

## Three Phase Rectifier Bridge Module (Low Profile of 17mm height)

### DF150AC series

$I_{F(AV)} = 150A$ ,  $V_{RRM} = 800- 1800V$

SanRex Three Phase Rectifier Bridge Module **DF150AC series** is designed for applications requiring low profile converter-inverter circuit designs. Thanks to the **17mm flat case height design**, the **DF150AC series** can be connected with IGBT or MOSFET modules at the same 17mm case height. This advantage typically reduces the needed parts and manufacturing cost. It also enables level parallel connections for larger capacity, contributes reducing stray inductance, improving high efficiency and reliability.

#### Features

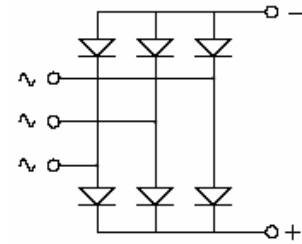
- \* Low Case Height of 17mm
- \* Enable easy parallel connection
- \* Very Low Forward Voltage Drop
- \* High Surge Current Capability
- \* RoHS Compliance

#### Typical Applications

- \* Welding and Plasma Cutting Machines
- \* Battery Chargers
- \* Power Supplies
- \* Motor Controls



Isolated Package



Internal schematic diagram

#### < Maximum Ratings >

$T_j = 25^\circ\text{C}$  (unless otherwise noted)

| Symbol    | Item                                | DF150AC80 | DF150AC160 | DF150AC180 | Unit |
|-----------|-------------------------------------|-----------|------------|------------|------|
| $V_{RRM}$ | Repetitive Peak Reverse Voltage     | 800       | 1600       | 1800       | V    |
| $V_{RSM}$ | Non-Repetitive Peak Reverse Voltage | 960       | 1700       | 1900       | V    |

| Symbol      | Item                       | Conditions  | Ratings             | Unit                 |
|-------------|----------------------------|---|---------------------|----------------------|
| $I_{F(AV)}$ | Average Forward Current    | Three phase, Full wave, $T_c = 106^\circ\text{C}$ | 150                 | A                    |
| $I_{FSM}$   | Surge Forward Current      | 1 cycle, 60Hz, Peak value, non-repetitive         | 1200                | A                    |
| $I^2 t$     | $I^2 t$ (for fusing)       | Value for one cycle surge current                 | 6000                | $\text{A}^2\text{s}$ |
| $T_j$       | Junction Temperature       |   | -40 to +150         | $^\circ\text{C}$     |
| $T_{stg}$   | Storage Temperature        |   | -40 to +125         | $^\circ\text{C}$     |
| $V_{ISO}$   | Isolation Voltage (R.M.S.) | A.C. 1 minute                                     | 2500                | V                    |
|             | Mounting Torque            | Mounting M5                                       | Recommended 1.5-2.5 | N·m                  |
|             |                            | Terminal M5                                       | Recommended 1.5-2.5 |                      |
|             | Mass                       | Typical Value                                     | 290                 | g                    |

