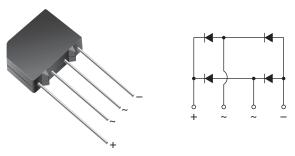
RoHS



### Vishay General Semiconductor

# **Glass Passivated Single-Phase Bridge Rectifier**



Case Style KBPM

PRIMARY CHARACTERISTICS							
Package	KBPM						
I <sub>F(AV)</sub>	1.5 A						
V <sub>RRM</sub>	50 V to 1000 V						
I <sub>FSM</sub>	60 A						
I <sub>R</sub>	5 μΑ						
V <sub>F</sub> at I <sub>F</sub> = 1.0 A	1.0 V						
T <sub>J</sub> max.	150 °C						
Diode variations	In-Line						

#### **FEATURES**

- UL recognition file number E54214
- · Ideal for printed circuit board
- · High surge current capability
- High case dielectric strength
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- · Material categorization: for definitions of compliance

please see www.vishay.com/doc?99912

### **TYPICAL APPLICATIONS**

General purpose use in AC/DC bridge full wave rectification for switching power supply, home appliances, office equipment, and telecommunication applications.

#### **MECHANICAL DATA**

Case: KBPM

Molding compound meets UL 94 V-0 flammability rating Base P/N-E4 - RoHS-compliant, commercial grade

Terminals: Silver plated leads. solderable per

J-STD-002 and JESD22-B102 Polarity: As marked on body

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)									
DADAMETER	SYMBOL	KBP005M	KBP01M	KBP02M	KBP04M	KBP06M	KBP08M	KBP10M	UNIT
PARAMETER		3N246	3N247	3N248	3N249	3N250	3N251	3N252	
Maximum repetitive peak reverse voltage (1)	) V <sub>RRM</sub> 50		100	200	400	600	800	1000	V
Maximum RMS voltage (1)	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking voltage (1)	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward output rectified current at T <sub>A</sub> = 40 °C	I <sub>F(AV)</sub>	F(AV) 1.5			Α				
Peak forward surge current T <sub>A</sub> = 25 °C	60						Α		
single half sine-wave <sup>(1)</sup> T <sub>A</sub> = 150 °C	IFSM	40							
Rating for fusing (t < 8.3 ms)	l <sup>2</sup> t	t 10				A <sup>2</sup> s			
Operating junction and storage temperature range (1)	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150			°C				

<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	KBP005M	KBP01M	KBP02M	KBP04M	KBP06M	KBP08M	KBP10M	UNIT
Maximum instantaneous	1.0 A		1.0							
forward voltage drop per diode <sup>(1)</sup>	1.57 A	$V_{F}$	1.3							
Maximum DC reverse	T <sub>J</sub> = 25 °C		5.0							
current at rated DC blocking voltage per diode (1)	T <sub>J</sub> = 125 °C	IR	500							μA
Typical junction capacitance per diode	4.0 V, 1 MHz	CJ	15					pF		

(1) JEDEC® registered values



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THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	KBP005M	KBP01M	KBP02M	KBP04M	KBP06M	KBP08M	KBP10M	UNIT
		3N246	3N247	3N248	3N249	3N250	3N251	3N252	
Typical thermal resistance (1)	$R_{\theta JA}$	40							°C/W
Typical thermal resistance (**	$R_{ heta JL}$				13				C/VV

#### Note

<sup>(1)</sup> Thermal resistance from junction to ambient and from junction to lead mounted on PCB with, 0.47" x 0.47" (12 mm x 12 mm) copper pads

ORDERING INFORMATION (Example)								
PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE				
KBP06M-E4/51	1.895	51	600	Anti-static PVC tray				
3N250-E4/51	1.895	51	600	Anti-static PVC tray				

### RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)

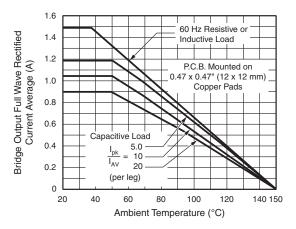


Fig. 1 - Derating Curve Output Rectified Current

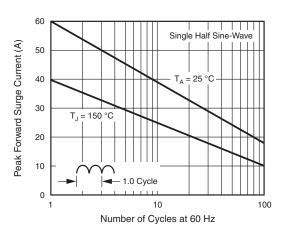


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

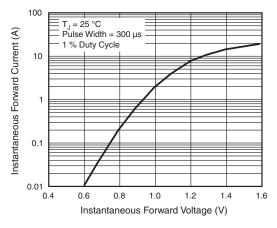


Fig. 3 - Typical Forward Characteristics Per Diode

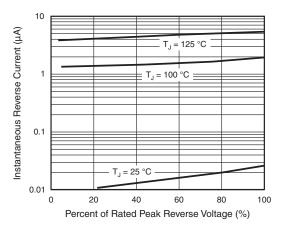


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

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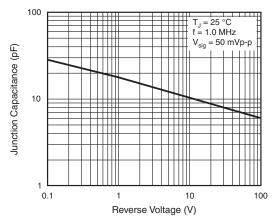


Fig. 5 - Typical Junction Capacitance Per Diode

#### **PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

#### **Case Style KBPM** 0.600 (15.24) 0.560 (14.22) 0.125 x 45° (3.2)0.460 (11.68) 0.500 (12.70) 0.420 (10.67) 0.460 (11.68) 0.50 (12.7) MIN. (15.2)MIN 0.060 0.034 (0.86) (1.52)0.160 (4.1) 0.140 (3.6) 0.028 (0.76) DIA. 0.105 (2.67) 0.085 (2.16) 0.200 (5.08) • • ⊕ ⊕. 0.180 (4.57) Polarity shown on front side of case: positive lead by beveled corner



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