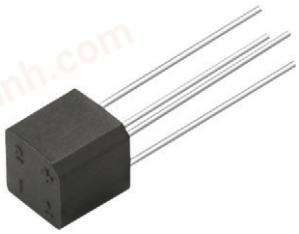
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Single Phase Rectifier Bridge, 1.2 A



D-38

FEATURES

- Ease of assembly, installation, inventory
- High surge rating
- Compact
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

DESCRIPTION

A 1.2 A diode bridge rectifier assembly designed for new circuits and for replacement service. For printed circuit board applications.

PRIMARY CHARACTERISTICS	
I_O	1.2 A
V_{RRM}	100 V to 1000 V
Package	D-38
Circuit configuration	Single phase bridge

MAJOR RATINGS AND CHARACTERISTICS			
SYMBOL	CHARACTERISTICS	VALUES	UNITS
I_O		1.2	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		-55 to 150	°C

ELECTRICAL SPECIFICATIONS

VOLTAGE RATINGS					
CROSS REFERENCE		V_{RRM}, V_{RSM} (V)	V_{RMS} (RECOMMENDED) (V)	MAXIMUM LOAD CAPACITANCE (µF) (1)	MINIMUM SOURCE RESISTANCE (Ω) (1)
PART NUMBER	DIN CODE				
VS-1KAB05E		50	20	7000	0.5
VS-1KAB10E	B40C1000	100	40	5000	0.5
VS-1KAB20E	B80C1000	200	80	3300	0.8
VS-1KAB40E	B125C1000	400	125	1600	1.5
VS-1KAB60E	B250C1000	600	250	1200	2.6
VS-1KAB80E	B380C1000	800	380	800	3.0
VS-1KAB100E	B500C1000	1000	500	600	5.0

Note

(1) See figure 3

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FORWARD CONDUCTION					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum DC output current	I_O	T_A = 45 °C, resistive or inductive load		1.2	A
		T_A = 45 °C, capacitive load		1.0	
Maximum peak one cycle, non-repetitive surge current	I_{FSM}	50 Hz half cycle sine wave or 6 ms rectangular pulse	Following any rated load condition, and with rated V_{RRM} applied following surge	50	A
		60 Hz half cycle sine wave or 5 ms rectangular pulse		52	
Maximum I^2t capability for fusing	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	V_{RRM} = 0 following surge, initial T_J = 150 °C	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 leg	V_{FM}	I_O = 1.2 A (1.88 A_{pk})		1.1	V
Typical peak reverse current per leg	I_{RM}	T_J = 25 °C, at rated V_{RRM}		10	µA
		T_J = 150 °C, at rated V_{RRM}		500	
Operating frequency range	f			40 to 2000	Hz

Note

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

THERMAL AND MECHANICAL SPECIFICATIONS			
PARAMETER	SYMBOL	VALUES	UNITS
Operating junction and storage temperature range	T_J, T_{Stg}	-40 to 150	°C
Approximate weight		3	g
		0.1	oz.

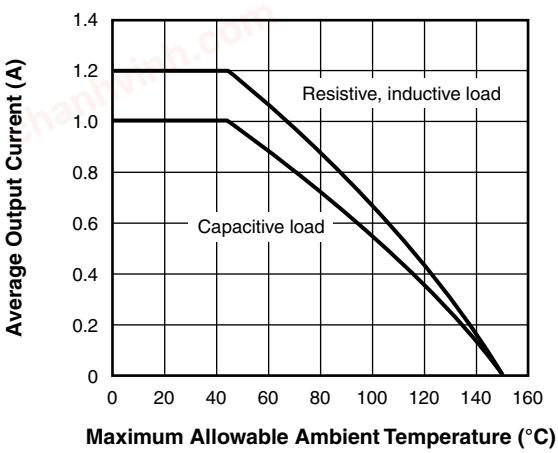


Fig. 1 - Average (DC) Output Current vs. Maximum Allowable Ambient Temperature

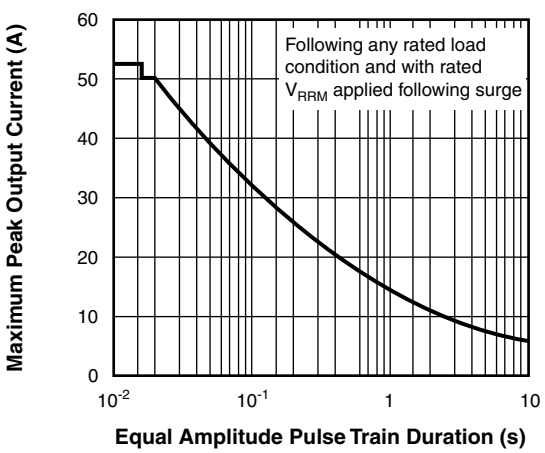


Fig. 2 - Maximum Non-Repetitive Surge Current vs. Pulse Train Duration (f = 50 Hz)

