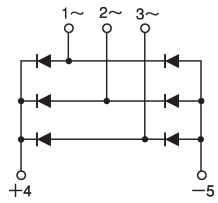
DF40AA120/160

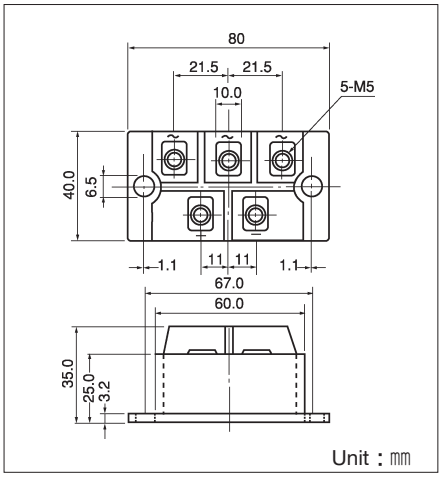
UL;E76102 (M)

Power Diode Module **DF40AA** 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 40Amp (Tc=116℃) Repetitive peak reverse voltage is up to 1,600V.

- TjMax=150℃
- Isolated Mounting Base
- High reliability by unique glass passivation

(**Applications**)
AC. DC Motor Drive/AVR/Switching
—for three phase rectification





■Maximum Ratings

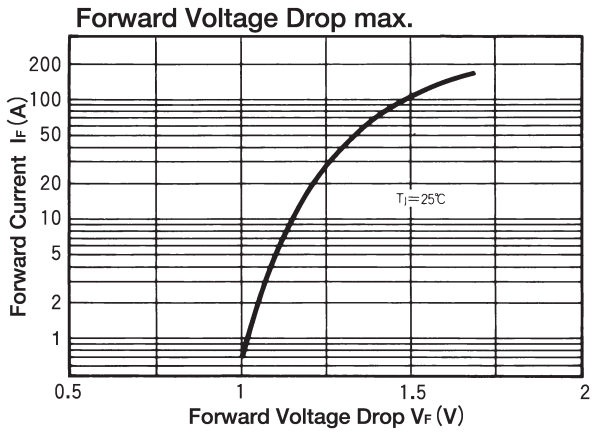
(Tj=25℃)

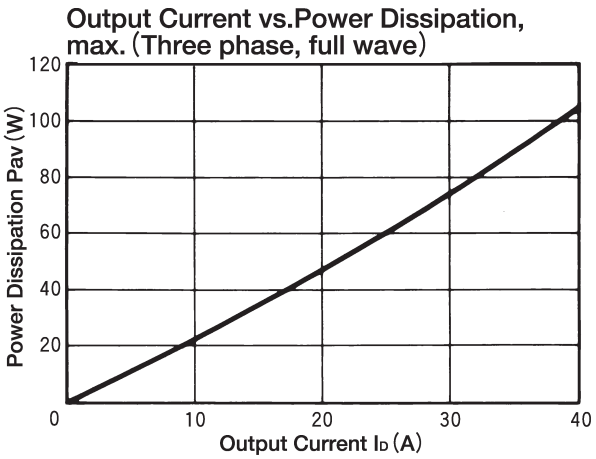
Symbol	Item	Ratings		Unit
		DF40AA120	DF40AA160	
VRRM	Repetitive Peak Reverse Voltage	1200	1600	V
VRSM	Non-Repetitive Peak Reverse Voltage	1300	1700	V

