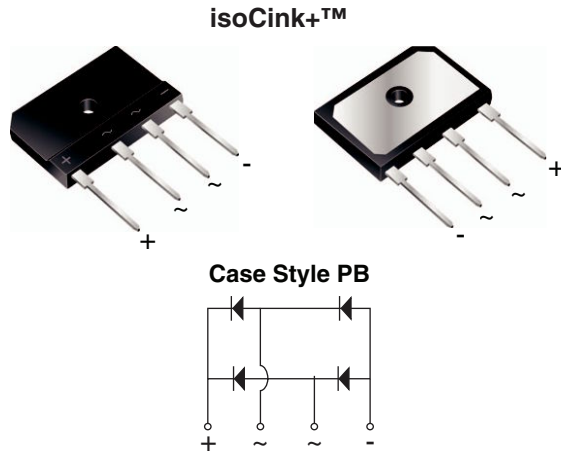


Enhanced isoCink+™ Bridge Rectifiers



*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 μ 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


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 ($T_A = 25$ °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)	$\frac{T_C = 86\text{ }^{\circ}\text{C}\text{ }^{(1)}}{T_A = 25\text{ }^{\circ}\text{C}\text{ }^{(2)}}$	30			A
		4.0			
Non-repetitive peak forward surge current 8.3 ms single sine-wave, T _J = 25 °C	I _{FSM}	240			A
Rating for fusing (t < 8.3 ms) T _J = 25 °C	I ² t	240			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 = 15 A	T _A = 25 °C	V _F	1.05	1.10	V
		T _A = 125 °C		0.97	1.04	
Reverse current per diode ⁽²⁾	Rated V _R	T _A = 25 °C	I _R	-	10	μA
		T _A = 125 °C		90	500	
Typical junction capacitance per diode	4.0 V, 1 MHz		C _J	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⁾	0.95			°C/W
	R _{θJA} ⁽²⁾	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

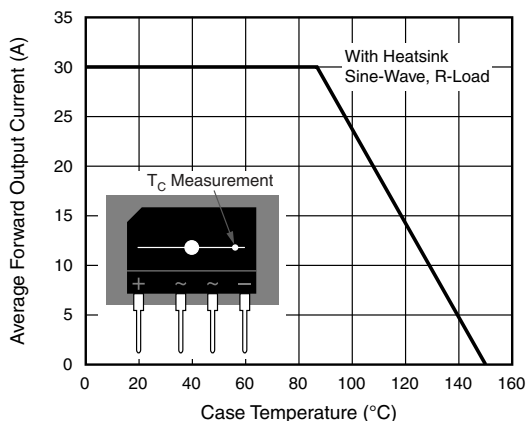
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)


Fig. 1 - Derating Curve Output Rectified Current

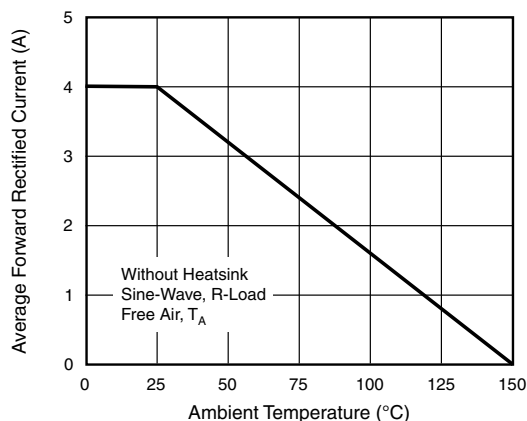


Fig. 2 - Forward Current Derating Curve

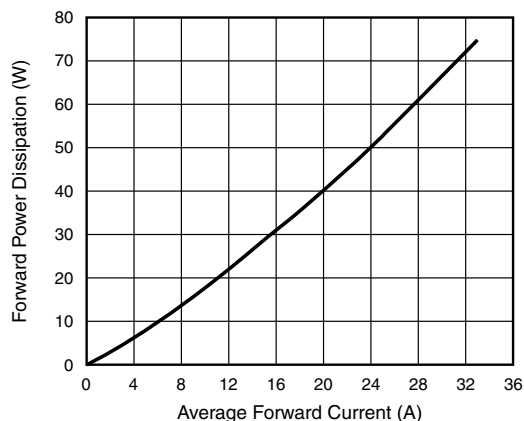


Fig. 3 - Forward Power Dissipation

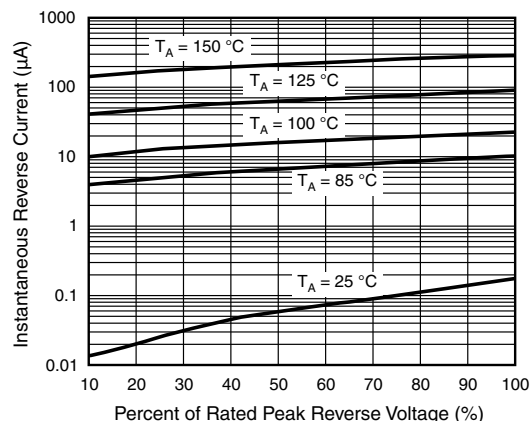


Fig. 5 - Typical Reverse Characteristics Per Diode

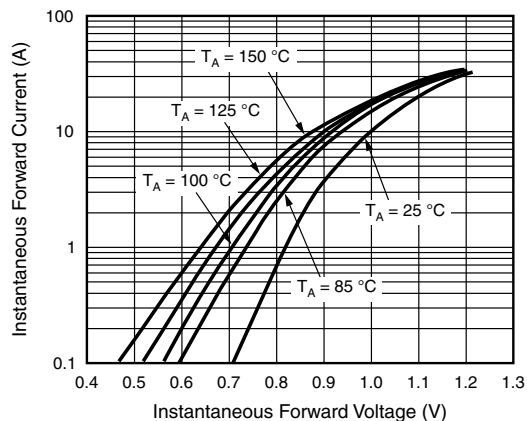


Fig. 4 - Typical Forward Characteristics Per Diode

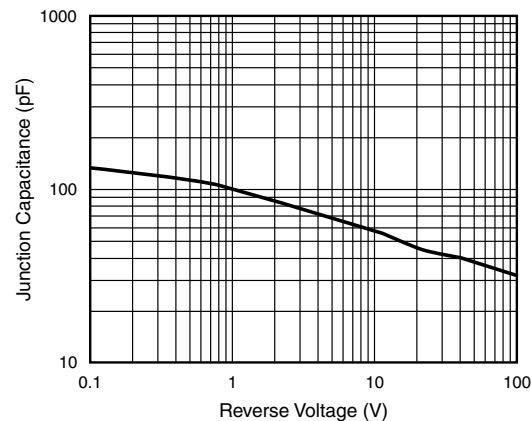


Fig. 6 - Typical Junction Capacitance Per Diode



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Type PB





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