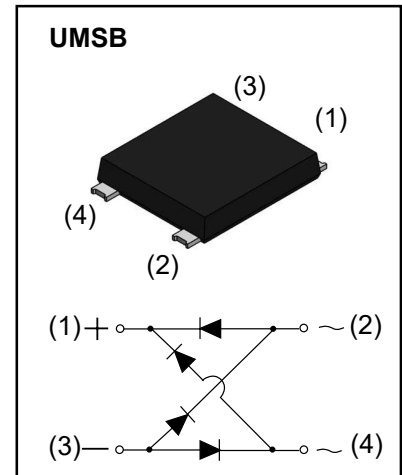


MSB30M Bridge Rectifier

PRIMARY CHARACTERISTICS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	3	A
V_{RWM}	1000	V
I_{FSM}	90	A
T_j	150	°C
V_F	1.1	V



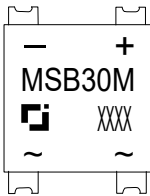
FEATURES

- Idea for printed circuit board
- Glass passivated junction chip
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed 260°C/10 seconds at terminals

Mechanical Data

- Case: UMSB
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Polarity symbol marking on body

MARKING



MSB30M = Device code
 XXXX = Code

Limiting Values (Absolute Maximum Rating)

Symbol	Item	Unit	MSB30M
V_{RRM}	Peak Repetitive Reverse Voltage	V	1000
V_R	DC Blocking Voltage	V	
V_{RMS}	RMS Reverse Voltage	V	
$I_{F(AV)}$	Average Forward Rectified Current @60Hz sine wave, R-load, $T_L=110\text{°C}$	A	3
I_{FSM}	Non-Repetitive Surge Forward Current @8.3 ms single half sine-wave, 1 cycle, $T_j=25\text{°C}$	A	90
I^2t	Current squared time @1ms ≤ t ≤ 8.3ms, $T_j=25\text{°C}$, Rating of per diode	A ² S	33.6
T_{STG}	Storage Temperature range	°C	-55 to +150
T_j	Operating junction temperature	°C	-55 to +150

Electrical Characteristics ($T_c=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Item	Unit	Test Conditions	TYP.	Max.
V_F	Maximum instantaneous forward voltage drop per diode (note 1)	V	$I_F=3\text{A}$	0.9	1.1
I_R	Peak reverse current at rated DC blocking voltage per diode(Note 2)	μA	$V_{RM}=V_{RRM}$	$T_j=25^{\circ}\text{C}$	2
				$T_j=125^{\circ}\text{C}$	200
C_{tot}	Total capacitance per Element (Note 3)	pF	$V_R=4\text{V}, f=1\text{MHz}$	35	
$R_{\theta JL}$	Thermal resistance (note 4)	$^{\circ}\text{C}/\text{W}$	Between junction and lead, With heatsink		15
$R_{\theta JA}$		$^{\circ}\text{C}/\text{W}$	Between junction and ambient, Without heatsink		55

Notes:

- (1) Pulse test: 300 μs pulse width, 1 % duty cycle
- (2) Pulse test: pulse width ≤ 40 ms
- (3) Per element, measured at 1.0MHz and applied reverse voltage of 4.0V DC
- (4) Thermal resistance from junction to case per element. Unit mounted on 75 x 75 x 1.6mm aluminum plate heat sink.

