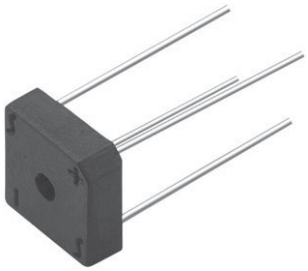
Single Phase Rectifier Bridge, 3 A, 6 A



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FEATURES

- Suitable for printed circuit board or chassis mounting
- Compact construction
- High surge current capability
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

DESCRIPTION

The VS-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.

PRIMARY CHARACTERISTICS	
$I_{O(AV)}$	3.0 A to 6.0 A
V_{RRM}	50 V to 1000 V
Package	D-72
Circuit configuration	Single phase bridge

MAJOR RATINGS AND CHARACTERISTICS				
SYMBOL	CHARACTERISTICS	VALUES KBPC1	VALUES KBPC6	UNITS
I_O		3	6	A
	T_C	50	50	°C
I_{FSM}	50 Hz	50	125	A
	60 Hz	55	137	
I^2t	50 Hz	12.5	78	A^2s
	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
VS-KBPC1005	50	50	20
VS-KBPC101	100	100	40
VS-KBPC102	200	200	80
VS-KBPC104	400	400	125
VS-KBPC106	600	600	250
VS-KBPC108	800	800	380
VS-KBPC110	1000	1000	500
VS-KBPC6005	50	50	20
VS-KBPC601	100	100	40
VS-KBPC602	200	200	80
VS-KBPC604	400	400	125
VS-KBPC606	600	600	250
VS-KBPC608	800	800	380
VS-KBPC610	1000	1000	500

FORWARD CONDUCTION						
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES KBPC1	VALUES KBPC6	UNITS
Maximum DC output current	I_O	T_C = 50 °C, resistive or inductive load		3.0	6.0	A
		T_C = 50 °C, capacitive load		2.4	4.7	
Maximum peak one cycle, non-repetitive surge current	I_{FSM}	t = 10 ms, 20 ms	Following any rated load condition and with rated V_{RRM} reapplied	50	125	
		t = 8.3 ms, 16.7 ms		55	137	
Maximum I^2t capability for fusing	I^2t	t = 10 ms	Initial $T_J = T_J$ maximum 100 % V_{RRM} reapplied	12.5	78	A^2s
		t = 8.3 ms		11.4	71	
		t = 10 ms		17.7	110	
		t = 8.3 ms		16.1	1000	
Maximum $I^2\sqrt{t}$ capability for fusing	$I^2\sqrt{t}$	t = 0.1 ms to 10 ms, no voltage reapplied		177	1105	$A^2\sqrt{s}$
Maximum peak forward voltage per diode	V_{FM}	I_{FM} = 0.5 x I_O, T_J = 25 °C		1.1	1.2	V
Typical peak reverse leakage per diode	I_{RM}	T_J = 25 °C, 100 % V_{RRM}		10	10	µA
		T_J = 150 °C, 100 % V_{RRM}		1.0	1.0	mA
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	VALUES KBPC1	VALUES KBPC6	UNITS
Operating and storage temperature range	T_J, T_{Stg}	-40 to +150		°C
Thermal resistance, junction to case	R_{thJC}	-	-	K/W
Approximate weight		5	6	g
		0.18	0.21	oz.

