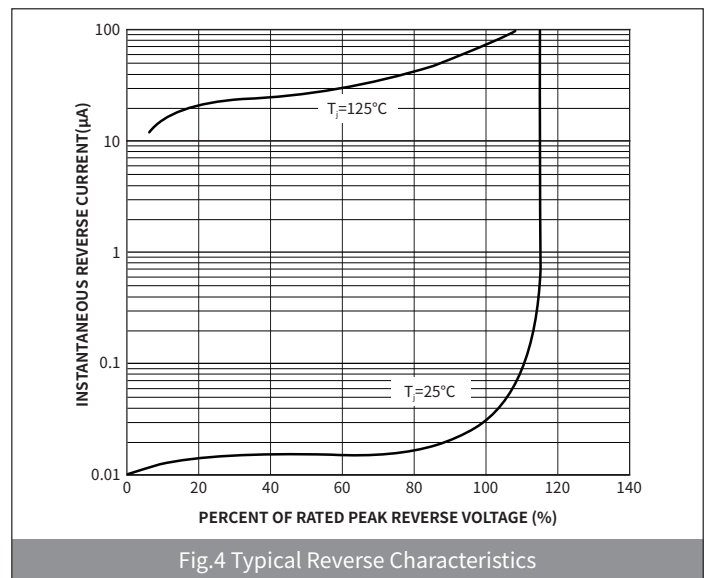
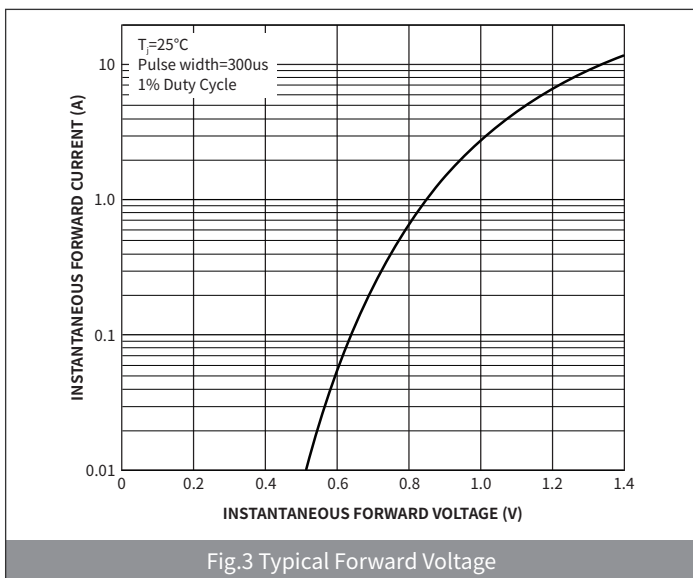
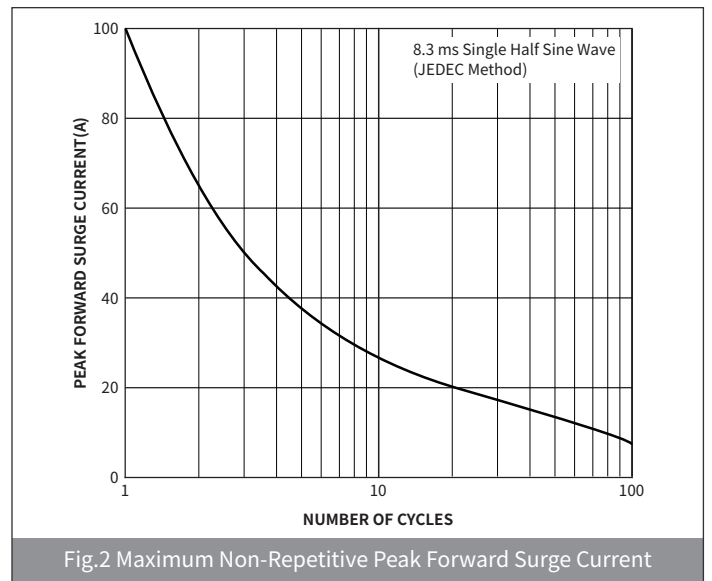
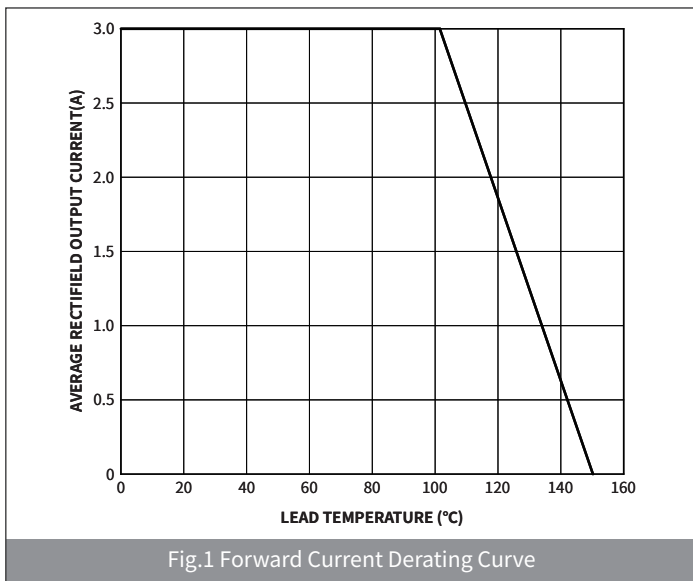
● Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MSB30A	MSB30B	MSB30D	MSB30G	MSB30J	MSB30K	MSB30M
Device marking code			MSB30A	MSB30B	MSB30D	MSB30G	MSB30J	MSB30K	MSB30M
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	100						
Rating for fusing (t=8.3ms, Ta=25 °C)	I^2t	A ² S	42						
Storage temperature	T_{stg}	°C	-55 ~ +150						
Junction temperature	T_j	°C	-55 ~ +150						
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	35						
	$R_{\theta J-L}$	°C /W	15						

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	MSB30A	MSB30B	MSB30D	MSB30G	MSB30J	MSB30K	MSB30M
Maximum instantaneous forward voltage	$I_F=3.0A$	V_F	V							1.1
Maximum DC reverse current at rated DC blocking voltage	$V_R=V_{DC}, T_A=25^\circ C$	I_{R1}	μA							5.0
	$V_R=V_{DC}, T_A=100^\circ C$	I_{R2}								200
Typical junction capacitance	4.0V DC, 1MHz	C_J	pF							40

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



MSB30A THRU MSB30M

UMSB 3.0 AMP Plastic-Encapsulate Bridge Rectifier

● Ordering Information

PACKAGE	PACKAGE CODE	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
UMSB	R3	3000	6000	54000	13"

● Package Outline Dimensions (UMSB)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.3	1.5	0.051	0.059
C	0.17	0.29	0.007	0.012
D	6.2	7.0	0.244	0.276
E	7.1	7.6	0.280	0.299
E1	8.4	8.9	0.331	0.350
L	1.0	1.6	0.032	0.055
e	4.9	5.3	0.193	0.209
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