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[IXYS Corporation](#)

[VBO50-14NO7](#)

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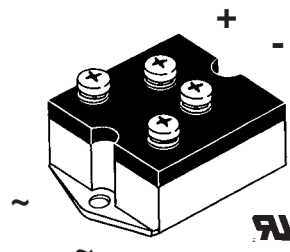
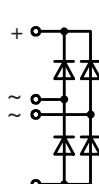
VBO 50

Single Phase Rectifier Bridge

$I_{dAVM} = 50 \text{ A}$
 $V_{RRM} = 800-1800 \text{ V}$

V_{RSM} V	V_{RRM} V	Type
800	800	VBO 50-08NO7
1200	1200	VBO 50-12NO7
1400	1400	VBO 50-14NO7
1600	1600	VBO 50-16NO7
1800	1800	VBO 50-18NO7*

* delivery time on request



Symbol	Conditions	Maximum Ratings	
I_{dAVM}	$T_C = 64^\circ\text{C}$, module	50	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $V_R = 0$	t = 10 ms (50 Hz), sine	750 A
		t = 8.3 ms (60 Hz), sine	820 A
I^2t	$T_{VJ} = T_{VJM}$ $V_R = 0$	t = 10 ms (50 Hz), sine	670 A
		t = 8.3 ms (60 Hz), sine	740 A
I^2t	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$	t = 10 ms (50 Hz), sine	2800 A ² s
		t = 8.3 ms (60 Hz), sine	2820 A ² s
T_{VJ}	$T_{VJ} = T_{VJM}$ $V_R = 0$	t = 10 ms (50 Hz), sine	2250 A ² s
		t = 8.3 ms (60 Hz), sine	2300 A ² s
T_{VJ}		-40...+150	°C
T_{VJM}		150	°C
T_{stg}		-40...+150	°C
V_{ISOL}	50/60 Hz, RMS $I_{ISOL} \leq 1 \text{ mA}$	t = 1 min	2500 V~
		t = 1 s	3000 V~
M_d	Mounting torque (M5)	5 ±15%	Nm
		44 ±15%	lb.in.
	Terminal connection torque (M5)	3 ±15%	Nm
		26 ±15%	lb.in.
Weight	typ.	260	g

Features

- Package with screw terminals
- Isolation voltage 3000 V~
- Planar passivated chips
- Blocking voltage up to 1800 V
- Low forward voltage drop
- UL registered E 72873

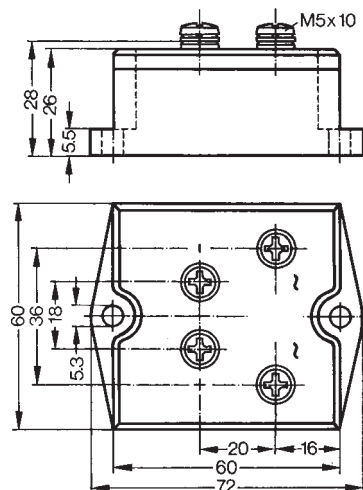
Applications

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

Advantages

- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling

Dimensions in mm (1 mm = 0.0394")



Symbol	Conditions	Characteristic Values	
I_R	$V_R = V_{RRM}$; $V_R = V_{RRM}$;	$T_{VJ} = 25^\circ\text{C}$	≤ 0.3 mA
		$T_{VJ} = T_{VJM}$	≤ 10.0 mA
V_F	$I_F = 150 \text{ A}$;	$T_{VJ} = 25^\circ\text{C}$	≤ 1.6 V
V_{T0}	For power-loss calculations only		0.85 V
r_T	$T_{VJ} = T_{VJM}$		8 mΩ
R_{thJC}	per diode; DC current		2.6 KW
	per module		0.65 KW
R_{thJK}	per diode; DC current		2.84 KW
	per module		0.71 KW

