

Enhanced isoCink+TM Bridge Rectifiers

isoCink+™ Case Style PB

*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)} 45 A					
V _{RRM}	600 V, 800 V, 1000 V				
I _{FSM}	450 A				
I _R	10 μA				
V _F at I _F = 22.5 A	0.90 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

(e3)

Superior thermal conductivity

RoHS

- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see www.vishav.com/doc?99912

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 _A = 25 °C unless otherwise noted)						
PARAMETER		SYMBOL	PB5006	PB5008	PB5010	UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	600	800	1000	V
Average rectified forward current (Fig. 1, 2)	$T_C = 84 ^{\circ}C^{(1)}$			45		^
	T _A = 25 °C ⁽²⁾	I _O	4.5		A	
Non-repetitive peak forward surge current 8.3 ms single sine-wave, $T_J = 25 ^{\circ}\text{C}$		I _{FSM}	450		А	
Rating for fusing (t < 8.3 ms) T _J = 25 °C		I ² t	840		A ² s	
Operating junction and storage temperature range		T _J , T _{STG}		- 55 to + 150		°C

Notes

- (1) With heatsink
- (2) Without heatsink, free air



ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT	
Maximum instantaneous forward voltage per diode (1)	I _F = 22.5 A	T _A = 25 °C T _A = 125 °C	V _F	1.00	1.10	V	
	I _F = 22.5 A	T _A = 125 °C		0.90	1.00		
Reverse current per diode (2)		rotod V	T _A = 25 °C	1	-	10	μA
		T _A = 125 °C	I _R	170	500	μΑ	
Typical junction capacitance per diode	4.0 V, 1 MHz		CJ	162	-	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	PB5006	PB5008	PB5010	UNIT	
Typical thermal resistance	R ₀ JC (1)	0.7			°C/W	
	R _{0JA} (2)	18			C/VV	

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			
PB5006-E3/45	7.62	45	20	Tube			

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

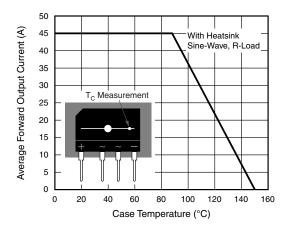


Fig. 1 - Derating Curve Output Rectified Current

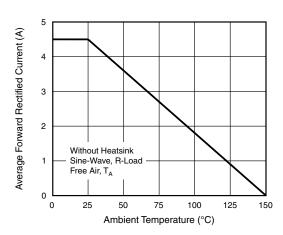


Fig. 2 - Forward Current Derating Curve

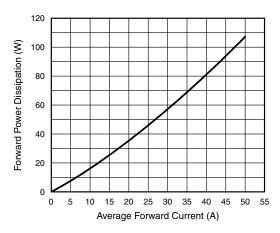


Fig. 3 - Forward Power Dissipation

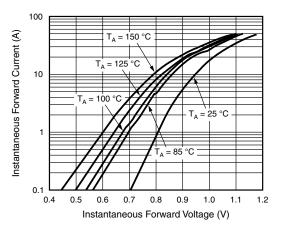


Fig. 4 - Typical Forward Characteristics Per Diode

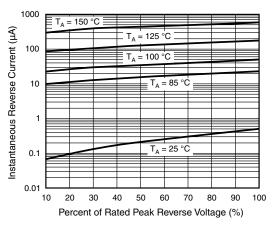


Fig. 5 - Typical Reverse Characteristics Per Diode

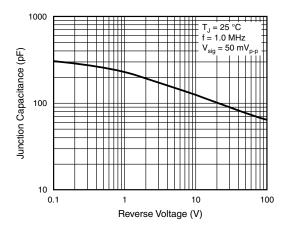
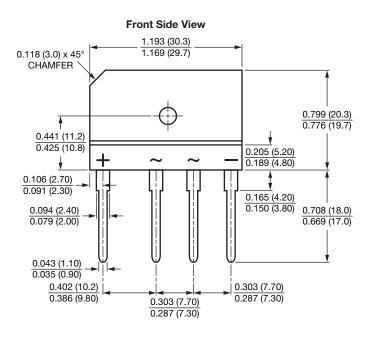
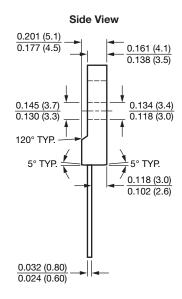


Fig. 6 - Typical Junction Capacitance Per Diode

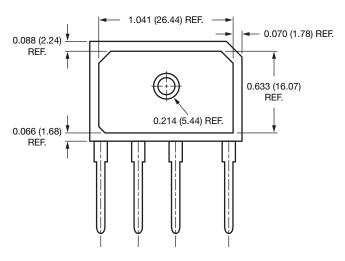
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Type PB





Back Side View





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