Figure 1. Current Derating

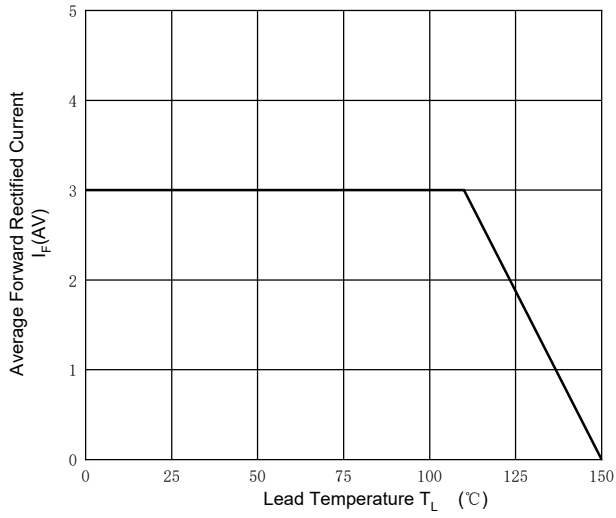


Figure 2. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only

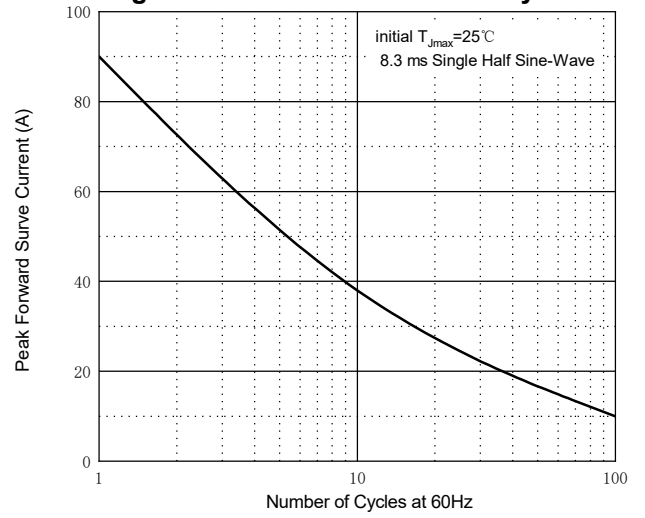


Figure 3. Forward Characteristics

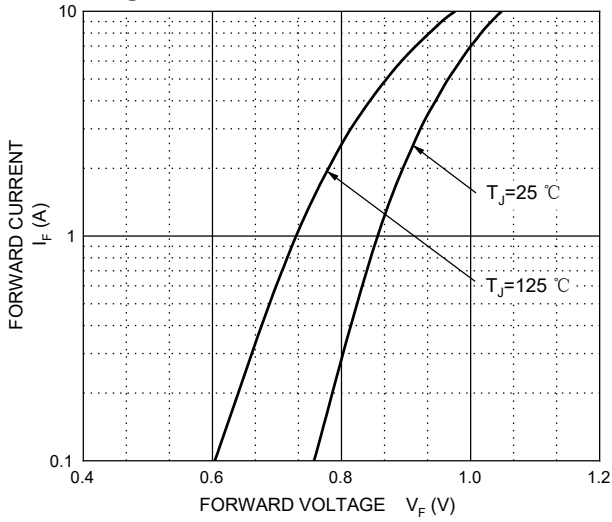
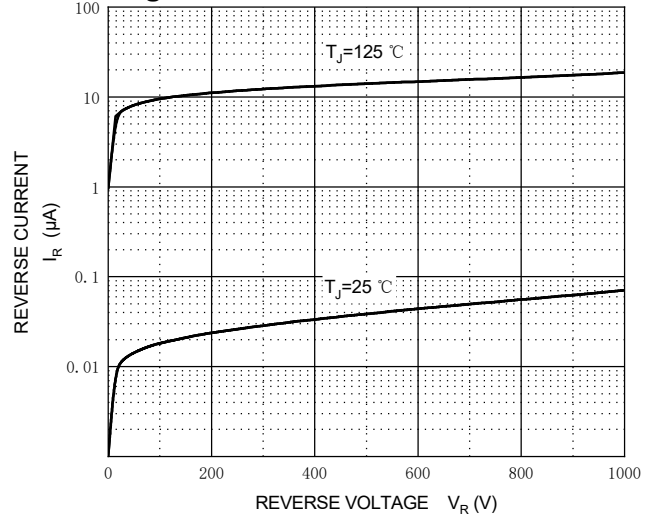
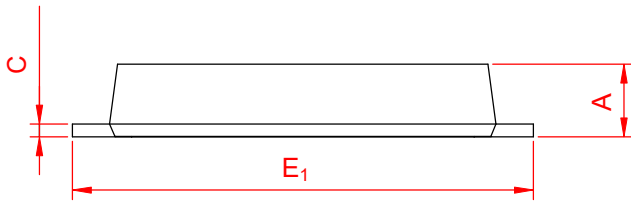
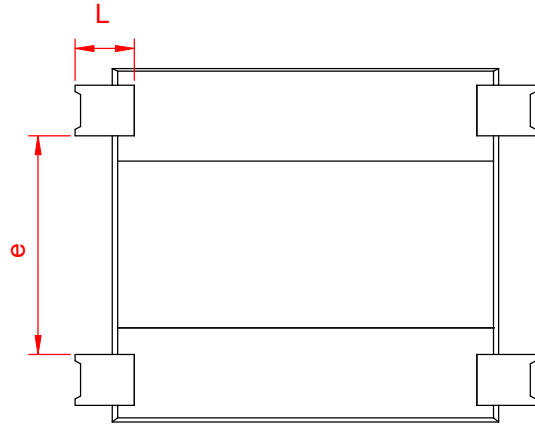
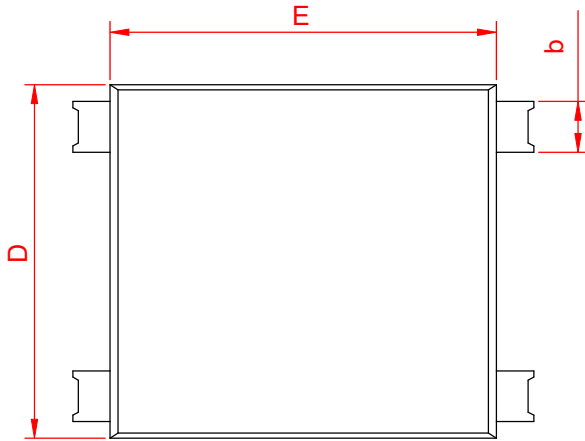