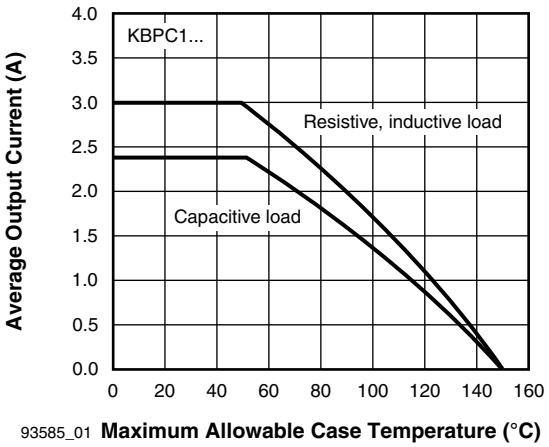


Fig. 1 - Case Temperature Ratings

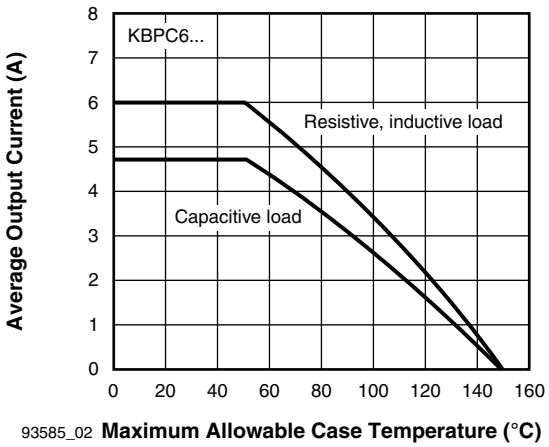


Fig. 2 - Case Temperature Ratings

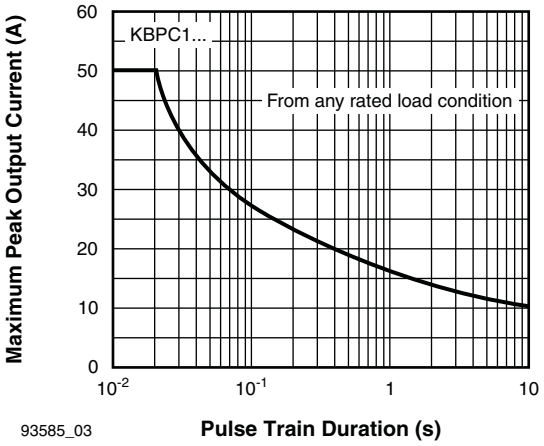


Fig. 3 - Non-Repetitive Surge Ratings

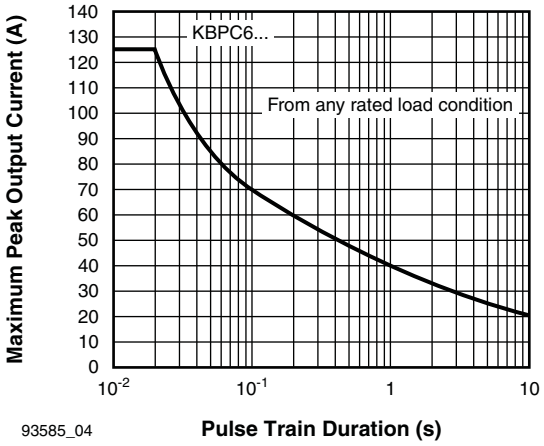
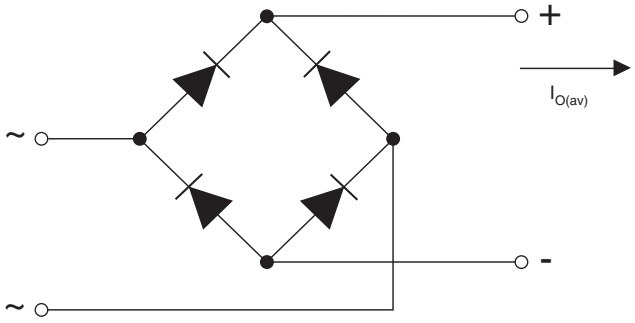


