



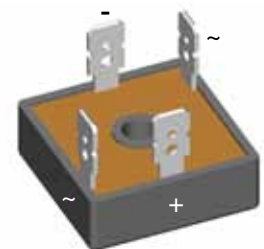
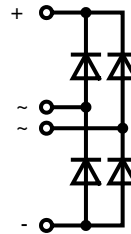
**THE DATASHEET OF  
VBO36-12NO8**



# Three Phase Rectifier Bridge

$I_{dAV} = 30 \text{ A}$   
 $V_{RRM} = 800-1800 \text{ V}$

$V_{RSM}$ $V_{DSM}$ V	$V_{RRM}$ $V_{DRM}$ V	Type
800	800	VBO 36-08NO8
1200	1200	VBO 36-12NO8
1400	1400	VBO 36-14NO8
1600	1600	VBO 36-16NO8
1800	1800	VBO 36-18NO8



Symbol	Conditions	Maximum Ratings	
$I_{dAV}$	$T_C = 85^\circ\text{C}$ , module	25	A
$I_{dAVM}$	$T_C = 62^\circ\text{C}$ , module	30	A
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $t = 10 \text{ ms}$ (50 Hz)	550	A
	$V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)	600	A
	$T_{VJ} = T_{VJM}$ ; $t = 10 \text{ ms}$ (50 Hz)	500	A
	$V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)	550	A
$I^2t$	$T_{VJ} = 45^\circ\text{C}$ ; $t = 10 \text{ ms}$ (50 Hz)	1520	A <sup>2</sup> s
	$V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)	1520	A <sup>2</sup> s
	$T_{VJ} = T_{VJM}$ ; $t = 10 \text{ ms}$ (50 Hz)	1250	A <sup>2</sup> s
	$V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)	1250	A <sup>2</sup> s
$T_{VJ}$		-40...+150	°C
$T_{VJM}$		150	°C
$T_{stg}$		-40...+150	°C
$V_{ISOL}$	50/60 Hz, RMS $t = 1 \text{ min}$	2500	V~
	$I_{ISOL} \leq 1 \text{ mA}$ $t = 1 \text{ s}$	3000	V~
$M_d$	Mounting torque (M5) (10-32 UNF)	2 ±10%	Nm
		18 ±10%	lb.in.
<b>Weight</b>	Typ.	22	g

## Features

- Package with ¼" fast-on terminals
- Isolation voltage 3000 V~
- Planar passivated chips
- Blocking voltage up to 1800 V
- Low forward voltage drop
- UL registered E 72873

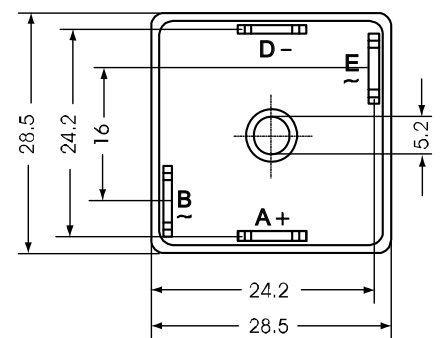
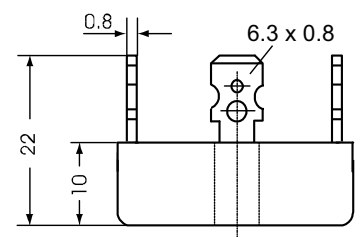
## Applications

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

## Advantages

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

## Dimensions in mm (1 mm = 0.0394")



Symbol	Conditions	Characteristic Values	
$I_R$	$V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$	0.3	mA
		2.0	mA
$V_F$	$I_F = 150 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$	1.7	V
$V_{TO}$	For power-loss calculations only	0.8	V
$r_t$		5.8	mΩ
$R_{thJC}$	per diode; 120° el.	6.20	K/W
	per module	1.55	K/W
$R_{thJH}$	per diode; 120° el.	7.40	K/W
	per module	1.85	K/W
$d_S$	Creeping distance on surface	12.7	mm
$d_A$	Creepage distance in air	9.4	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.

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

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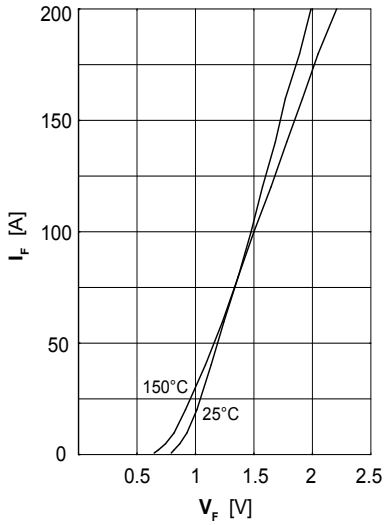


