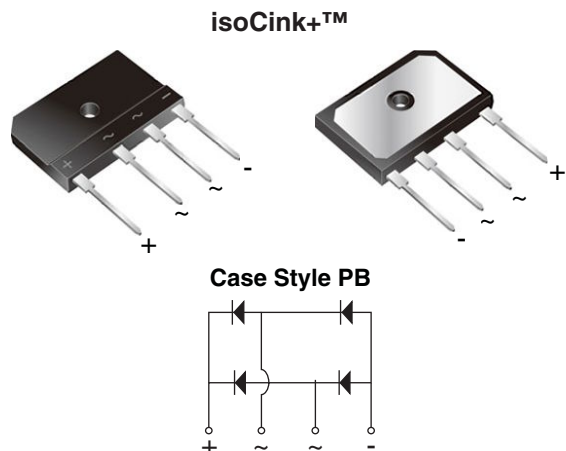


Enhanced isoCink+™ Bridge Rectifiers



*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
$I_{F(AV)}$	40 A
V_{RRM}	600 V, 800 V, 1000 V
I_{FSM}	400 A
I_R	10 μ A
V_F at $I_F = 20$ A	0.94 V
T_J max.	150 °C
Circuit configuration	In-line

FEATURES

- UL recognition file number E312394 (QQX2) UL 1557 (see *)
- Enhanced high-current density single in-line package
- Superior thermal conductivity
- Glass passivated chip junction
- 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	PB4006	PB4008	PB4010	UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	600	800	1000	V
Average rectified forward current (Fig. 1, 2)	$T_C = 87\text{ }^{\circ}\text{C}^{(1)}$ $T_A = 25\text{ }^{\circ}\text{C}^{(2)}$	I _O	40		A
			4.4		
Non-repetitive peak forward surge current 8.3 ms single sine-wave, T _J = 25 °C	I _{FSM}	400			A
Rating for fusing (t < 8.3 ms) T _J = 25 °C	I ² t	664			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 = 20 A	T _A = 25 °C	V _F	1.01	1.10	V
		T _A = 125 °C		0.94	1.00	
Reverse current per diode ⁽²⁾	rated V _R	T _A = 25 °C	I _R	-	10	μA
		T _A = 125 °C		130	500	
Typical junction capacitance per diode	4.0 V, 1 MHz		C _J	120	-	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	PB4006	PB4008	PB4010	UNIT
Typical thermal resistance	R _{θJC} ⁽¹⁾	0.75			°C/W
	R _{θJA} ⁽²⁾	18			

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
PB4006-E3/45	7.53	45	20	Tube

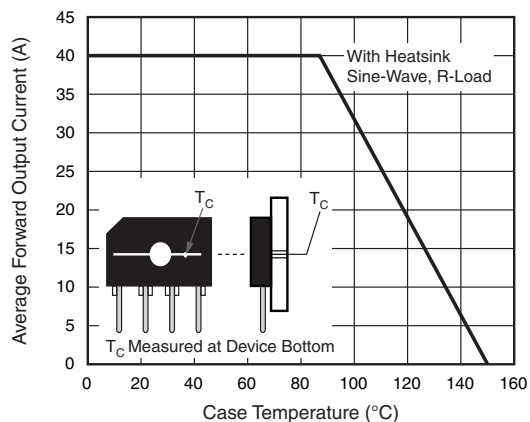
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)


