

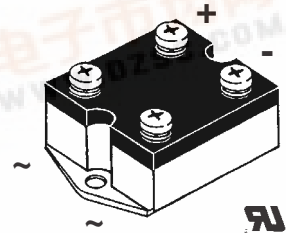
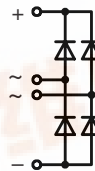
## Single Phase Rectifier Bridge

$$I_{dAVM} = 35 \text{ A}$$

$$V_{RRM} = 1200-1800 \text{ V}$$

| $V_{RSM}$<br>V | $V_{RRM}$<br>V | Type          |
|----------------|----------------|---------------|
| 800            | 800            | VBO 30-08NO7  |
| 1200           | 1200           | VBO 30-12NO7  |
| 1400           | 1400           | VBO 30-14NO7  |
| 1600           | 1600           | VBO 30-16NO7  |
| 1800           | 1800           | VBO 30-18NO7* |

\* delivery time on request



| Symbol     | Conditions                                 | Maximum Ratings                                         |
|------------|--------------------------------------------|---------------------------------------------------------|
| $I_{dAVM}$ | $T_C = 85^\circ\text{C}$ , module          | 35 A                                                    |
| $I_{FSM}$  | $T_{VJ} = 45^\circ\text{C}$ ;<br>$V_R = 0$ | $t = 10 \text{ ms}$ (50 Hz), sine 400 A                 |
|            |                                            | $t = 8.3 \text{ ms}$ (60 Hz), sine 440 A                |
|            | $T_{VJ} = T_{VJM}$<br>$V_R = 0$            | $t = 10 \text{ ms}$ (50 Hz), sine 360 A                 |
|            |                                            | $t = 8.3 \text{ ms}$ (60 Hz), sine 400 A                |
| $I^2t$     | $T_{VJ} = 45^\circ\text{C}$<br>$V_R = 0$   | $t = 10 \text{ ms}$ (50 Hz), sine 800 A <sup>2</sup> s  |
|            |                                            | $t = 8.3 \text{ ms}$ (60 Hz), sine 810 A <sup>2</sup> s |
|            | $T_{VJ} = T_{VJM}$<br>$V_R = 0$            | $t = 10 \text{ ms}$ (50 Hz), sine 650 A <sup>2</sup> s  |
|            |                                            | $t = 8.3 \text{ ms}$ (60 Hz), sine 670 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 (M4)                       | 1.5 ±15% Nm                                             |
|            |                                            | 13 ±15% lb.in.                                          |
|            | Terminal connection torque (M4)            | 1.5 ±15% Nm                                             |
|            |                                            | 13 ±15% lb.in.                                          |
| Weight     | typ.                                       | 135 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

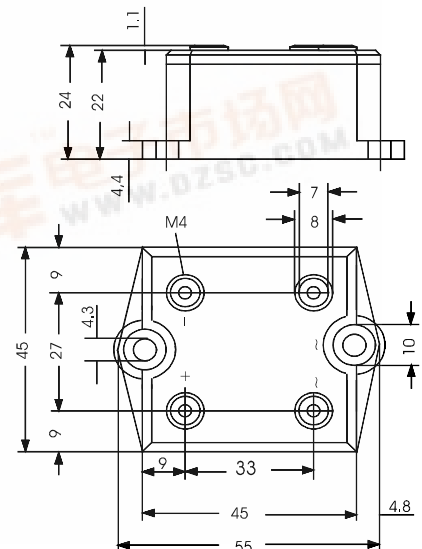
### Applications

- 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 |
|------------|--------------------------------------------------------|-----------------------|
| $I_R$      | $V_R = V_{RRM}$ ;<br>$T_{VJ} = 25^\circ\text{C}$       | $\leq 0.3 \text{ mA}$ |
|            | $V_R = V_{RRM}$ ;<br>$T_{VJ} = T_{VJM}$                | $\leq 5.0 \text{ mA}$ |
| $V_F$      | $I_F = 150 \text{ A}$ ;<br>$T_{VJ} = 25^\circ\text{C}$ | $\leq 2.2 \text{ V}$  |
| $V_{T0}$   | For power-loss calculations only                       | 0.85 V                |
| $r_T$      | $T_{VJ} = T_{VJM}$                                     | 12 mΩ                 |
| $R_{thJC}$ | per diode; DC current                                  | 2.8 K/W               |
|            | per module                                             | 0.7 K/W               |
| $R_{thJK}$ | per diode; DC current                                  | 3.4 K/W               |
|            | per module                                             | 0.85 K/W              |

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

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

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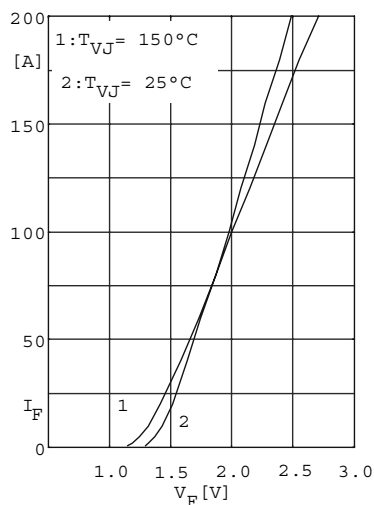


