

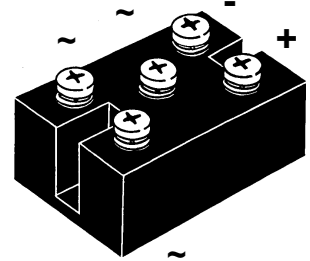
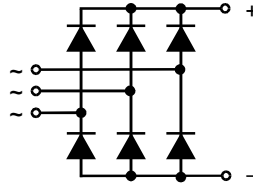
# Three Phase Rectifier Bridge

$$I_{dAVM} = 140 \text{ A}$$

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

$V_{RSM}$	$V_{RRM}$	Type
V	V	
1200	1200	VUO 105-12NO7
1400	1400	VUO 105-14NO7
1600	1600	VUO 105-16NO7
1800	1800	VUO 105-18NO7*

\* delivery time on request



Symbol	Test Conditions	Maximum Ratings
$I_{dAVM}$	$T_C = 85^\circ\text{C}$ , module	140 A
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine 1500 A
		$t = 8.3 \text{ ms}$ (60 Hz), sine 1650 A
$I^2t$	$T_{VJ} = T_{VJM}$ ; $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine 1350 A
		$t = 8.3 \text{ ms}$ (60 Hz), sine 1500 A
$T_{VJ}$	$T_{VJ} = 45^\circ\text{C}$ ; $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine 11250 A <sup>2</sup> s
		$t = 8.3 \text{ ms}$ (60 Hz), sine 11300 A <sup>2</sup> s
$T_{VJM}$	$T_{VJ} = T_{VJM}$ ; $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine 9120 A <sup>2</sup> s
		$t = 8.3 \text{ ms}$ (60 Hz), sine 9350 A <sup>2</sup> s
$T_{stg}$		-40...+150 °C
		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.
Weight	typ.	5 ± 15 % Nm
		44 ± 15 % lb.in.

### 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

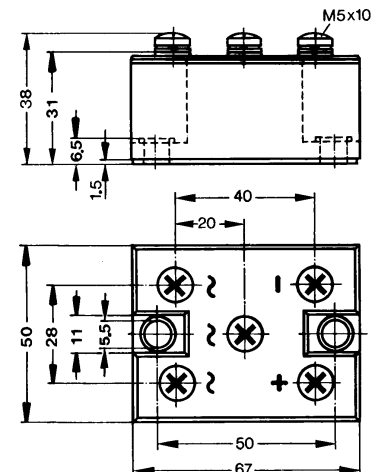
### Advantages

- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling

Symbol	Test Conditions	Characteristic Values
$I_R$	$V_R = V_{RRM1}$ ; $V_R = V_{RRM2}$	$T_{VJ} = 25^\circ\text{C}$ ≤ 0.3 mA
		$T_{VJ} = T_{VJM}$ ≤ 8.0 mA
$V_F$	$I_F = 150 \text{ A}$ ; $T_{VJ} = 25^\circ\text{C}$	≤ 1.6 V
$V_{T0}$	For power-loss calculations only	0.8 V
$r_T$		5 mΩ
$R_{thJC}$	per diode	0.83 K/W
	per module	0.138 K/W
$R_{thJH}$	per diode	1.13 K/W
	per module	0.188 K/W

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.

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



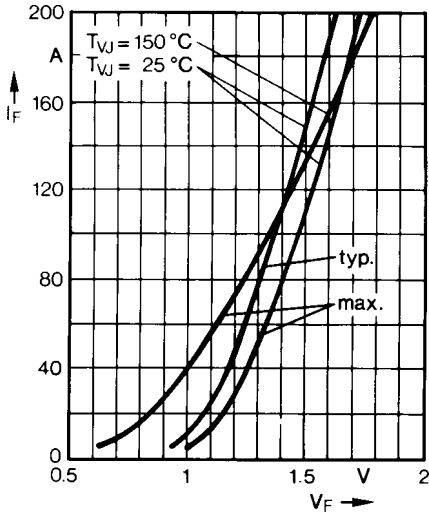


Fig. 1 Forward current versus voltage drop per diode

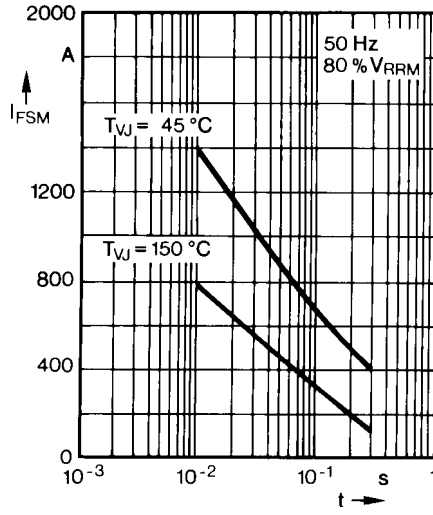


Fig. 2 Surge overload current per diode  
 $I_{FSM}$ : Crest value.  $t$ : duration

