

Single Phase Rectifier Bridge

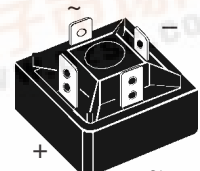
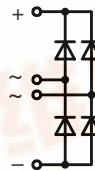
Standard and Avalanche Types

$$I_{dAV} = 38 \text{ A}$$

$$V_{RRM} = 800-1600 \text{ V}$$

V_{RSM} V	V_{BRmin} ① V	V_{RRM} V	Standard Types	Avalanche Types
900		800	VBO 25-08NO2	
1300	1230	1200	VBO 25-12NO2	VBO 25-12AO2
1500	1430	1400	VBO 25-14NO2	VBO 25-14AO2
1700	1630	1600	VBO 25-16NO2	VBO 25-16AO2

① For Avalanche Types only



Symbol	Test Conditions	Maximum Ratings	Features
I_{dAV} ②	$T_C = 85^\circ\text{C}$, module	38 A	• Avalanche rated parts available
I_{dAVM}	module	40 A	• Package with DCB ceramic base plate
P_{RSM}	$T_{VJ} = T_{VJM}$ $t = 10 \mu\text{s}$	3.4 kW	• Isolation voltage 3600 V~
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $V_R = 0$	370 A	• Planar passivated chips
	$t = 10 \text{ ms}$ (50 Hz), sine	390 A	• Low forward voltage drop
	$t = 8.3 \text{ ms}$ (60 Hz), sine	320 A	• 1/4" fast-on terminals
	$T_{VJ} = T_{VJM}$ $V_R = 0$	340 A	• UL registered E 72873
I^2t	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$	680 A ² s	
	$t = 10 \text{ ms}$ (50 Hz), sine	640 A ² s	
	$t = 8.3 \text{ ms}$ (60 Hz), sine	510 A ² s	
	$T_{VJ} = T_{VJM}$ $V_R = 0$	470 A ² s	
T_{VJ}		-40...+150 °C	
T_{VJM}		150 °C	
T_{stg}		-40...+125 °C	
V_{ISOL}	50/60 Hz, RMS $t = 1 \text{ min}$	3000 V~	
	$I_{ISOL} \leq 1 \text{ mA}$ $t = 1 \text{ s}$	3600 V~	
M_d	Mounting torque (M5) (10-32 UNF)	1.5-2 Nm	
Weight	typ.	13-18 lb.in.	
		15 g	

Features

- Avalanche rated parts available
- Package with DCB ceramic base plate
- Isolation voltage 3600 V~
- Planar passivated chips
- Low forward voltage drop
- 1/4" fast-on terminals
- UL registered E 72873

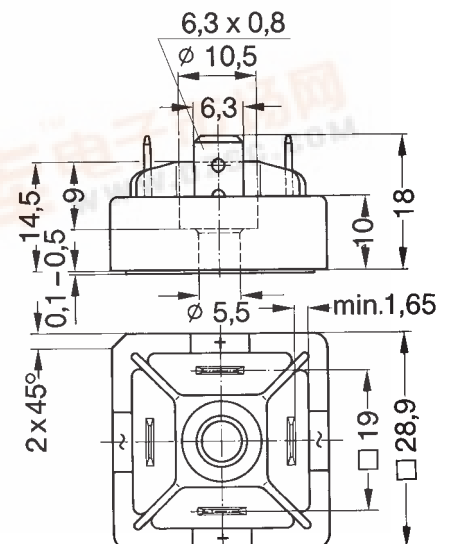
Applications

- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

Advantages

- Easy to mount with one screw
- Space and weight savings
- Improved temperature and power cycling

Dimensions in mm (1 mm = 0.0394")



Data according to IEC 60747 and refer to a single diode unless otherwise stated

② for resistive load at bridge output, ③ with isolated fast-on tabs.

IXYS reserves the right to change limits, test conditions and dimensions.

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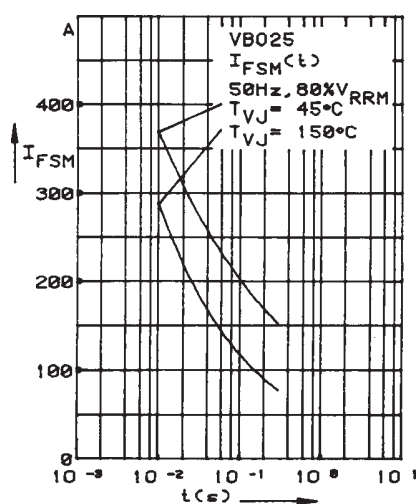


