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.

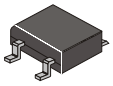
VOLTAGE RANGE
20 to 200 Volts
CURRENT
1.0 Ampere

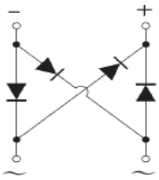
FEATURES

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

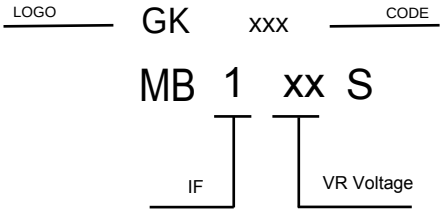
MECHANICAL DATA

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





Internal Schematic



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

TYPE NUMBER	MB12S	MB14S	MB16S	MB18S	MB110S	MB115S	MB120S	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	1.0							A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	3 0							A
Maximum Forward Voltage Drop per Bridge Element at 1.0A 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 JA (Note 1)	100							°C/W
Operating Temperature Range, T_J	-55 — +150							°C
Storage Temperature Range, T_{STG}	-55 — +150							°C

NOTE 1: Thermal Resistance Junction to Ambient.

RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

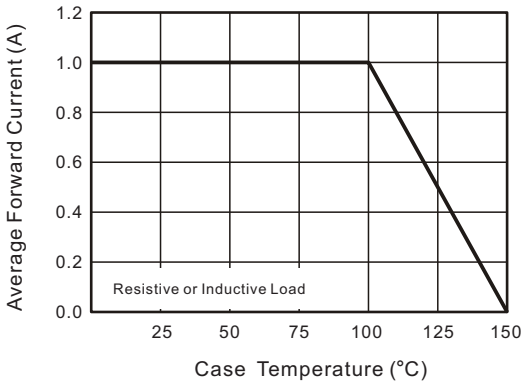


FIG.2-TYPICAL FORWARD CHARACTERISTICS

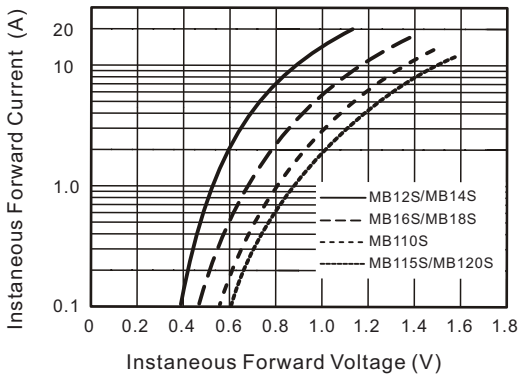


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

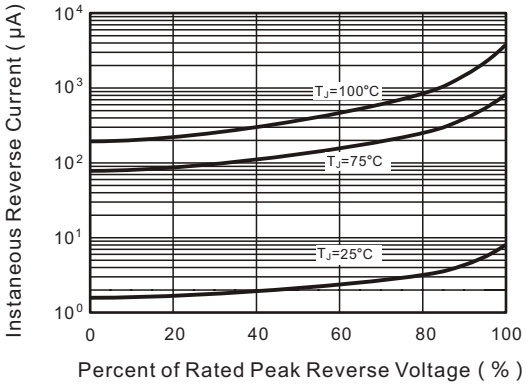


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

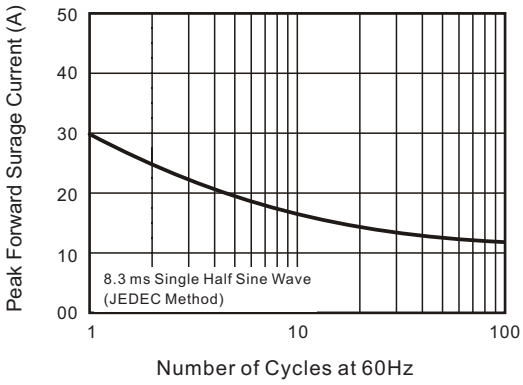


FIG.5-TYPICAL JUNCTION CAPACITANCE

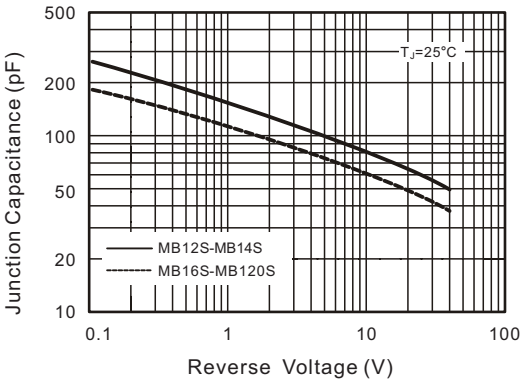
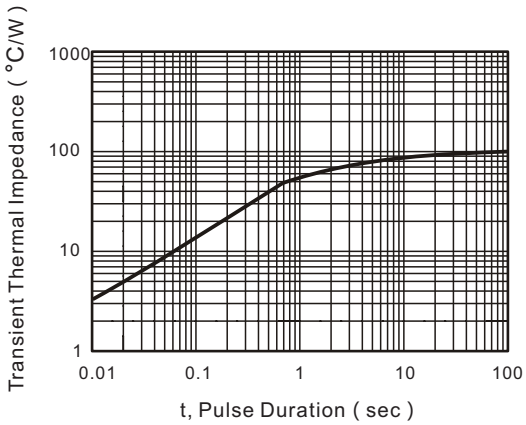


