

Bridge Rectifiers

Features

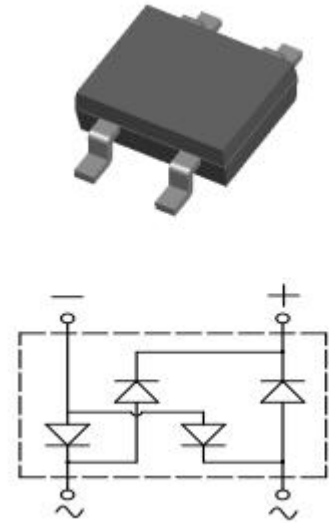
- UL recognition, file #E313149
- Ideal for automated placement
- High surge current capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

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:** MBL S
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	MBLSK 12S	MBLSK 14S	MBLSK 16S	MBLSK 18S	MBLSK 110S	MBLSK 115S	MBLSK 120S
Device marking code			MBLSK 12S	MBLSK 14S	MBLSK 16S	MBLSK 18S	MBLSK 110S	MBLSK 115S	MBLSK 120S
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)	IO	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 ² S	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	MBLSK 12S	MBLSK 14S	MBLSK 16S	MBLSK 18S	MBLSK 110S	MBLSK 115S	MBLSK 120S
Maximum instantaneous forward voltage drop per diode	V _F	V	IFM=0.5A	0.50		0.70	0.85		0.90	
Maximum DC reverse current at rated DC blocking voltage per diode @ VRM=VRRM	IRRM	uA	$T_a=25^\circ\text{C}$	500			100			
			$T_a=100^\circ\text{C}$	10000			5000			

■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MBLSK 12S	MBLSK 14S	MBLSK 16S	MBLSK 18S	MBLSK 110S	MBLSK 115S	MBLSK 120S
Thermal Resistance	Between junction and ambient, On alumina substrate	R _{θJ-A}	°C/W	76.0						
	Between junction and ambient, On glass-epoxi substrate	R _{θJ-A}		134.0						
	Between junction and lead	R _{θJ-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
MBLSK12S-MBLSK120S	F1	Approximate 0.083	4000	8000	64000	13' reel

■ Characteristics(Typical)