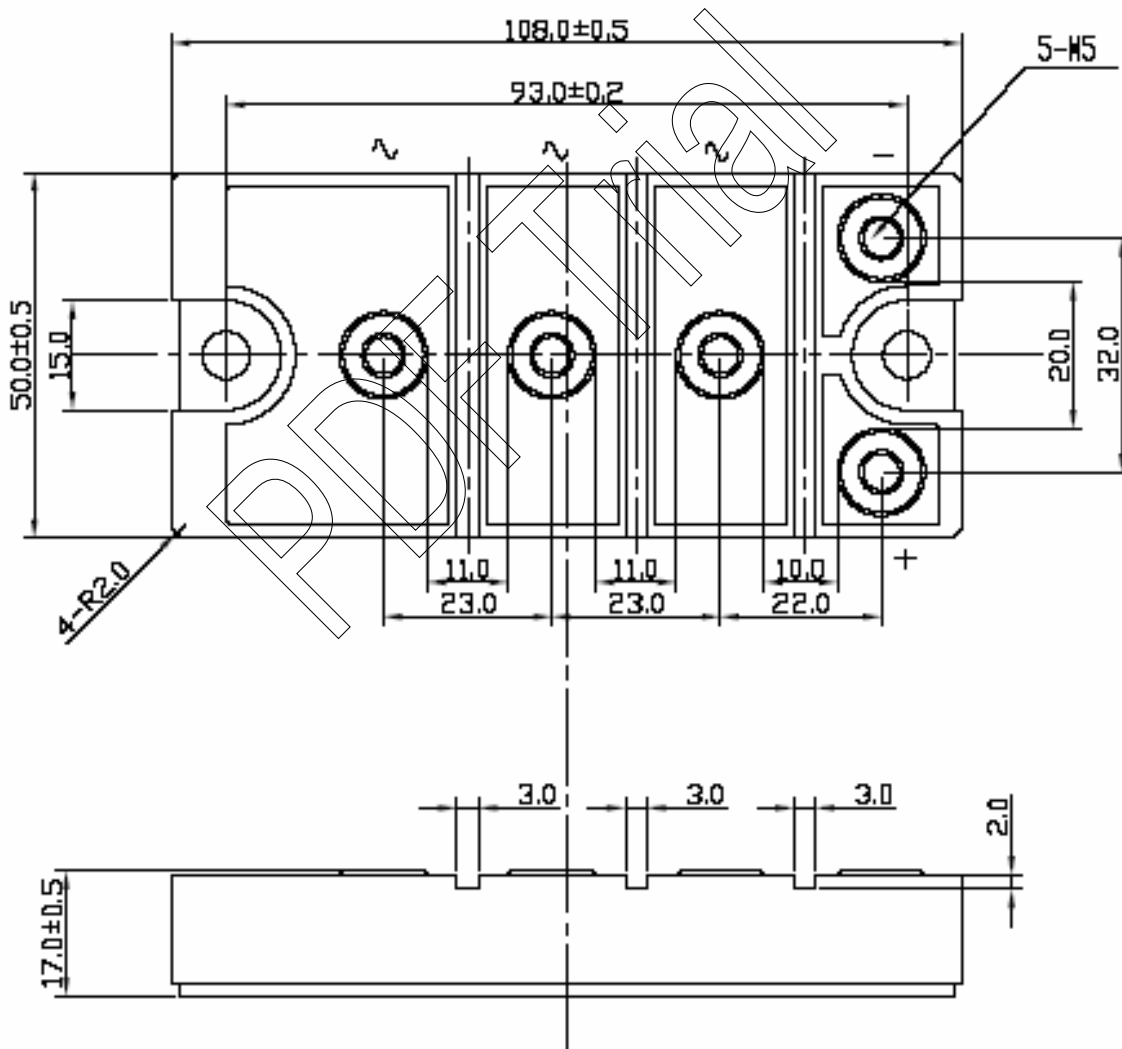
## Three Phase Rectifier Bridge Modules

## DF150AC series

< Electrical Characteristics >

T<sub>j</sub> = 25°C (unless otherwise noted)

| Symbol               | Item                            | Conditions   | Ratings |      |      | Unit |
|----------------------|---------------------------------|--|---------|------|------|------|
|                      |                                 |  | Min.    | Typ. | Max. |      |
| I <sub>RRM</sub>     | Repetitive Peak Reverse Current | V <sub>R</sub> = V <sub>RRM</sub> , T <sub>j</sub> = 150°C |         |      | 15.0 | mA   |
| V <sub>FM</sub>      | Forward Voltage Drop            | I <sub>F</sub> = 150A, Inst. measurement                   |         |      | 1.20 | V    |
| R <sub>th(j-c)</sub> | Thermal Resistance              | Junction to case   |         |      | 0.12 | °C/W |



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