INTERNATIONAL RECTIFIER IOR

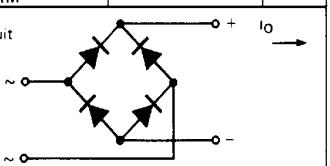
KBPC1, KBPC6 SERIES

3A, 6A single phase rectifier bridges

Maximum Ratings

		KBPC1	KBPC6	Units
I_O		3	6	A
I_{FSM}	50Hz	50	125	A
	60Hz	55	137	A
I^2t	50Hz	12.5	78	A^2s
	60Hz	11.4	71	A^2s
V_{RRM}		50 to 1000		V

Circuit



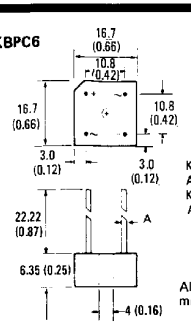
Description

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°C, Resistive and inductive load
		2.4	4.7	A	T_c = 50°C, capacitive load
I_{FSM}	Maximum peak one cycle, non-repetitive surge current	50	125	A	t = 10ms, 20ms — Following any rated load condition and with rated V_{RRM} reapplied
		55	137	A	t = 8.3ms, 16.7ms — Following any rated load condition and with rated V_{RRM} reapplied
I^2t	Maximum I^2t capability for fusing	12.5	78	A^2s	t = 10ms — Initial $T_J = T_J$ max, 100% V_{RRM} reapplied
		11.4	71	A^2s	t = 8.3ms — Initial $T_J = T_J$ max, 100% V_{RRM} reapplied
		17.7	110	A^2s	t = 10ms — Initial $T_J = T_J$ max, No voltage reapplied
		16.1	100	A^2s	t = 8.3ms — Initial $T_J = T_J$ max, No voltage reapplied
$I^2\sqrt{t}$	Maximum $I^2\sqrt{t}$ capability for fusing	177	1105	$A^2\sqrt{s}$	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 x I_O, T_J = 25°C
I_{RM}	Typical peak reverse leakage current per diode	10	10	μA	T_J = 25°C — 100% V_{RRM}
		1.0	1.0	mA	T_J = 150°C — 100% V_{RRM}
f	Operating frequency range	40 to 1000		Hz	

Thermal and Mechanical Specifications

		KBPC1	KBPC6	Units	Conditions
T_J	Operating temperature range	–40 to 150		°C	
T_{stg}	Storage temperature range	–40 to 150		°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

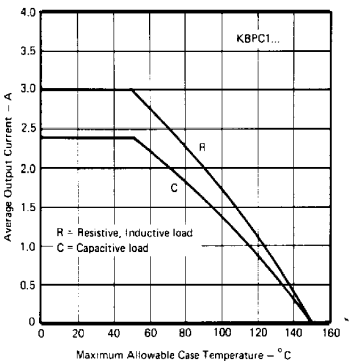


Fig. 2 – Case Temperature Ratings

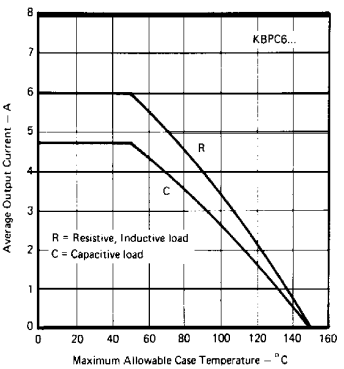


Fig. 3 – Non-Repetitive Surge Ratings

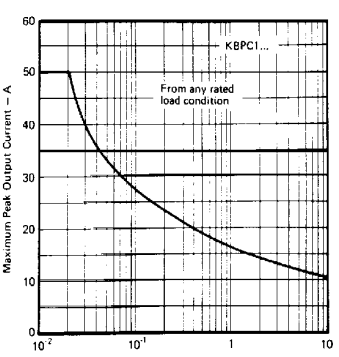


Fig. 4 – Non-Repetitive Surge Ratings