

KBPC50005W THRU KBPC5010W

HIGH CURRENT SINGLE-PHASE SILICON BRIDGE RECTIFIERS

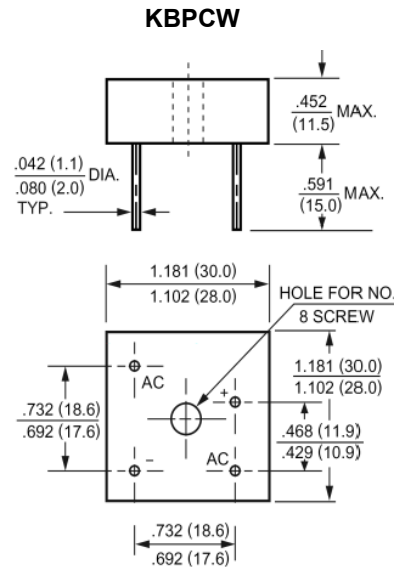
REVERSE VOLTAGE: 50 to 1000 VOLTS
FORWARD CURRENT: 50 AMPERES

Features

- Electrically isolated metal case for maximum heat dissipation
- Surge overload ratings to 500 A
- Low power loss, high efficiency
- Low reverse leakage current
- Case to terminal isolation voltage 2500 V
- UL recognized file # E-216968

Mechanical data

- Metal or molded plastic with heatsink integrally mounted in the bridge encapsulation
- Mounting Position: Any



Dimensions in inches and (mm)

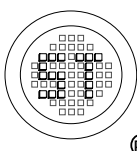
Absolute Maximum Ratings and Characteristics

Rating at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	KBPC 50005W	KBPC 5001W	KBPC 5002W	KBPC 5004W	KBPC 5006W	KBPC 5008W	KBPC 5010W	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at $T_C = 55^\circ\text{C}$	$I_{(AV)}$	50							A
Peak Forward Surge Current, 8.3 ms Single Half-Sine -Wave superimposed on rated load (JEDEC Method)	I_{FSM}	400							A
Maximum Forward Voltage at 25 A DC and 25 °C	V_F	1.2							V
Maximum Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 125^\circ\text{C}$	I_R	10 1000							μA
Typical Junction Capacitance ¹⁾	C_J	300							pF
Typical Thermal Resistance ²⁾	$R_{\theta JC}$	2.6							°C/W
Operating and Storage Temperature Range	T_J, T_S	-55 to +150							°C

¹⁾ Measured at 1 MHz and applied reverse voltage of 4 VDC.

²⁾ Thermal resistance from junction to case per leg.



SEMTECH ELECTRONICS LTD.

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ISO/TS 16949 : 2002
Certificate No. 05103



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Certificate No. 0506098

Dated : 15/02/2006 H

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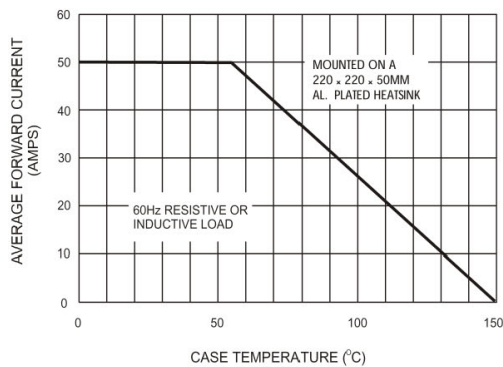


Figure 1. Forward Current Derating Curve

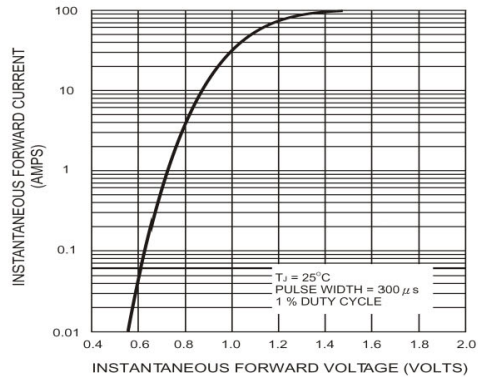


Figure 2. Typical Instantaneous Forward Characteristics Per Bridge Element

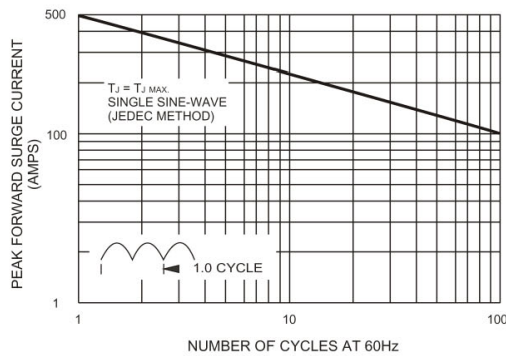


Figure 3. Maximum Non-repetitive Peak Forward Surge Current Per Bridge Element

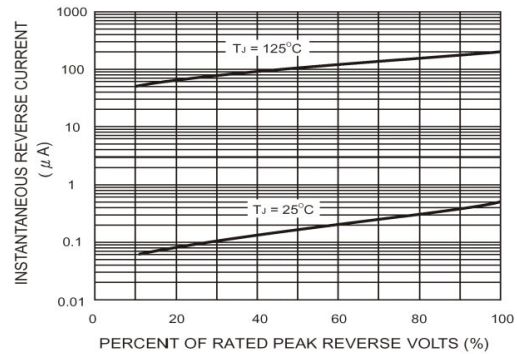


Figure 4. Typical Reverse Leakage Characteristics Per Bridge Element

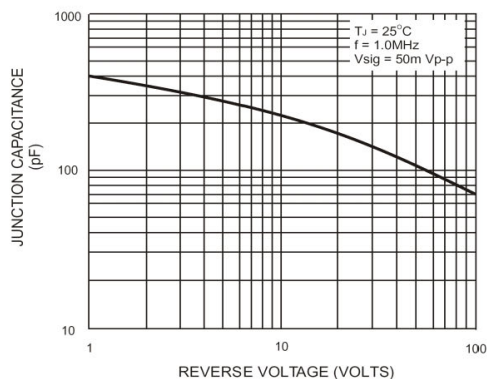


Figure 5. Typical Junction Capacitance Per Bridge Element

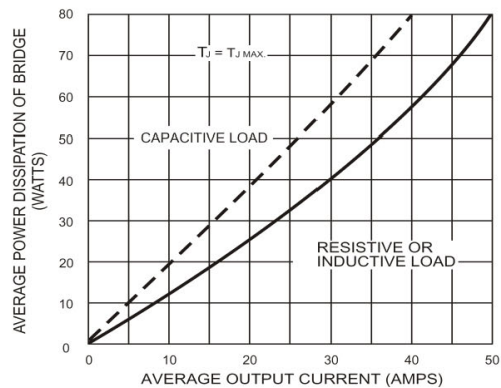
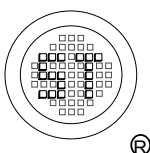


Figure 6. Maximum Power Dissipation



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