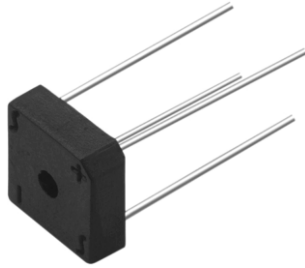


## Single Phase Rectifier Bridge, 3 A, 6 A



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 <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

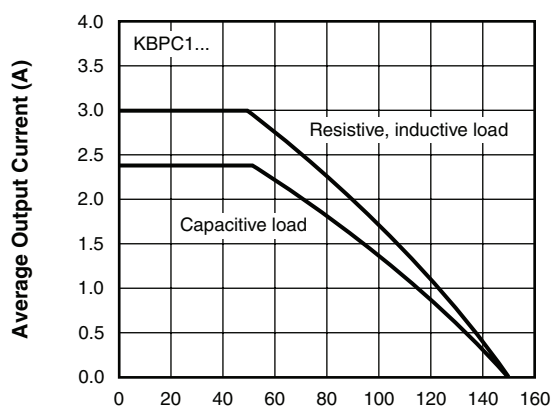
# KBPC1, KBPC6 Series



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

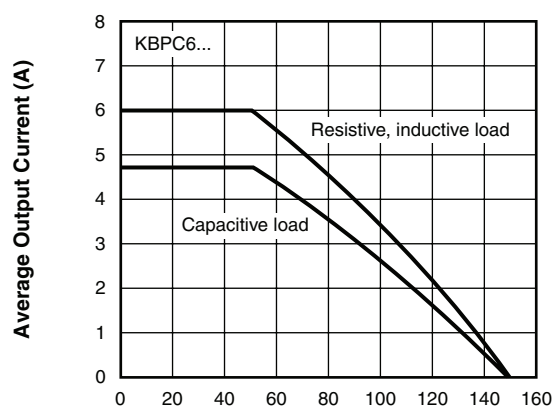
FORWARD CONDUCTION						
PARAMETER	SYMBOL	TEST CONDITIONS		KBPC1	KBPC6	UNITS
Maximum DC output current	$I_O$	$T_C = 50\text{ }^\circ\text{C}$ , resistive or inductive load		3.0	6.0	A
		$T_C = 50\text{ }^\circ\text{C}$ , capacitive load		2.4	4.7	
Maximum peak one cycle, non-repetitive surge current	$I_{FSM}$	$t = 10\text{ ms}$ , 20 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.



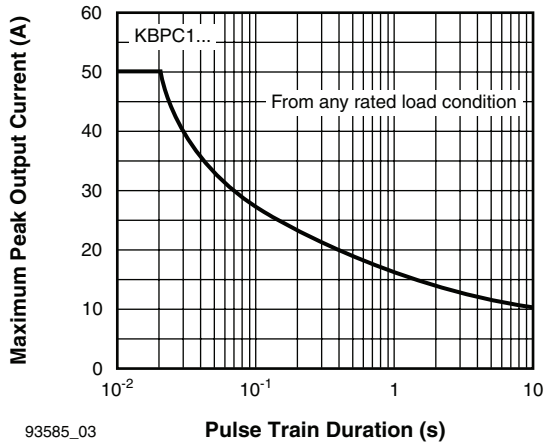
93585\_01 Maximum Allowable Case Temperature ( $^\circ\text{C}$ )

Fig. 1 - Case Temperature Ratings



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

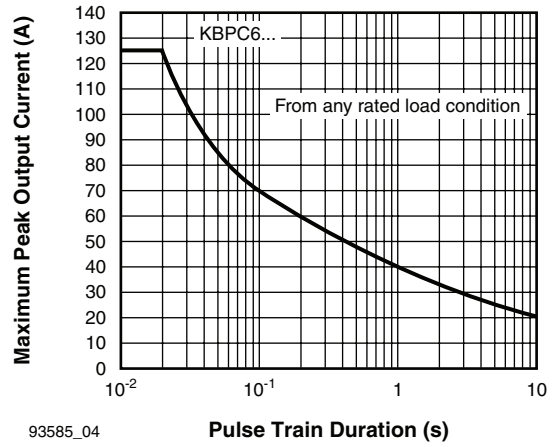
Fig. 2 - Case Temperature Ratings



93585\_03

Pulse Train Duration (s)

Fig. 3 - Non-Repetitive Surge Ratings

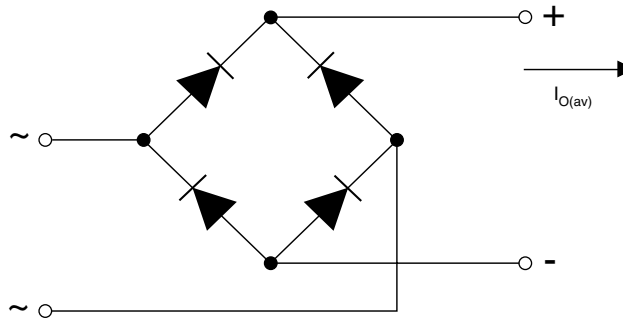


93585\_04

Pulse Train Duration (s)

Fig. 4 - Non-Repetitive Surge Ratings

## CIRCUIT CONFIGURATION



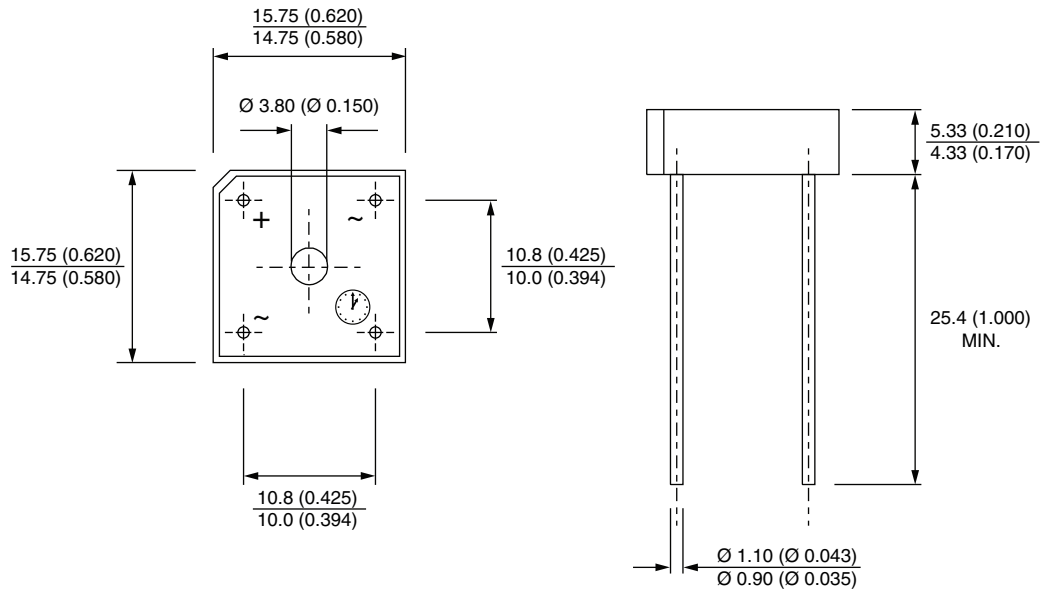
### LINKS TO RELATED DOCUMENTS

Dimensions

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

## D-72

**DIMENSIONS** in millimeters (inches)





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