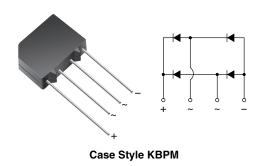


Vishay General Semiconductor

RoHS

COMPLIANT

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



PRIMARY CHARACTERISTICS								
I <sub>F(AV)</sub> 2 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>	1.1 V							
T <sub>J</sub> max.	165 °C							

## FEATURES

- UL recognition file number E54214
- Ideal for printed circuit board
- High surge current capability
- High case dielectric strength
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

### **TYPICAL APPLICATIONS**

General purpose use in ac-to-dc bridge full wave rectification for switching power supply, home appliances, office equipment, and telecommunication applications.

## MECHANICAL DATA

Case: KBPM

Epoxy meets UL 94V-0 flammability rating **Terminals:** Silver plated leads, solderable per J-STD-002 and JESD22-B102 E4 suffix for consumer grade **Polarity:** As marked on body

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	2KBP 005M	2KBP 01M	2KBP 02M	2KBP 04M	2KBP 06M	2KBP 08M	2KBP 10M	UNIT
		3N253	3N254	3N255	3N256	3N257	3N258	3N259	
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Max. average forward output rectified current at T <sub>A</sub> = 55 $^\circ\text{C}$	I <sub>F(AV)</sub>	2.0							А
Peak forward surge current single half sine-wave superimposed on rated load	I <sub>FSM</sub>	60						А	
Rating for fusing (t < 8.3 ms)	l <sup>2</sup> t	15						A <sup>2</sup> s	
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	- 55 to + 165						°C	

Document Number: 88532 Revision: 15-Apr-08

# 2KBP005M thru 2KBP10M, 3N253 thru 3N259

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ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	2KBP 005M	2KBP 01M	2KBP 02M	2KBP 04M	2KBP 06M	2KBP 08M	2KBP 10M	UNIT
			3N253	3N254	3N255	3N256	3N257	3N258	3N259	
Maximum instantaneous forward voltage drop per diode	3.14 A	V <sub>F</sub>	1.1						V	
Maximum DC reverse current at rated DC blocking voltage per diode	T <sub>A</sub> = 25 °C T <sub>A</sub> = 125 °C	I <sub>R</sub>	5.0 500					μA		
Typical junction capacitance per diode	4.0 V, 1 MHz	CJ	25						pF	

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25 \text{ °C}$ unless otherwise noted)									
PARAMETER	SYMBOL	2KBP 005M	2KBP 01M	2KBP 02M	2KBP 04M	2KBP 06M	2KBP 08M	2KBP 10M	UNIT
		3N253	3N254	3N255	3N256	3N257	3N258	3N259	
Typical thermal resistance <sup>(1)</sup>	$R_{ heta JA} \ R_{ heta JL}$	30 11							°C/W

#### Note:

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with, 0.47 x 0.47" (12 x 12 mm) copper pads

ORDERING INFORMATION (Example)									
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE					
2KBP06M-E4/45	1.895	45	30	Tube					
2KBP06M-E4/51	1.895	51	600	Anti-static PVC tray					
3N257-E4/45	1.895	45	30	Tube					
3N257-E4/51	1.895	51	600	Anti-static PVC tray					

## **RATINGS AND CHARACTERISTICS CURVES**

(T<sub>A</sub> = 25 °C unless otherwise noted)

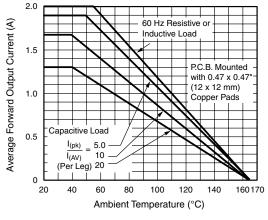
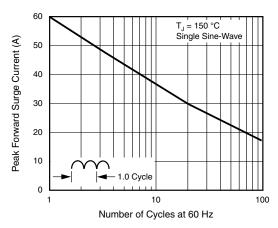
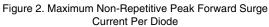


Figure 1. Derating Curve Output Rectified Current





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## 2KBP005M thru 2KBP10M, 3N253 thru 3N259

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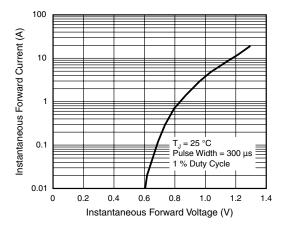


Figure 3. Typical Forward Characteristics Per Diode

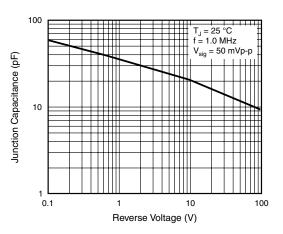


Figure 5. Typical Junction Capacitance Per Diode

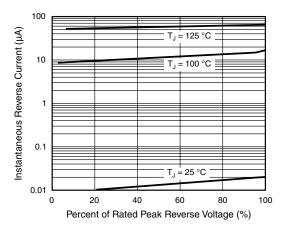
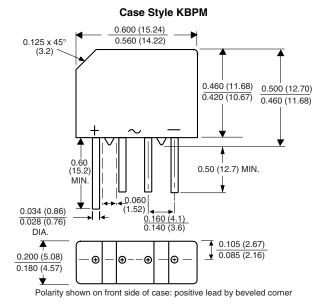


Figure 4. Typical Reverse Leakage Characteristics Per Diode

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



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