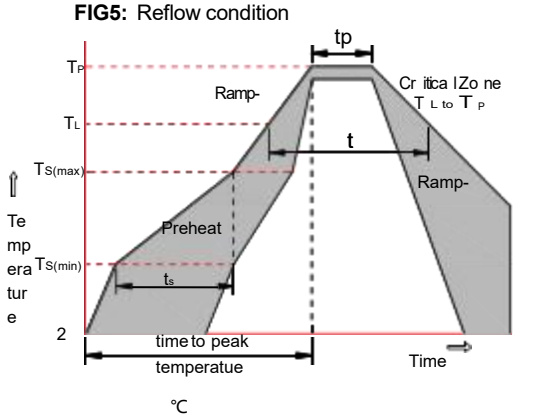
FIG.6 TYPICAL TRANSIENT THERMAL IMPEDANCE



Soldering parameters

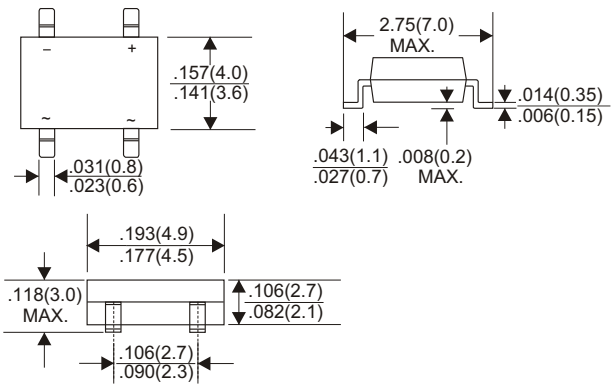
Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid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

FIG5: Reflow condition

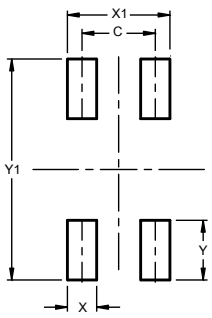


Package Dimensions & Suggested Pad Layout

MBS



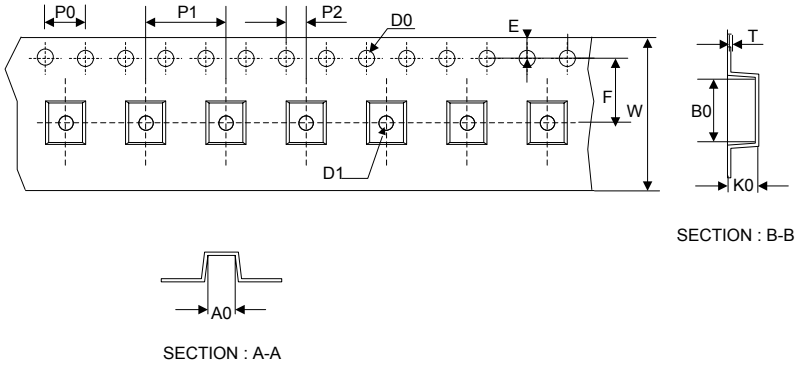
Dimensions in inches and (millimeters)



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

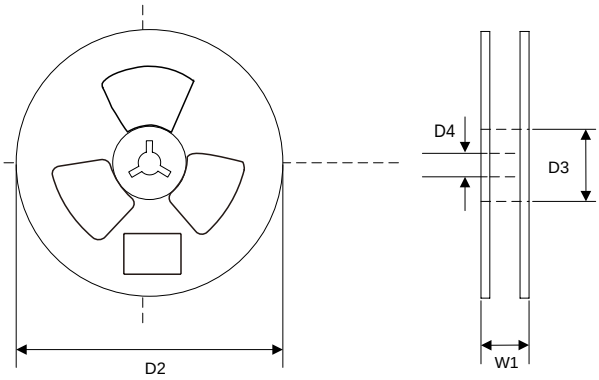
Tape & rell specification

Tape



Symbol	Dimension (mm)
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



D2	330.0±5.0
D3	73Min.
D4	14.0±2.5
W1	12.0±3.0
Quantity: 3000PCS	