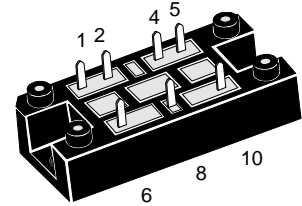
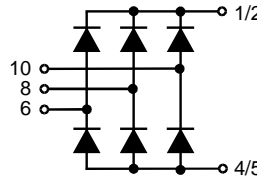


# Three Phase Rectifier Bridge

$I_{dAVM} = 82 \text{ A}$   
 $V_{RRM} = 800-1800 \text{ V}$

$V_{RSM}$ V	$V_{RRM}$ V	Type
900	800	VUO 80-08NO1
1300	1200	VUO 80-12NO1
1500	1400	VUO 80-14NO1
1700	1600	VUO 80-16NO1
1900	1800	VUO 80-18NO1



Symbol	Test Conditions	Maximum Ratings
$I_{dAV}$ $I_{dAVM}$	$T_K = 90^\circ\text{C}$ , module module	82 A 82 A
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine 600 A $t = 8.3 \text{ ms}$ (60 Hz), sine 640 A
	$T_{VJ} = T_{VJM}$ $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine 520 A $t = 8.3 \text{ ms}$ (60 Hz), sine 555 A
$I^2t$	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine 1800 A <sup>2</sup> s $t = 8.3 \text{ ms}$ (60 Hz), sine 1720 A <sup>2</sup> s
	$T_{VJ} = T_{VJM}$ $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine 1350 A <sup>2</sup> s $t = 8.3 \text{ ms}$ (60 Hz), sine 1295 A <sup>2</sup> s
$T_{VJ}$ $T_{VJM}$ $T_{stg}$		-40...+150 °C 150 °C -40...+130 °C
$V_{ISOL}$	50/60 Hz, RMS $I_{ISOL} \leq 1 \text{ mA}$	$t = 1 \text{ min}$ 3000 V~ $t = 1 \text{ s}$ 3600 V~
$M_d$	Mounting torque (M5) (10-32UNF)	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
- Leads suitable for PC board soldering
- UL registered E72873

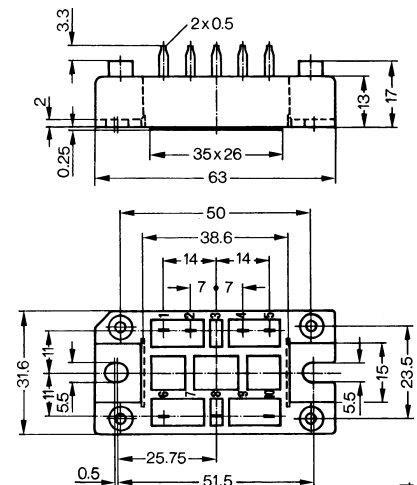
### Applications

- 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")



Symbol	Test Conditions	Characteristic Values
$I_R$	$V_R = V_{RRM}$ $V_R = V_{RRM}$	$T_{VJ} = 25^\circ\text{C}$ ≤ 0.3 mA $T_{VJ} = T_{VJM}$ ≤ 6 mA
$V_F$	$I_F = 80 \text{ A}$ ; $T_{VJ} = 25^\circ\text{C}$	≤ 1.5 V
$V_{T0}$	For power-loss calculations only	0.8 V
$r_T$		7.5 mΩ
$R_{thJH}$	per diode, 120° rect. per module, 120° rect.	1.42 K/W 0.24 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.

