Glass Passivated Surface Mount Bridge Rectifiers

1 General Description

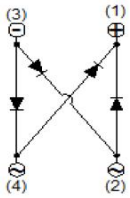
1.1 Features

- Compact, thin profile package design
- Ideal for SMT manufacturing
- Reliable robust construction

REVERSE VOLTAGE
50-1000V
FORWARD CURRENT
3Ampere

1.2 Typical Applications

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



1.3 Mechanical Data

- Molding compound meets UL 94 V-0 flammability rating, Halogen-free, RoHS-compliant, and commercial grade
- Polarity indicator: As marked on body

2 Maximum Ratings(TA=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	MSB30A	MSB30B	MSB30D	MSB30G	MSB30J	MSB30K	MSB30M	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Output Current at Tc=120℃	$I_{F(AV)}$	3.0							A
Peak Forward Surge Current 8.3ms Single Sine-Wave Superimposed On Rated Load (JEDEC Method)	I_{FSM}	75							A
Rating for fusing (1ms< t<8.3ms)	I^2t	23.2							A^2s
Operating Temperature Range	T_J	-55 to +150							℃
Storage Temperature Range	T_{STG}	-55 to +150							℃
Typical Thermal Resistance(Note2)	$R_{\theta JA}$	25							℃/W
	$R_{\theta JL}$	15							
	$R_{\theta JC}$	8							

Notes:1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
2. Thermal Resistance test performed in accordance with JESD-51. Unit mounted on15 mm*12 mm*1.6 mm AL pad attach 195 mm*110 mm*10 mm steel plate
3.The typical data above is for reference only

3 Electrical Characteristics(TA=25℃ Unless otherwise specified)

PARAMETER		SYMBOL	MSB30A	MSB30B	MSB30D	MSB30G	MSB30J	MSB30K	MSB30M	UNIT
Maximum instantaneous Forward Voltage T_J=25℃	1.5A DC	V_F	1.0							V
	3.0A DC		1.1							
Maximum DC Reverse Current at Rated DC Blocking Voltage	T_J=25℃	I_R	5							μA
	T_J=125℃		500							
Typical Junction Capacitance(Note1)		C_J	35							pF

4 Characteristics Curves(TA=25℃ Unless otherwise specified)

FIG. 1 – FORWARD CURRENT DERATING CURVE

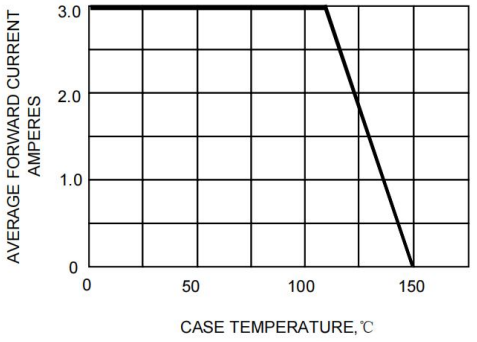


FIG. 2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

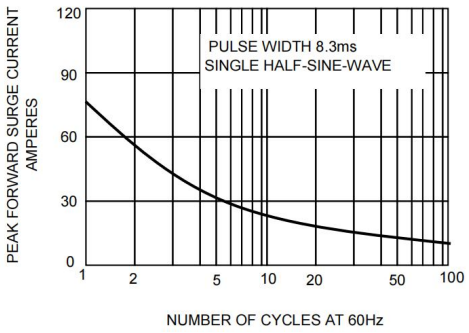


FIG.3-TYPICAL FORWARD CHARACTERISTICS

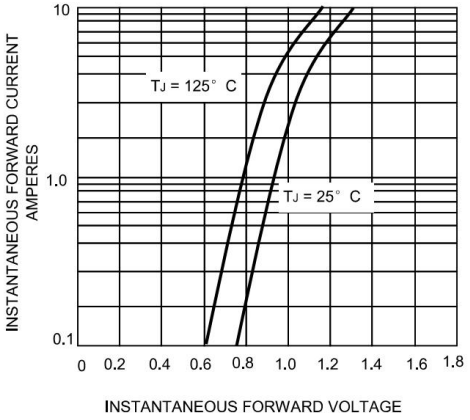


FIG.4 – TYPICAL JUNCTION CAPACITANCE

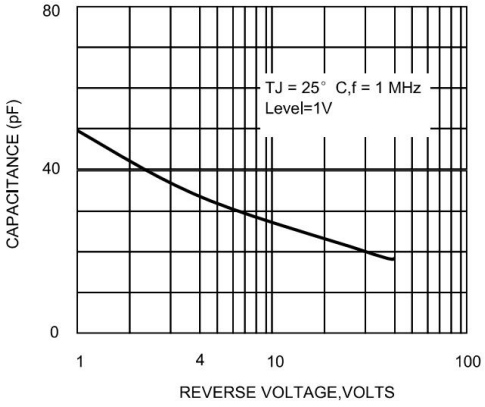
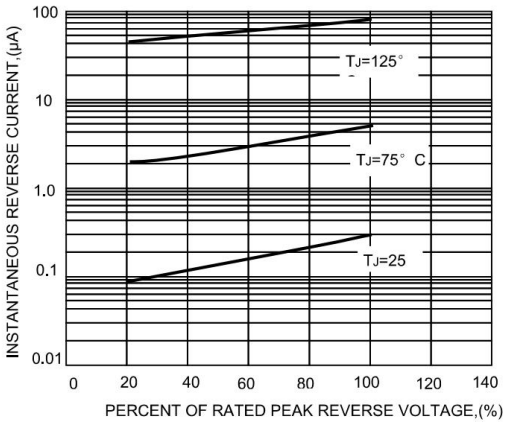
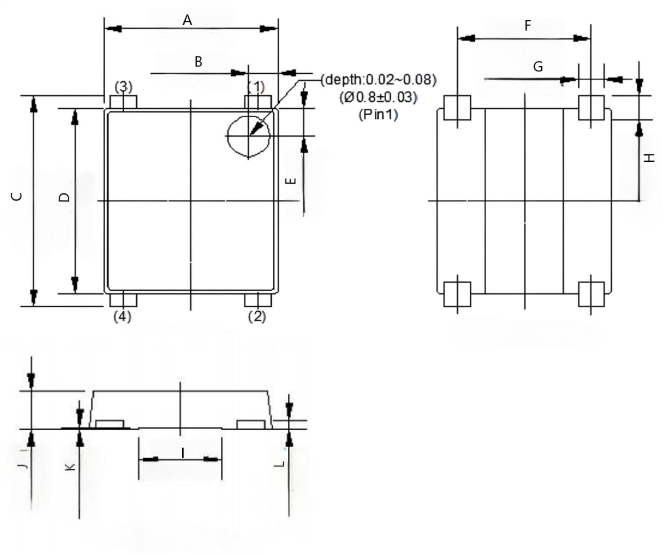


FIG.5- TYPICAL REVERSE CHARACTERISTICS



5 Package Outline Dimensions



Symbol	UNIT(mm)	
	Min	Max
A	6.50	6.70
B	0.95	1.25
C	7.90	8.60
D	7.20	7.40
E	0.95	1.25
F	5.00	5.20
G	0.95	1.15
H	0.65	1.05
I	2.90	3.10
J	1.30	1.50
K	0.04	0.08
L	0.27	0.40

6 Ordering Information

PACKAGE	UNIT WEIGHT (g)	REEL (pcs)	CARTON (pcs)
MSBL	Approximate 0.36	3000	36000

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