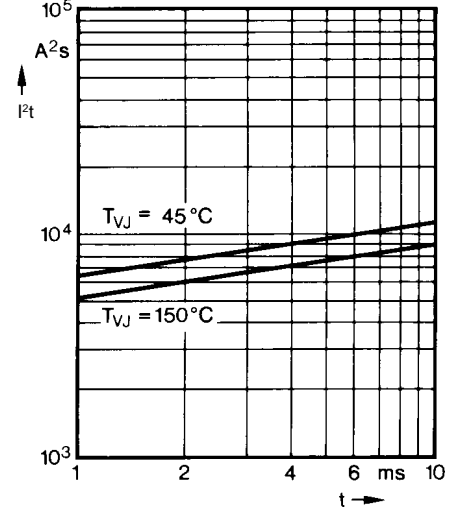


Fig. 3  $I^2t$  versus time (1-10 ms) per diode

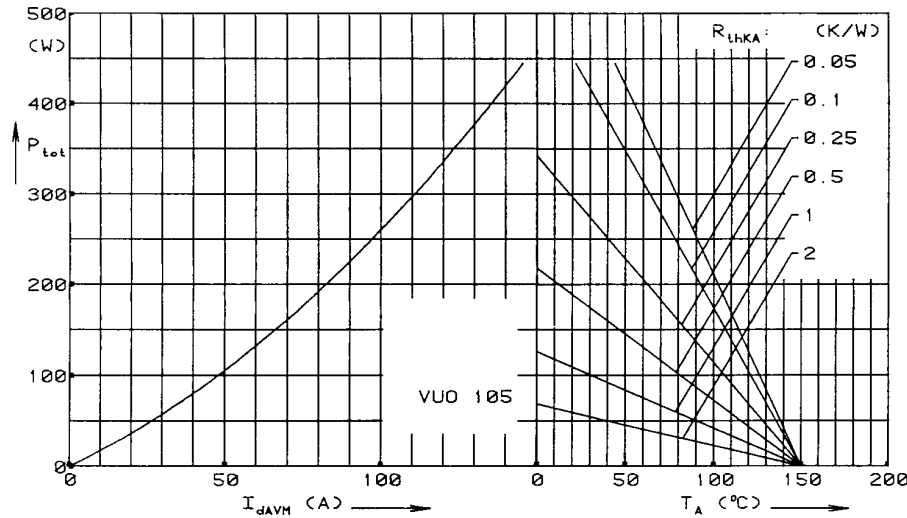


Fig. 4 Power dissipation versus direct output current and ambient temperature

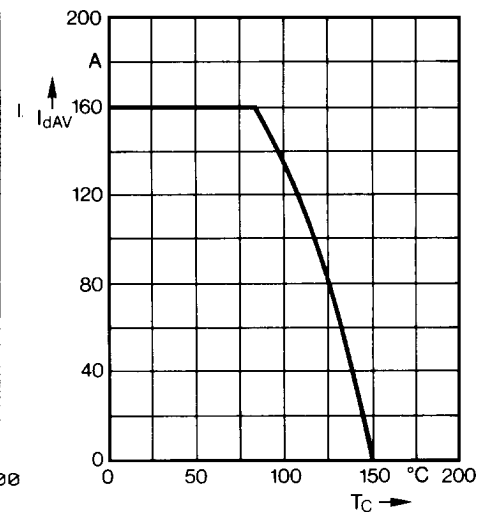


Fig. 5 Maximum forward current at case temperature

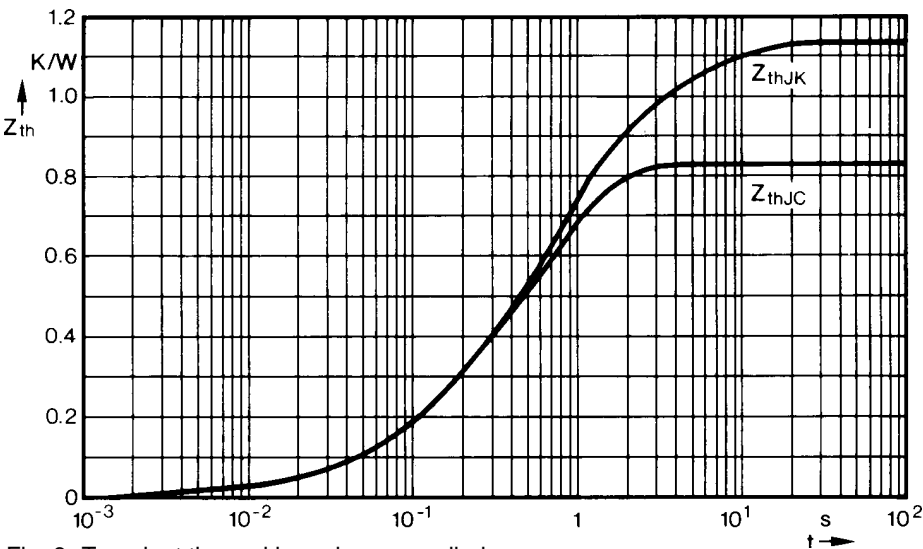


Fig. 6 Transient thermal impedance per diode

Constants for  $Z_{thJC}$  calculation:

i	$R_{thi}$ (K/W)	$t_i$ (s)
1	0.014	0.011
2	0.067	0.094
3	0.139	0.28
4	0.61	0.7

Constants for  $Z_{thJK}$  calculation:

i	$R_{thi}$ (K/W)	$t_i$ (s)
1	0.014	0.011
2	0.067	0.094
3	0.139	0.28
4	0.61	0.7
5	0.3	4.2