Fig. 4 - Non-Repetitive Surge Ratings

CIRCUIT CONFIGURATION



LINKS TO RELATED DOCUMENTS	
Dimensions	www.vishay.com/doc?95250

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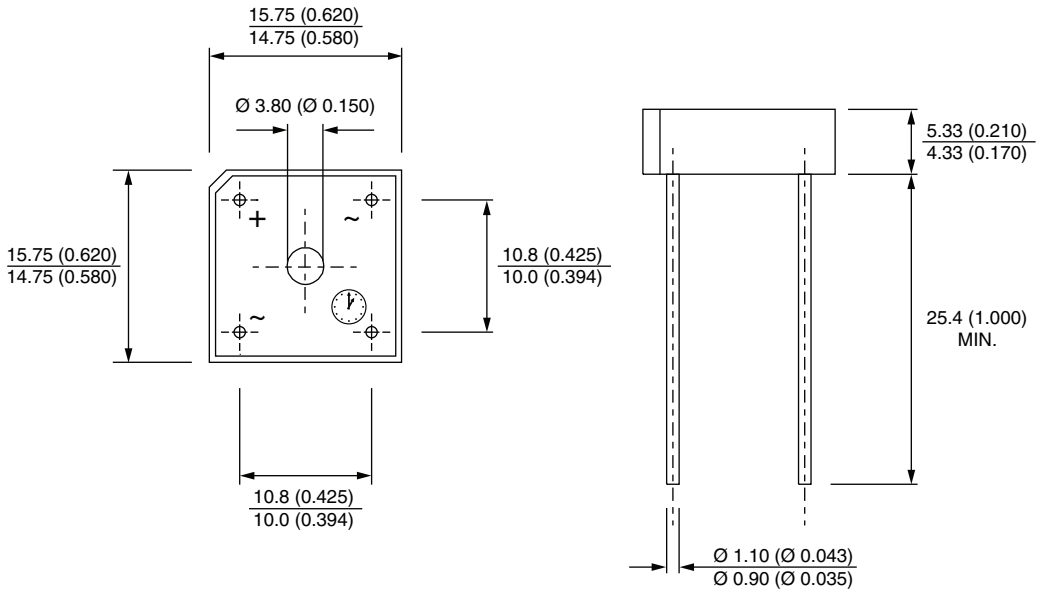
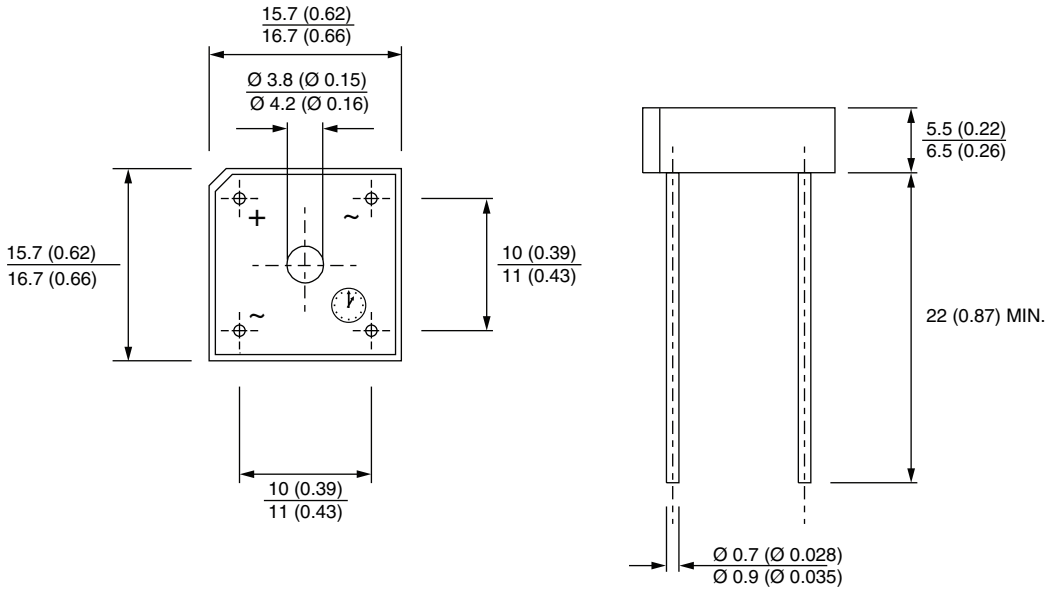
DIMENSIONS in millimeters (inches): **KBPC6, KBPC8**



DIMENSIONS in millimeters (inches): **KBPC1**



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