



## Surface Mount Ultra Fast Recovery Bridge Rectifier

### FEATURES:

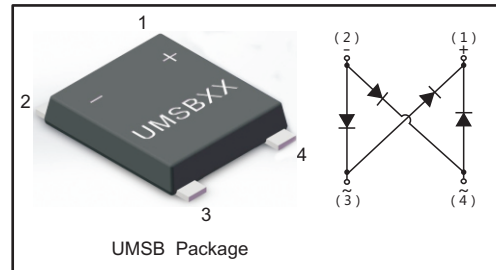
- Glass Passivated Chip Junction
- Reverse Voltage - 100 to 1000 V
- Forward Current - 2.0 A
- Fast reverse recovery time
- Designed for Surface Mount Application

### MECHANICAL DATA

- Case: UMBS
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.234g / 0.00825oz

### PINNING

PIN	DESCRIPTION
1	Output Anode ( + )
2	Output Cathode ( - )
3	Input Pin ( ~ )
4	Input Pin ( ~ )



### Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbols	UMSB20B	UMSB20D	UMSB20G	UMSB20J	UMSB20K	UMSB20M	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	2.0						A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	50						A
Maximum Forward Voltage at 2.0 A	$V_F$	1.0	1.4	1.6			V	
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25\text{ }^\circ\text{C}$ $T_a = 125\text{ }^\circ\text{C}$	$I_R$	5 100						$\mu\text{A}$
Typical Junction Capacitance ( Note1 )	$C_j$	35						pF
Typical Thermal Resistance ( Note2 )	$R_{\theta JA}$	50						$^\circ\text{C/W}$
Maximum Reverse Recovery Time ( Note3 )	$t_{rr}$	50			75			ns
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150						$^\circ\text{C}$

Note: 1. Measured at 1 MHz and applied reverse voltage of 4 V D.C

2. Mounted on glass epoxy PC board with 4×1.5"×1.5" ( 3.81 ×3.81 cm ) copper pad.

3.Measured with  $I_f = 0.5\text{ A}$ ,  $I_a = 1\text{ A}$ ,  $I_r = 0.25\text{ A}$ .



