

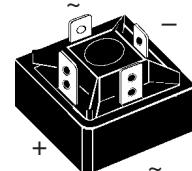
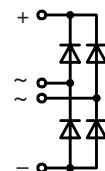
# Single Phase Rectifier Bridge

**I<sub>dAV</sub> = 31 A**  
**V<sub>RRM</sub> = 800-1600 V**

## Standard and Avalanche Types

V <sub>RSM</sub> V	V <sub>BRmin</sub> <sup>①</sup> V	V <sub>RRM</sub> V	Standard	Avalanche
			Type	Type
900	800	800	VBO 20-08NO2	
1300	1230	1200	VBO 20-12NO2	VBO 20-12AO2
1500	1430	1400	VBO 20-14NO2	VBO 20-14AO2
1700	1630	1600	VBO 20-16NO2	VBO 20-16AO2

① For Avalanche Types only



Symbol	Test Conditions		Maximum Ratings		
I <sub>dAV</sub> <sup>②</sup>	T <sub>C</sub> = 85°C, module		31	A	
I <sub>dAVM</sub>	module		40	A	
P <sub>RSM</sub>	T <sub>VJ</sub> = T <sub>VJM</sub>	t = 10 µs	3.4	kW	
I <sub>FSM</sub>	T <sub>VJ</sub> = 45°C; V <sub>R</sub> = 0	t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	300	A	
	T <sub>VJ</sub> = T <sub>VJM</sub> V <sub>R</sub> = 0	t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	315	A	
I <sup>2</sup> t	T <sub>VJ</sub> = 45°C V <sub>R</sub> = 0	t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	250	A	
	T <sub>VJ</sub> = T <sub>VJM</sub> V <sub>R</sub> = 0	t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	265	A	
T <sub>VJ</sub>			-40...+150	°C	
T <sub>VJM</sub>			150	°C	
T <sub>stg</sub>			-40...+125	°C	
V <sub>ISOL</sub>	50/60 Hz, RMS	t = 1 min	3000	V~	
	I <sub>ISOL</sub> ≤ 1 mA	t = 1 s	3600	V~	
M <sub>d</sub>	Mounting torque (M5) (10-32 UNF)		1.5-2	Nm	
			13-18	lb.in.	
Weight	typ.		15	g	

Symbol	Test Conditions		Characteristic Values		
I <sub>R</sub>	V <sub>R</sub> = V <sub>RRM</sub> ;	T <sub>VJ</sub> = 25°C	≤	0.3	mA
	V <sub>R</sub> = V <sub>RRM</sub> ;	T <sub>VJ</sub> = T <sub>VJM</sub>	≤	5	mA
V <sub>F</sub>	I <sub>F</sub> = 55 A;	T <sub>VJ</sub> = 25°C	≤	1.6	V
V <sub>T0</sub>	For power-loss calculations only		0.85	V	
r <sub>T</sub>	T <sub>VJ</sub> = T <sub>VJM</sub>		14	mΩ	
R <sub>thJC</sub>	per diode, DC current		3.0	K/W	
	per module		0.75	K/W	
R <sub>thJK</sub>	per diode, DC current		3.4	K/W	
	per module		0.85	K/W	
d <sub>s</sub>	Creeping distance on surface		13	mm	
d <sub>A</sub>	Creepage distance in air <sup>③</sup>		9.5	mm	
a	Max. allowable acceleration		50	m/s <sup>2</sup>	

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.

© 2004 IXYS All rights reserved

## 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

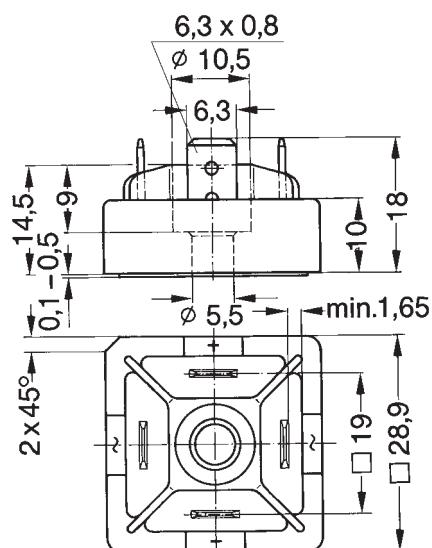
## Applications

- 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")



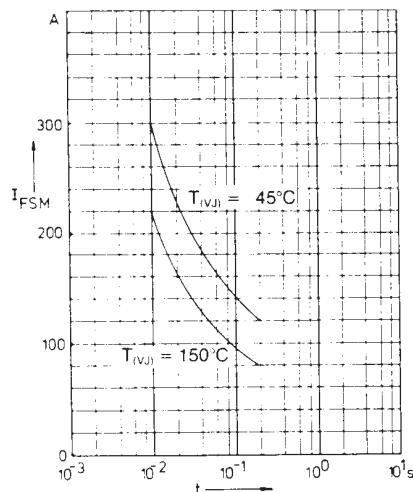


Fig. 1 Surge overload current per diode  
 $I_{FSM}$ : Crest value,  $t$ : duration