Fig. 1 Surge overload current per diode
 I_{FSM} : Crest value, t : duration

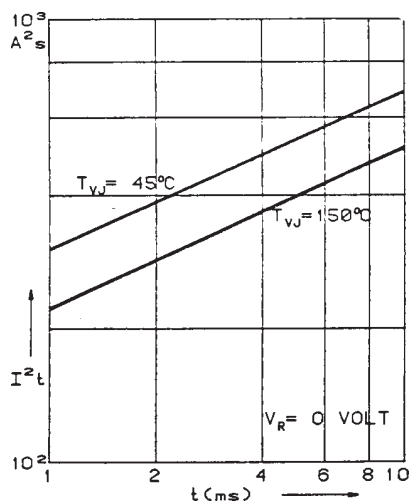


Fig. 2 I^2t versus time (1-10 ms)
per diode

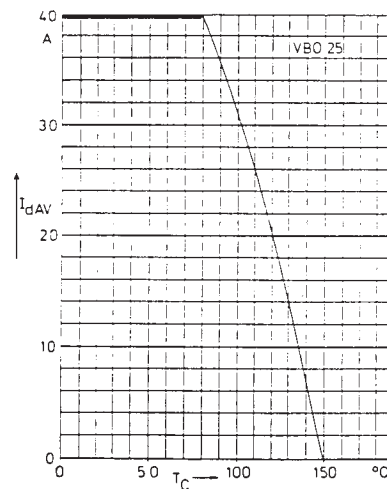


Fig. 3 Max. forward current at case temperature

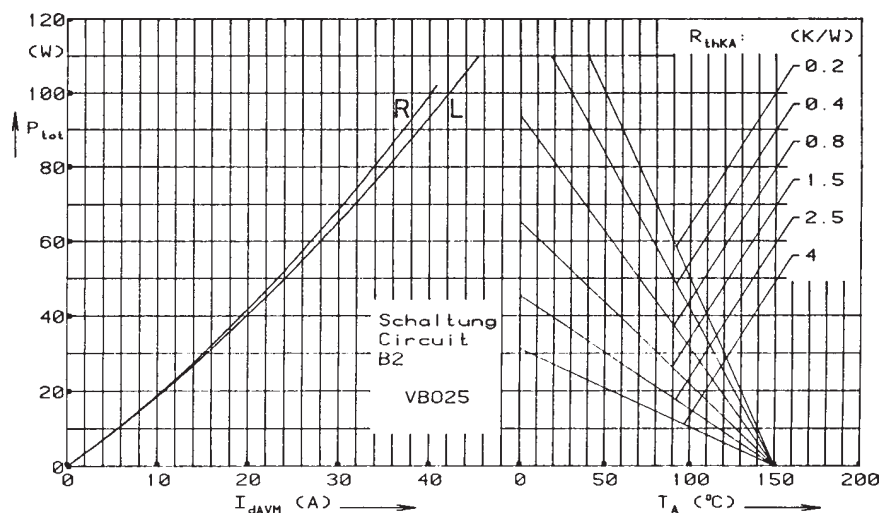


Fig. 4 Power dissipation versus direct output current and ambient temperature

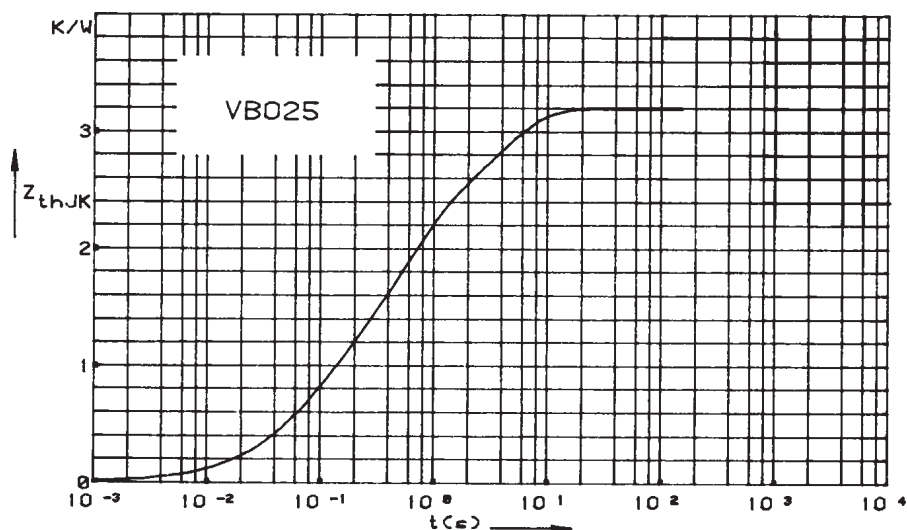


Fig. 5 Transient thermal impedance junction to heatsink per diode

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Constants for Z_{thJK} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.775	0.0788
2	1.390	0.504
3	1.055	3.701