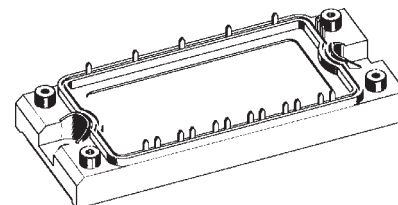
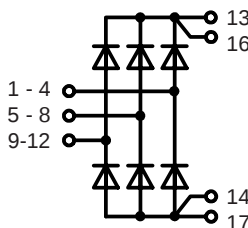


# Three Phase Rectifier Bridge

## Preliminary data

| $V_{RRM}$<br>$V$ | Type           |
|------------------|----------------|
| 1600             | VUO 121-16 NO1 |



$$\begin{aligned} I_{dAVM} &= 118 \text{ A} \\ V_{BRM} &= 1600 \text{ V} \end{aligned}$$

| Symbol     | Test Conditions                                                          | Maximum Ratings |                    |
|------------|--------------------------------------------------------------------------|-----------------|--------------------|
| $V_{RRM}$  |                                                                          | 1600            | V                  |
| $I_{dAVM}$ | $T_C = 100^{\circ}\text{C}$ , sinusoidal 120°                            | 118             | A                  |
| $I_{FSM}$  | $T_{VJ} = 45^{\circ}\text{C}$ , $t = 10\text{ ms}$ , $V_R = 0\text{ V}$  | 650             | A                  |
|            | $T_{VJ} = 150^{\circ}\text{C}$ , $t = 10\text{ ms}$ , $V_R = 0\text{ V}$ | 580             | A                  |
| $I^2t$     | $T_{VJ} = 45^{\circ}\text{C}$ , $t = 10\text{ ms}$ , $V_R = 0\text{ V}$  | 2110            | A                  |
|            | $T_{VJ} = 150^{\circ}\text{C}$ , $t = 10\text{ ms}$ , $V_R = 0\text{ V}$ | 1630            | A                  |
| $P_{tot}$  | $T_C = 25^{\circ}\text{C}$ per diode                                     | 120             | W                  |
| $T_{VJ}$   |                                                                          | -40...+150      | $^{\circ}\text{C}$ |
| $T_{VJM}$  |                                                                          | 150             | $^{\circ}\text{C}$ |
| $T_{stg}$  |                                                                          | -40...+125      | $^{\circ}\text{C}$ |
| $V_{ISOL}$ | 50/60 Hz, $t = 1\text{ min}$                                             | 2500            | V~                 |
|            | $I_{ISOL} \leq 1\text{ mA}$ , $t = 1\text{ s}$                           | 3000            | V~                 |
| $M_d$      | Mounting torque (M5)<br>(10-32 UNF)                                      | 4               | Nm                 |
|            |                                                                          | 35.4            | lb.in.             |
| $d_s$      | Creep distance on surface                                                | 6               | mm                 |
| $d_A$      | Strike distance in air                                                   | 6               | mm                 |
| Weight     | typ.                                                                     | 180             | g                  |

## Features

- Industry standard package with insulated copper plate and soldering pins for PCB mounting
- Isolation voltage 3000 V~
- Convenient package outline

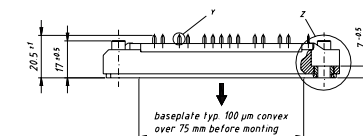
## Applications

- Input Rectifier for Drive Inverters

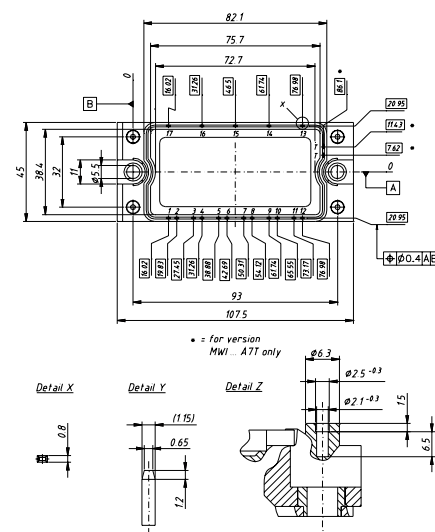
### Advantages

- Easy to mount with two screws
- Suitable for wave soldering
- High temperature and power cycling capability

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



| Symbol                      | Test Conditions                          | Characteristic Values |      |         |
|-----------------------------|------------------------------------------|-----------------------|------|---------|
|                             |                                          | min.                  | typ. | max.    |
| <b>I<sub>R</sub></b>        | <b>V<sub>R</sub> = V<sub>RRM1</sub>,</b> |                       |      | 0.1 mA  |
|                             | <b>V<sub>R</sub> = V<sub>RRM1</sub>,</b> |                       |      | 1.5 mA  |
|                             | <b>T<sub>VJ</sub> = 25°C</b>             |                       |      |         |
|                             | <b>T<sub>VJ</sub> = 150°C</b>            |                       |      |         |
| <b>V<sub>F</sub></b>        | <b>I<sub>F</sub> = 100 A,</b>            |                       |      | 1.55 V  |
|                             | <b>T<sub>VJ</sub> = 25°C</b>             |                       |      |         |
| <b>V<sub>F0</sub></b>       | For power-loss calculations only         |                       |      | 0.8 V   |
| <b>r<sub>T</sub></b>        |                                          |                       |      | 5 mΩ    |
|                             | <b>T<sub>VJ</sub> = 150°C</b>            |                       |      |         |
| <b>R<sub>thJC</sub></b>     | per diode; sinusoidal 120°               | 0.1                   |      | 0.8 K/W |
| <b>R<sub>thCH</sub></b>     |                                          |                       |      | K/W     |
| <b>R<sub>Pin-Chip</sub></b> |                                          |                       |      | mΩ      |



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