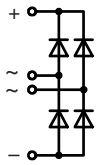
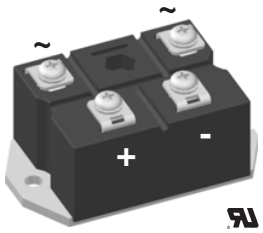
Single Phase Rectifier Bridge

I_{dAV} = 52/72 A
V_{RRM} = 800-1800 V

V_{RSM} V	V_{RRM} V	Type	
900	800	VBO 52-08NO7	VBO 72-08NO7
1300	1200	VBO 52-12NO7	VBO 72-12NO7
1700	1600	VBO 52-16NO7	VBO 72-16NO7
1900	1800	VBO 52-18NO7	VBO 72-18NO7





Symbol	Conditions		Maximum Ratings VBO 52	VBO 72	
I_{dAV}	T_C = 100°C, module		52	72	A
I_{dAV}	T_A = 45°C (R_{thCA} = 0.6 K/W), module		41	49	A
I_{FSM}	T_{VJ} = 45°C;	t = 10 ms (50 Hz), sine	550	750	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	600	820	A
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	500	670	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	550	740	A
I^2t	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	1520	2800	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	1520	2800	A^2s
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	1250	2250	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	1250	2250	A^2s
T_{VJ}			-40...+150		°C
T_{VJM}			150		°C
T_{stg}			-40...+125		°C
V_{ISOL}	50/60 Hz, RMS	t = 1 min	2500		V~
	$I_{ISOL} \leq$ 1 mA	t = 1 s	3000		V~
M_d	Mounting torque (M5)		5 ±15%		Nm
	Terminal connection torque (M5)		5 ±15%		Nm
Weight	typ.		160		g

Symbol	Conditions		Characteristic Values VBO 52	VBO 72	
I_R	$V_R = V_{RRM}$; T_{VJ} = 25°C	≤	0.3	0.3	mA
	$V_R = V_{RRM}$; $T_{VJ} = T_{VJM}$	≤	5	5	mA
V_F	I_F = 150 A; T_{VJ} = 25°C	≤	1.8	1.6	V
V_{T0}	For power-loss calculations only		0.8	0.8	V
r_T	$T_{VJ} = T_{VJM}$		8	5	mΩ
R_{thJC}	per diode		1.45	1.1	K/W
	per module		0.36	0.28	K/W
R_{thJK}	per diode		1.87	1.52	K/W
	per module		0.47	0.38	K/W
d_S	Creeping distance on surface			10	mm
d_A	Creepage distance in air			9.4	mm
a	Max. allowable acceleration			50	m/s^2

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

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

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

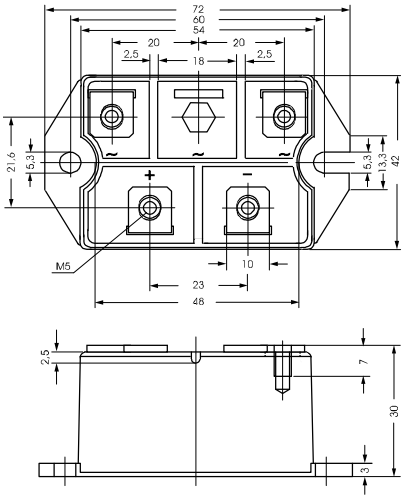
Applications

- 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 & power cycling

Dimensions in mm (1 mm = 0.0394")



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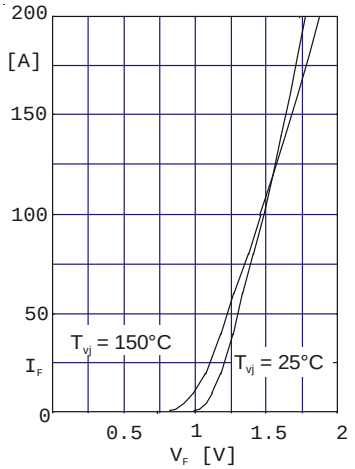

