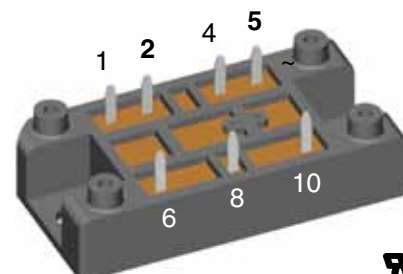
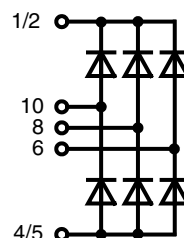


# Three Phase Rectifier Bridge

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

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

| $V_{RSM/DSM}$<br>V | $V_{RRM/DRM}$<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     | Conditions                                                        | Maximum Ratings |                  |
|------------|-------------------------------------------------------------------|-----------------|------------------|
| $I_{dAV}$  | $T_C = 90^\circ\text{C}$ , 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                |
| $I_{FSM}$  | $T_{VJ} = 45^\circ\text{C}$ ; $t = 10 \text{ ms}$ (50 Hz)         | 100             | A                |
|            | $V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)                          | 106             | A                |
|            | $T_{VJ} = T_{VJM}$ ; $t = 10 \text{ ms}$ (50 Hz)                  | 85              | A                |
|            | $V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)                          | 90              | A                |
| $I^2t$     | $T_{VJ} = 45^\circ\text{C}$ ; $t = 10 \text{ ms}$ (50 Hz)         | 50              | A <sup>2</sup> s |
|            | $V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)                          | 47              | A <sup>2</sup> s |
|            | $T_{VJ} = T_{VJM}$ ; $t = 10 \text{ ms}$ (50 Hz)                  | 36              | A <sup>2</sup> s |
|            | $V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)                          | 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)<br>(10-32 UNF)                               | 2 - 2.5         | Nm               |
|            |                                                                   | 18 - 22         | lb.in.           |
| Weight     | Typ.                                                              | 35              | 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
- 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

| Symbol     | Conditions                                                        | Characteristic Values |                  |
|------------|-------------------------------------------------------------------|-----------------------|------------------|
| $I_R$      | $V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$<br>$T_{VJ} = T_{VJM}$ | 0.3                   | mA               |
|            |                                                                   | 5.0                   | mA               |
| $V_F$      | $I_F = 7 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$                   | 1.12                  | 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.

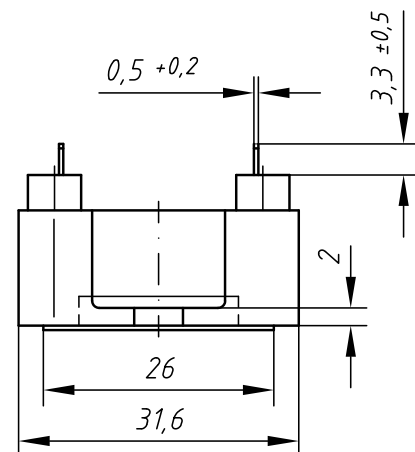
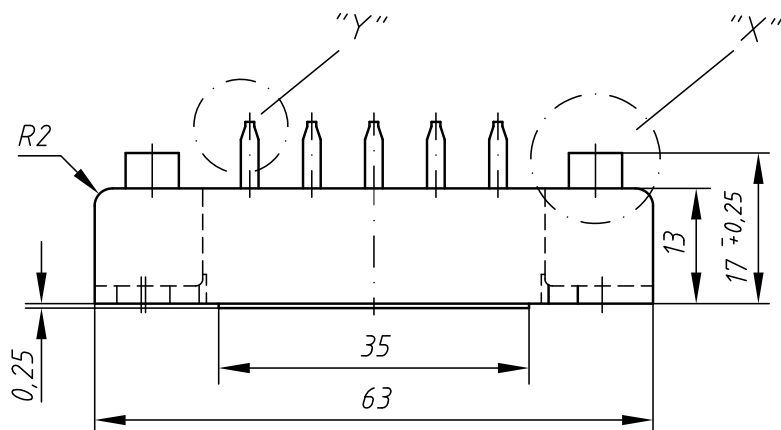
IXYS reserves the right to change limits, test conditions and dimensions.

