

## Excellent Integrated System Limited

Stocking Distributor

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[Vishay Semiconductor/Diodes Division](#)  
[PB3008-E3/45](#)

For any questions, you can email us directly:

[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)

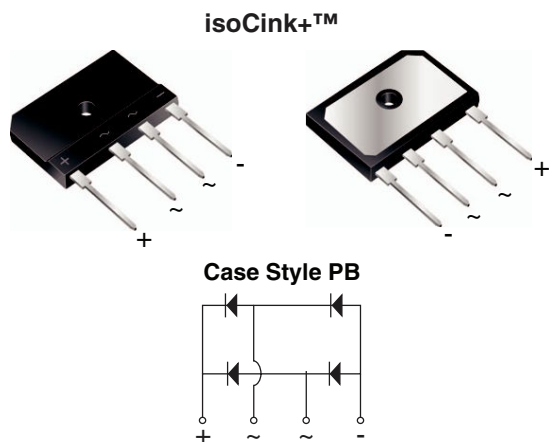


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## PB3006, PB3008, PB3010

Vishay General Semiconductor

### Enhanced isoCink+™ Bridge Rectifiers



\*Tested to UL standard for safety electrically isolated semiconductor devices. UL 1557 4th edition.  
Dielectric tested to maximum case, storage and junction temperature to 150 °C to withstand 1500 V.  
Epoxy meets UL 94 V-0 flammability rating.

PRIMARY CHARACTERISTICS	
Package	PB
$I_{F(AV)}$	30 A
$V_{RRM}$	600 V, 800 V, 1000 V
$I_{FSM}$	240 A
$I_R$	10 $\mu$ A
$V_F$ at $I_F = 15$ A	0.97 V
$T_J$ max.	150 °C
Diode variations	In-Line

#### FEATURES

- UL recognition file number E312394 (QQQX2) UL 1557 (see \*)
- Enhanced high-current density single in-line package
- Superior thermal conductivity
- 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

#### TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for switching power supply, home appliances and white-goods applications.

#### MECHANICAL DATA

##### Case: PB

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS-compliant, commercial grade

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102  
E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** As marked on body

**Mounting Torque:** 10 cm·kg (8.8 inches·lbs) max.

**Recommended Torque:** 5.7 cm·kg (5 inches·lbs)

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	PB3006	PB3008	PB3010	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	600	800	1000	V
Average rectified forward current (fig. 1, 2)	I <sub>O</sub>	T <sub>C</sub> = 86 °C <sup>(1)</sup>			A
		T <sub>A</sub> = 25 °C <sup>(2)</sup>			
Non-repetitive peak forward surge current 8.3 ms single sine-wave, T <sub>J</sub> = 25 °C	I <sub>FSM</sub>	240			A
Rating for fusing (t < 8.3 ms) T <sub>J</sub> = 25 °C	I <sup>2</sup> t	240			A <sup>2</sup> s
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	- 55 to + 150			°C

#### Notes

(1) With heatsink

(2) Without heatsink, free air



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ELECTRICAL CHARACTERISTICS ( $T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)					
PARAMETER	TEST CONDITIONS	SYMBOL	TYP.	MAX.	UNIT
Maximum instantaneous forward voltage per diode <sup>(1)</sup>	$I_F = 15\text{ A}$	$T_A = 25\text{ }^{\circ}\text{C}$	1.05	1.10	V
		$T_A = 125\text{ }^{\circ}\text{C}$	0.97	1.04	
Reverse current per diode <sup>(2)</sup>	Rated $V_R$	$T_A = 25\text{ }^{\circ}\text{C}$	-	10	$\mu\text{A}$
		$T_A = 125\text{ }^{\circ}\text{C}$	90	500	
Typical junction capacitance per diode	4.0 V, 1 MHz	$C_J$	72	-	pF

### Notes

- (1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle  
(2) Pulse test: 10 ms pulse width

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	PB3006	PB3008	PB3010	UNIT
Typical thermal resistance	R <sub>θJC</sub> <sup>(1)</sup>	0.95			°C/W
	R <sub>θJA</sub> <sup>(2)</sup>	20			

### Notes

- (1) With 60 W air cooled heatsink  
(2) Without heatsink, free air

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (G)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
PB3006-E3/45	7.42	45	20	Tube

