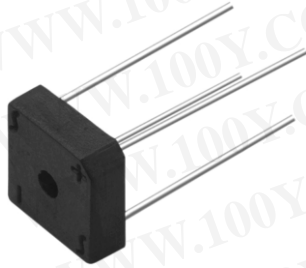


Single Phase Rectifier Bridge, 3 A, 6 A



D-72

FEATURES

- Suitable for printed circuit board or chassis mounting
- Compact construction
- High surge current capability
- Compliant to RoHS directive 2002/95/EC



RoHS
COMPLIANT

DESCRIPTION

The KBPC series of single phase rectifier bridge consists of four silicon junctions connected as a full bridge. These devices are intended for general use in industrial and consumer equipment.

PRODUCT SUMMARY

$I_{O(AV)}$	3.0 A, 6.0 A
V_{RRM}	50 V to 1000 V

MAJOR RATINGS AND CHARACTERISTICS

SYMBOL	CHARACTERISTICS	KBPC1	KBPC6	UNITS
I_o		3	6	A
I_{FSM}	50 Hz	50	125	A
	60 Hz	55	137	
I^2t	50 Hz	12.5	78	A ² s
	60 Hz	11.4	71	
V_{RRM}	Range	50 to 1000		V
T_J		- 40 to 150		°C

ELECTRICAL SPECIFICATIONS

VOLTAGE RATINGS

PART NUMBER	V_{RRM} , MAXIMUM REPETITIVE PEAK REVERSE VOLTAGE V	V_{RSM} , MAXIMUM NON-REPETITIVE PEAK REVERSE VOLTAGE V	V_{RMS} , MAXIMUM RECOMMENDED RMS SUPPLY VOLTAGE V
KBPC1005 KBPC6005	50	50	20
KBPC102 KBPC602	200	200	80
KBPC104 KBPC604	400	400	125
KBPC106 KBPC606	600	600	250
KBPC108 KBPC608	800	800	380
KBPC110 KBPC610	1000	1000	500

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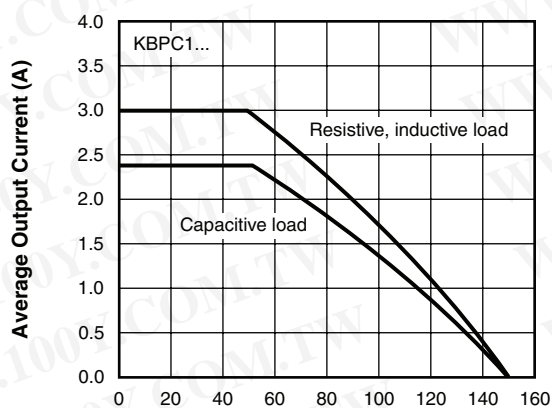
KBPC1, KBPC6 Series



Vishay High Power Products Single Phase Rectifier
Bridge, 3 A, 6 A

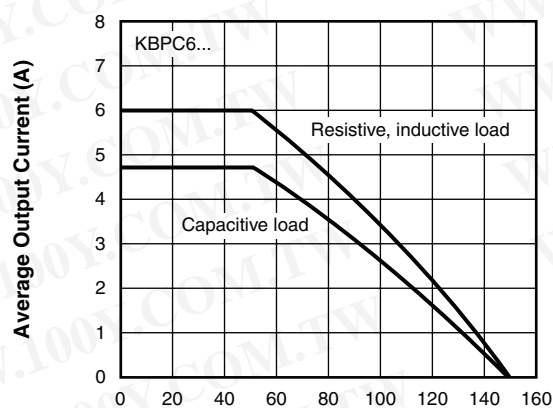
FORWARD CONDUCTION						
PARAMETER	SYMBOL	TEST CONDITIONS		KBPC1	KBPC6	UNITS
Maximum DC output current	I_O	$T_C = 50\text{ }^\circ\text{C}$, resistive or inductive load		3.0	6.0	A
		$T_C = 50\text{ }^\circ\text{C}$, capacitive load		2.4	4.7	
Maximum peak one cycle, non-repetitive surge current	I_{FSM}	$t = 10\text{ ms}, 20\text{ ms}$	Following any rated load condition and with rated V_{RRM} reapplied	50	125	
		$t = 8.3\text{ ms}, 16.7\text{ ms}$		55	137	
Maximum I^2t capability for fusing	I^2t	$t = 10\text{ ms}$	Initial $T_J = T_J$ maximum 100 % V_{RRM} reapplied	12.5	78	A^2s
		$t = 8.3\text{ ms}$		11.4	71	
		$t = 10\text{ ms}$		17.7	110	
		$t = 8.3\text{ ms}$		16.1	1000	
Maximum $I^2\sqrt{t}$ capability for fusing	$I^2\sqrt{t}$	$t = 0.1\text{ ms to } 10\text{ ms}$, no voltage reapplied		177	1105	$A^2\sqrt{s}$
Maximum peak forward voltage per diode	V_{FM}	$I_{FM} = 0.5 \times I_O, T_J = 25\text{ }^\circ\text{C}$		1.1	1.2	V
Typical peak reverse leakage per diode	I_{RM}	$T_J = 25\text{ }^\circ\text{C}, 100\% V_{RRM}$		10	10	mA
		$T_J = 150\text{ }^\circ\text{C}, 100\% V_{RRM}$		1.0	1.0	
Operating frequency range	f			40 to 1000		Hz
Maximum repetitive peak reverse voltage range	V_{RRM}			50 to 1000		V

THERMAL AND MECHANICAL SPECIFICATIONS				
PARAMETER	SYMBOL	KBPC1	KBPC6	UNITS
Operating and storage temperature range	T_J, T_{Stg}	- 40 to 150		$^\circ\text{C}$
Thermal resistance, junction to case	R_{thJC}	-	-	K/W
Approximate weight		5	6	g
		0.18	0.21	oz.



