

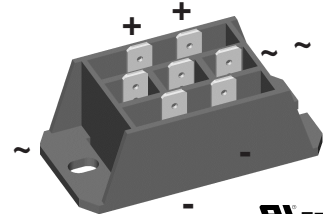
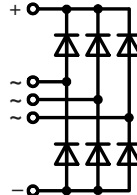
## Three Phase Rectifier Bridge

$$I_{dAV} = 72 \text{ A}$$

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

| $V_{RSM}$ | $V_{RRM}$ | Type          |
|-----------|-----------|---------------|
| V         | V         |               |
| 1300      | 1200      | VUO 60-12NO3  |
| 1500      | 1400      | VUO 60-14NO3  |
| 1700      | 1600      | VUO 60-16NO3  |
| 1900      | 1800      | VUO 60-18NO3* |

\* delivery time on request



E72873

| Symbol       | Conditions                                 | Maximum Ratings   |  |
|--------------|--|---|--|
| $I_{dAV}$ ①  | $T_C = 85^\circ\text{C}$ , module          | 72 A  |  |
| $I_{dAVM}$ ① | module                                     | 75 A  |  |
| $I_{FSM}$    | $T_{VJ} = 45^\circ\text{C}$ ;<br>$V_R = 0$ | $t = 10 \text{ ms}$ (50 Hz), sine<br>$t = 8.3 \text{ ms}$ (60 Hz), sine | 600 A<br>650 A                                 |
|              | $T_{VJ} = T_{VJM}$<br>$V_R = 0$            | $t = 10 \text{ ms}$ (50 Hz), sine<br>$t = 8.3 \text{ ms}$ (60 Hz), sine | 540 A<br>600 A                                 |
| $I^2t$       | $T_{VJ} = 45^\circ\text{C}$<br>$V_R = 0$   | $t = 10 \text{ ms}$ (50 Hz), sine<br>$t = 8.3 \text{ ms}$ (60 Hz), sine | 1800 A <sup>2</sup> s<br>1770 A <sup>2</sup> s |
|              | $T_{VJ} = T_{VJM}$<br>$V_R = 0$            | $t = 10 \text{ ms}$ (50 Hz), sine<br>$t = 8.3 \text{ ms}$ (60 Hz), sine | 1460 A <sup>2</sup> s<br>1510 A <sup>2</sup> s |
| $T_{VJ}$     |  | -40...+125 °C   |  |
| $T_{VJM}$    |  | 125 °C  |  |
| $T_{stg}$    |  | -40...+125 °C   |  |
| $V_{ISOL}$   | 50/60 Hz, RMS                              | $t = 1 \text{ min}$   | 3000 V~  |
|              | $I_{ISOL} \leq 1 \text{ mA}$               | $t = 1 \text{ s}$   | 3600 V~  |
| $M_d$        | Mounting torque (M5)<br>(10-32 UNF)        |   | 2-2.5 Nm                                       |
|              |  |   | 18-22 lb.in.                                   |
| Weight       | typ.                                       |   | 50 g   |

### Features

- Package with DCB ceramic base plate
- Isolation voltage 3600 V~
- Planar passivated chips
- Blocking voltage up to 1800 V
- low forward voltage drop
- ¼" fast-on terminals
- UL registered E 72873

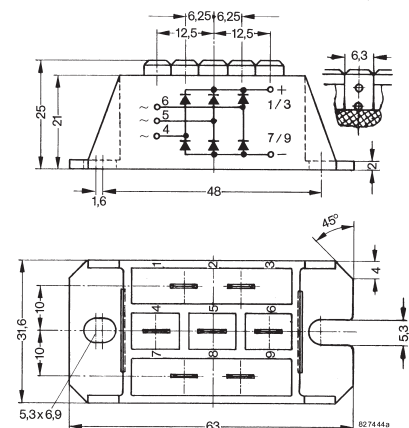
### Applications

- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Rectifier for DC motors field current

### Advantages

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

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



**Use output terminals in parallel connection!**

| Symbol     | Conditions   | Characteristic Values |
|------------|--|-----------------------|
| $I_R$      | $V_R = V_{RRM}$ ;<br>$T_{VJ} = 25^\circ\text{C}$       | 0.3 mA                |
|            | $V_R = V_{RRM}$ ;<br>$T_{VJ} = T_{VJM}$                | 5 mA                  |
| $V_F$      | $I_F = 150 \text{ A}$ ;<br>$T_{VJ} = 25^\circ\text{C}$ | 1.9 V                 |
| $V_{T0}$   | For power-loss calculations only                       | 0.8 V                 |
| $r_T$      |  | 6.5 mΩ                |
| $R_{thJC}$ | per diode, DC current                                  | 1.2 K/W               |
|            | per module   | 0.2 K/W               |
| $R_{thJH}$ | per diode, DC current                                  | 1.6 K/W               |
|            | per module   | 0.27 K/W              |
| $d_S$      | Creep distance on surface                              | 10 mm                 |
| $d_A$      | Strike 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.  
① for resistive load at bridge output.