Fig. 1 Forward current versus voltage drop per diode

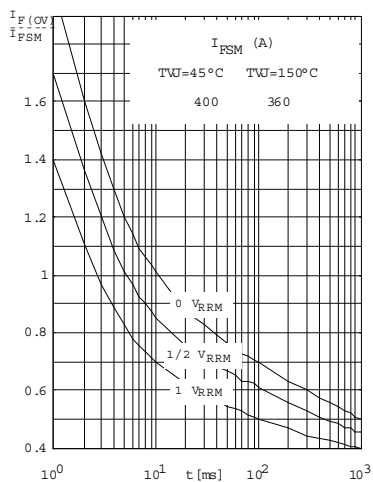


Fig. 2 Surge overload current per diode  
 $I_{FSM}$ : Crest value.  $t$ : duration

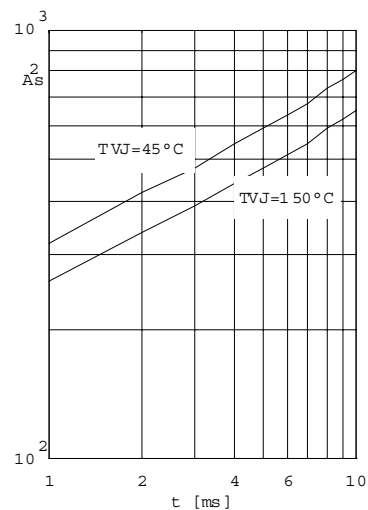


Fig. 3  $\int i^2 dt$  versus time  
(1-10ms) per diode or thyristor

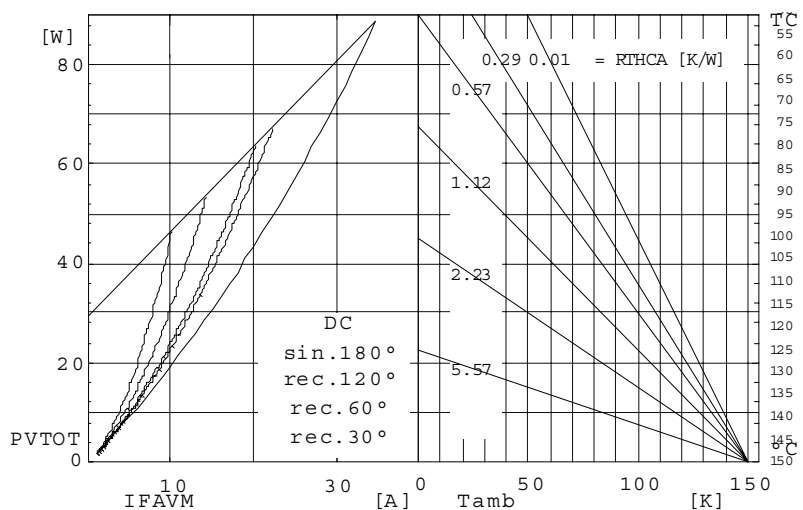


Fig. 4 Power dissipation versus direct output current and ambient temperature

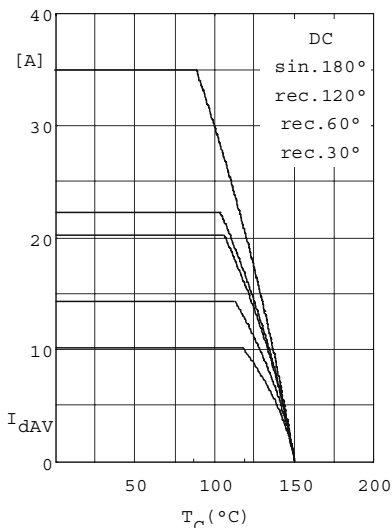


Fig. 5 Maximum forward current at case temperature

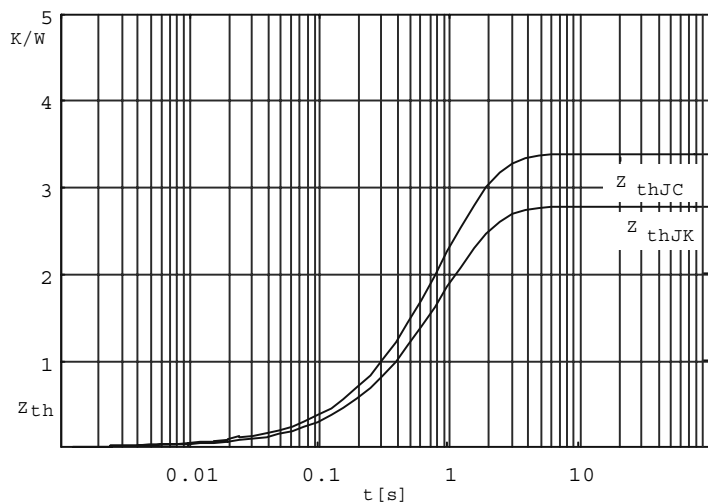


Fig. 6 Transient thermal impedance per diode or thyristor, calculated