

Bridge Rectifiers

Features

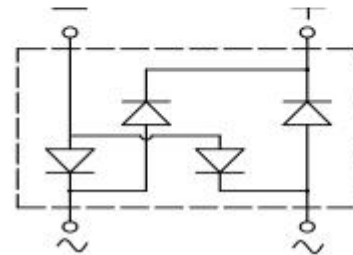
- UL recognition, file #E313149
- Ideal for automated placement
- High surge current capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

Typical Applications

General purpose use in high frequency AC/DC bridge full wave rectification for power supply, lighting ballast, battery charger, home appliances, office equipment, and telecommunication applications.

Mechanical Data

- **Package:** MBS
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked on body



■ Maximum Ratings ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBSK12S	MBSK14S	MBSK16S	MBSK18S	MBSK110S	MBSK115S	MBSK120S
Device marking code			MBSK12S	MBSK14S	MBSK16S	MBSK18S	MBSK110S	MBSK115S	MBSK120S
Repetitive peak reverse voltage	VRRM	V	20	40	60	80	100	150	200
Average rectified output current @ 60Hz Half-sine wave, Resistance load, T_a (FIG.1)	I_O	A	1.0						
Surge(non-repetitive)forward current @ 60Hz half-sine wave, 1 cycle, $T_j=25^\circ\text{C}$	IFSM	A	30						
Current squared time @ $1\text{ms} \leq t \leq 8.3\text{ms}$ $T_j=25^\circ\text{C}$, rating of per diode	I^2t	A^2s	3.7						
Storage temperature	T_{stg}	$^\circ\text{C}$	-55 ~ +150						
Junction temperature	T_j	$^\circ\text{C}$	-55 ~ +125			-55 ~ +150			

■ Electrical Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MBSK12S	MBSK14S	MBSK16S	MBSK18S	MBSK110S	MBSK115S	MBSK120S
Maximum instantaneous forward voltage drop per diode	V _F	V	$I_{FM}=0.5\text{A}$	0.50		0.70	0.85		0.90	
Maximum DC reverse current at rated DC blocking voltage per diode @ $V_{RM}=V_{RRM}$	I _{RRM}	μA	$T_a=25^\circ\text{C}$	500			100			
			$T_a=100^\circ\text{C}$	10000			5000			

■ Thermal Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MBSK12S	MBSK14S	MBSK16S	MBSK18S	MBSK110S	MBSK115S	MBSK120S
Thermal Resistance	Between junction and ambient, On alumina substrate	$R_{\theta J-A}$	$^\circ\text{C/W}$	76.0						
	Between junction and ambient, On glass-epoxy substrate	$R_{\theta J-A}$		134.0						
	Between junction and lead	$R_{\theta J-L}$		20.0						

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBSK12S-MBSK120S	F1	Approximate 0.12	2500	5000	40000	13' reel

■ Characteristics (Typical)