## RATINGS AND CHARACTERISTICS CURVES ( $T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

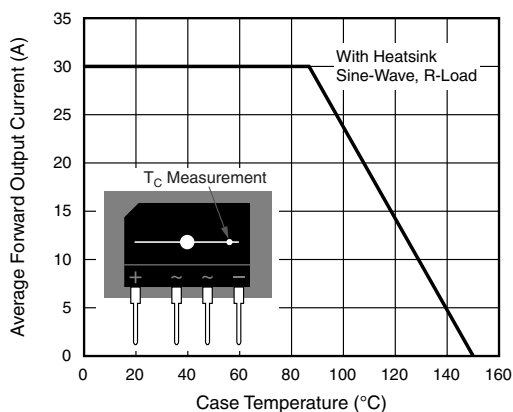


Fig. 1 - Derating Curve Output Rectified Current

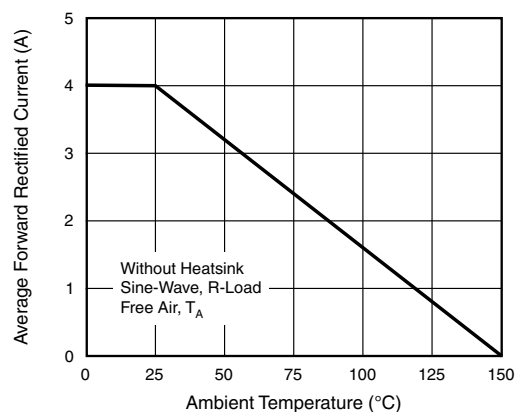


Fig. 2 - Forward Current Derating Curve



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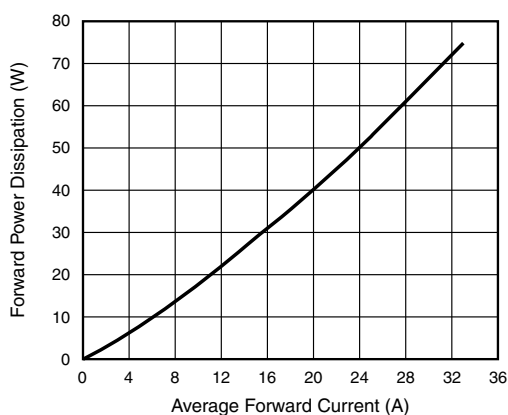