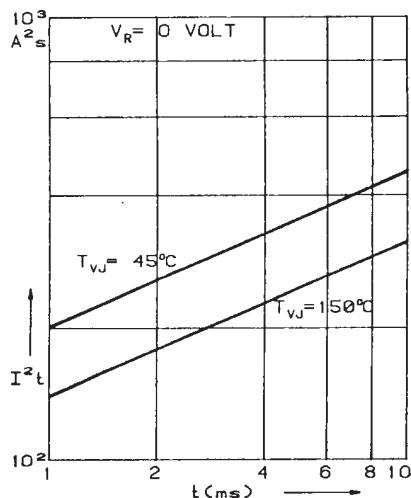


Fig. 2  $I^2t$  versus time (1-10 ms)  
per diode

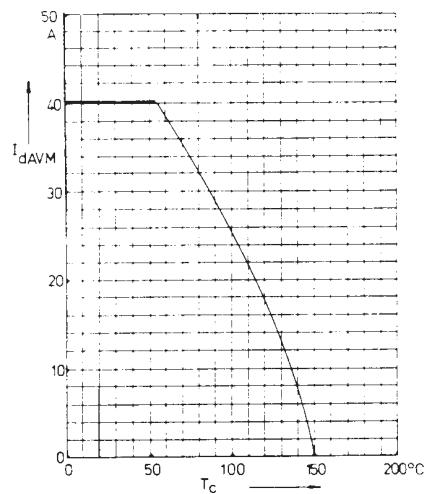


Fig. 3 Max. forward current at case temperature

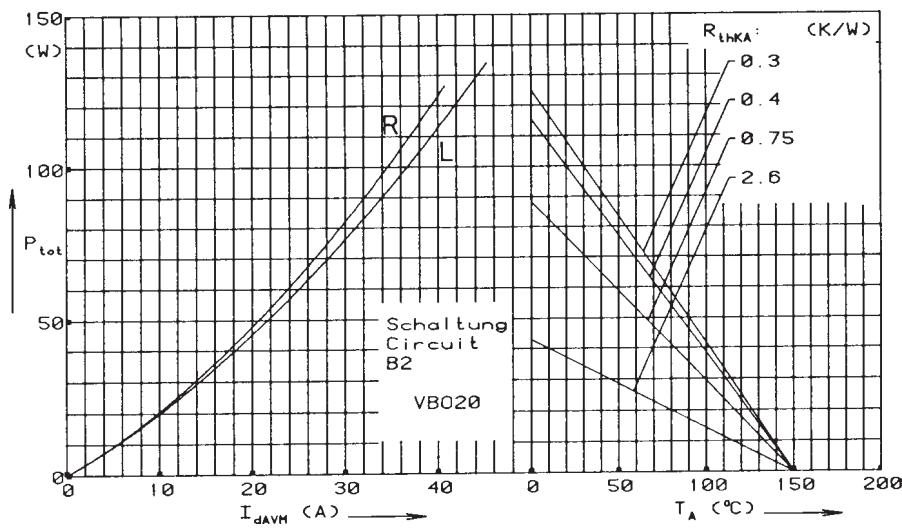


Fig. 4 Power dissipation versus direct output current and ambient temperature

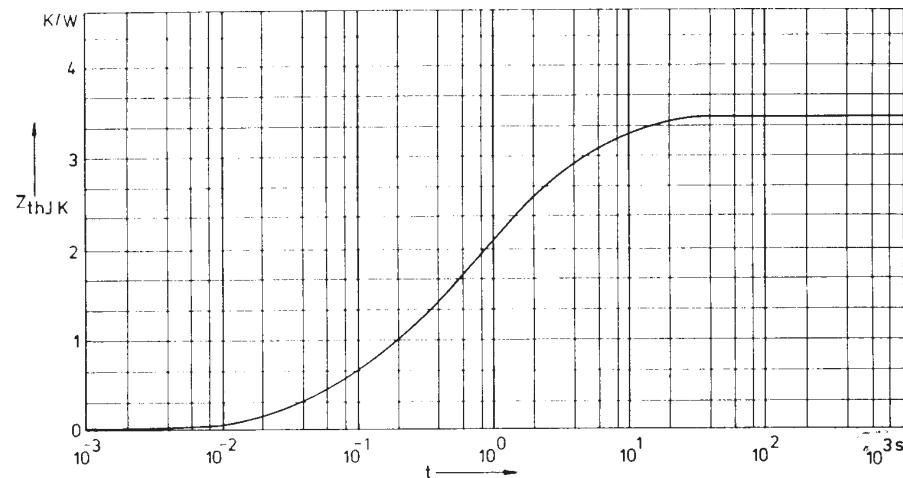


Fig. 5 Transient thermal impedance junction to heatsink per diode

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

Constants for  $Z_{thJK}$  calculation:

i	$R_{thi}$ (K/W)	$t_i$ (s)
1	0.775	0.0788
2	1.390	0.504
3	1.255	3.701