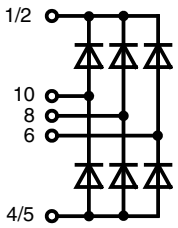
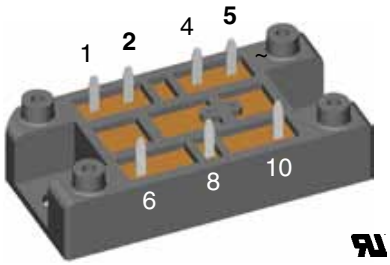
# Three Phase Rectifier Bridge

$I_{dAV}$ = 55 A
$V_{RRM}$ = 800-2200 V

| $V_{RSM/DSM}$ V | $V_{RRM/DRM}$ V | Type |
|---|---|---|
| 900 | 800 | VUO 52-08NO1 |
| 1300 | 1200 | VUO 52-12NO1 |
| 1500 | 1400 | VUO 52-14NO1 |
| 1700 | 1600 | VUO 52-16NO1 |
| 1900 | 1800 | VUO 52-18NO1 |
| 2100 | 2000 | VUO 52-20NO1 |
| 2200 | 2300 | VUO 52-22NO1 |




| Symbol | Conditions | | | Maximum Ratings | |
|---|---|---|---|---|---|
| $I_{dAV}$ | $T_C$ = 90°C, module | | | 54 | A |
| $I_{dAV}$ | $T_A$ = 45°C ($R_{thKA}$ = 0.5 K/W), module | | | 43 | A |
| $I_{dAVM}$ | module | | | 55 | A |
| $I_{FSM}$ | $T_{VJ}$ = 45°C; | t = 10 ms | (50 Hz) | 350 | A |
| | $V_R$ = 0 | t = 8.3 ms | (60 Hz) | 375 | A |
| | $T_{VJ} = T_{VJM}$; | t = 10 ms | (50 Hz) | 305 | A |
| | $V_R$ = 0 | t = 8.3 ms | (60 Hz) | 325 | A |
| $I^2t$ | $T_{VJ}$ = 45°C; | t = 10 ms | (50 Hz) | 615 | $A^2s$ |
| | $V_R$ = 0 | t = 8.3 ms | (60 Hz) | 590 | $A^2s$ |
| | $T_{VJ} = T_{VJM}$; | t = 10 ms | (50 Hz) | 465 | $A^2s$ |
| | $V_R$ = 0 | t = 8.3 ms | (60 Hz) | 445 | $A^2s$ |
| $T_{VJ}$ | | | | -40...+130 | °C |
| $T_{VJM}$ | | | | 130 | °C |
| $T_{stg}$ | | | | -40...+125 | °C |
| $V_{ISOL}$ | 50/60 Hz, RMS | t = 1 min | | 3000 | V~ |
| | $I_{ISOL} \leq$ 1 mA | t = 1 s | | 3600 | V~ |
| $M_d$ | Mounting torque | (M5) | | 2 - 2.5 | Nm |
| | | (10-32 UNF) | | 18 - 22 | lb.in. |
| Weight | Typ. | | | 35 | g |

| Symbol | Conditions | | Characteristic Values | |
|---|---|---|---|---|
| $I_R$ | $V_R = V_{RRM}$ | $T_{VJ}$ = 25°C | 0.3 | mA |
| | | $T_{VJ} = T_{VJM}$ | 5.0 | mA |
| $V_F$ | $I_F$ = 55 A | $T_{VJ}$ = 25°C | 1.46 | V |
| $V_{T0}$ | For power-loss calculations only | | 0.8 | V |
| $r_t$ | | | 12.5 | mΩ |
| $R_{thJH}$ | per diode, | 120° rect. | 1.5 | K/W |
| | per module, | 120° rect. | 0.25 | 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 | $m/s^2$ |

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

### Features

- Package with DCB ceramic base plate
- Isolation voltage 3000 V~
- Planar passivated chips
- Blocking voltage up to 2200 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