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

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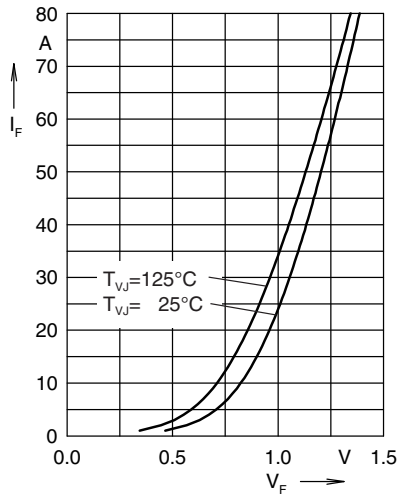


Fig. 4 Forward current versus voltage drop per diode

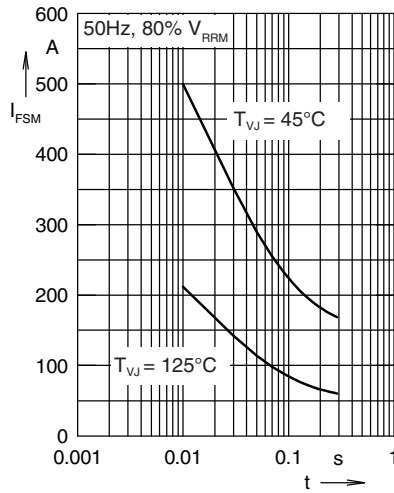


Fig. 5 Surge overload current

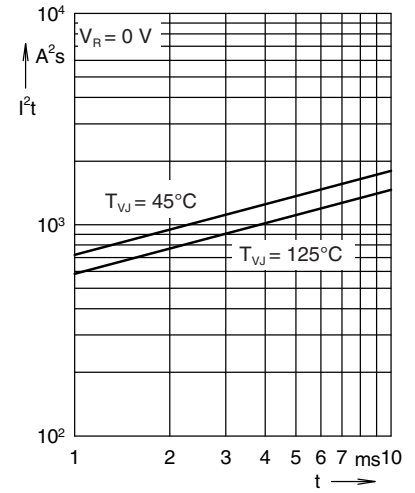


Fig. 6  $I^2t$  versus time per diode

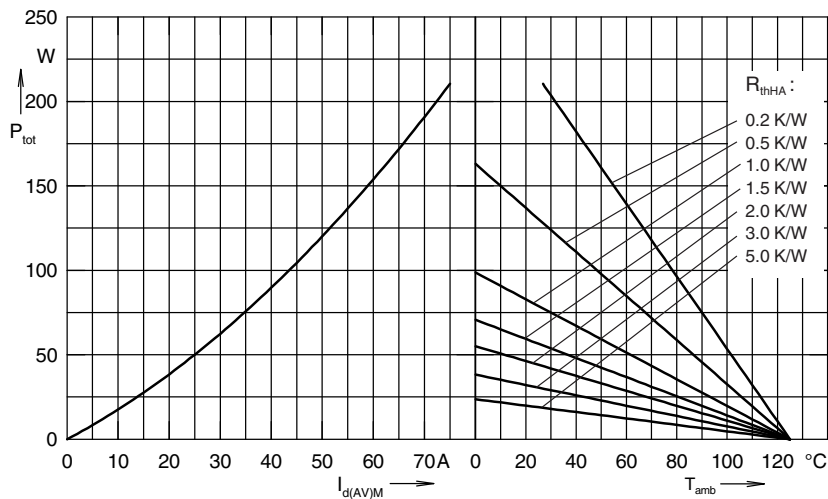


Fig. 7 Power dissipation vs. direct output current and ambient temperature

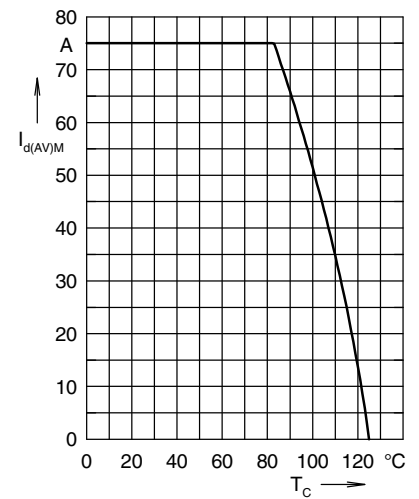


Fig. 8 Max. forward current vs. case temperature

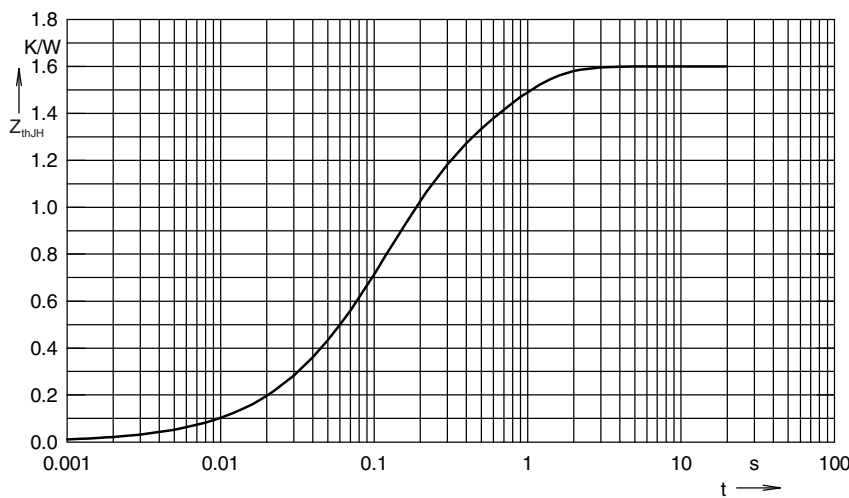


Fig. 9 Transient thermal impedance junction to heatsink

Constants for  $Z_{th,JH}$  calculation:

| i | $R_{thi}$ (K/W) | $t_i$ (s) |
|---|-----------------|-----------|
| 1 | 0.883           | 0.102     |
| 2 | 0.098           | 0.103     |
| 3 | 0.202           | 0.492     |
| 4 | 0.417           | 0.62      |