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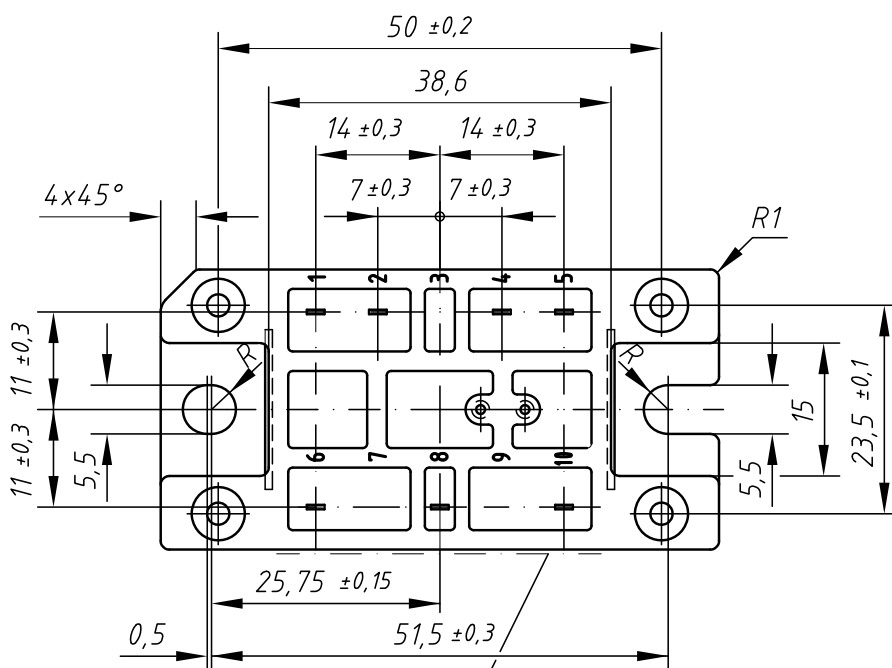
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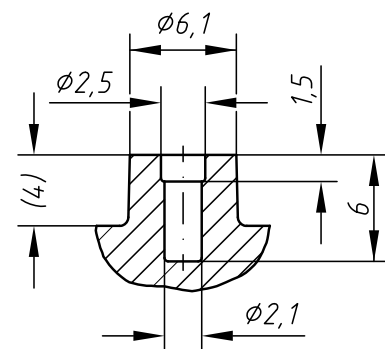
Dimensions in mm (1 mm = 0.0394")



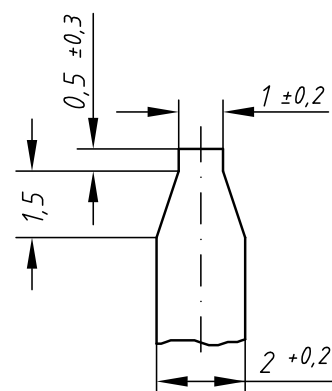
*Detail "X"* M 2:1



Aufdruck der Typenbezeichnung  
Marking on Product



*Detail "Y"* M 5:1



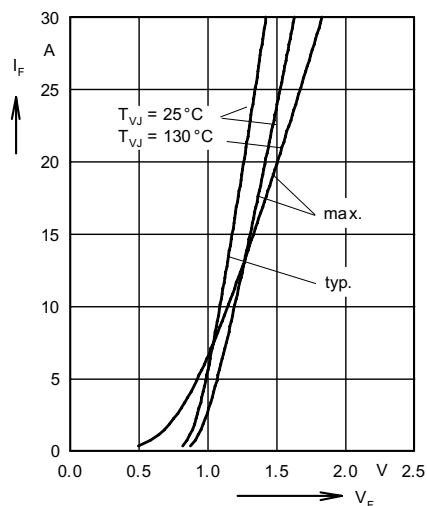


Fig. 1 Forward current versus voltage drop per diode

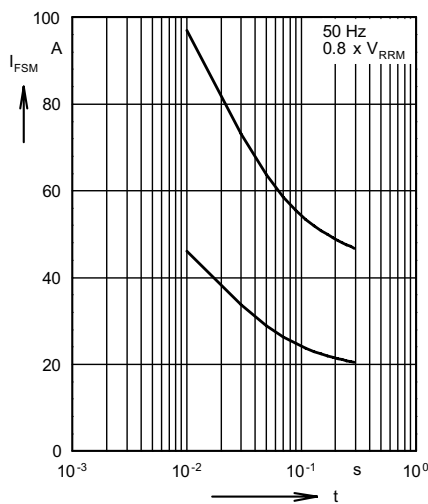


Fig. 2 Surge overload current per diode  
 $I_{FSM}$ : Crest value.  $t$ : duration

