

DIODE(THREE PHASES BRIDGE TYPE)

DF20AA120/160



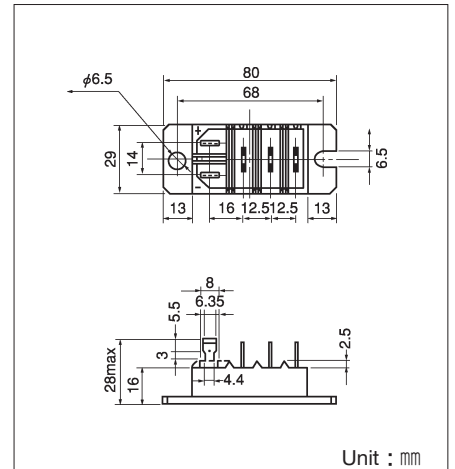
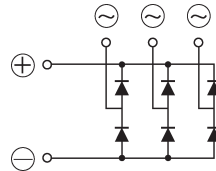
UL;E76102 (M)

Power Diode Module **DF20AA** 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 20Amp ($T_c=119^\circ\text{C}$) 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
- Easy Assemble by the #250 terminal Tab

(Applications)

AC. DC Motor Drive/AVR/Switching
—for three phase rectification



Unit : mm

Maximum Ratings

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

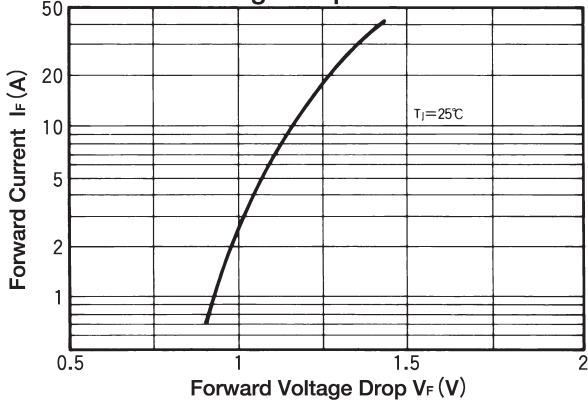
| Symbol | Item | Ratings | | Unit |
|-----------|-------------------------------------|-----------|-----------|------|
| | | DF20AA120 | DF20AA160 | |
| V_{RRM} | Repetitive Peak Reverse Voltage | 1200 | 1600 | V |
| V_{RSM} | Non-Repetitive Peak Reverse Voltage | 1300 | 1700 | V |

| Symbol | Item | Conditions | Ratings | Unit | |
|-----------|--------------------------------------|---|-----------------------------------|------------------|-----------------|
| I_D | Output current (D.C.) | Three phase. full wave. $T_c=119^\circ\text{C}$ | 20 | A | |
| I_{FSM} | Surge Forward Current | 1 cycle, 50/60Hz, peak value, non-repetitive | 220/240 | A | |
| T_j | Junction Temperature | | $-40 \sim +150$ | $^\circ\text{C}$ | |
| T_{stg} | Storage Temperature | | $-40 \sim +125$ | $^\circ\text{C}$ | |
| V_{ISO} | Isolation Breakdown Voltage (R.M.S.) | Main Terminal to case 1minute | 2500 | V | |
| | Mounting Torque | Mounting (M6) | Recommended Value 2.5~3.9 (25~40) | 4.7 (48) | N·m (kgf·cm) |
| | | Terminal | Tub Terminal #250 | — | |
| | Mass | Typical Value | 90 | g | |

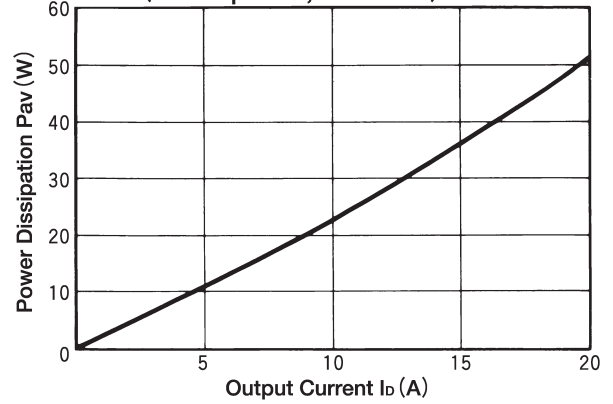
Electrical Characteristics

| Symbol | Item | Conditions | Ratings | Unit |
|---------------|---------------------------------------|--|---------|--------------------|
| I_{RRM} | Repetitive Peak Reverse Current, max. | $T_j=150^\circ\text{C}$ at V_{RRM} | 3.0 | mA |
| V_{FM} | Forward Voltage Drop, max. | $I_{FM}=20\text{A}$, $T_j=25^\circ\text{C}$ Inst. measurement | 1.25 | V |
| $R_{th(j-c)}$ | Thermal Impedance, max. | Junction to case | 0.6 | $^\circ\text{C/W}$ |

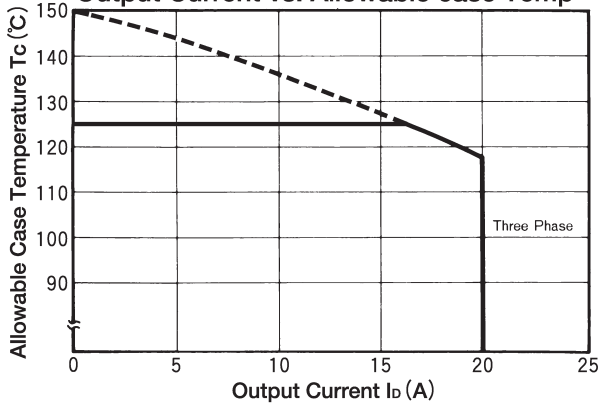
Forward Voltage Drop max.



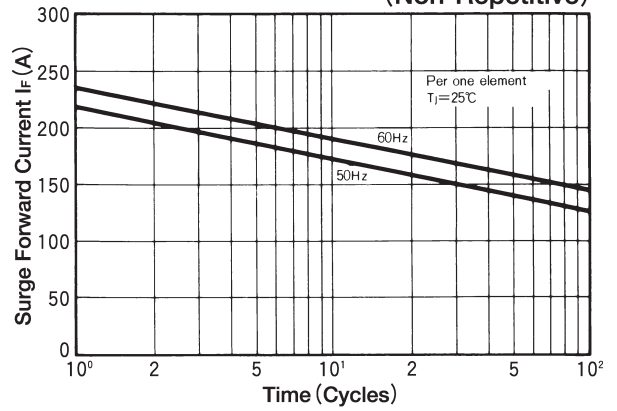
Output Current vs. Power Dissipation, max. (Three phase, full wave)



Output Current vs. Allowable case Temp



Cycle Surge Forward Current Rating (Non-Repetitive)



Transient Thermal Impedance (max)