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

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

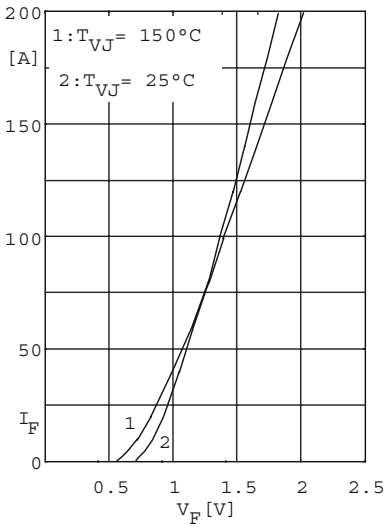


Fig. 1 Forward current versus voltage drop per diode

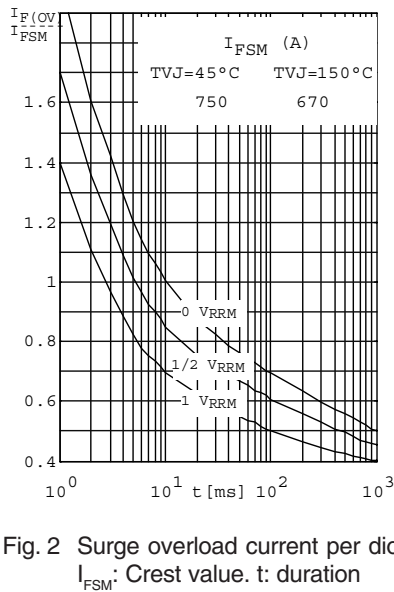


Fig. 2 Surge overload current per diode I_{FSM} : Crest value. t: duration

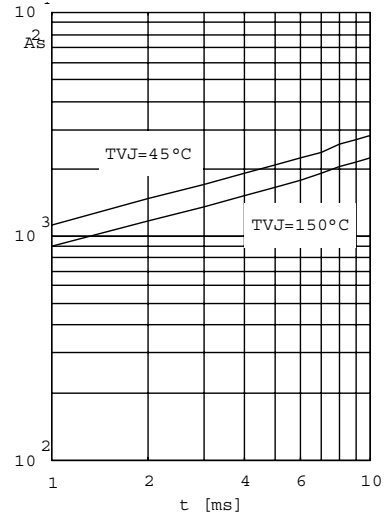


Fig. 3 $\int i^2 dt$ versus time (1-10ms) per diode or thyristor

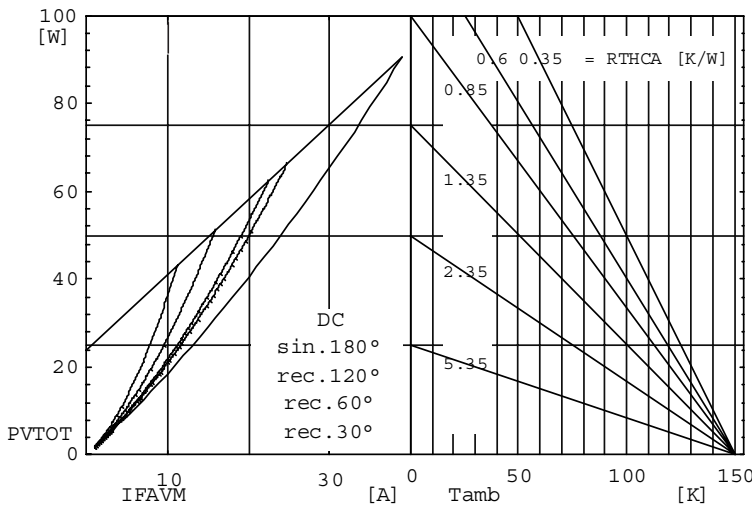


Fig. 4 Power dissipation versus direct output current and ambient temperature

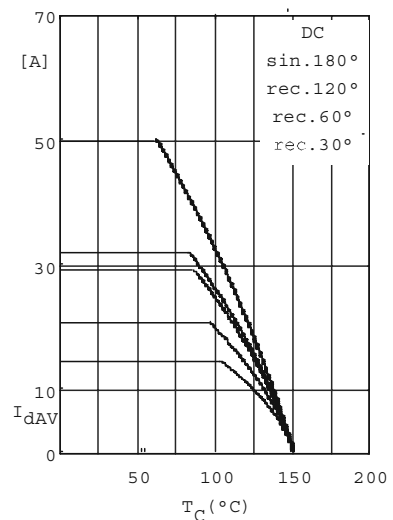


Fig.5 Maximum forward current at case temperature

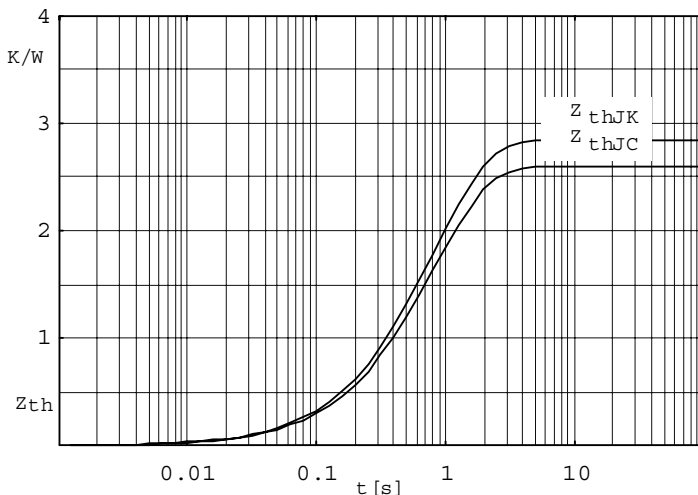


Fig. 6 Transient thermal impedance per diode or thyristor, calculated