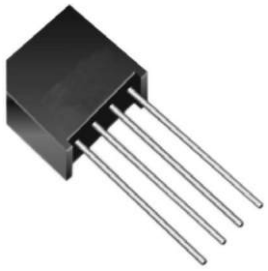
Single Phase Rectifier Bridge, 1.9 A



2KBB

FEATURES

- Suitable for printed circuit board mounting
- Leads on standard 2.54 mm (0.1") grid
- Compact construction
- High surge current capability
- Polarized package
- Equivalent to standard DIN parts
- RoHS compliant

RoHS COMPLIANT

DESCRIPTION

A 1.9 A single phase diode bridge rectifier assembly consisting of four silicon diodes in a plastic encapsulation, intended for general applications in industrial and consumer equipment.

PRODUCT SUMMARY	
I_O	1.9 A
V_{RRM}	100 to 1000 V

MAJOR RATINGS AND CHARACTERISTICS			
SYMBOL	CHARACTERISTICS	VALUES	UNITS
I_O		1.9	A
I_{FSM}	50 Hz	50	A
	60 Hz	52	
I^2t	50 Hz	17.7	A^2s
	60 Hz	16.1	
V_{RRM}		100 to 1000	V
T_J		- 40 to 150	°C

ELECTRICAL SPECIFICATIONS

VOLTAGE RATINGS AND APPLICATION DATA							
CROSS REFERENCE		V_{RRM}, V_{RSM} MAXIMUM PEAK REVERSE VOLTAGE T_J = 15 °C (V)	I_{RM} TYPICAL PEAK REVERSE CURRENT PER DIODE AT RATED V_{RRM} (µA)		APPLICATION DATA (SEE FIGURE 3)		
PART NUMBER	DIN CODE		T_J = 25 °C	T_J = 150 °C	V_{RMS} MAXIMUM RECOMMENDED AC SUPPLY VOLTAGE (V)	C_{MAX} MAXIMUM LOAD CAPACITANCE (µF)	R_{MIN} MINIMUM SOURCE RESISTANCE (Ω)
2KBB05	B20C1500	50	10	500	20	7000	0.3
2KBB10	B40C1500	100	10	500	40	5000	0.5
2KBB20	B80C1500	200	10	500	80	3300	0.8
2KBB40	B125C1500	400	10	500	125	1600	1.5
2KBB60	B250C1500	600	10	500	250	1200	2.5
2KBB80	B380C1500	800	10	500	380	800	3.0
2KBB100	B500C1500	1000	10	500	500	600	5.0

Note

- For PIN configuration - ~ ~ + add “R” to end of part number, e.g. 2KBB05R (see also dimensions for details - link at the end of datasheet)

FORWARD CONDUCTION					
PARAMETER	**SYMBOL**	**TEST CONDITIONS**		**VALUES**	**UNITS**
Maximum DC output current	I_O	T_C = 45 °C, resistive and inductive load		1.9	A
		T_C = 45 °C, capacitive load		1.5	
Maximum peak one cycle, non-repetitive surge current	I_{FSM}	t = 6 ms	Following any rated load condition, and with rated V_{RRM} applied following surge	50	A
		t = 5 ms		52	
Maximum I^2t for fusing, initial $T_J = T_J$ maximum	I^2t	t = 10 ms	Rated V_{RRM} applied following surge, initial T_J = 150 °C	12.5	A^2s
		t = 8.3 ms		11.3	
		t = 10 ms		17.7	
		t = 8.3 ms		16.1	
Maximum $I^2\sqrt{t}$ capability for fusing	$I^2\sqrt{t}$ (1)	t = 0.1 to 10 ms, V_{RRM} following surge = 0		177	$A^2\sqrt{s}$
Maximum peak forward voltage per diode	V_{FM}	I_O = 1.9 A (3.0 Apk)		1.1	V
Operating frequency range	f			40 to 2000	Hz

Note

(1) I^2t for time $t_x = I^2\sqrt{t} \bullet \sqrt{t_x}$

THERMAL AND MECHANICAL SPECIFICATIONS			
PARAMETER	**SYMBOL**	**VALUES**	**UNITS**
Operating junction and storage temperature range	T_J, T_{Stg}	- 40 to 150	°C
Approximate weight		4	g
		0.14	oz.