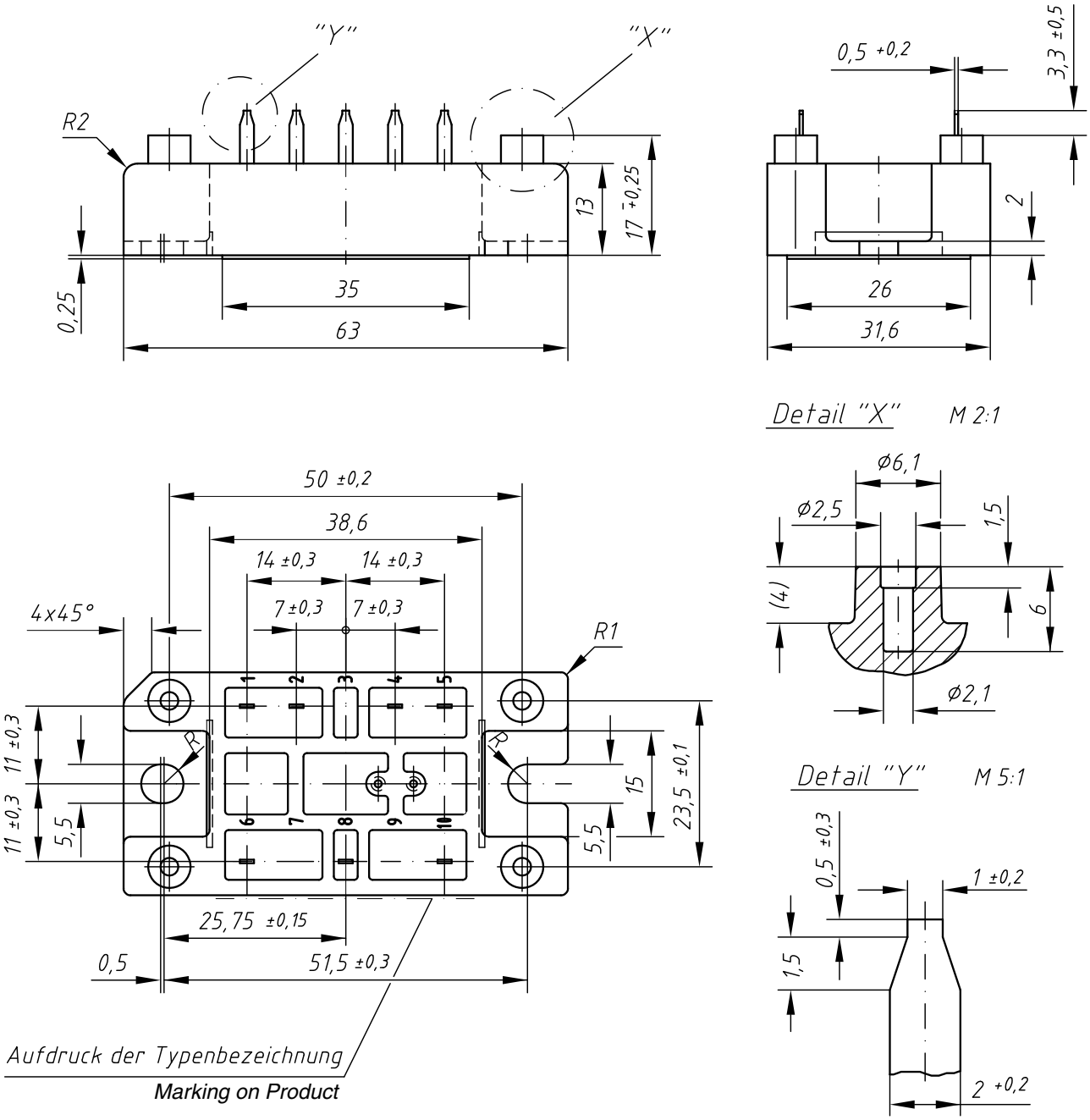
### Advantages

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

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

20100503a

**Dimensions in mm (1 mm = 0.0394“)**



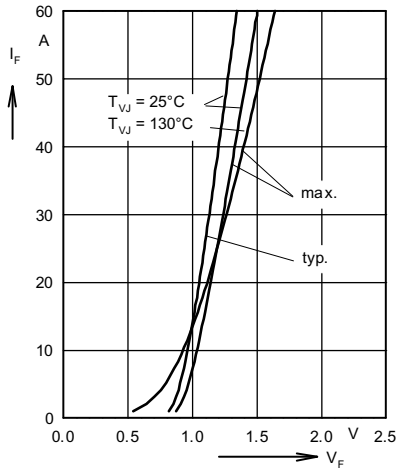



Fig. 1 Forward current versus voltage drop per diode

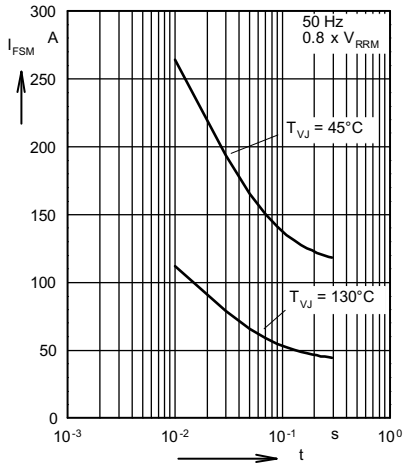



Fig. 2 Surge overload current per diode
$I_{FSM}$: Crest value. t: duration

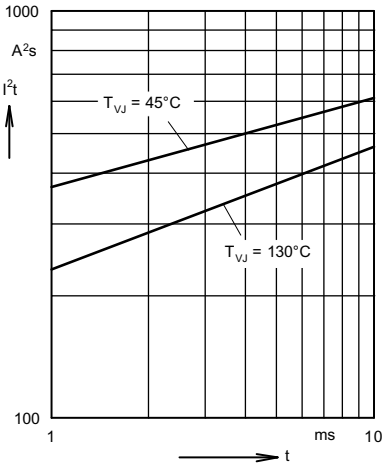



