

INTERNATIONAL RECTIFIER



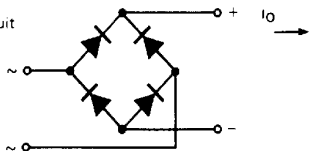
KBPC1, KBPC6 SERIES

3A, 6A single phase rectifier bridges

Maximum Ratings

	KBPC1	KBPC6	Units
I_O	3	6	A
I_{FSM}	50Hz	50	A
	60Hz	55	A
I^2t	50Hz	12.5	A ² s
	60Hz	11.4	A ² s
V_{RRM}	50 to 1000		V

Circuit



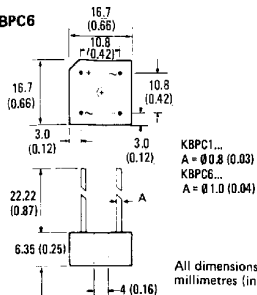
Description

3A and 6A single phase encapsulated bridge rectifiers consisting of four single diodes connected as a full bridge. They are suitable for general applications in industrial and consumer equipment.

Features

- Suitable for printed circuit board or chassis mounting
- Compact construction
- High surge current capability

KBPC1, KBPC6



Electrical Specifications

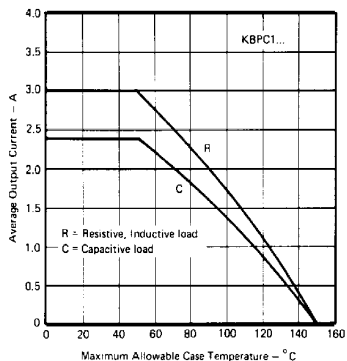
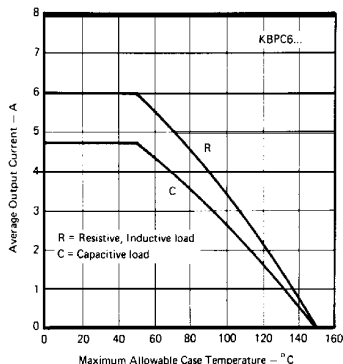
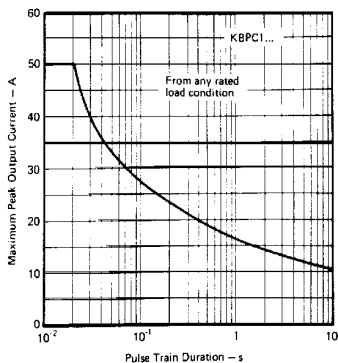
	KBPC1	KBPC6	Units	Conditions
I_O Maximum DC Output current	3.0	6.0	A	$T_C = 50^\circ\text{C}$, Resistive and inductive load
	2.4	4.7	A	$T_C = 50^\circ\text{C}$, capacitive load
I_{FSM} Maximum peak one cycle, non-repetitive surge current	50	125	A	$t = 10\text{ms}, 20\text{ms}$ Following any rated load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

Thermal and Mechanical Specifications

	KBPC1	KBPC6	Units	Conditions
T_J Operating temperature range	-40 to 150		$^\circ\text{C}$	
T_{stg} Storage temperature range	-40 to 150		$^\circ\text{C}$	
W Approximate weight	5 (0.18)	6 (0.21)	g (oz)	

Voltage Specifications

Part number	V_{RRM} Maximum repetitive peak reverse voltage	V_{RSM} Maximum non-repetitive peak reverse voltage	V_{RMS} Maximum recommended RMS supply voltage
	V	V	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

Fig. 1 – Case Temperature Ratings

Fig. 2 – Case Temperature Ratings

Fig. 3 – Non-Repetitive Surge Ratings

Fig. 4 – Non-Repetitive Surge Ratings
