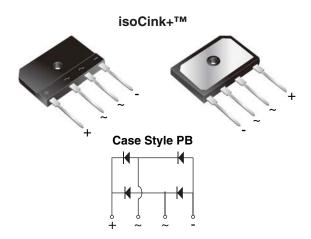
Vishay General Semiconductor

Enhanced isoCink+TM Bridge Rectifiers



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*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.

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PRIMARY CHARACTERISTICS					
I _{F(AV)} 30 A					
V _{RRM} 600 V, 800 V, 1000 V					
I _{FSM}	240 A				
I _R	10 µA				
V_F at I_F = 15 A	0.97 V				
T _J max.	150 °C				

FEATURES

- UL recognition file number E312394 (QQQX2) UL 1557 (see *)
- Enhanced high-current density single in-line package
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

TYPICAL APPLICATIONS

· Superior thermal conductivity

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 _A = 25 °C unless otherwise noted)						
PARAMETER		SYMBOL	PB3006	PB3008	PB3010	UNIT
Maximum repetitive peak reverse voltage		V _{RRM}	600	800	1000	V
Average rectified forward current (fig. 1, 2)	$T_{C} = 86 \ ^{\circ}C \ ^{(1)}$ $T_{A} = 25 \ ^{\circ}C \ ^{(2)}$	Ι _Ο	30 4.0		А	
Non-repetitive peak forward surge current 8.3 ms single sine-wave, $T_J = 25 \ ^{\circ}C$		I _{FSM}		240		А
Rating for fusing (t < 8.3 ms) $T_J = 25 \ ^\circ C$		l ² t		240		A ² s
Operating junction and storage temperature range	le	T _J , T _{STG}		- 55 to + 150		°C

Notes

⁽¹⁾ With heatsink

⁽²⁾ Without heatsink, free air

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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT	
Maximum instantaneous forward voltage per diode ⁽¹⁾	l _F = 15 A	T _A = 25 °C T _A = 125 °C	V _F	1.05 0.97	1.10 1.04	V	
Reverse current per diode ⁽²⁾	Rated V _R	T _A = 25 °C T _A = 125 °C	I _R	- 90	10 500	μA	
Typical junction capacitance per diode	4.0 V, 1 MHz		CJ	72	-	pF	

Notes

⁽¹⁾ Pulse test: 300 µs pulse width, 1 % duty cycle

⁽²⁾ Pulse test: 10 ms pulse width

THERMAL CHARACTERISTICS ($T_A = 25$ °C unless otherwise noted)						
PARAMETER	SYMBOL	PB3006	PB3008	PB3010	UNIT	
Typical thermal resistance	R _{θJC} ⁽¹⁾ R _{θJA} ⁽²⁾	0.95 20			°C/W	

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 °C unless otherwise noted)

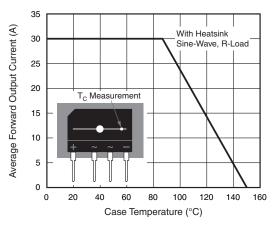


Fig. 1 - Derating Curve Output Rectified Current

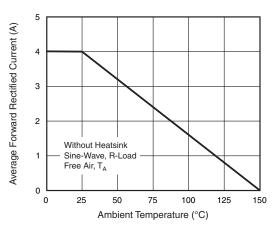
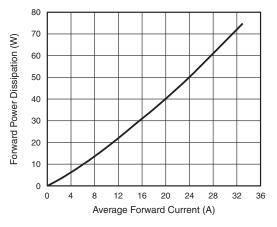


Fig. 2 - Forward Current Derating Curve



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Fig. 3 - Forward Power Dissipation

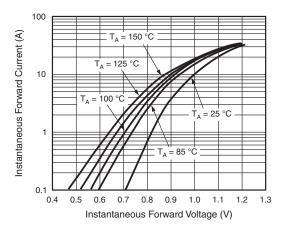


Fig. 4 - Typical Forward Characteristics Per Diode

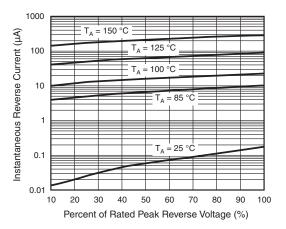


Fig. 5 - Typical Reverse Characteristics Per Diode

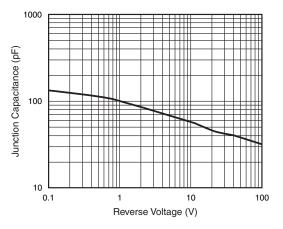


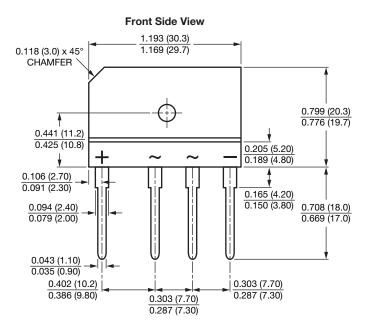
Fig. 6 - Typical Junction Capacitance Per Diode



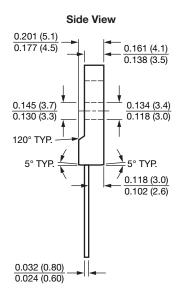
PB3006 thru PB3010

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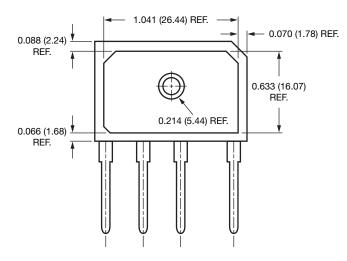
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



Case Type PB



Back Side View





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