93585_01 Maximum Allowable Case Temperature ($^\circ\text{C}$)

Fig. 1 - Case Temperature Ratings



93585_02 Maximum Allowable Case Temperature ($^\circ\text{C}$)

Fig. 2 - Case Temperature Ratings

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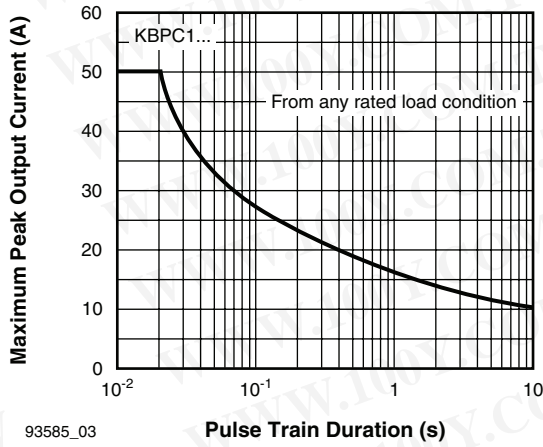


Fig. 3 - Non-Repetitive Surge Ratings

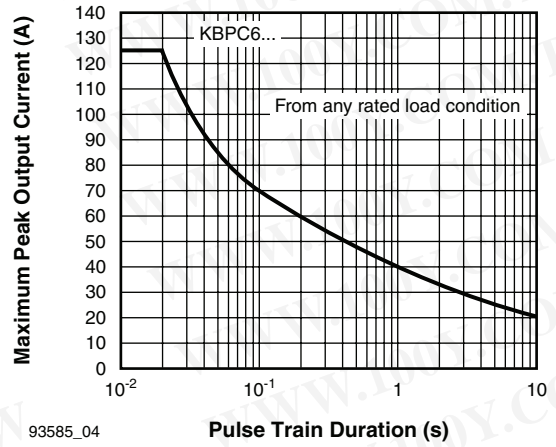
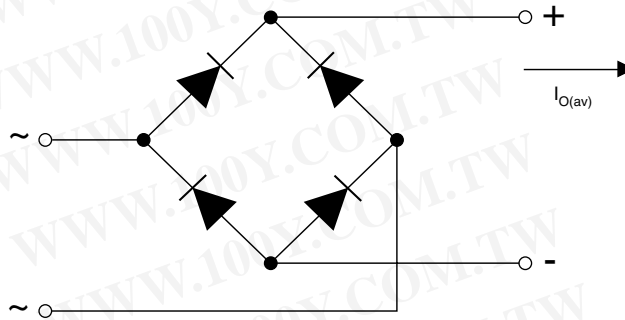


Fig. 4 - Non-Repetitive Surge Ratings

CIRCUIT CONFIGURATION



LINKS TO RELATED DOCUMENTS

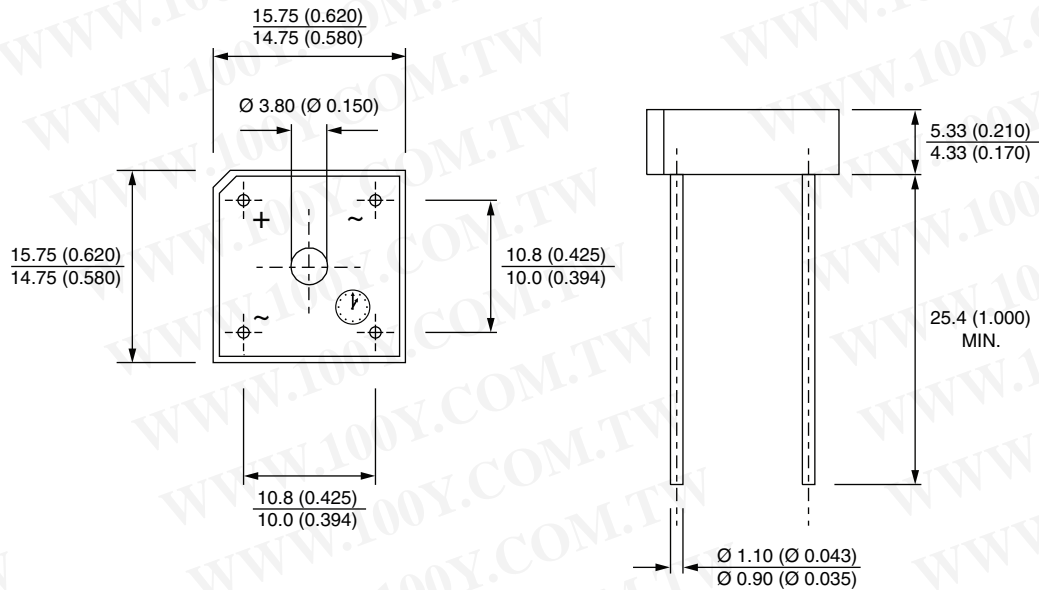
Dimensions

www.vishay.com/doc?95250

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DIMENSIONS in millimeters (inches)



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