

## DESCRIPTION and APPLICATIONS

Suitable for AC to DC bridge full wave rectification for SMPS, LED lighting, adapter, battery charger, home appliances, office equipment, and telecommunication applications.

## VOLTAGE RANGE

20 to 200 Volts

## CURRENT

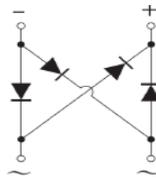
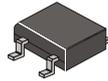
3.0 Ampere

## FEATURES

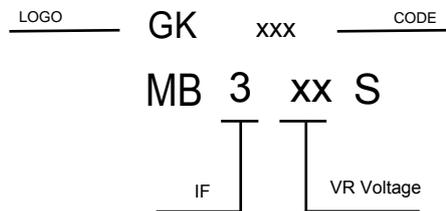
- \* Ideal for printed circuit board
- \* Reliable low cost construction utilizing molded plastic technique
- \* High surge current capability

## MECHANICAL DATA

- \* Polarity: Symbol molded on body
- \* Mounting position: Any



Internal Schematic



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

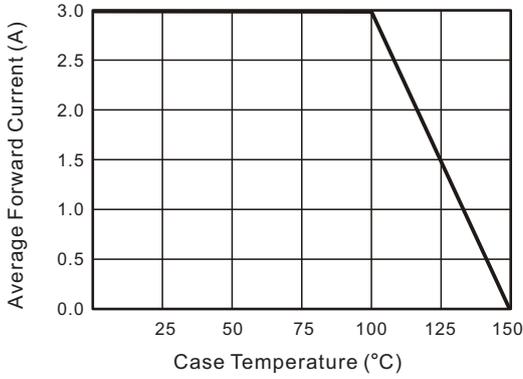
Rating 25°C ambient temperature unless otherwise specified.  
Single phase half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

TYPE NUMBER	MB32S	MB34S	MB36S	MB38S	MB310S	MB315S	MB320S	UNIT
Maximum Recurrent Peak Reverse Voltage	20	40	60	80	100	150	200	V
Maximum RMS Voltage	14	28	42	56	70	105	140	V
Maximum DC Blocking Voltage	20	40	60	80	100	150	200	V
Maximum Average Forward Rectified Current	3.0							A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	8.0							A
Maximum Forward Voltage Drop per Bridge Element at 3.0A D.C.	0.55	0.7	0.85		0.9		V	
Maximum DC Reverse Current Ta=25°C	0.3		0.2		0.1		mA	
at Rated DC Blocking Voltage Ta=125°C	10		5		2		mA	
Typical Thermal Resistance R <sub>JA</sub> (Note 1)	75							°C/W
Operating Temperature Range, T <sub>J</sub>	-55 — +150							°C
Storage Temperature Range, T <sub>stg</sub>	-55 — +150							°C

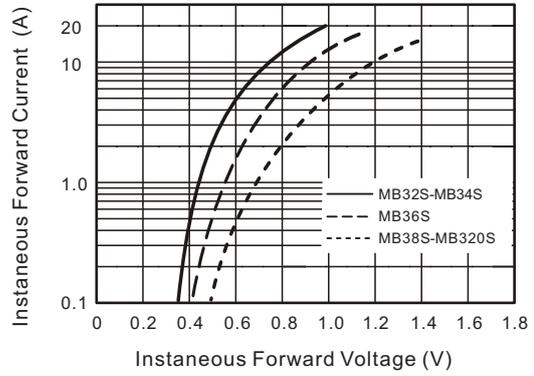
NOTE 1: Thermal Resistance Junction to Ambient.

**RATING AND CHARACTERISTIC CURVES**

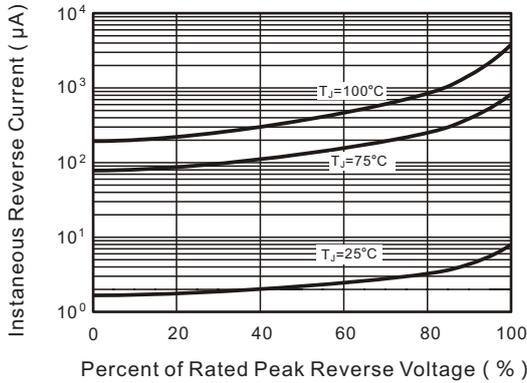
**FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE**