Fig. 3 $I^2t$ versus time (1-10 ms) per diode

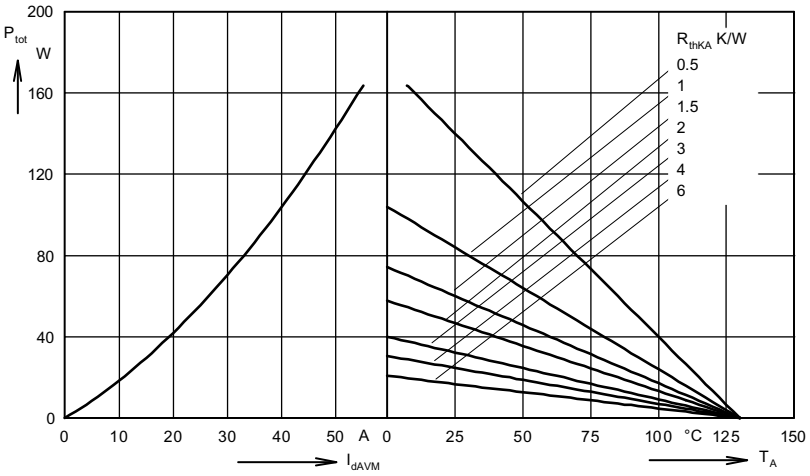



Fig. 4 Power dissipation versus direct output current and ambient temperature

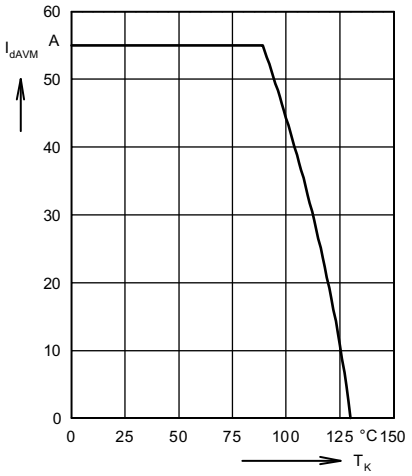



Fig. 5 Maximum forward current at case temperature

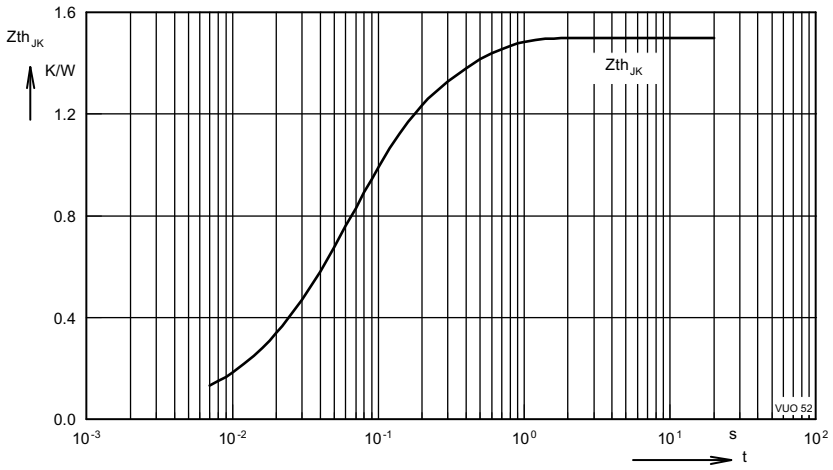



Fig. 6 Transient thermal impedance per diode

Constants for $Z_{thJC}$ calculation:

| i | $R_{thi}$ (K/W) | $t_i$ (s) |
|---|---|---|
| 1 | 0.005 | 0.008 |
| 2 | 0.2 | 0.05 |
| 3 | 0.845 | 0.06 |
| 4 | 0.45 | 0.3 |