Figure 4. Reverse Characteristics

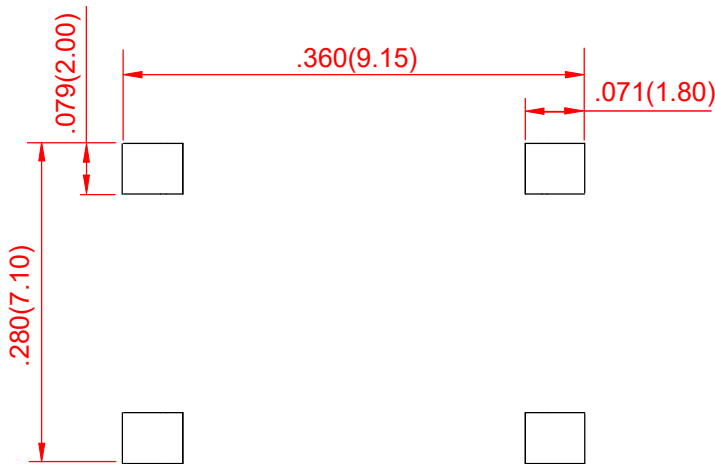


UMSB Package Outline Dimensions



DIM	Unit:mm		Unit:inch	
	MIN	MAX	MIN	MAX
A	1.3	1.5	0.051	0.059
C	0.17	0.29	0.007	0.011
D	6.4	6.9	0.252	0.272
E	7.1	7.6	0.280	0.299
E1	8.4	8.9	0.331	0.350
L	1.0	1.6	0.039	0.063
e	4.9	5.2	0.193	0.205
b	0.95	1.15	0.037	0.045

UMSB Package Outline Dimensions



Dimensions in inches and (millimeters)

Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only

NOTICE

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