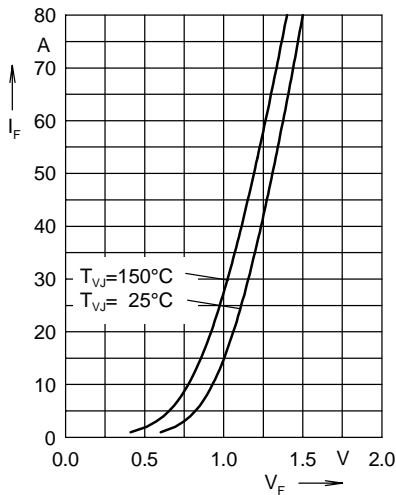


Fig. 1 Forward current versus voltage drop per diode

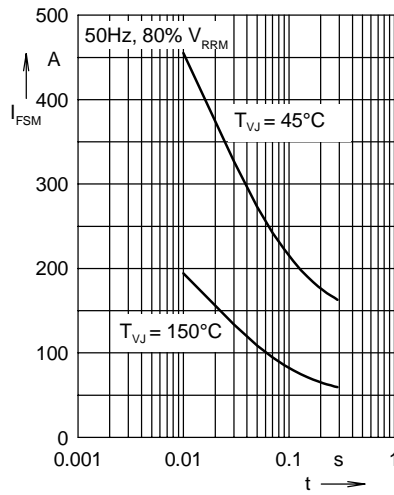


Fig. 2 Surge overload current

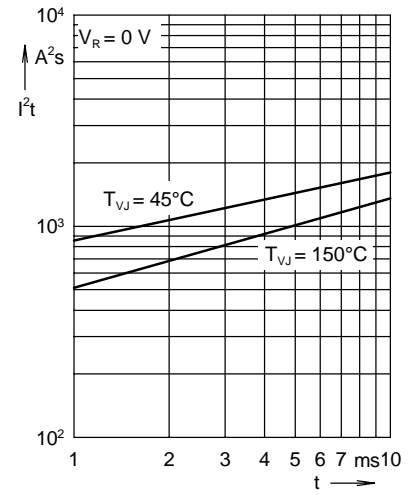


Fig. 3 I<sup>2</sup>t versus time per diode

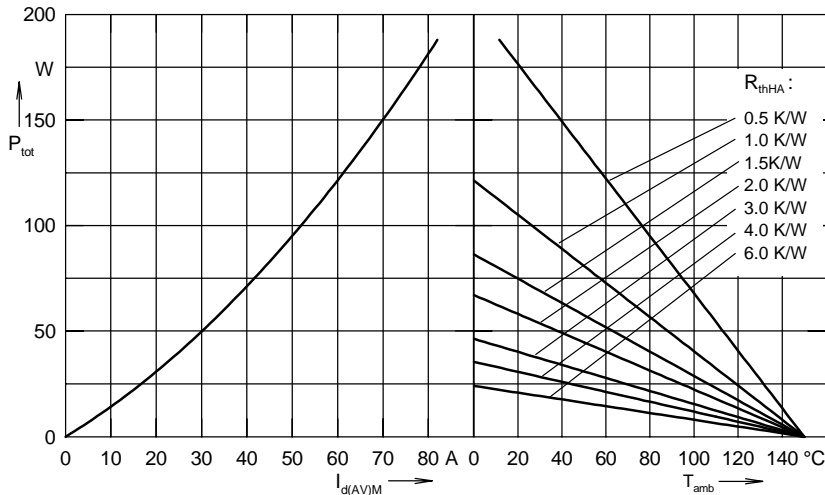


Fig. 4 Power dissipation versus direct output current and ambient temperature

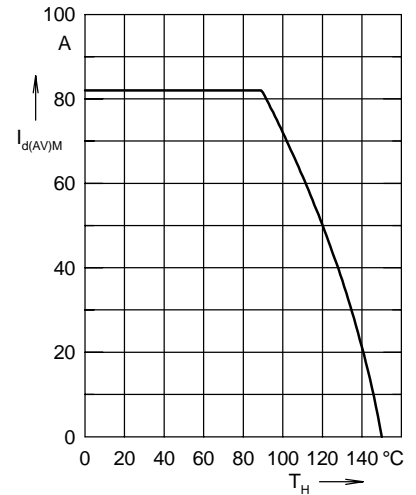


Fig. 5 Max. forward current versus heatsink temperature

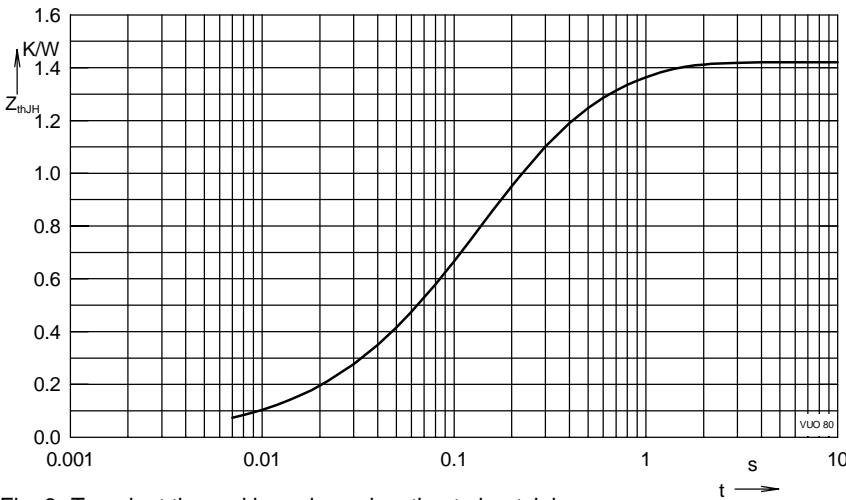


Fig. 6 Transient thermal impedance junction to heatsink

Constants for  $Z_{thJH}$  calculation:

i	$R_{thi}$ (K/W)	$t_i$ (s)
1	0.005	0.01
2	0.21	0.05
3	0.795	0.14
4	0.41	0.5