

# KBPC50005 THRU KBPC5010

## HIGH CURRENT SINGLE-PHASE BRIDGE RECTIFIERS

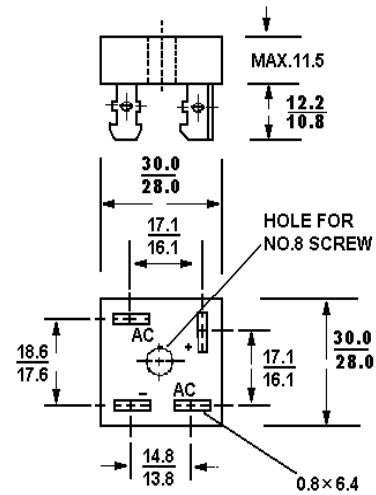
REVERSE VOLTAGE: 50 TO 1000 VOLTS

FORWARD CURRENT: 50 AMPERES

### Features

- Low power loss, high efficiency
- Low reverse leakage current

### KBPC



Dimensions in mm

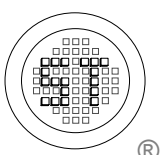
### Absolute Maximum Ratings and Characteristics

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%.

	Symbols	KBPC 50005	KBPC 5001	KBPC 5002	KBPC 5004	KBPC 5006	KBPC 5008	KBPC 5010	Units
Maximum repetitive 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
Average forward rectified current at $T_C = 55^\circ\text{C}$	$I_O$	50							A
Peak forward surge current, 8.3ms single half sine wave superimposed on rated load ( JEDEC)	$I_{FSM}$	400							A
Maximum forward voltage at 25A DC and 25°C	$V_F$	1.2							V
Maximum reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 125^\circ\text{C}$	$I_R$	10 1000							$\mu\text{A}$
Typical junction capacitance (note 1)	$C_j$	300							pF
Typical thermal resistance (note 2)	$R_{\theta JC}$	2.6							$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

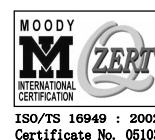
### Notes:

1. Measured at 1.0MHz and applied reverse voltage of 4.0 V.DC
2. Thermal resistance from junction to case per leg.



**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Semtech International Holdings Limited, acompany listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103

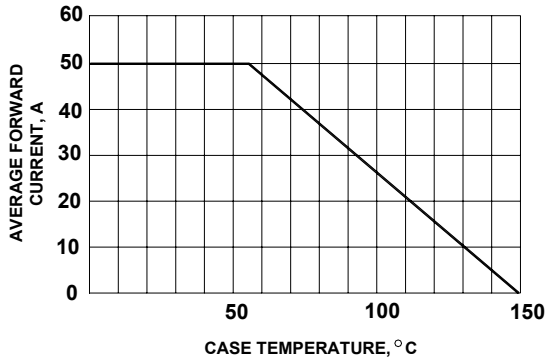
ISO 14001  
Certificate No. 7116

ISO 9001 : 2000  
Certificate No. 0209-1999-01-002-2nd

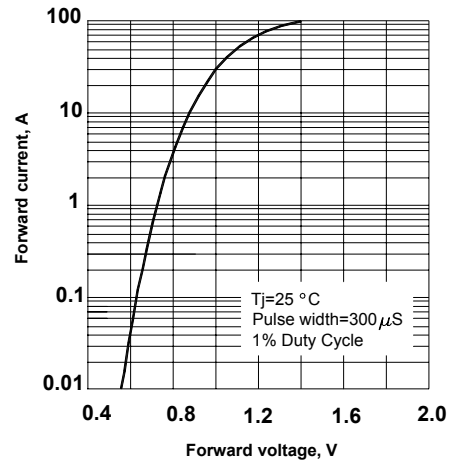
Dated : 19/07/2005

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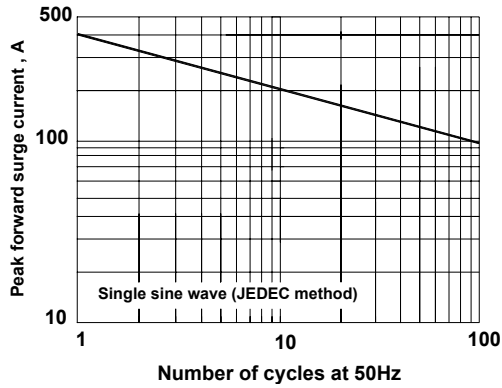
FORWARD CURRENT DERATING CURVE



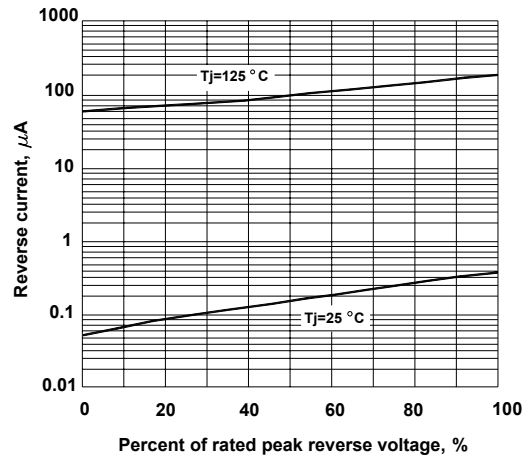
Typical forward characteristics per bridge element



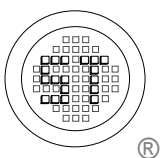
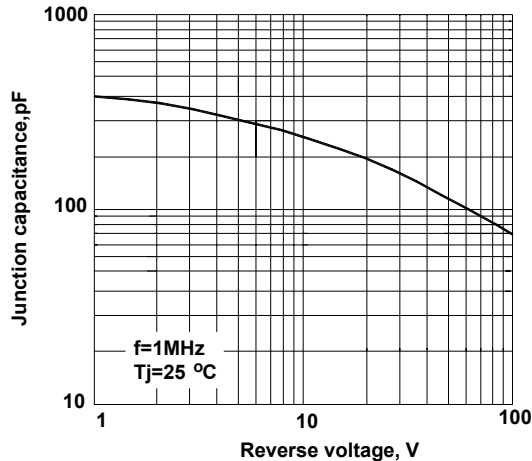
Maximum non-repetitive peak forward surge current per element



Typical Reverse Leakage Characteristics Per Bridge element

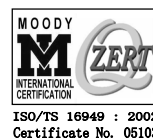


Typical junction capacitance per bridge element



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