

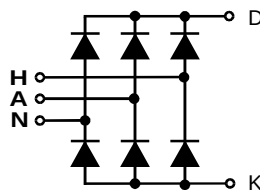
# Three Phase Rectifier Bridge

$$I_{dAV} = 86 \text{ A}$$

$$V_{RRM} = 800\text{-}1600 \text{ V}$$

Preliminary data

| $V_{RSM}$<br>V | $V_{RRM}$<br>V | Types        |
|----------------|----------------|--------------|
| 900            | 800            | VUO 86-08NO7 |
| 1300           | 1200           | VUO 86-12NO7 |
| 1500           | 1400           | VUO 86-14NO7 |
| 1700           | 1600           | VUO 86-16NO7 |



| Symbol      | Test Conditions                                | Maximum Ratings                                             |
|-------------|------------------------------------------------|-------------------------------------------------------------|
| $I_{dAV}$ ① | $T_C = 90^\circ\text{C}$ , module              | 86 A                                                        |
| $I_{FSM}$   | $T_{VJ} = 45^\circ\text{C}$ ;<br>$V_R = 0$     | $t = 10 \text{ ms}$ (50 Hz), sine<br>530 A                  |
|             |                                                | $t = 8.3 \text{ ms}$ (60 Hz), sine<br>570 A                 |
|             | $T_{VJ} = T_{VJM}$                             | $t = 10 \text{ ms}$ (50 Hz), sine<br>480 A                  |
|             | $V_R = 0$                                      | $t = 8.3 \text{ ms}$ (60 Hz), sine<br>520 A                 |
| $I^2t$      | $T_{VJ} = 45^\circ\text{C}$                    | $t = 10 \text{ ms}$ (50 Hz), sine<br>1400 A <sup>2</sup> s  |
|             | $V_R = 0$                                      | $t = 8.3 \text{ ms}$ (60 Hz), sine<br>1360 A <sup>2</sup> s |
|             | $T_{VJ} = T_{VJM}$                             | $t = 10 \text{ ms}$ (50 Hz), sine<br>1150 A <sup>2</sup> s  |
|             | $V_R = 0$                                      | $t = 8.3 \text{ ms}$ (60 Hz), sine<br>1140 A <sup>2</sup> s |
| $T_{VJ}$    |                                                | -40...+150 °C                                               |
| $T_{VJM}$   |                                                | 150 °C                                                      |
| $T_{stg}$   |                                                | -40...+125 °C                                               |
| $V_{ISOL}$  | 50/60 Hz, RMS $t = 1 \text{ min}$              | 2500 V~                                                     |
|             | $I_{ISOL} \leq 1 \text{ mA}$ $t = 1 \text{ s}$ | 3000 V~                                                     |
| $M_d$       | Mounting torque (M4)                           | 1.5 - 2 Nm<br>14 - 18 lb.in.                                |
| Weight      | typ.                                           | 18 g                                                        |

## Features

- Package with DCB ceramic base plate
- Isolation voltage 3000 V~
- Planar passivated chips
- Low forward voltage drop
- Leads suitable for PC board soldering

## 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

| Symbol     | Test Conditions                                       | Characteristic Values |
|------------|-------------------------------------------------------|-----------------------|
| $I_R$      | $V_R = V_{RRM}$ ;<br>$T_{VJ} = 25^\circ\text{C}$      | $\leq 0.5 \text{ mA}$ |
|            | $V_R = V_{RRM}$ ;<br>$T_{VJ} = T_{VJM}$               | $\leq 3 \text{ mA}$   |
| $V_F$      | $I_F = 80 \text{ A}$ ;<br>$T_{VJ} = 25^\circ\text{C}$ | $\leq 1.5 \text{ V}$  |
| $V_{T0}$   | For power-loss calculations only                      | 0.8 V                 |
| $r_T$      |                                                       | 7.5 mΩ                |
| $R_{thJC}$ | per diode; DC current                                 | 1.2 K/W               |
|            | per module                                            | 0.2 K/W               |
| $R_{thJH}$ | per diode; DC current                                 | 1.5 K/W               |
|            | per module                                            | 0.25 K/W              |
| $d_s$      | Creeping distance on surface                          | 11.2 mm               |
| $d_A$      | Creepage distance in air                              | 9.7 mm                |
| $a$        | Max. allowable acceleration                           | 50 m/s <sup>2</sup>   |

Data according to IEC 60747 refer to a single diode unless otherwise stated  
① for resistive load at bridge output.

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

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

