3-Phase Diode Bridge

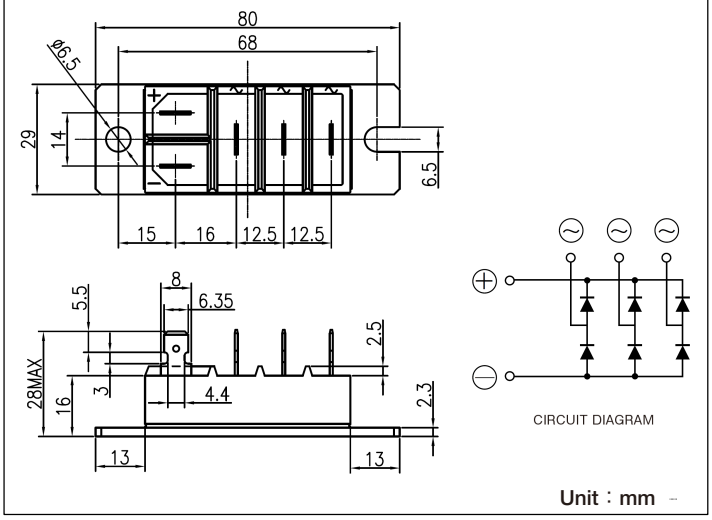
DF30AA120/160

UL: E76102

《Features》
Power Diode Module DF30AA 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 30Amp (Tc=117℃). Repetitive peak reverse voltage is up to 1,600V.

- TjMax=150℃
- 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



■ Maximum Ratings (Tj=25℃ unless otherwise specified)

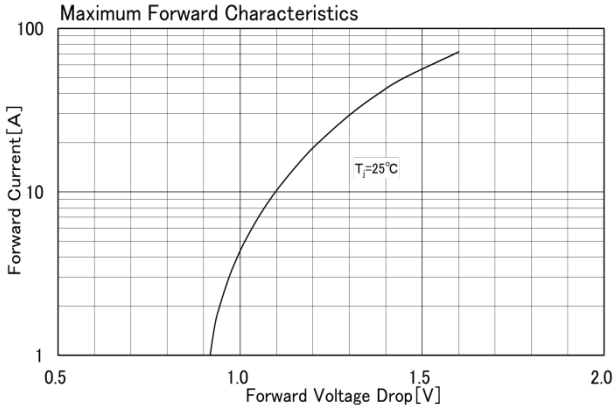
Item	Symbol	Unit	DF30AA120	DF30AA160
Repetitive Peak Reverse Voltage	V_{RRM}	V	1200	1600
Non-Repetitive Peak Reverse Voltage	V_{RSM}	V	1300	1700

Item		Symbol	Unit	Ratings	Conditions
Output Current (DC)		I_D	A	30	T_C=117℃
Surge Forward Current		I_{FSM}	A	270/300	1/2cycle, 50/60Hz, Peak value, non-repetitive
Operating Junction Temperature		T_j	℃	−40 to +150	
Storage Temperature		T_{stg}	℃	−40 to +125	
Isolation Breakdown Voltage (RMS)			V	2500	AC 1minute
Mounting torque	Mounting M6		N・m (kgf・cm)	4.7(48)	Recommended Value 2.5 to 3.9 (25 to 40)
	Mounting M5			2.7(28)	Recommended Value 1.5 to 2.5 (15 to 25)
Mass			g	90	Typical

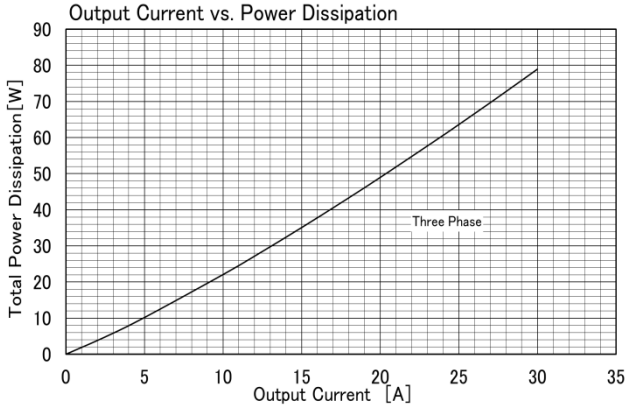
■ Electrical Characteristics (Tj=25℃ unless otherwise specified)

Item	Symbol	Unit	Ratings			Conditions
			Min.	Typ.	Max.	
Repetitive Peak Reverse Current	I_{RRM}	mA			3.0	T_j=150℃ at V_{RRM}
Forward Voltage Drop	V_{FM}	V			1.30	Forward current 30A
Threshold Voltage	$V_{(TO)}$	V			0.85	T_j=150℃
Dynamic Resistance	rt	mΩ			10.3	T_j=150℃
Thermal Resistance	$R_{th(j-c)}$	℃/W			0.42	Junction to case per module
Interface Thermal Resistance	$R_{th(c-f)}$	℃/W			0.1	Case to Heat Sink Thermal conductivity (Silicon grease) ≒7×10^{-3}[W/cm・℃]

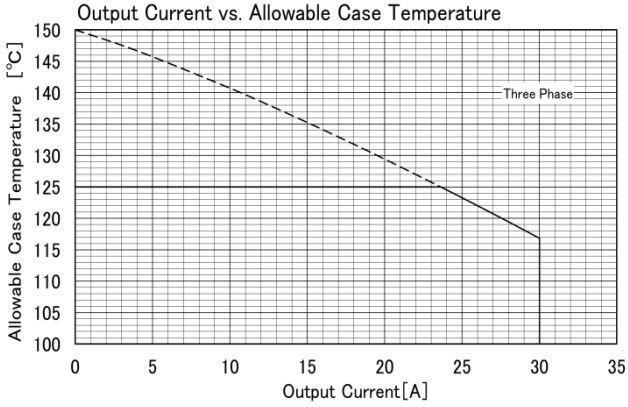
Maximum Forward Characteristics



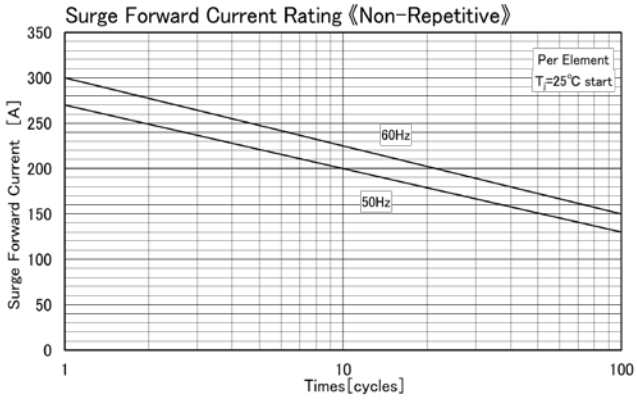
Output Current vs. Power Dissipation



Output Current vs. Allowable Case Temperature



Surge Forward Current Rating《Non-Repetitive》



Transient Thermal Impedance