FIG1: I_o-T_a Curve

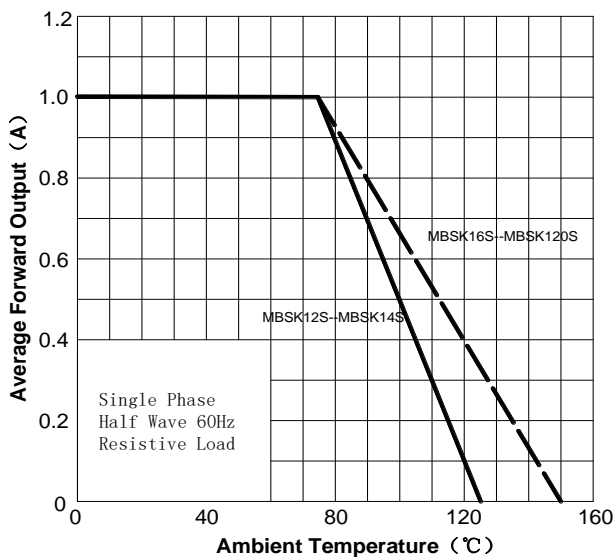


FIG2: Surge Forward Current Capability

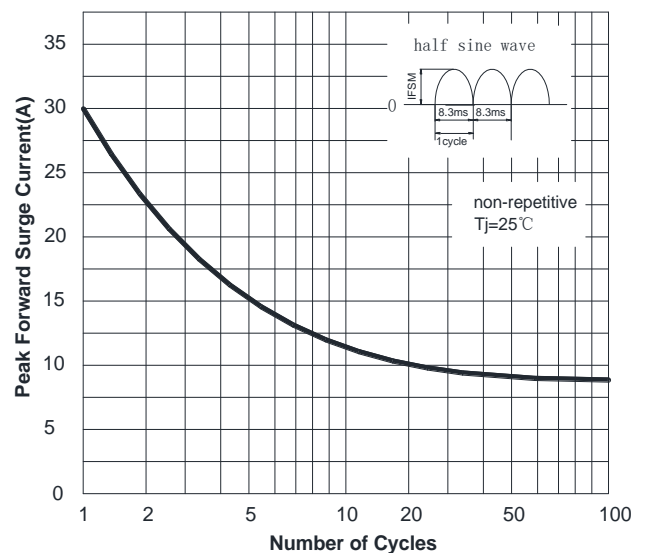


FIG3: Forward Voltage

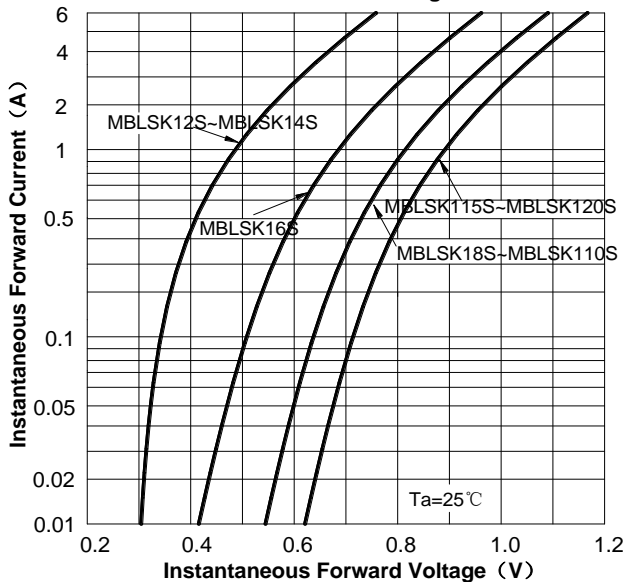
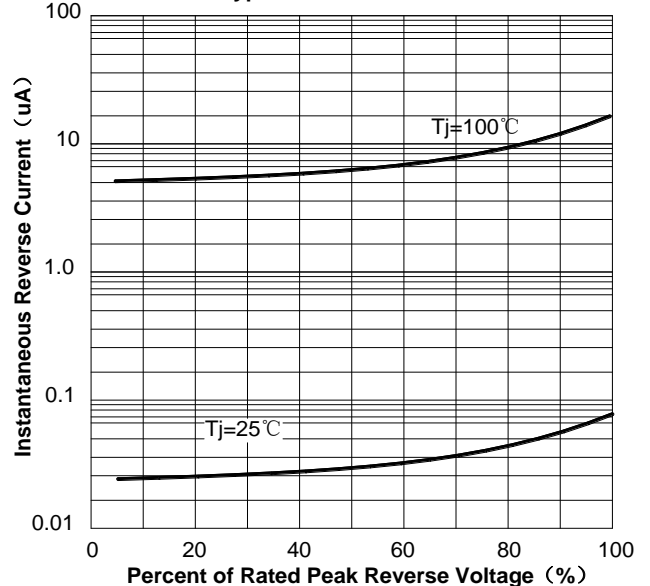
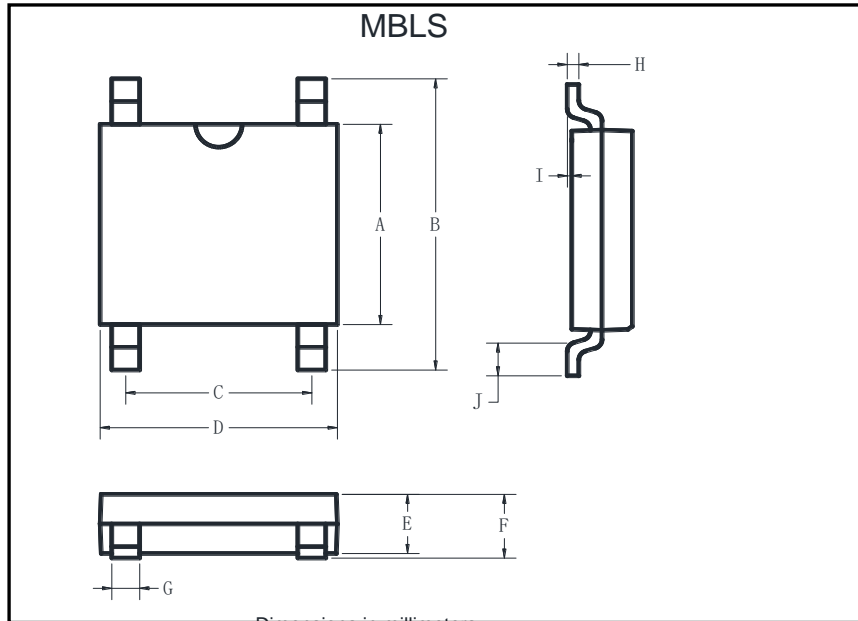


FIG4: Typical Reverse Characteristics

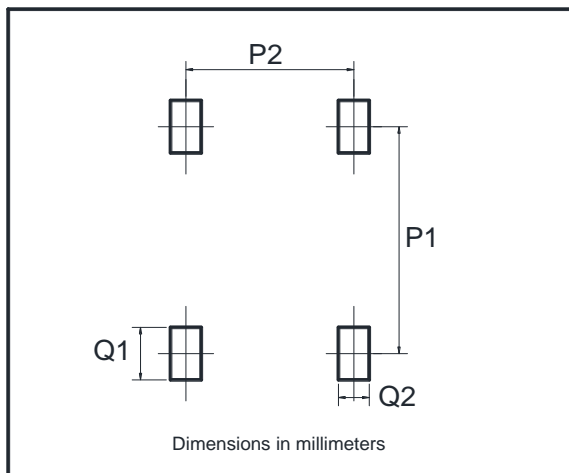


■ Outline Dimensions



MBLS		
Dim	Min	Max
A	3.60	4.00
B	6.40	7.00
C	2.20	2.60
D	4.50	4.90
E	1.30	1.50
F	1.40	1.60
G	0.56	0.84
H	0.15	0.35
I	0.20Max	
J	0.70	1.10

■ Suggested pad layout



Dim	Min
P1	6.00
P2	2.40
Q1	1.84
Q2	1.20

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