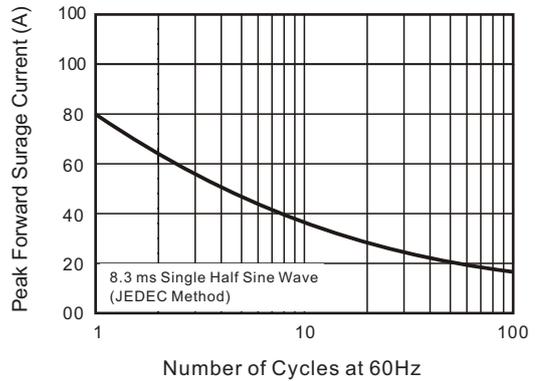
**FIG.2-TYPICAL FORWARD CHARACTERISTICS**



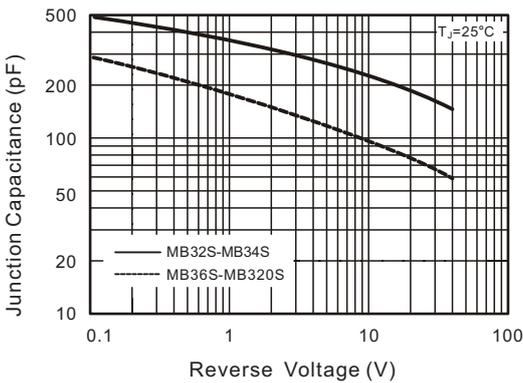
**FIG.3 - TYPICAL REVERSE CHARACTERISTICS**



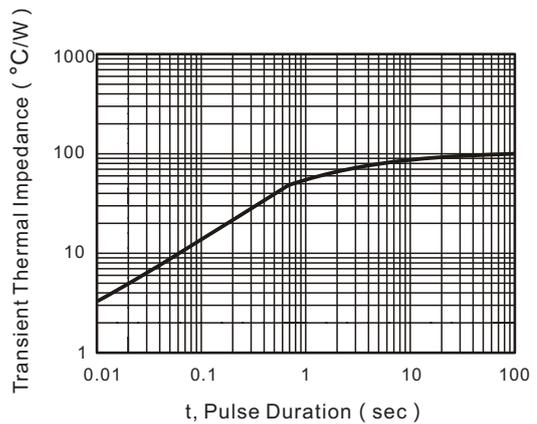
**FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG.5-TYPICAL JUNCTION CAPACITANCE**



**FIG.6 TYPICAL TRANSIENT THERMAL IMPEDANCE**



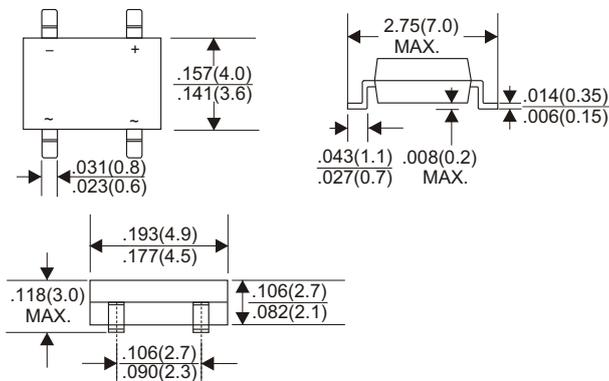
Soldering parameters

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

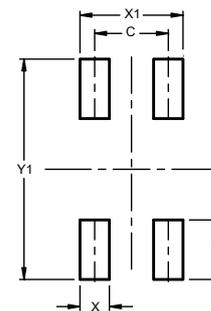


Package Dimensions & Suggested Pad Layout

MBS



Dimensions in inches and (millimeters)



Dimensions	Value (in mm)
C	2.50
X	1.10
X1	3.60
Y	2.10
Y1	7.50

Tape & reel specification

Tape		Symbol	Dimension (mm)
<p>SECTION : A-A</p> <p>SECTION : B-B</p>		P0	4.00±0.20
		P1	8.00±0.20
		P2	2.00±0.20
		D0	1.55±0.25
		D1	1.60±0.20
		E	1.75±0.20
		F	5.50±0.15
		W	12.00±0.20
		A0	5.30±0.20
		B0	7.20±0.20
		K0	2.90±0.20
		T	0.24±0.10
		13" Reel	
		D3	73Min.
		D4	14.0±2.5
		W1	12.0±3.0
		Quantity: 3000PCS	