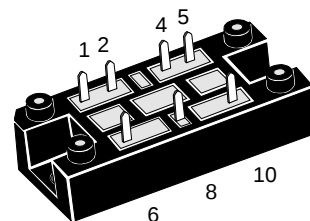
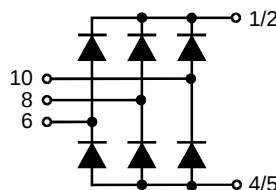


# Three Phase Rectifier Bridge

$$I_{dAVM} = 25 \text{ A}$$

$$V_{RRM} = 800-1800 \text{ V}$$

| $V_{RSM}$<br>V | $V_{RRM}$<br>V | Type         |
|----------------|----------------|--------------|
| 900            | 800            | VUO 22-08NO1 |
| 1300           | 1200           | VUO 22-12NO1 |
| 1500           | 1400           | VUO 22-14NO1 |
| 1700           | 1600           | VUO 22-16NO1 |
| 1900           | 1800           | VUO 22-18NO1 |



| Symbol     | Test Conditions                                                   | Maximum Ratings                                                                                                 |
|------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| $I_{dAV}$  | $T_K = 90^\circ\text{C}$ , module                                 | 22 A                                                                                                            |
| $I_{dAV}$  | $T_A = 45^\circ\text{C}$ ( $R_{thKA} = 0.5 \text{ K/W}$ ), module | 25 A                                                                                                            |
| $I_{dAVM}$ | module                                                            | 25 A                                                                                                            |
| $I_{FSM}$  | $T_{VJ} = 45^\circ\text{C}$ ; $V_R = 0$                           | $t = 10 \text{ ms}$ (50 Hz), sine 100 A<br>$t = 8.3 \text{ ms}$ (60 Hz), sine 106 A                             |
|            | $T_{VJ} = T_{VJM}$ ; $V_R = 0$                                    | $t = 10 \text{ ms}$ (50 Hz), sine 85 A<br>$t = 8.3 \text{ ms}$ (60 Hz), sine 90 A                               |
| $I^2t$     | $T_{VJ} = 45^\circ\text{C}$ ; $V_R = 0$                           | $t = 10 \text{ ms}$ (50 Hz), sine 50 A <sup>2</sup> s<br>$t = 8.3 \text{ ms}$ (60 Hz), sine 47 A <sup>2</sup> s |
|            | $T_{VJ} = T_{VJM}$ ; $V_R = 0$                                    | $t = 10 \text{ ms}$ (50 Hz), sine 36 A <sup>2</sup> s<br>$t = 8.3 \text{ ms}$ (60 Hz), sine 33 A <sup>2</sup> s |
| $T_{VJ}$   |                                                                   | -40...+130 °C                                                                                                   |
| $T_{VJM}$  |                                                                   | 130 °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) (10-32UNF)                                   | 2 - 2.5 Nm<br>18-22 lb.in.                                                                                      |
| Weight     | typ.                                                              | 35 g                                                                                                            |

| Symbol     | Test Conditions                                   | Characteristic Values |
|------------|---------------------------------------------------|-----------------------|
| $I_R$      | $V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$       | $\leq 0.3 \text{ mA}$ |
|            | $V_R = V_{RRM}$ $T_{VJ} = T_{VJM}$                | $\leq 5 \text{ mA}$   |
| $V_F$      | $I_F = 7 \text{ A}$ ; $T_{VJ} = 25^\circ\text{C}$ | $\leq 1.12 \text{ V}$ |
| $V_{T0}$   | For power-loss calculations only                  | 0.8 V                 |
| $r_T$      |                                                   | 40 mΩ                 |
| $R_{thJH}$ | per diode, 120° rect.                             | 3.1 K/W               |
|            | per module, 120° rect.                            | 0.516 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.

