

## DIODE(THREE PHASES BRIDGE TYPE)

# DF150AA120/160

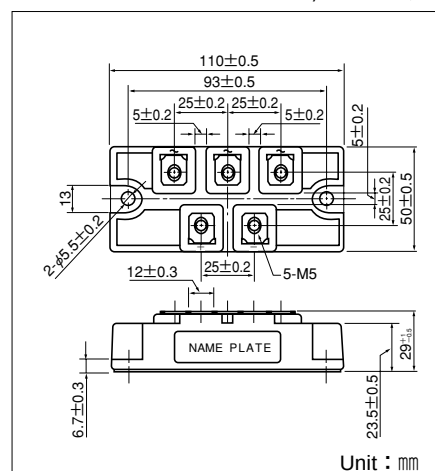
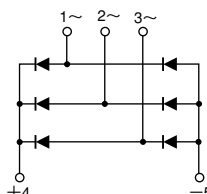
UL:E76102 (M)

Power Diode Module **DF150AA** is designed for three phase full wave rectification, which has six diodes connected in a three phase bridge configuration. The mounting base of the module is electrically isolated from semiconductor elements for simple heatsink construction. Output DC current is 150Amp ( $T_c=94^{\circ}\text{C}$ ) Repetitive peak reverse voltage is up to 1,600V.

- $T_{j\text{Max}}=150^{\circ}\text{C}$
- Isolated mounting base
- High reliability by unique glass passivation

### (Applications)

AC, DC Motor Drive/AVR/Switching  
-for three phase rectification



### Maximum Ratings

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

| Symbol    | Item                                | Ratings    |            | Unit |
|-----------|-------------------------------------|------------|------------|------|
|           |                                     | DF150AA120 | DF150AA160 |      |
| $V_{RRM}$ | Repetitive Peak Reverse Voltage     | 1200       | 1600       | V    |
| $V_{RSM}$ | Non-Repetitive Peak Reverse Voltage | 1300       | 1700       | V    |

| Symbol    | Item                                 |               | Conditions                                      | Ratings         | Unit                         |
|-----------|--------------------------------------|---------------|-------------------------------------------------|-----------------|------------------------------|
| $I_D$     | Output Current (D.C.)                |               | Three Phase full wave. $T_c=94^{\circ}\text{C}$ | 150             | A                            |
| $I_{FSM}$ | Surge Forward Current                |               | 1 cycle, 50/60Hz, peak value, non-repetitive    | 1100/1200       | A                            |
| $I^2t$    | $I^2t$                               |               | Value for one cycle of surge current            | 6000            | $\text{A}^2\text{S}$         |
| $T_j$     | Operating Junction Temperature       |               |                                                 | $-40$ to $+150$ | $^{\circ}\text{C}$           |
| $T_{stg}$ | Storage Temperature                  |               |                                                 | $-40$ to $+125$ | $^{\circ}\text{C}$           |
| $V_{ISO}$ | Isolation Breakdown Voltage (R.M.S.) |               | A.C. 1 minute                                   | 2500            | V                            |
|           | Mounting Torque                      | Mounting (M5) | Recommended Value 1.5-2.5 (15-25)               | 2.7 (28)        | $\text{N}\cdot\text{m}$      |
|           |                                      | Terminal (M5) | Recommended Value 1.5-2.5 (15-25)               | 2.7 (28)        | $(\text{kgf}\cdot\text{cm})$ |
|           | Mass                                 |               | Typical Value                                   | 360             | g                            |

### Electrical Characteristics

| Symbol        | Item                                  | Conditions                                                          | Ratings | Unit                        |
|---------------|---------------------------------------|---------------------------------------------------------------------|---------|-----------------------------|
| $I_{RRM}$     | Repetitive Peak Reverse Current, max. | $T_j=150^{\circ}\text{C}$ at $V_{RRM}$                              | 15.0    | mA                          |
| $V_{FM}$      | Forward Voltage Drop, max.            | $T_j=25^{\circ}\text{C}$ , $I_{FM}=150\text{A}$ , Inst. measurement | 1.35    | V                           |
| $R_{th(j-c)}$ | Thermal Impedance, max.               | Junction to case                                                    | 0.14    | $^{\circ}\text{C}/\text{W}$ |