FIG1: I_o - T_a Curve

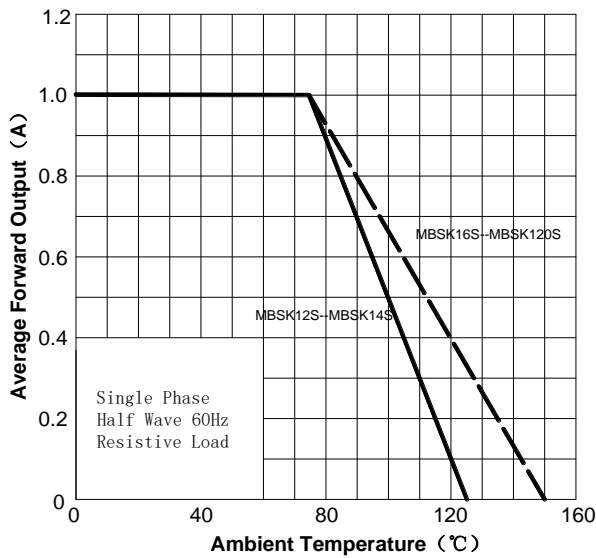


FIG2: Surge Forward Current Capability

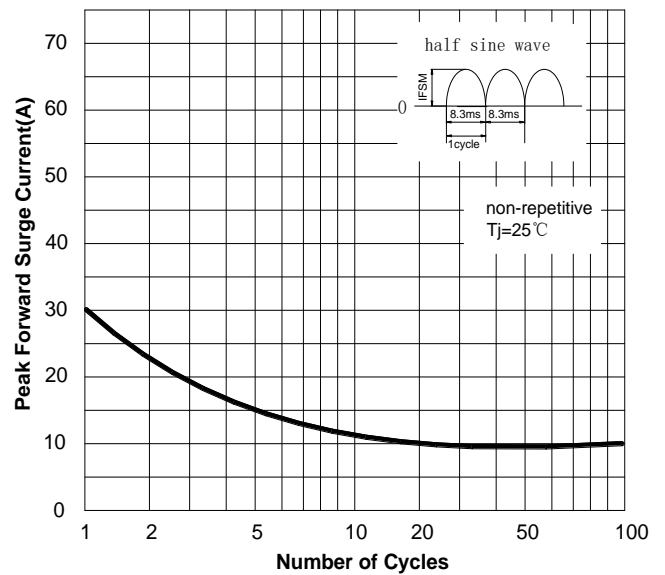


FIG3: Forward Voltage

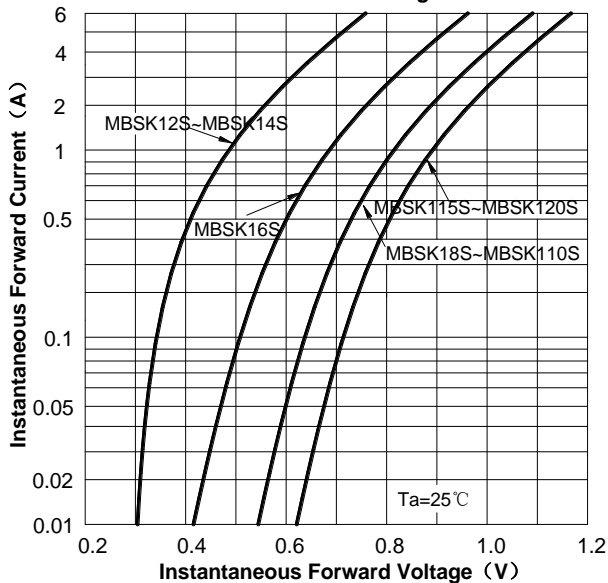
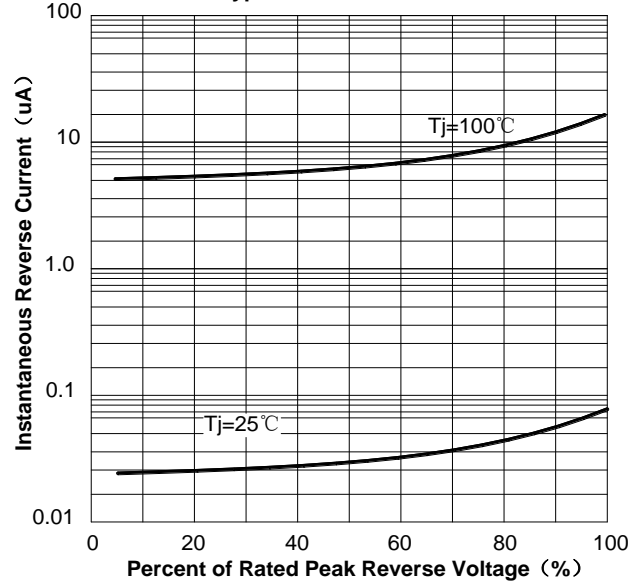
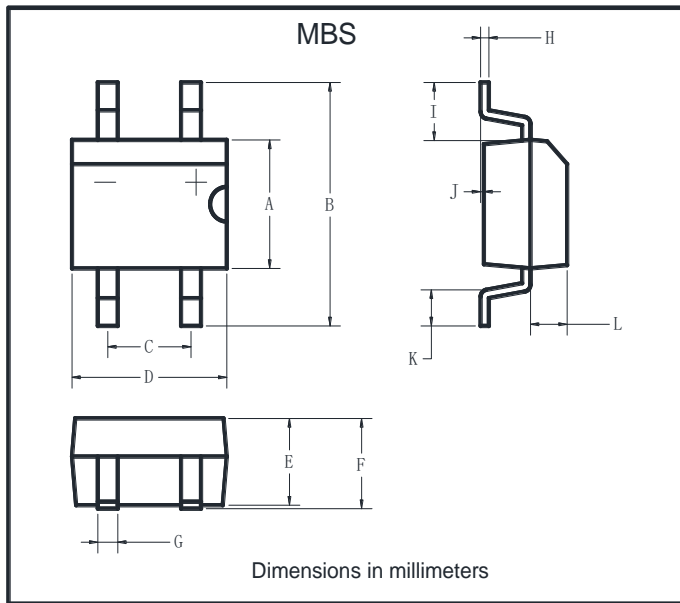


FIG4: Typical Reverse Characteristics

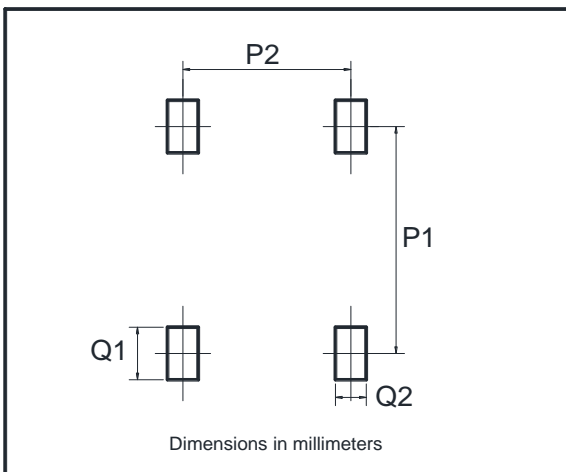


■ Outline Dimensions



MBS		
Dim	Min	Max
A	3.60	4.00
B	7.00 Max	
C	2.20	2.60
D	4.50	4.90
E	2.30	2.70
F	3.00 Max	
G	0.56	0.84
H	0.15	0.35
I	1.10	2.12
J	0.20 Max	
K	0.70	1.10
L	0.95	1.53

■ Suggested pad layout



Dim	Min
P1	6.00
P2	2.40
Q1	1.84
Q2	1.20

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