

DATASHEET

IXYS

VUO 55-12 N07

OTHER SYMBOLS:

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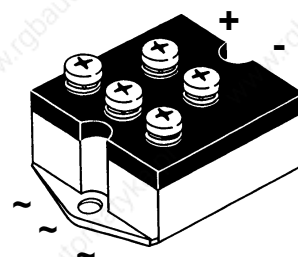
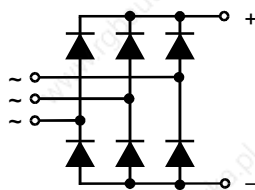
Three Phase Rectifier Bridge

$$I_{dAVM} = 58 \text{ A}$$

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

| V_{RSM} V | V_{RRM} V | Type |
|----------------|----------------|---------------|
| 1200 | 1200 | VUO 55-12NO7 |
| 1400 | 1400 | VUO 55-14NO7 |
| 1600 | 1600 | VUO 55-16NO7 |
| 1800 | 1800 | VUO 55-18NO7* |

* delivery time on request



| Symbol | Test Conditions | Maximum Ratings |
|------------|---|--|
| I_{dAVM} | $T_C = 85^\circ\text{C}$, module | 58 A |
| I_{FSM} | $T_{VJ} = 45^\circ\text{C}$; $V_R = 0$ | $t = 10 \text{ ms}$ (50 Hz), sine 750 A |
| | | $t = 8.3 \text{ ms}$ (60 Hz), sine 820 A |
| | $T_{VJ} = T_{VJM}$ $V_R = 0$ | $t = 10 \text{ ms}$ (50 Hz), sine 670 A |
| | | $t = 8.3 \text{ ms}$ (60 Hz), sine 740 A |
| I^2t | $T_{VJ} = 45^\circ\text{C}$ $V_R = 0$ | $t = 10 \text{ ms}$ (50 Hz), sine 2800 A ² s |
| | | $t = 8.3 \text{ ms}$ (60 Hz), sine 2820 A ² s |
| | $T_{VJ} = T_{VJM}$ $V_R = 0$ | $t = 10 \text{ ms}$ (50 Hz), sine 2250 A ² s |
| | | $t = 8.3 \text{ ms}$ (60 Hz), sine 2300 A ² s |
| T_{VJ} | | -40...+150 °C |
| T_{VJM} | | 150 °C |
| T_{stg} | | -40...+150 °C |
| V_{ISOL} | 50/60 Hz, RMS $I_{ISOL} \leq 1 \text{ mA}$ | $t = 1 \text{ min}$ 2500 V~ |
| | | $t = 1 \text{ s}$ 3000 V~ |
| M_d | Mounting torque (M5) | 5 ± 15 % Nm |
| | | 44 ± 15 % lb.in. |
| | Terminal connection torque (M5) | 3 ± 15 % Nm |
| | | 26 ± 15 % lb.in. |
| Weight | typ. | 260 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

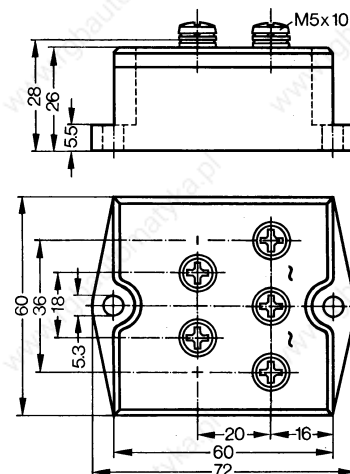
Applications

- 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")



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.