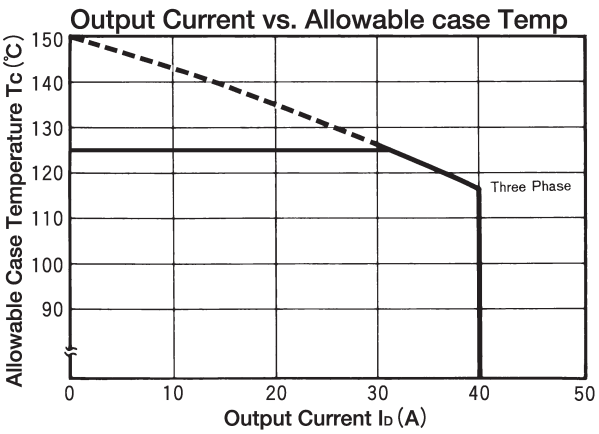
Symbol	Item		Conditions	Ratings	Unit
ID	Output current (D.C.)		Three phase. full wave. Tc=116℃	40	A
IFSM	Surge Forward Current		1 cycle, 50/60Hz, peak value, non-repetitive	640/700	A
Tj	Junction Temperature			−40～+150	℃
Tstg	Storage Temperature			−40～+125	℃
VISO	Isolation Breakdown Voltage (R.M.S.)		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 (M5)	Recommended Value 1.5～2.5 (15～25)	2.7 (28)	
	Mass		Typical Value	200	g

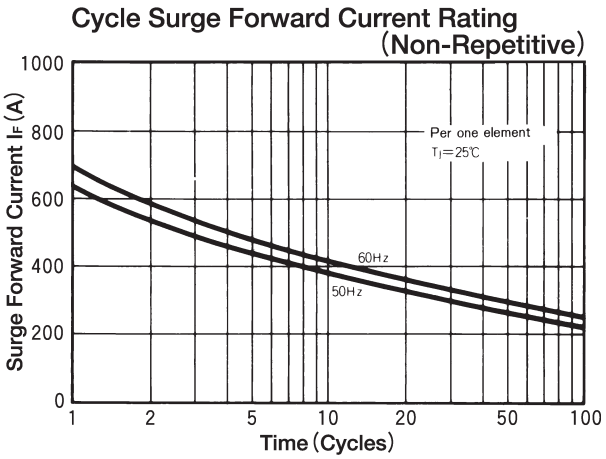
■Electrical Characteristics

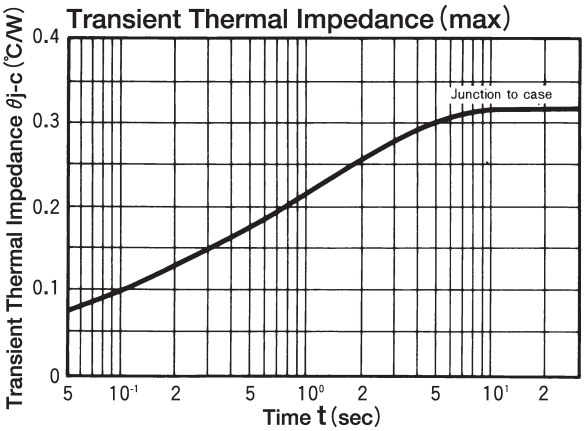
Symbol	Item	Conditions	Ratings	Unit
IRRM	Repetitive Peak Reverse Current, max.	Tj=150℃ at VRRM	8.0	mA
VFM	Forward Voltage Drop, max.	IFM=40A, Tj=25℃ Inst. measurement	1.3	V
Rth (j-c)	Thermal Impedance, max.	Junction to case	0.32	℃/W


Forward Voltage Drop max.
Forward Current IF (A)
200
100
50
20
10
5
2
1
TJ=25℃
0.5
1
1.5
2
Forward Voltage Drop VF (V)


Output Current vs.Power Dissipation,
max. (Three phase, full wave)
Power Dissipation Pav (W)
120
100
80
60
40
20
0
10
20
30
40
Output Current ID (A)


Output Current vs. Allowable case Temp
Allowable Case Temperature Tc (℃)
150
140
130
120
110
100
90
Three Phase
0
10
20
30
40
50
Output Current ID (A)


Cycle Surge Forward Current Rating
(Non-Repetitive)
Surge Forward Current IF (A)
1000
800
600
400
200
0
Per one element
TJ=25℃
60Hz
50Hz
1
2
5
10
20
50
100
Time (Cycles)


Transient Thermal Impedance (max)
Transient Thermal Impedance θj-c (℃/W)
0.4
0.3
0.2
0.1
0
Junction to case
5
10-1
2
5
100
2
5
101
2
Time t (sec)