## Features

- Package with DCB ceramic base plate
- Isolation voltage 3600 V~
- Planar passivated chips
- Blocking voltage up to 1800 V
- Low forward voltage drop
- Leads suitable for PC board soldering
- UL registered E72873

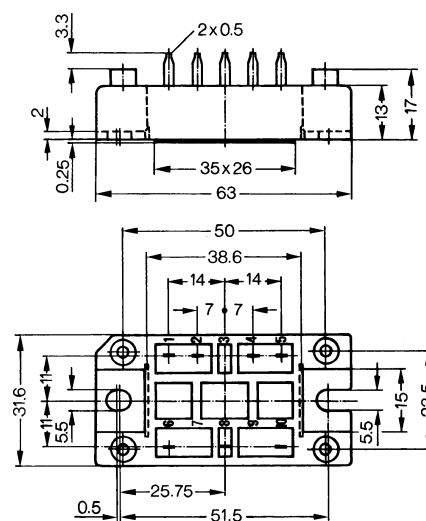
## Applications

- 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")



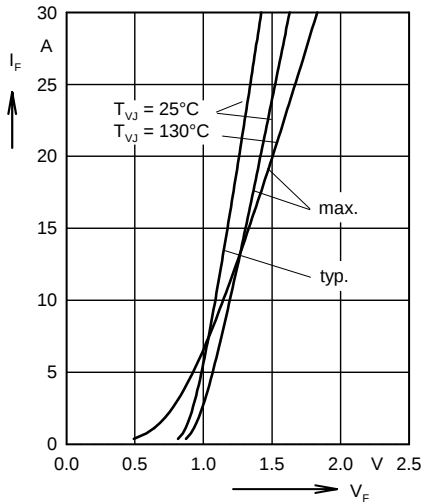


Fig. 1 Forward current versus voltage drop per diode

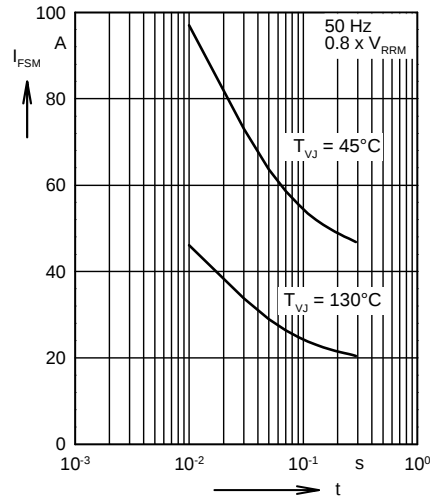


Fig. 2 Surge overload current per diode  
 $I_{FSM}$ : Crest value.  $t$ :duration