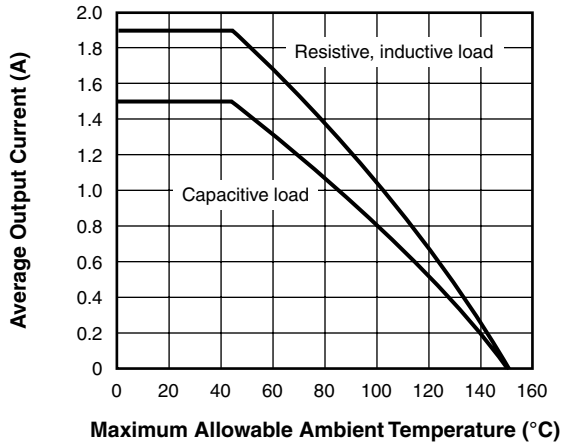


Fig. 1 - Average (DC) Output Current vs. Maximum Allowable Ambient Temperature

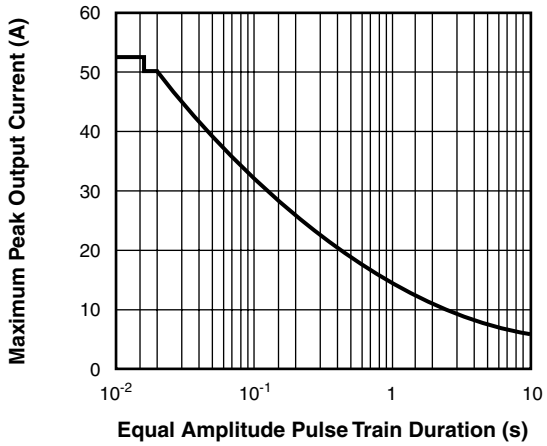


Fig. 2 - Maximum Non-Repetitive Surge Current vs. Pulse Train Duration (f = 50 Hz)

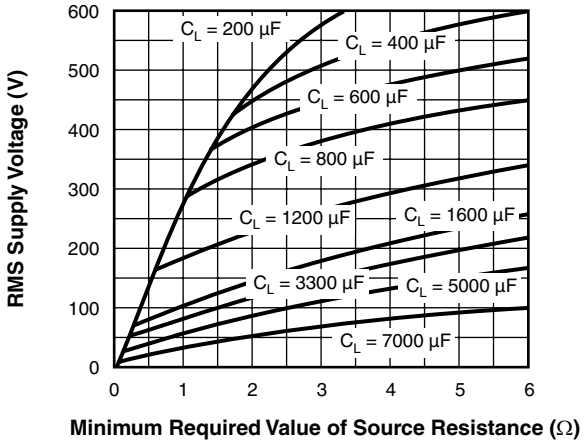


Fig. 3 - Minimum Required Source Resistance vs. RMS Supply Voltage and Load Capacitance

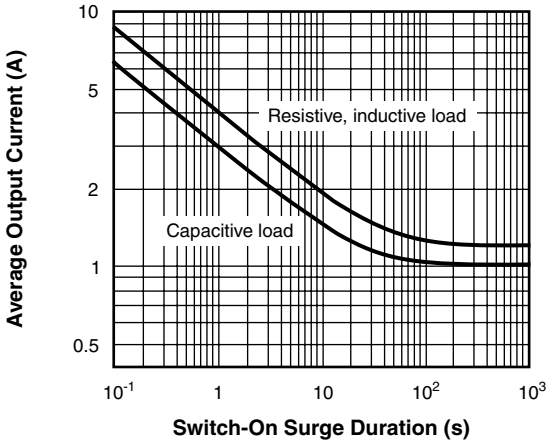
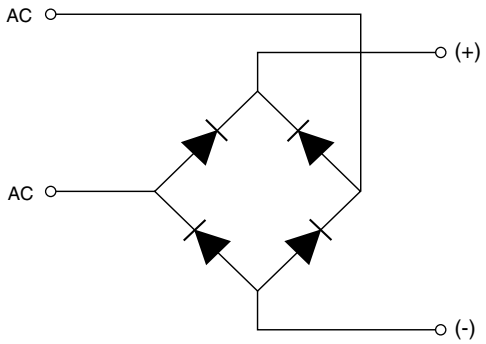


Fig. 4 - Maximum Switch-On Surge Current vs. Surge Duration

CIRCUIT CONFIGURATION



LINKS TO RELATED DOCUMENTS	
Dimensions	http://www.vishay.com/doc?95328

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