Fig. 1 Forward current versus voltage drop per diode

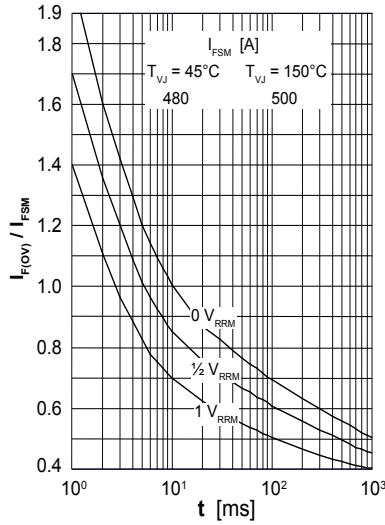


Fig. 2 Surge overload current per diode  
I\_FSM: crest value, t: duration

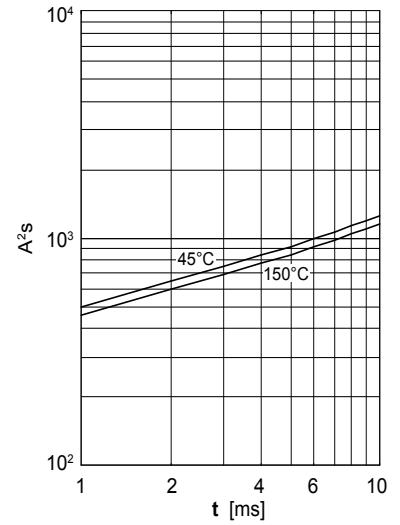


Fig. 3 I<sup>2</sup>t versus time (1-10 ms) per diode or thyristor

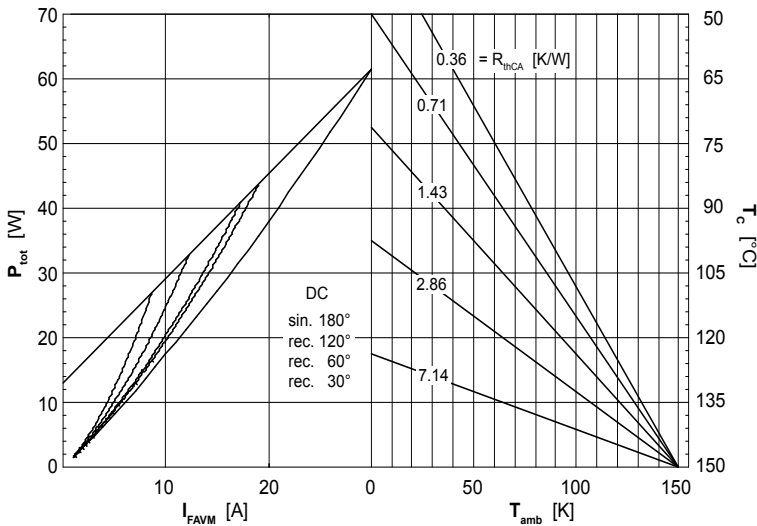


Fig. 4 Power dissipation vs. direct output current and ambient temperature

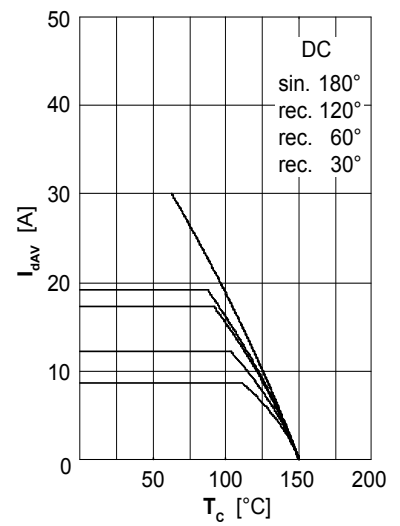


Fig. 5 Maximum forward current at case temperature

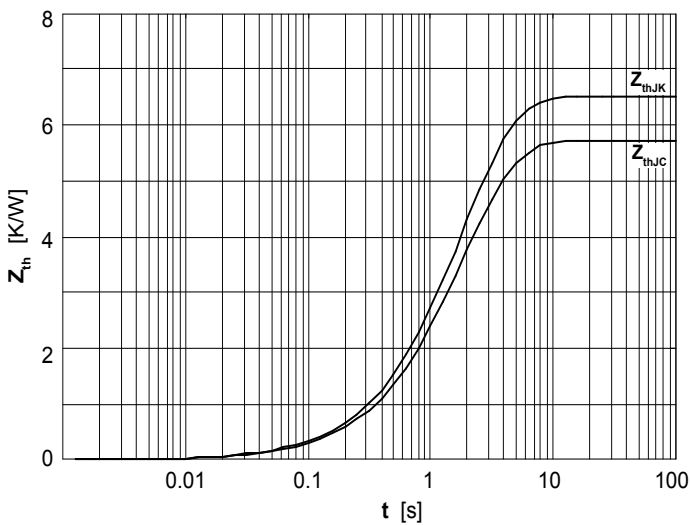


Fig. 6 Transient thermal impedance per diode or thyristor, calculated

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