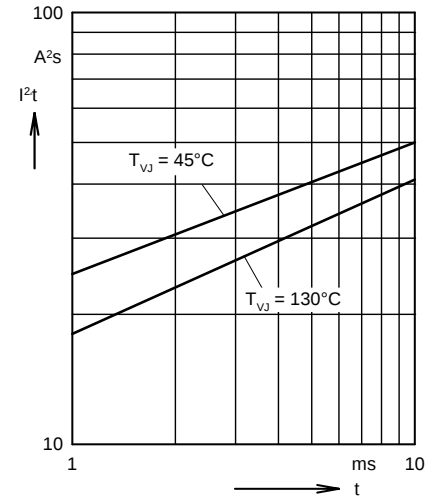


Fig. 3  $I^2t$  versus time (1-10 ms) per diode

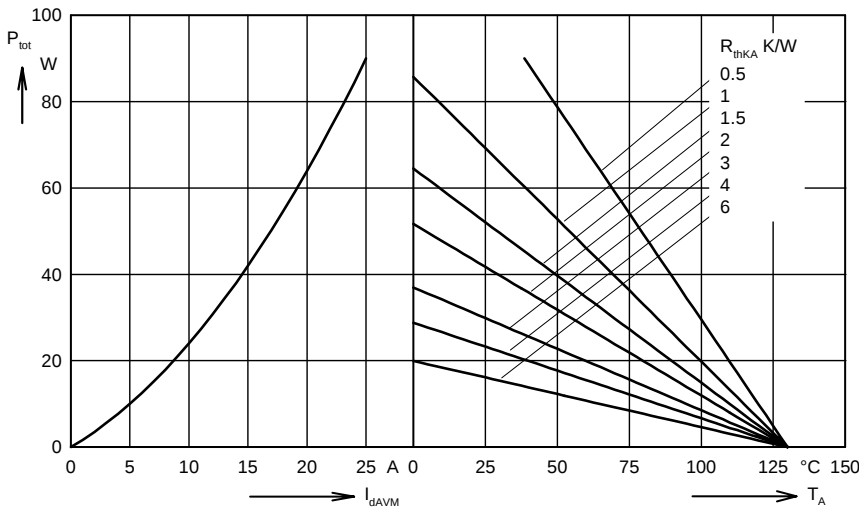


Fig. 4 Power dissipation versus direct output current and ambient temperature

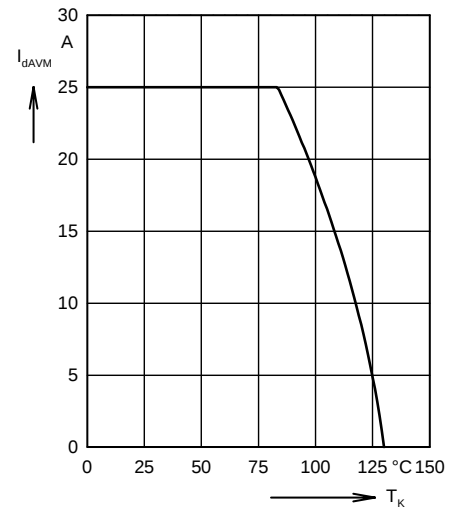


Fig. 5 Maximum forward current at heatsink temperature  $T_K$

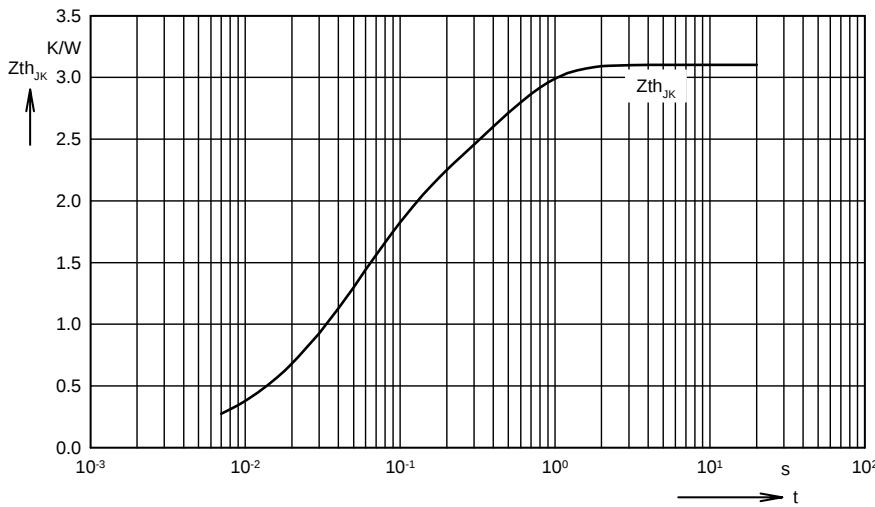


Fig. 6 Transient thermal impedance junction to heatsink per diode

Constants for  $Z_{thJK}$  calculation:

| i | $R_{th}$ (K/W) | $t_i$ (s) |
|---|----------------|-----------|
| 1 | 0.015          | 0.008     |
| 2 | 0.1            | 0.02      |
| 3 | 1.635          | 0.05      |
| 4 | 1.35           | 0.4       |