



# 3KBP005M thru 3KBP08M

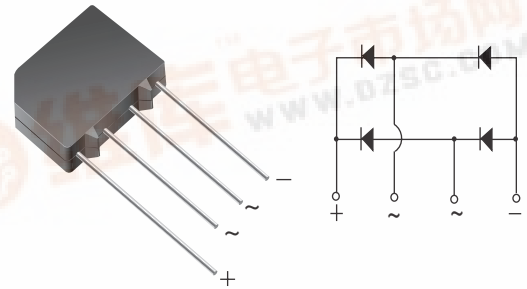
Vishay Semiconductors

## Glass Passivated Single-Phase Bridge Rectifier

### Major Ratings and Characteristics

$I_{F(AV)}$	3 A
$V_{RRM}$	50 V to 800 V
$I_{FSM}$	80 A
$I_R$	5 $\mu$ A
$V_F$	1.05 V
$T_j$ max.	150 °C

Case Style KBPM



### Features

- UL Recognition file number E54214
- Ideal for printed circuit board
- High surge current capability
- High case dielectric strength
- Meets MSL level 1, per J-STD-020C

### Mechanical Data

**Case:** KBPM

Epoxy meets UL-94V-0 Flammability rating

**Terminals:** Silver plated (E4 Suffix) leads, solderable per J-STD-002B and MIL-STD-750, Method 2026

**Polarity:** As marked on body

### Typical Applications

General purpose use in ac-to-dc bridge full wave rectification for Switching Power Supply, Home Appliances, Office Equipment, and Telecommunication applications

### Maximum Ratings

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbols	3KBP 005M	3KBP 01M	3KBP 02M	3KBP 04M	3KBP 06M	3KBP 08M	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	V
Maximum average forward output rectified current at $T_A = 55$ °C (Fig. 1)	$I_{F(AV)}$	3.0						A
Peak forward surge current 50 Hz single half sine-wave superimposed on rated load	$I_{FSM}$	80						A
Rating for fusing ( $t < 10$ ms)	$I^2t$	32						A <sup>2</sup> sec
Operating junction and storage temperature range	$T_J, T_{STG}$	- 55 to + 150						°C



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## Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Test condition	Symbols	3KBP 005M	3KBP 01M	3KBP 02M	3KBP 04M	3KBP 06M	3KBP 08M	Units
Maximum instantaneous forward voltage drop per leg	at 3.0 A	$V_F$	1.05						V
Maximum DC reverse current at rated DC blocking voltage per leg	$T_A = 25\text{ °C}$ $T_A = 125\text{ °C}$	$I_R$	5.0 500						$\mu\text{A}$
Typical junction capacitance per leg	at 4.0 V, 1 MHz	$C_J$	25						pF

## Thermal Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbols	3KBP 005M	3KBP 01M	3KBP 02M	3KBP 04M	3KBP 06M	3KBP 08M	Units
Typical thermal resistance per leg <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JL}$	30 11						°C/W

Notes:

(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.

## Ratings and Characteristics Curves

( $T_A = 25\text{ °C}$  unless otherwise noted)

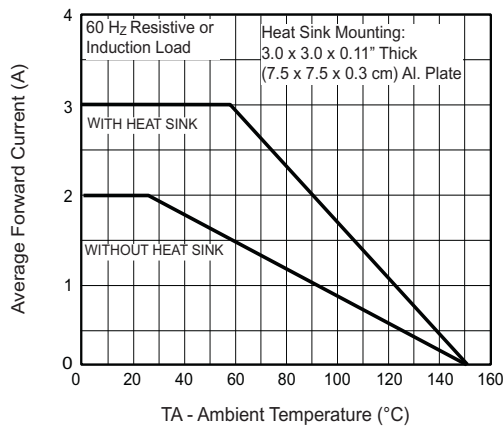


Figure 1. Forward Current Derating Curve

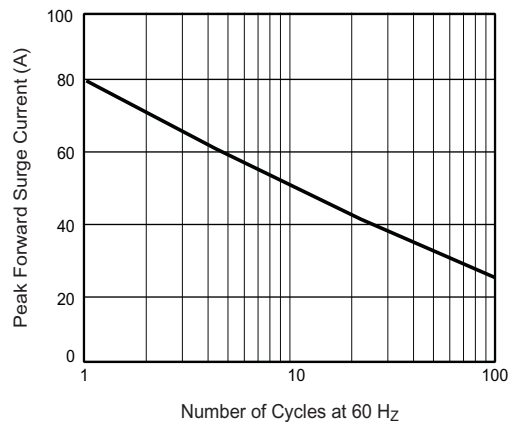


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg



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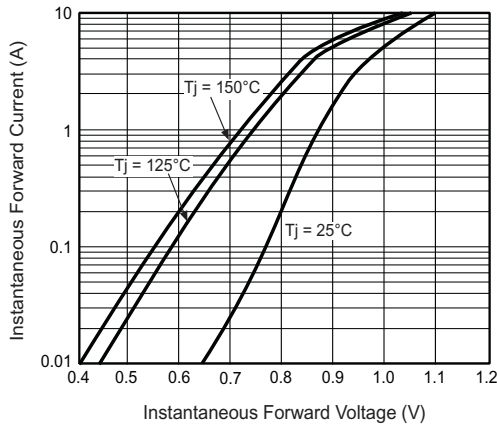


Figure 3. Typical Forward Characteristics Per Leg

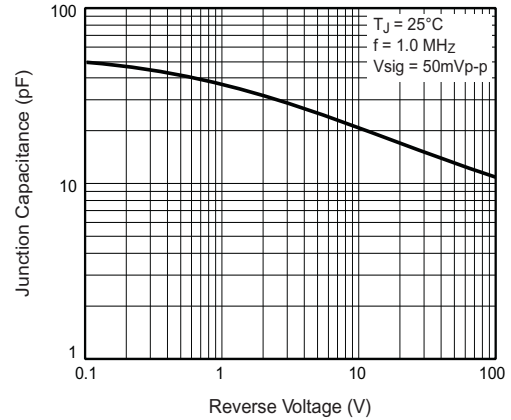


Figure 5. Typical Junction Capacitance Per Leg

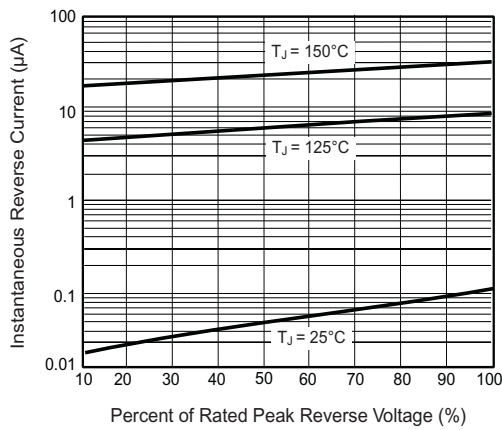


Figure 4. Typical Reverse Leakage Characteristics Per Leg

## Package outline dimensions in inches (millimeters)