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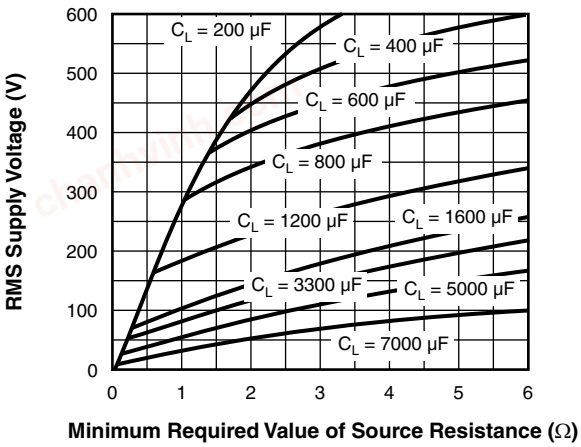


Fig. 3 - Minimum Required Source Resistance vs. RMS Supply Voltage and Load Capacitance

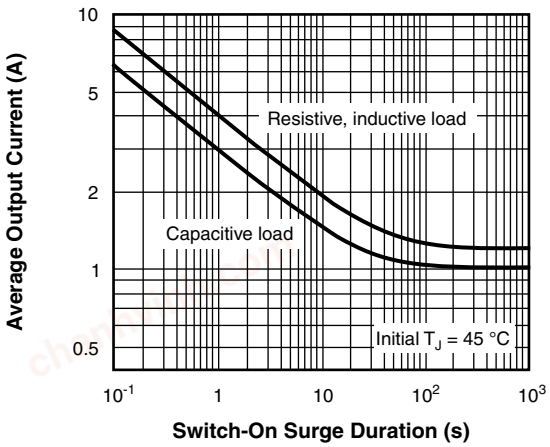
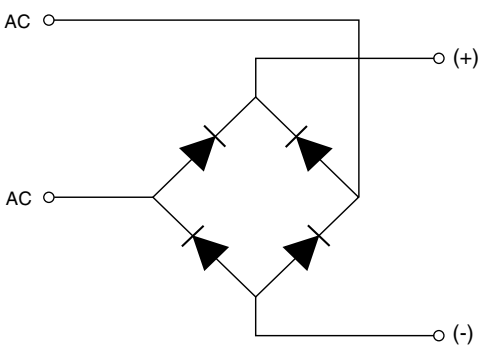


Fig. 4 - Maximum Switch-On Surge Current vs. Surge Duration

CIRCUIT CONFIGURATION



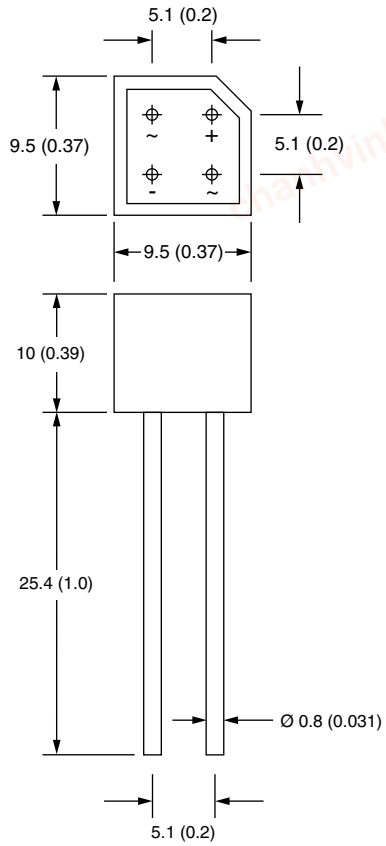
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DIMENSIONS in millimeters (inches)



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