Fig. 3 - Forward Power Dissipation

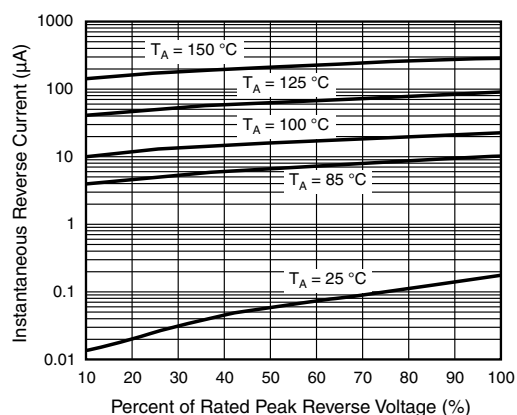


Fig. 5 - Typical Reverse Characteristics Per Diode

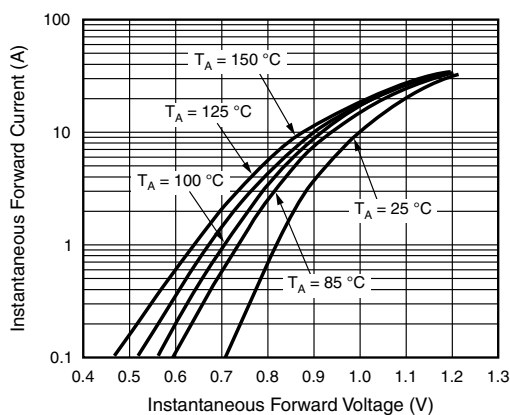


Fig. 4 - Typical Forward Characteristics Per Diode

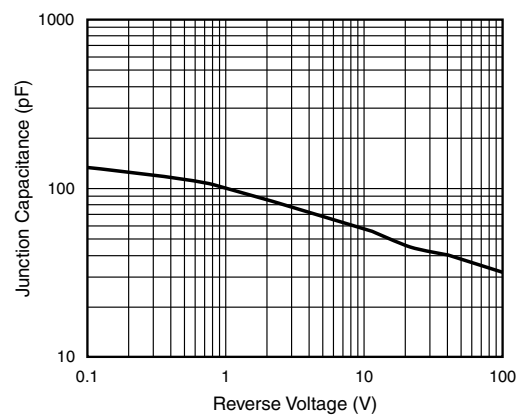


Fig. 6 - Typical Junction Capacitance Per Diode



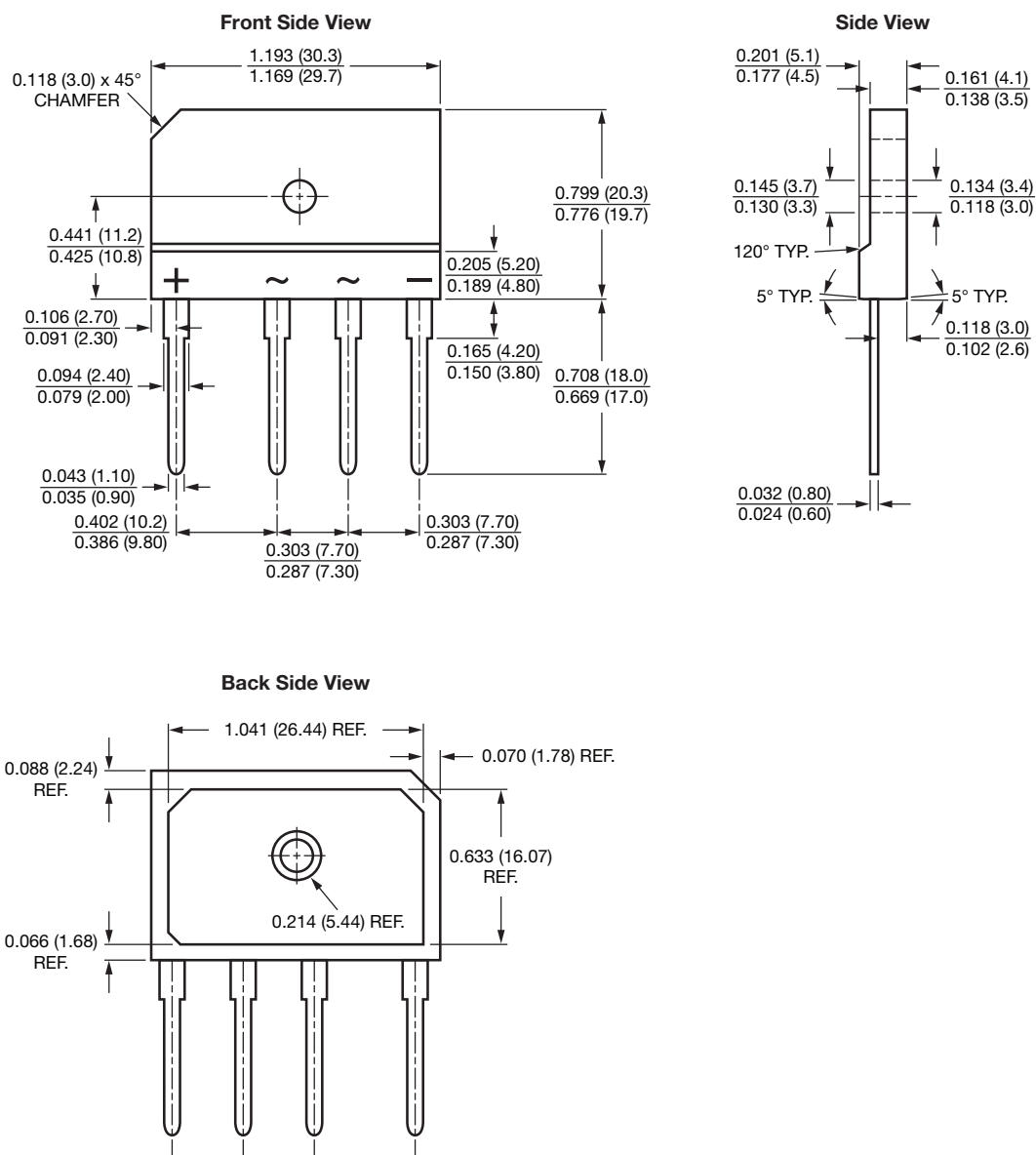
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### PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

#### Case Type PB





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