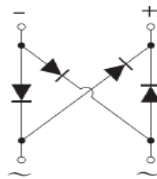


## FEATURES

- Glass Passivated Chip Junction
- Reverse Voltage - 100 to 1000 V
- Forward Current - 2.0 A
- High Surge Current Capability
- Designed for Surface Mount Application

## MECHANICAL DATA

- \* Case: UMSB
- \* Terminals: Solderable per MIL-STD-750, Method 2026



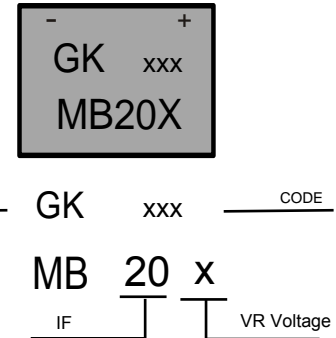
Internal Schematic

## VOLTAGE RANGE

50 to 1000 Volts

## CURRENT

2.0 Ampere



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25 C ambient temperature unless otherwise specified.  
Single phase half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

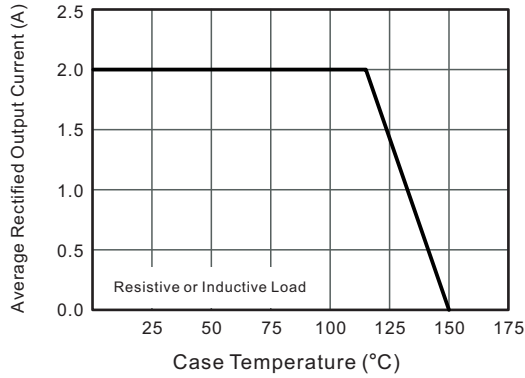
Parameter	Symbols	MSB20B	MSB20D	MSB20G	MSB20J	MSB20K	MSB20M	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	100	200	400	600	800	1000	V
Average Rectified Output Current	$I_O$	2.0						A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	60						A
Maximum Forward Voltage at 2.0 A	$V_F$	1.1						V
Maximum DC Reverse Current at Rated DC Blocking Voltage @ $T_A=25^\circ\text{C}$ @ $T_A=125^\circ\text{C}$	$I_R$	5 100						$\mu\text{A}$
Typical Junction Capacitance ( Note 1 )	$C_j$	30						pF
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150						$^\circ\text{C}$

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

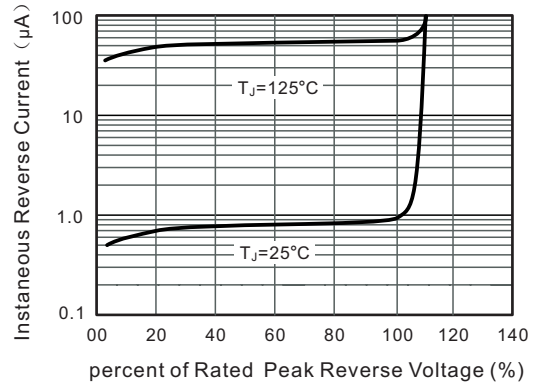
2. Mounted on glass epoxy PCB board with 4×1.5"×1.5" 3.81×3.81 cm case ad.

**RATING AND CHARACTERISTIC CURVES**

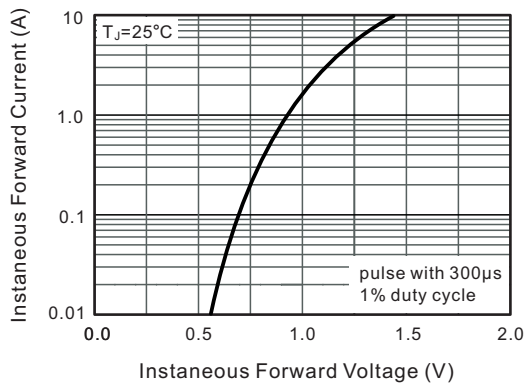
**Fig.1 Average Rectified Output Current Derating Curve**



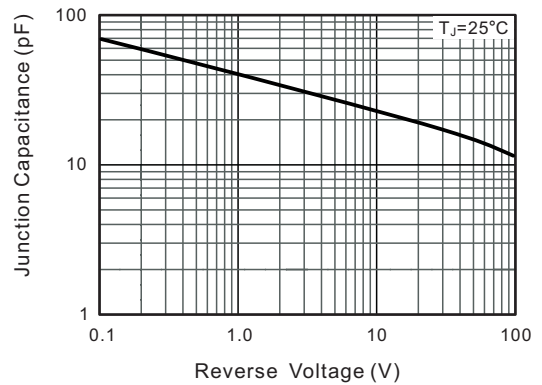
**Fig.2 Typical Reverse Characteristics**



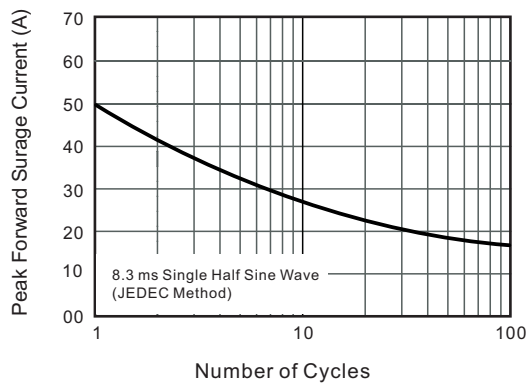
**Fig.3 Typical Instantaneous Forward Characteristics**



**Fig.4 Typical Junction Capacitance**



**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



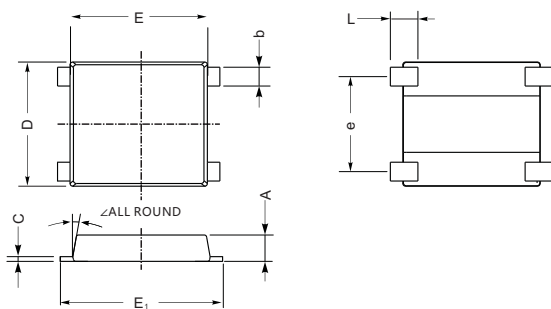
### Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150 °C
	-Temperature Max( $T_{s(max)}$ )	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak)		3 °C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3 °C/sec. Max
Reflow	-Temperature( $T_L$ )(Liquid us)	+217 °C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_P$ )		+260(+0/-5) °C
Time within 5 °C of actual Peak Temp ( $t_p$ )		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp ( $T_P$ )		8 min. Max
Do not exceed		+260 °C

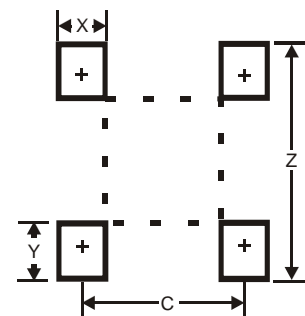


### Package Dimensions & Suggested Pad Layout

#### UMSB



UNIT		A	C	D	E	E <sub>1</sub>	L	e	b	z
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	



Dimensions	
Z	9.4
X	1.8
Y	2.1
C	5.1

Tape & reel specification

Tape		Symbol	Dimension (mm)
		P0	4.00±0.20
		P1	12.00±0.20
		P2	2.00±0.20
		D0	1.60±0.15
		D1	1.60±0.15
		E	1.75±0.20
		F	7.50±0.15
		W	16.00±0.20
		A0	7.00±0.25
		B0	9.30±0.25
		K0	1.80±0.25
		T	0.25±0.10
		13" Reel	
		D3	73Min.
		D4	16.0±2.5
		W1	21.0±3.0
		Quantity: 3000PCS	