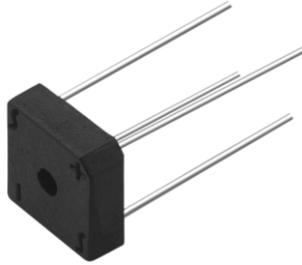


## Single Phase Rectifier Bridge, 3 A, 6 A



D-72

### FEATURES

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



### 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 <sup>2</sup> s
	60 Hz	11.4	71	
$V_{RRM}$	Range	50 to 1000		V
$T_J$		- 40 to 150		°C

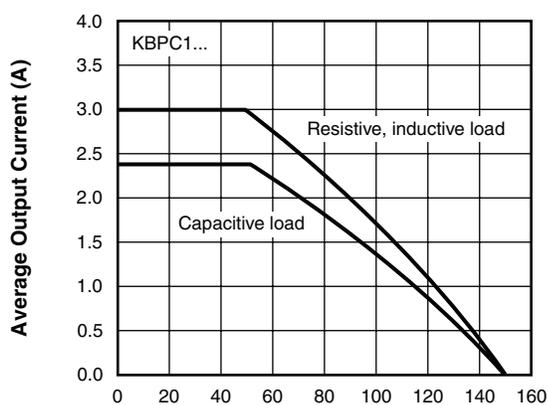
### ELECTRICAL SPECIFICATIONS

#### 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

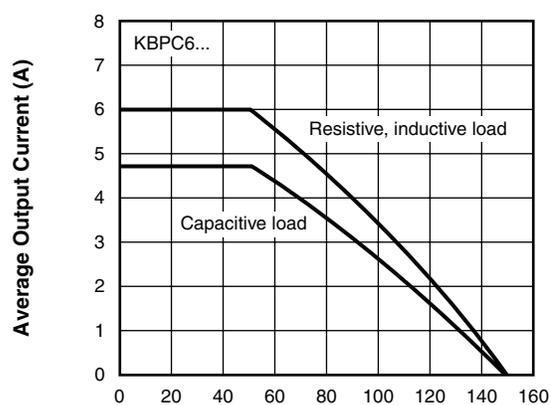
FORWARD CONDUCTION						
PARAMETER	SYMBOL	TEST CONDITIONS		KBPC1	KBPC6	UNITS
Maximum DC output current	$I_O$	$T_C = 50\text{ }^\circ\text{C}$ , resistive or inductive load		3.0	6.0	A
		$T_C = 50\text{ }^\circ\text{C}$ , capacitive load		2.4	4.7	
Maximum peak one cycle, non-repetitive surge current	$I_{FSM}$	$t = 10\text{ ms}$ , 20 ms	Following any rated load condition and with rated $V_{RRM}$ reapplied	50	125	A
		$t = 8.3\text{ ms}$ , 16.7 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 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

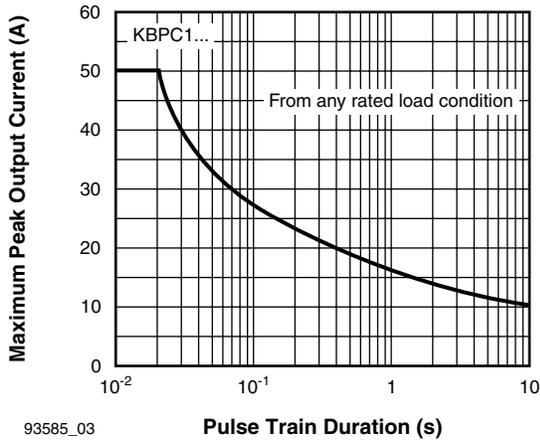


Fig. 3 - Non-Repetitive Surge Ratings

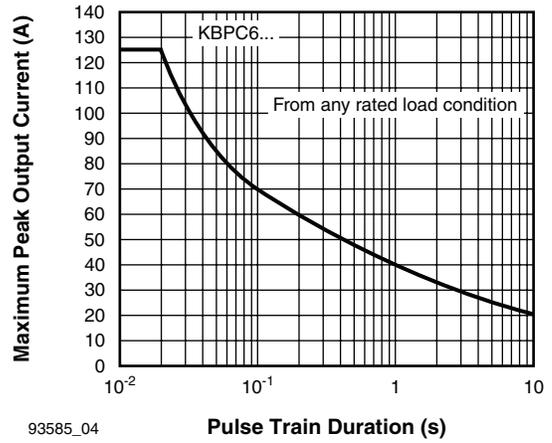
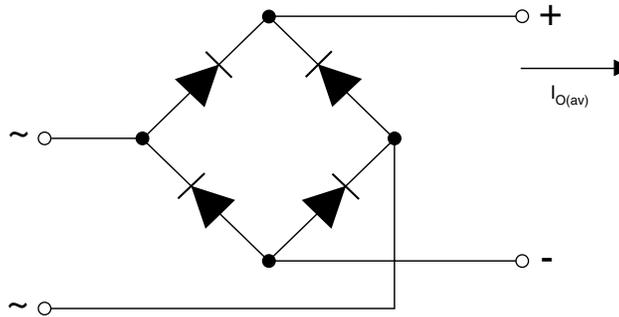