Fig. 1 - Derating Curve Output Rectified Current

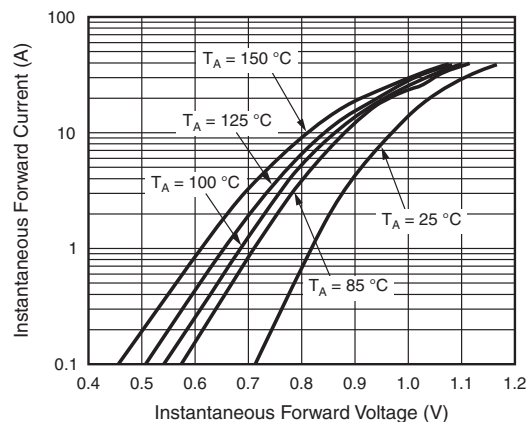


Fig. 4 - Typical Forward Characteristics Per Diode

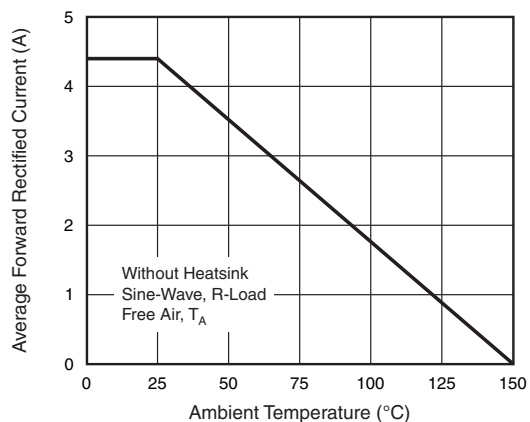


Fig. 2 - Forward Current Derating Curve

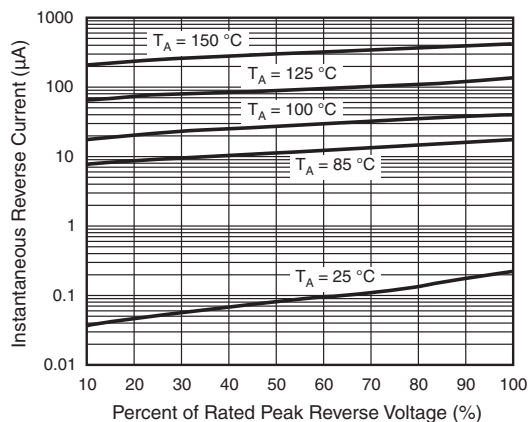


Fig. 5 - Typical Reverse Characteristics Per Diode

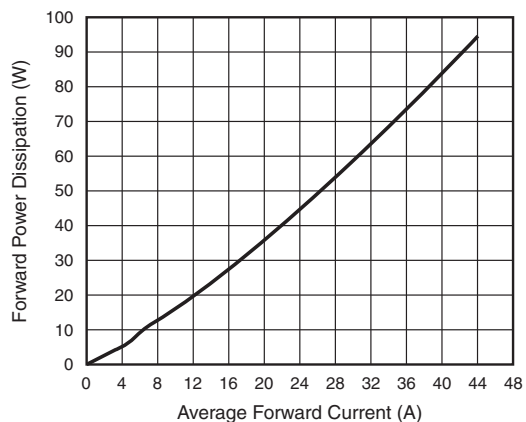


Fig. 3 - Forward Power Dissipation

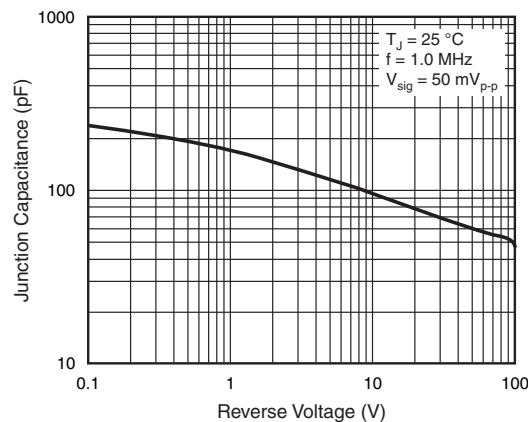
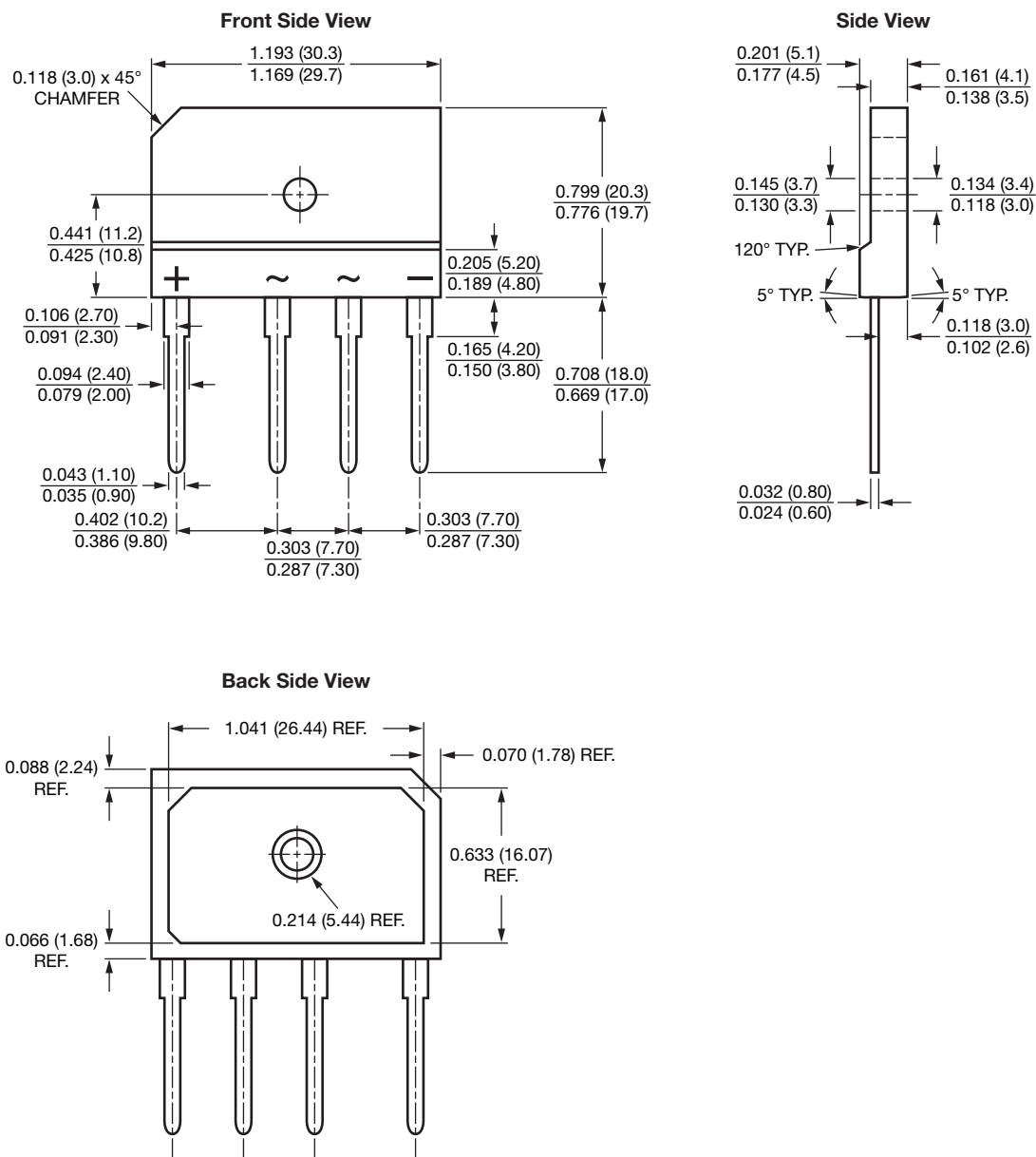


Fig. 6 - Typical Junction Capacitance Per Diode



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Type PB





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