HIGH CURRENT SINGLE-PHASE SILICON BRIDGE RECTIFIERS

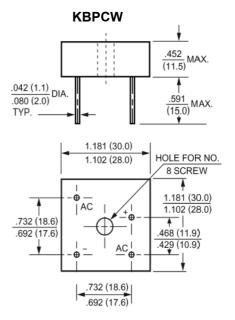
REVERSE VOLTAGE: 50 to 1000 V FORWARD CURRENT: 35 A

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 35005W	KBPC 3501W	KBPC 3502W	KBPC 3504W	KBPC 3506W	KBPC 3508W	KBPC 3510W	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 °C	I _(AV)	35							Α
Peak Forward Surge Current, 8.3 ms Single Half-Sine -Wave superimposed on rated load (JEDEC Method)	I _{FSM}	400							А
Maximum Forward Voltage at 17.5 A DC and 25 °C	V_{F}	1.2							V
Maximum Reverse Current at T _A = 25 °C at Rated DC Blocking Voltage T _A = 125 °C	I _R	10 1000							μA
Typical Junction Capacitance 1)	CJ	300						pF	
Typical Thermal Resistance 2)	$R_{\theta JC}$	1.4						°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.









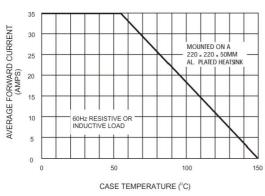


Figure 1. Forward Current Derating Curve

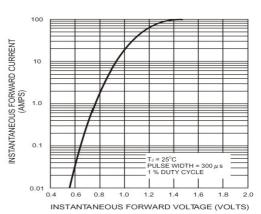


Figure 2. Typical Instantaneous Forward Characteristics Per Brdige Element

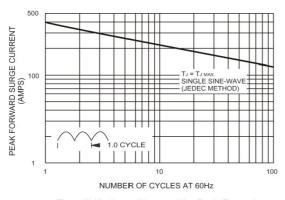


Figure 3. Maximum Non-repetitive Peak Forward Surge Current Per Bridge Element

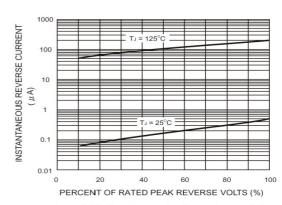


Figure 4. Typical Reverse Leakage Characteristics Per Bridge Element

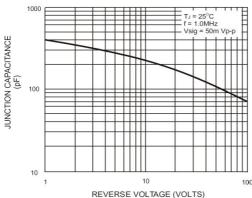
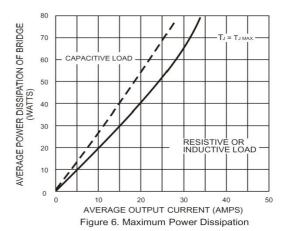


Figure 5. Typical Junction Capacitance Per Bridge Element





SEMTECH ELECTRONICS LTD.