Fig. 4 - Non-Repetitive Surge Ratings

### CIRCUIT CONFIGURATION



#### LINKS TO RELATED DOCUMENTS

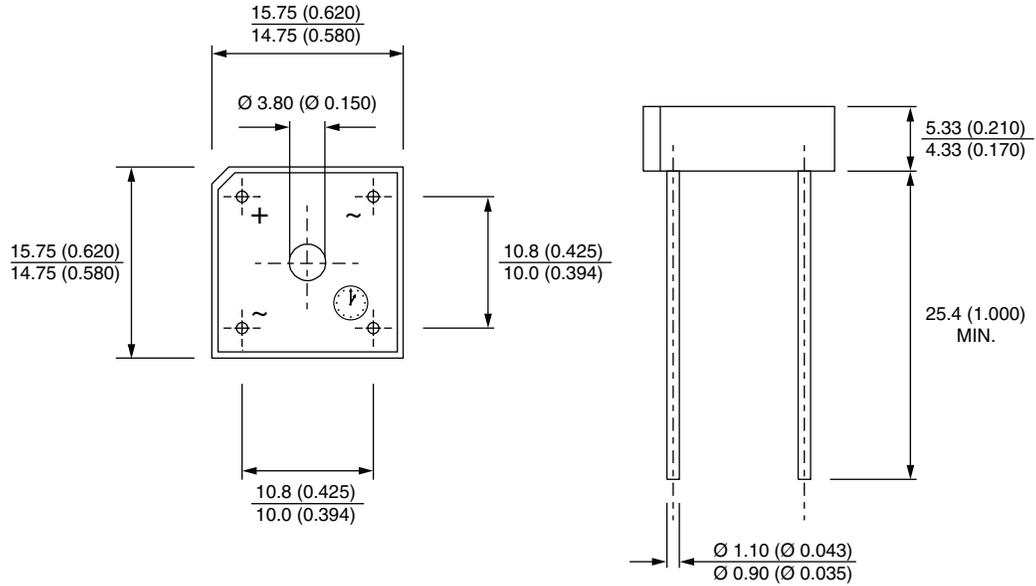
Dimensions

[www.vishay.com/doc?95250](http://www.vishay.com/doc?95250)

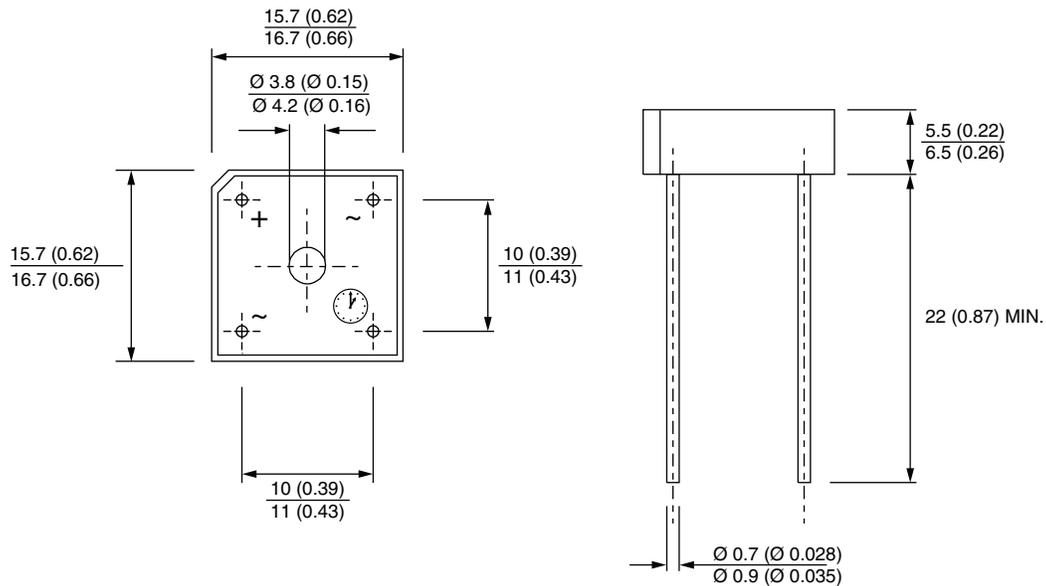


## D-72

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



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





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