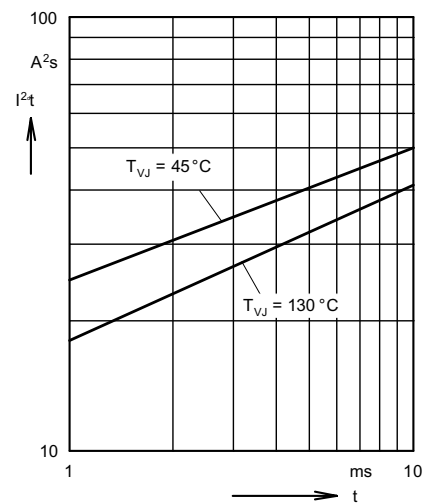


Fig. 3  $I^2t$  versus time  
(1-10 ms) per diode

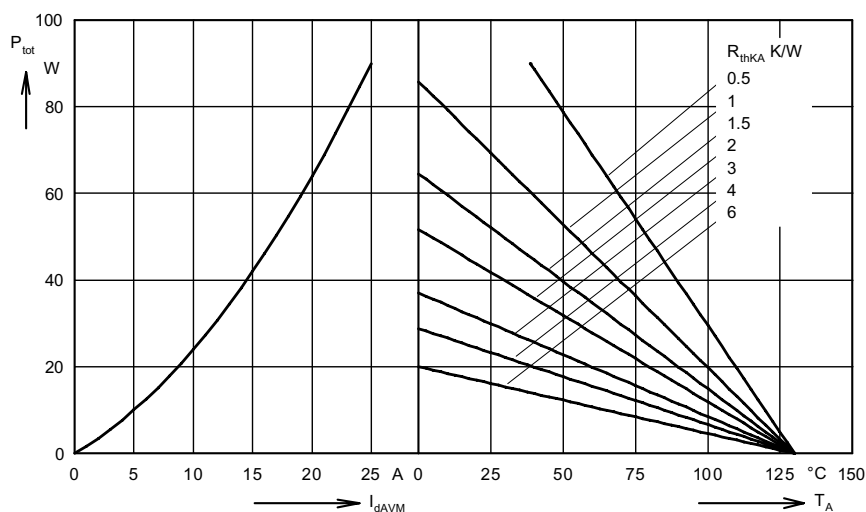


Fig. 4 Power dissipation versus direct output current and ambient temperature

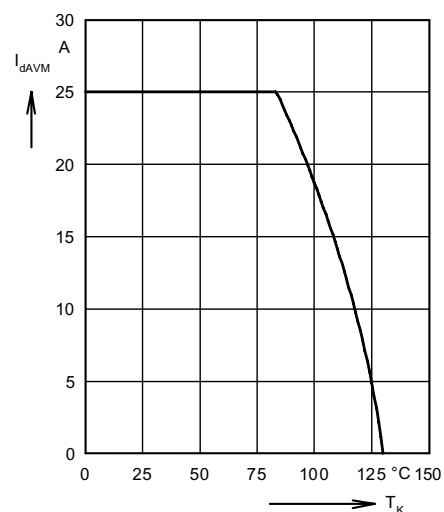


Fig. 5 Maximum forward current at case temperature

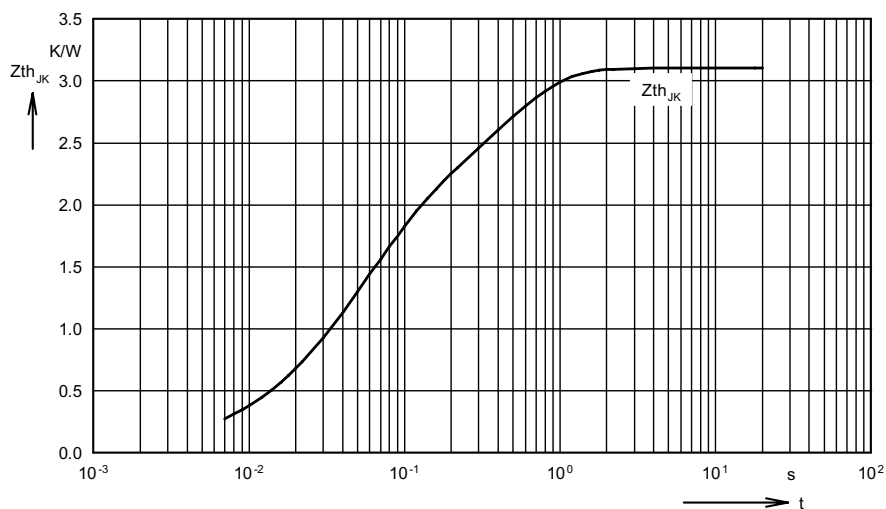


Fig. 6 Transient thermal impedance per diode

Constants for  $Z_{thJC}$  calculation:

| i | $R_{thi}$ (K/W) | $t_i$ (s) |
|---|-----------------|-----------|
| 1 | 0.005           | 0.008     |
| 2 | 0.1             | 0.02      |
| 3 | 1.635           | 0.05      |
| 4 | 1.35            | 0.4       |