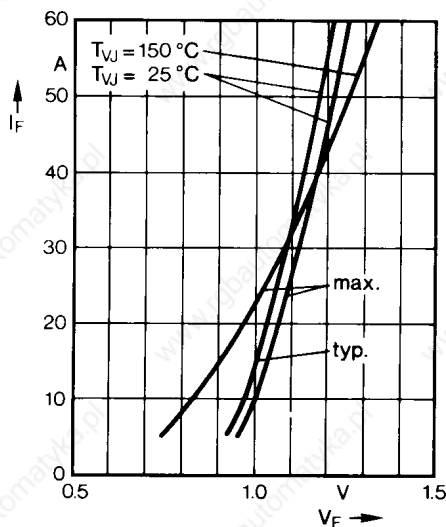


Fig. 1 Forward current versus voltage drop per diode

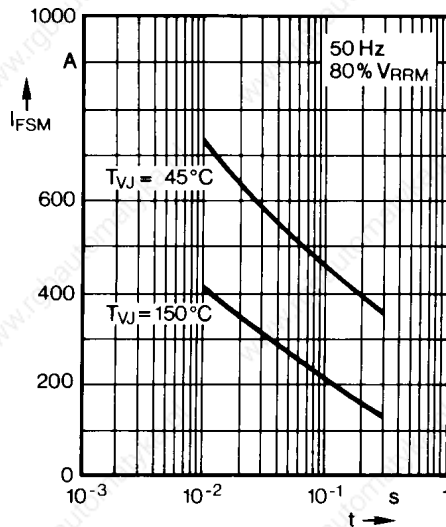


Fig. 2 Surge overload current per diode
 I_{FSM} : Crest value. t : duration

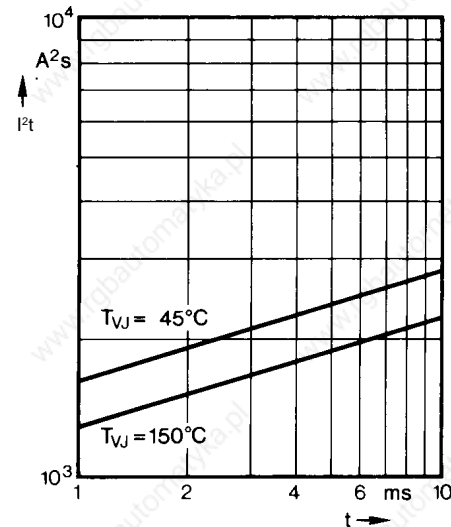


Fig. 3 I^2t versus time (1-10 ms) per diode

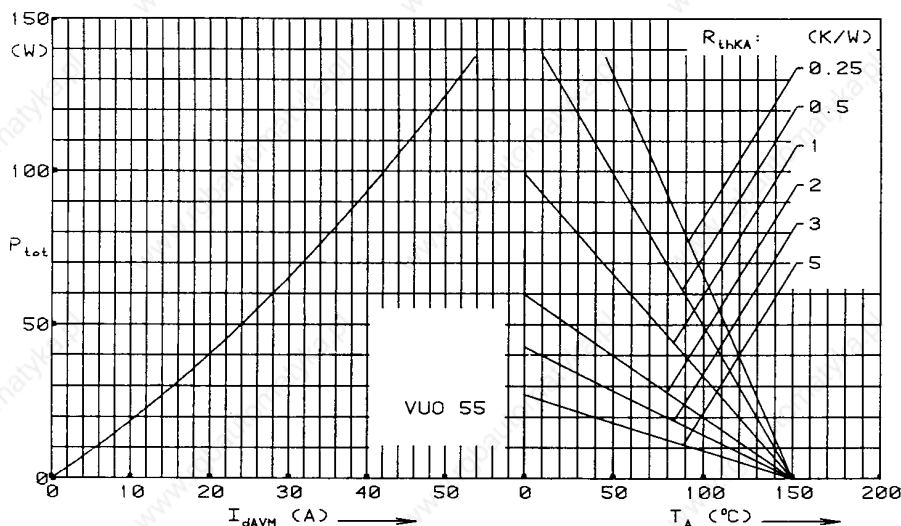


Fig. 4 Power dissipation versus direct output current and ambient temperature

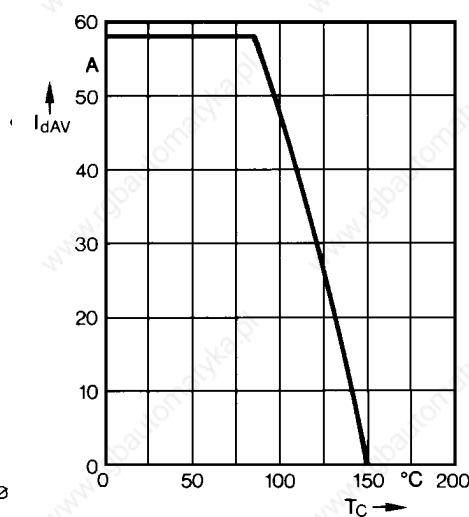


Fig. 5 Maximum forward current at case temperature

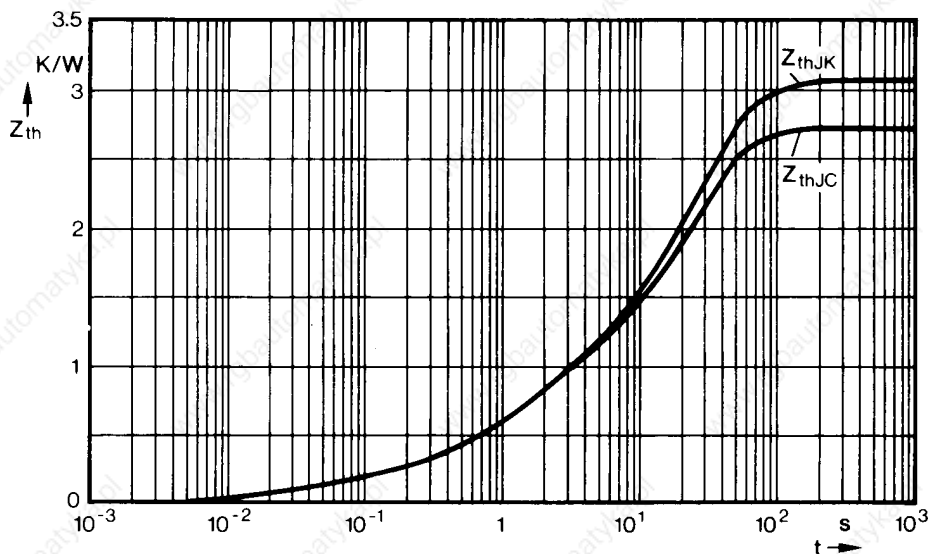


Fig. 6 Transient thermal impedance per diode

Constants for Z_{thJC} calculation:

| i | R_{thi} (K/W) | t_i (s) |
|---|-----------------|-----------|
| 1 | 0.036 | 0.013 |
| 2 | 0.149 | 0.034 |
| 3 | 0.615 | 1.35 |
| 4 | 1.9 | 23.0 |

Constants for Z_{thJK} calculation:

| i | R_{thi} (K/W) | t_i (s) |
|---|-----------------|-----------|
| 1 | 0.036 | 0.013 |
| 2 | 0.149 | 0.034 |
| 3 | 0.615 | 1.35 |
| 4 | 1.9 | 23.0 |
| 5 | 0.36 | 52.0 |