

DIODE (THREE PHASES BRIDGE TYPE)

DF50AA120/160

TOP



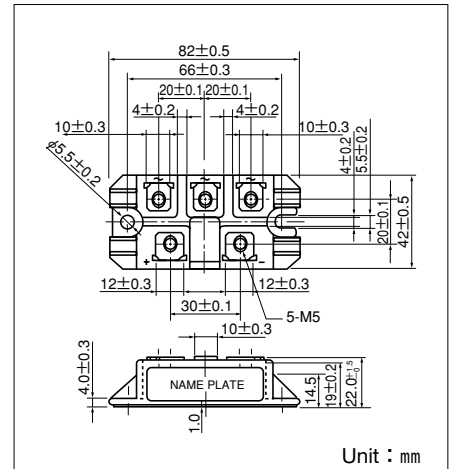
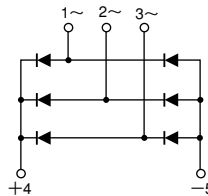
UL;E76102 (M)

Power Diode Module **DF50AA** 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 50Amp ($T_c=114^\circ\text{C}$) 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 |
|-----------|-------------------------------------|-----------|-----------|------|
| | | DF50AA120 | DF50AA160 | |
| 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. $T_c : 114^\circ\text{C}$ | 50 | A | |
| I_{FSM} | Surge Forward Current | 1cycle, 50/60Hz, peak value, non-repetitive | 640/700 | A | |
| I^2t | I^2t | Value for one cycle of surge current | 2000 | A^2S | |
| 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) | N·m ($\text{kgf}\cdot\text{cm}$) |
| | | Terminal (M5) | Recommended Value 1.5-2.5 (15-25) | 2.7 (28) | |
| | Mass | Typical Value | 160 | g | |

Electrical Characteristics

| Symbol | Item | Conditions | Ratings | | | Unit |
|---------------|---------------------------------|--|---------|------|------|---------------------------|
| | | | Min. | Typ. | Max. | |
| I_{RRM} | Repetitive Peak Reverse Current | $T_j=150^\circ\text{C}$ at V_{RRM} | | | 8.0 | mA |
| V_{FM} | Forward Voltage Drop | $T_j=25^\circ\text{C}$, $I_{FM}=50\text{A}$, Inst. measurement | | | 1.2 | V |
| $R_{th(j-c)}$ | Thermal Impedance | Junction to case | | | 0.3 | $^\circ\text{C}/\text{W}$ |

