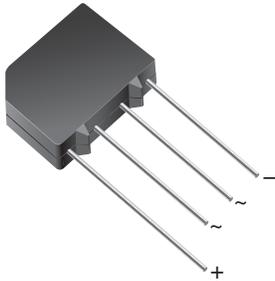
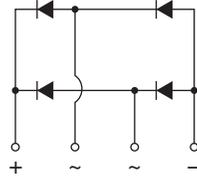


## Glass Passivated Single-Phase Bridge Rectifier



Case Style KBPM



### 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](http://www.vishay.com/doc?99912)


**RoHS**  
 COMPLIANT  
 HALOGEN  
**FREE**

### 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-M4 - halogen-free, RoHS-compliant, and commercial grade

**Terminals:** Silver plated leads, solderable per J-STD-002 and JESD 22-B102

**Polarity:** As marked on body

PRIMARY CHARACTERISTICS	
Package	KBPM
$I_{F(AV)}$	1.5 A
$V_{RRM}$	50 V to 1000 V
$I_{FSM}$	60 A
$I_R$	5 $\mu$ A
$V_F$	1.0 V
$T_J$ max.	150 °C
Diode variations	In-line

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

#### Note

<sup>(1)</sup> JEDEC® registered values

ELECTRICAL CHARACTERISTICS ( $T_A = 25$ °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	KBP005M	KBP01M	KBP02M	KBP04M	KBP06M	KBP08M	KBP10M	UNIT
			3N246	3N247	3N248	3N249	3N250	3N251	3N252	
Maximum instantaneous forward voltage drop per diode <sup>(1)</sup>	1.0 A	$V_F$	1.0							V
	1.57 A		1.3							
Maximum DC reverse current at rated DC blocking voltage per diode <sup>(1)</sup>	$T_J = 25$ °C	$I_R$	5.0							$\mu$ A
	$T_J = 125$ °C		500							
Typical junction capacitance per diode	4.0 V, 1 MHz	$C_J$	15							pF

#### Note

<sup>(1)</sup> JEDEC® registered values



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 <sub>θJA</sub>	40							°C/W
	R <sub>θJL</sub>	13							

**Note**

(1) 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-M4/51	1.895	51	600	Anti-static PVC tray
3N250-M4/51	1.895	51	600	Anti-static PVC tray

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

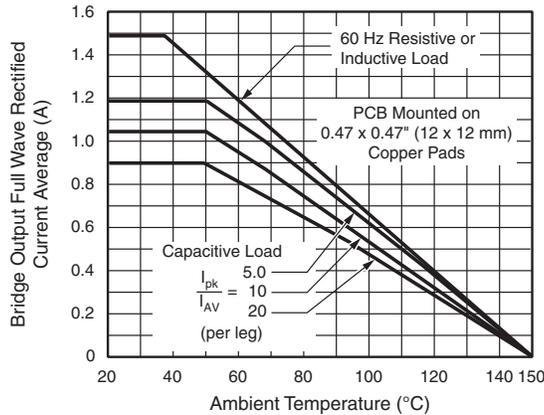


Fig. 1 - Derating Curve Output Rectified Current

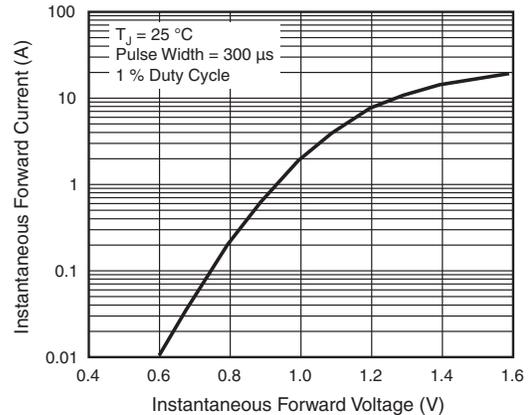


Fig. 3 - Typical Forward Characteristics Per Diode

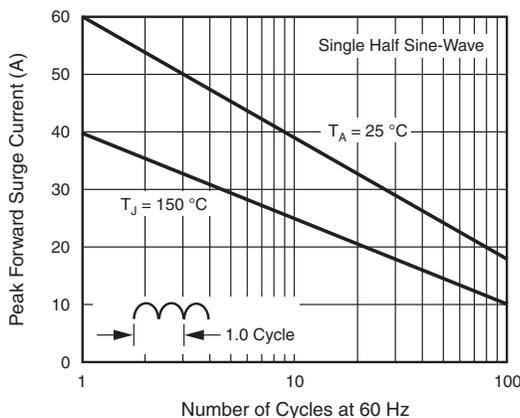


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

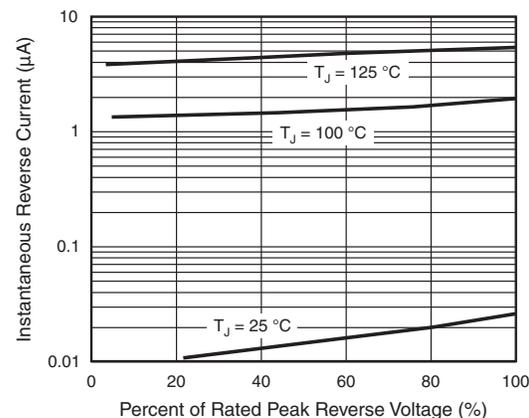


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

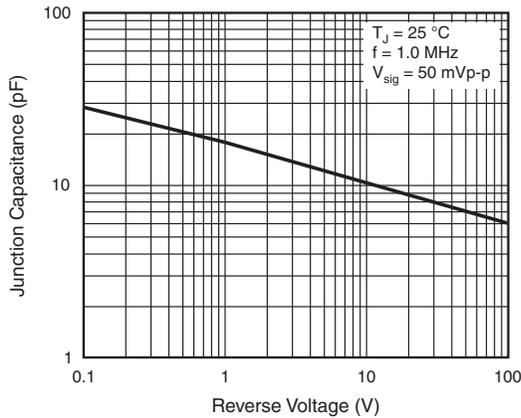
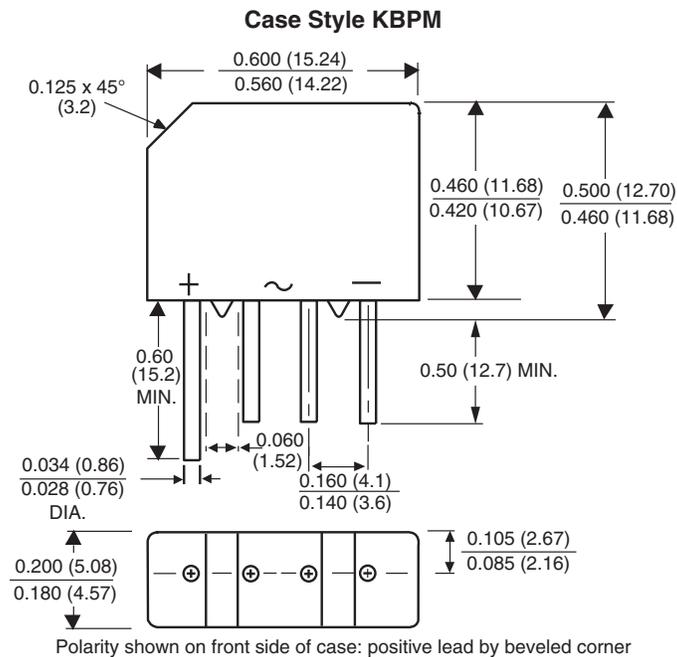


Fig. 5 - Typical Junction Capacitance Per Diode

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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