

DIODE (THREE PHASES BRIDGE TYPE)

DF50AA120/160



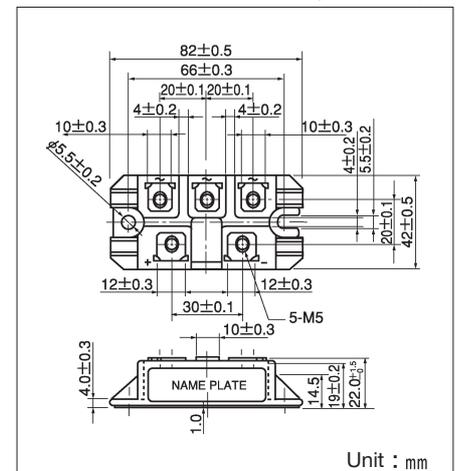
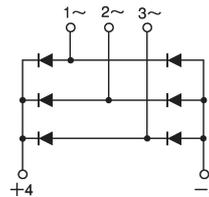
UL;E76102 (M)

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

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

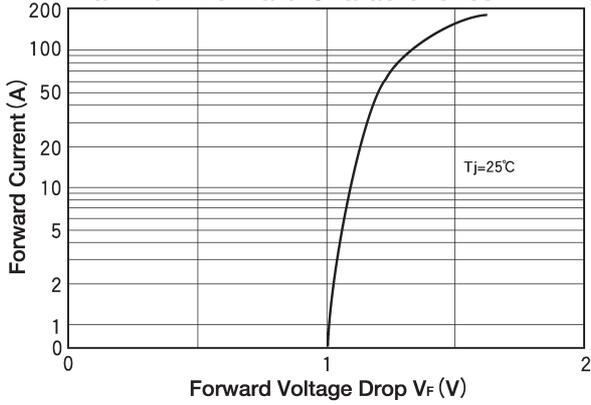
Symbol	Item	Ratings		Unit
		DF50AA120	DF50AA160	
V_{RRM}	Repetitive Peak Reverse Voltage	1200	1600	V
V_{RSM}	Non-Repetitive Peak Reverse Voltage	1300	1700	V

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	1 cycle, 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		$-40 \sim +150$	$^\circ\text{C}$	
T_{stg}	Storage Temperature		$-40 \sim +125$	$^\circ\text{C}$	
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)	$\text{N}\cdot\text{m}$ ($\text{kgf}\cdot\text{cm}$)
		Terminal (M5)	Recommended Value 1.5~2.5 (15~25)	2.7 (28)	
	Mass	Typical Value	160	g	

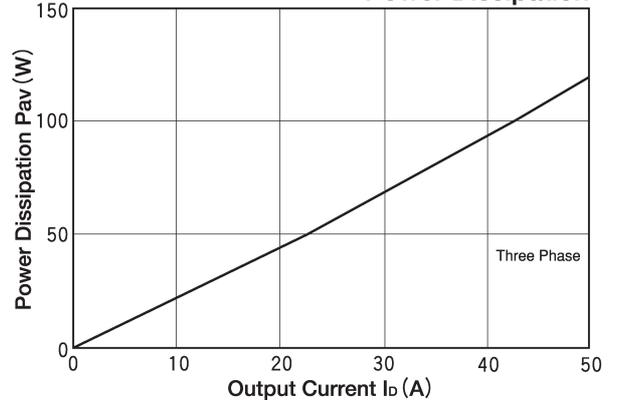
Electrical Characteristics

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	$^\circ\text{C}/\text{W}$

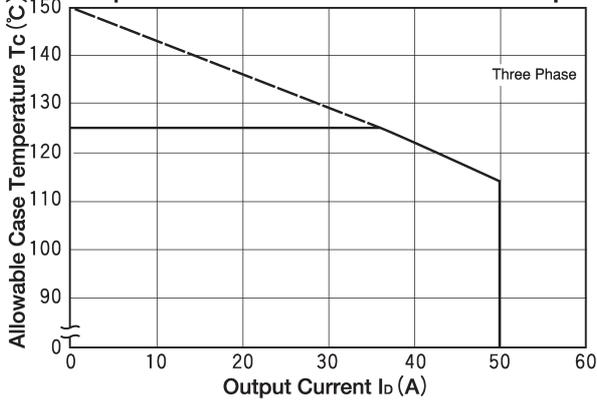
Maximum Forward Characteristics



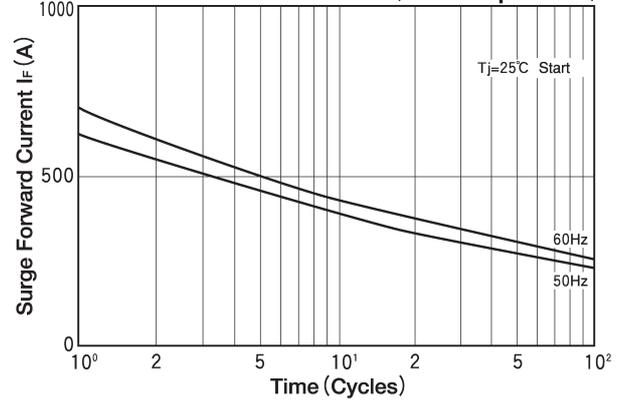
Average Forward Current vs. Power Dissipation



Output Current vs. Allowable case Temp



Cycle Surge Forward Current Rating (Non-Repetitive)



Transient Thermal Impedance (max)

