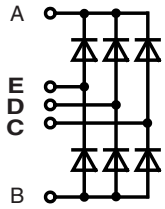
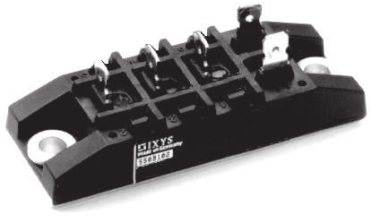
# Three Phase Rectifier Bridge

$I_{dAV}$ = 70 A
$V_{RRM}$ = 1600 V

| $V_{RSM}$ V | $V_{RRM}$ V | Types |
|---|---|---|
| 1700 | 1600 | VUO 70-16NO7 |



| Symbol | Conditions | | Maximum Ratings | |
|---|---|---|---|---|
| $I_{dAV}$ | $T_C$ = 100°C, module (for resistive load at bridge output) | | 70 | A |
| $I_{FSM}$ | $T_{VJ}$ = 45°C | t = 10 ms (50 Hz), sine | 550 | A |
| | $V_R$ = 0 | t = 8.3 ms (60 Hz), sine | 600 | A |
| | $T_{VJ}$ = $T_{VJM}$ | t = 10 ms (50 Hz), sine | 500 | A |
| | $V_R$ = 0 | t = 8.3 ms (60 Hz), sine | 550 | A |
| $I^2t$ | $T_{VJ}$ = 45°C | t = 10 ms (50 Hz), sine | 1520 | $A^2s$ |
| | $V_R$ = 0 | t = 8.3 ms (60 Hz), sine | 1520 | $A^2s$ |
| | $T_{VJ}$ = $T_{VJM}$ | t = 10 ms (50 Hz), sine | 1250 | $A^2s$ |
| | $V_R$ = 0 | t = 8.3 ms (60 Hz), sine | 1250 | $A^2s$ |
| $T_{VJ}$ | | | -40...+150 | °C |
| $T_{VJM}$ | | | 150 | °C |
| $T_{stg}$ | | | -40...+125 | °C |
| $V_{ISOL}$ | 50/60 Hz, RMS | t = 1 min | 2500 | V~ |
| | $I_{ISOL}$ ≤ 1 mA | t = 1 s | 3000 | V~ |
| $M_d$ | Mounting torque | (M5) | 5 ±15% | Nm |
| lb.in. | | (10-32 UNF) | 44 ±15% | |
| Weight | typ. | | 110 | g |

| Symbol | Conditions | | Characteristic Values | | |
|---|---|---|---|---|---|
| $I_R$ | $V_R$ = $V_{RRM}$ | $T_{VJ}$ = 25°C | ≤ | 0.5 | mA |
| | $V_R$ = $V_{RRM}$ | $T_{VJ}$ = $T_{VJM}$ | ≤ | 10 | mA |
| $V_F$ | $I_F$ = 150 A | $T_{VJ}$ = 25°C | ≤ | 1.7 | V |
| $V_{T0}$ | For power-loss calculations only | | | 0.8 | V |
| $r_T$ | | | | 8 | mΩ |
| $R_{thJC}$ | per diode; DC current | | | 1.45 | K/W |
| | per module | | | 0.242 | K/W |
| $R_{thJH}$ | per diode; DC current | | | 1.9 | K/W |
| | per module | | | 0.317 | K/W |
| $d_S$ | Creeping distance on surface | | | 16.1 | mm |
| $d_A$ | Creepage distance in air | | | 7.5 | mm |
| a | Max. allowable acceleration | | | 50 | $m/s^2$ |

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

## Features

- Package with copper base plate
- Isolation voltage 3000 V~
- Planar passivated chips
- Low forward voltage drop
- ¼" fast-on power terminals

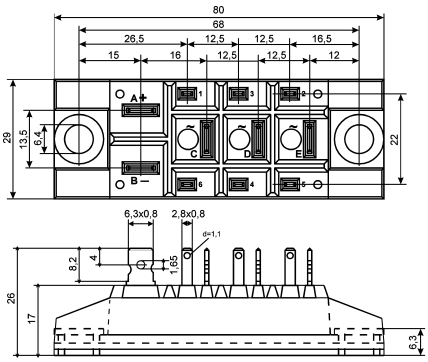
## Applications

- 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 capability
- Small and light weight