Fig.1 Average Rectified Output Current Derating Curve

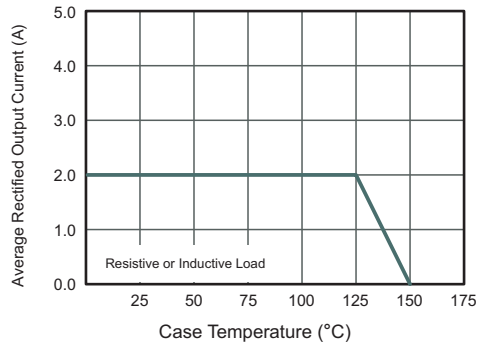


Fig.2 Typical Reverse Characteristics

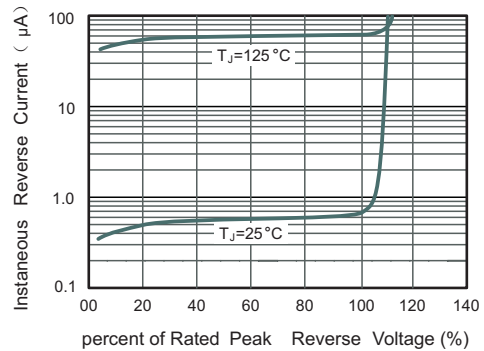


Fig.3 Typical Instantaneous Forward Characteristics

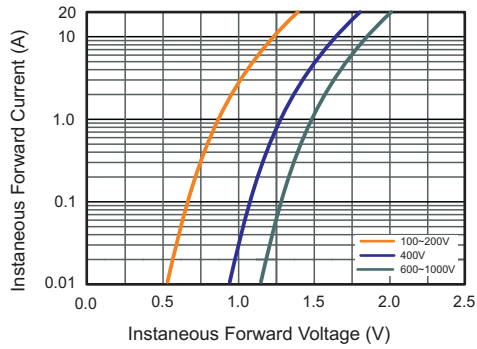


Fig.4 Typical Junction Capacitance

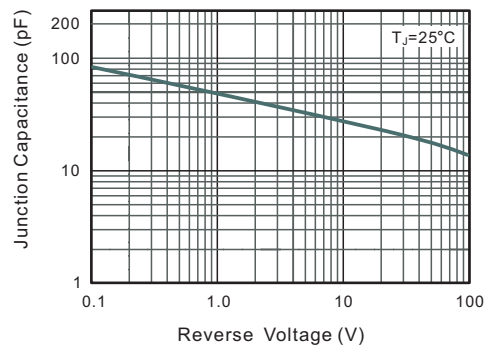


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

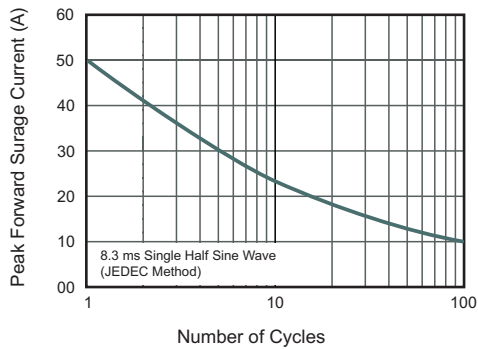
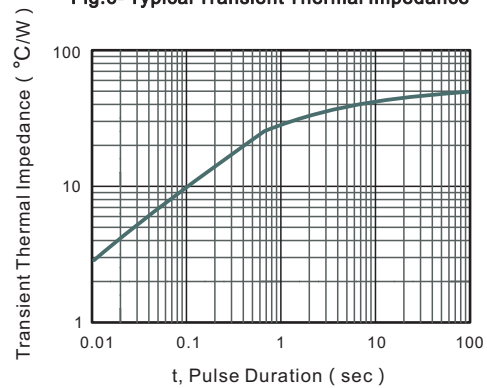


Fig.6- Typical Transient Thermal Impedance

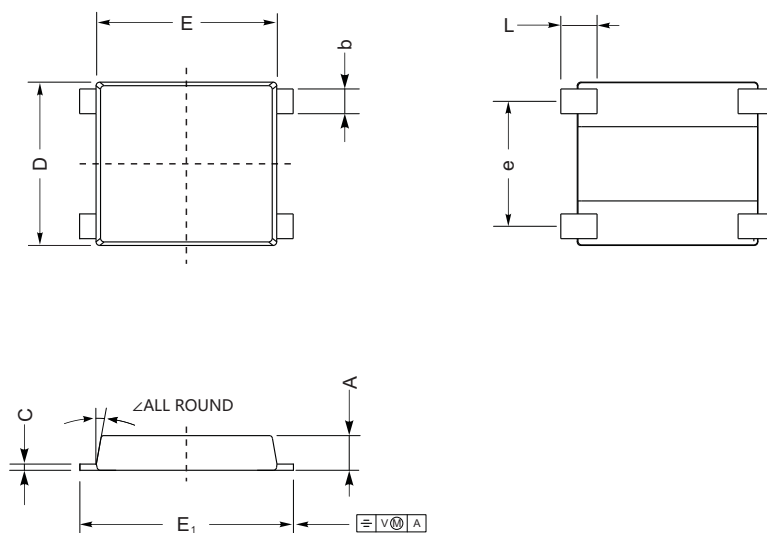




PACKAGE OUTLINE

Plastic surface mounted package; 4 leads

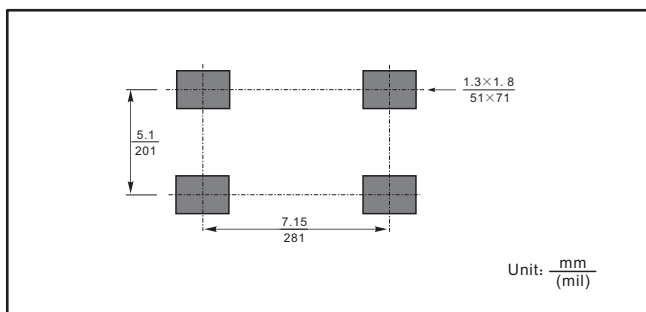
UMSB



M2 mechanical data

UNIT		A	C	D	E	E <sub>1</sub>	L	e	b	∠
mm	max	1.5	0.29	7.0	7.6	8.9	1.6	5.3	1.15	10°
	min	1.3	0.17	6.2	7.1	8.4	1.0	4.9	0.95	
mil	max	59	12	276	299	350	55	209	45	
	min	51	7	244	280	331	31.5	193	37	

The recommended mounting pad size



Unit:  $\frac{\text{mm}}{\text{mil}}$

Marking

Type number	Marking code
UMSB20B	UMB20B
UMSB20D	UMB20D
UMSB20G	UMB20G
UMSB20J	UMB20J
UMSB20K	UMB20K
UMSB20M	UMB20M