Fig. 1 Forward current versus voltage drop per diode

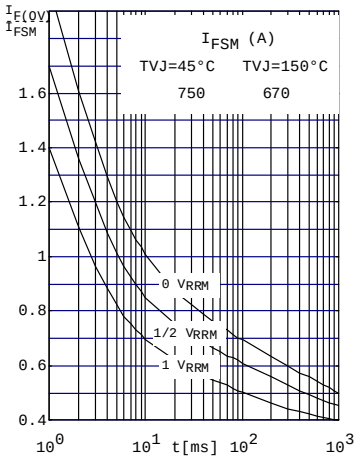

Fig. 2 Surge overload current per diode
I_{FSM}: Crest value. t: duration

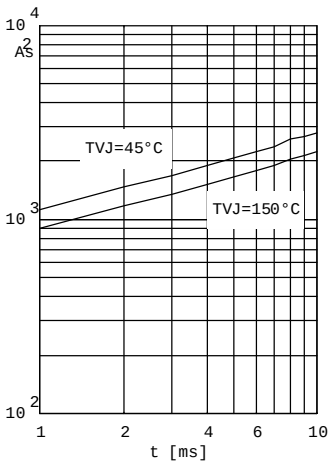

Fig. 3 I^2dt versus time (1-10ms) per diode or thyristor

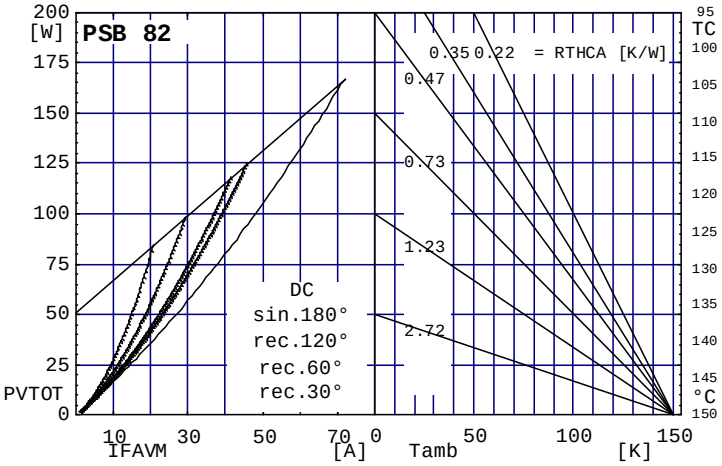

Fig. 4 Power dissipation vs. direct output current and ambient temperature

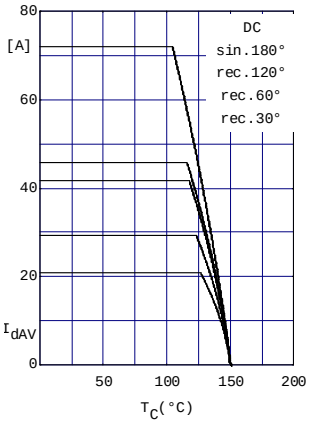

Fig.5 Maximum forward current at case temperature

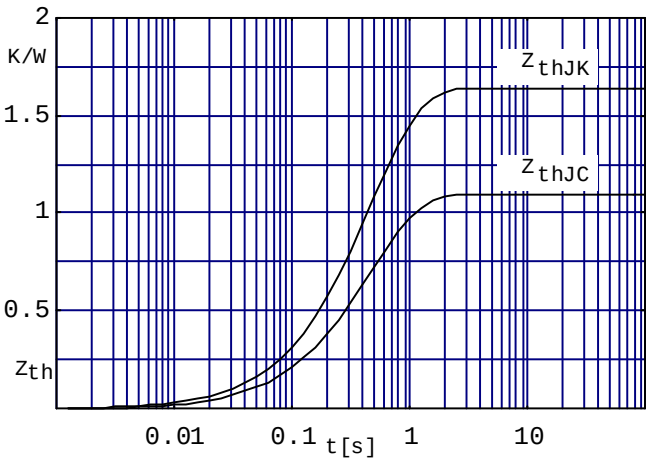

Fig. 6 Transient thermal impedance per diode or thyristor, calculated