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



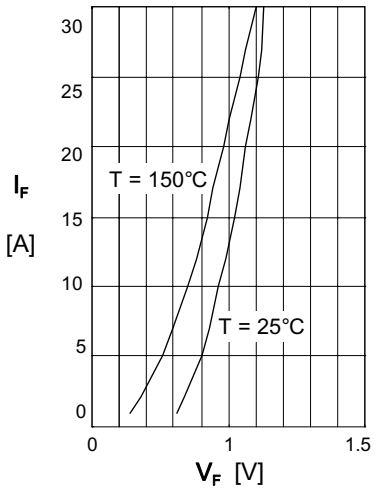



Fig. 1 Forward current vs. voltage drop per diode

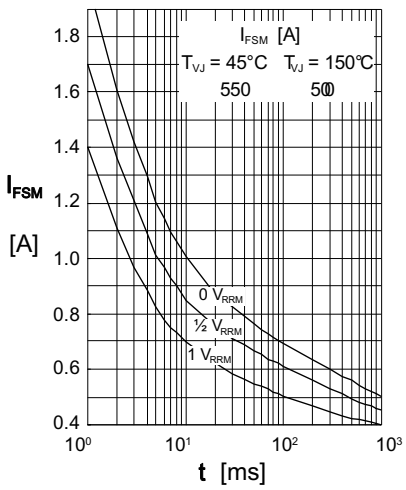



Fig. 2 Surge overload current per diode. t = duration $I_{FSM}$ = Crest value

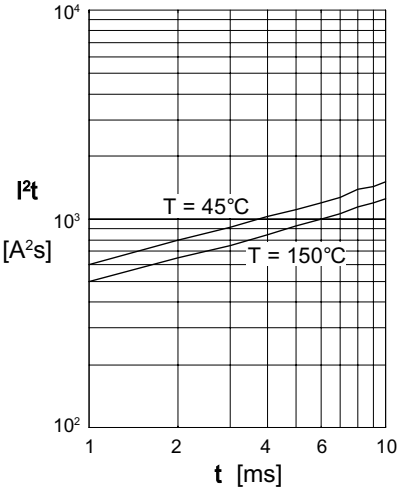



Fig. 3 $I^2t$ vs. time (1-10 ms) per diode/thyristor

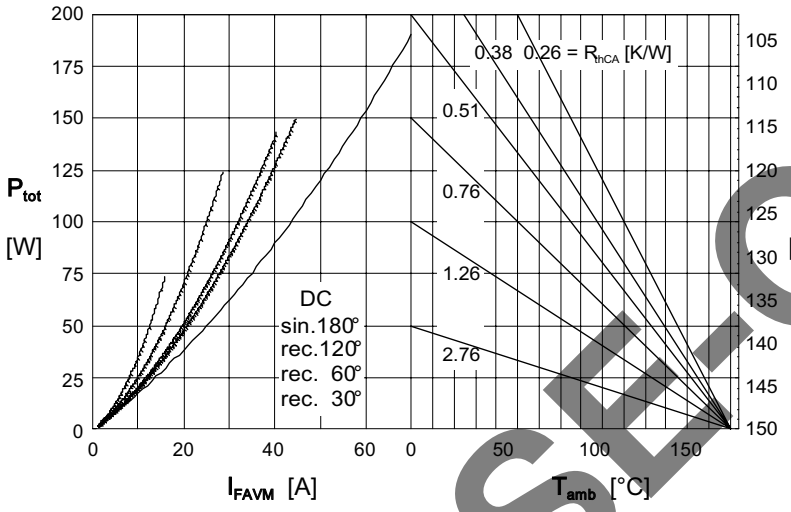



Fig. 4 Power dissipation versus direct output current and ambient temperature

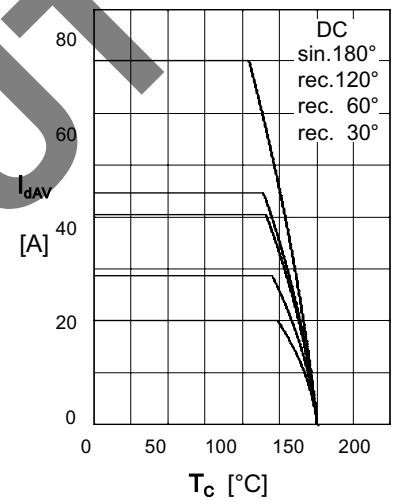



Fig.5 Max. forward current at case temperature

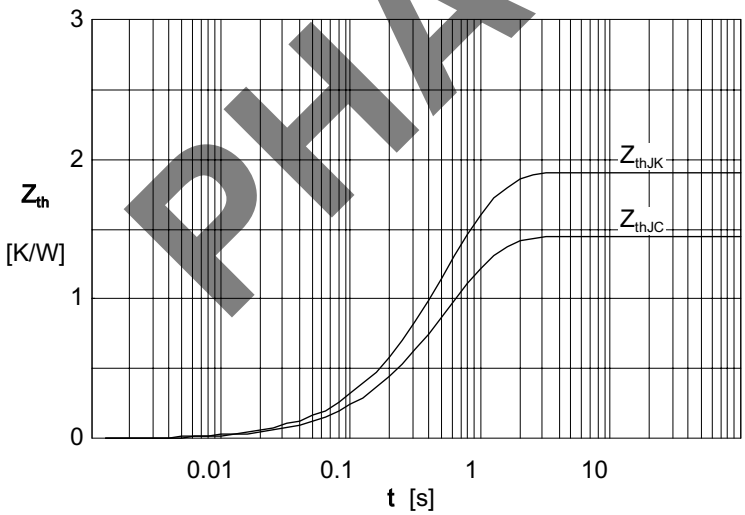



Fig. 6 Transient thermal impedance per diode/thyristor, calculated