

# DIODE MODULE (F.R.D.)

# FRS400CA120

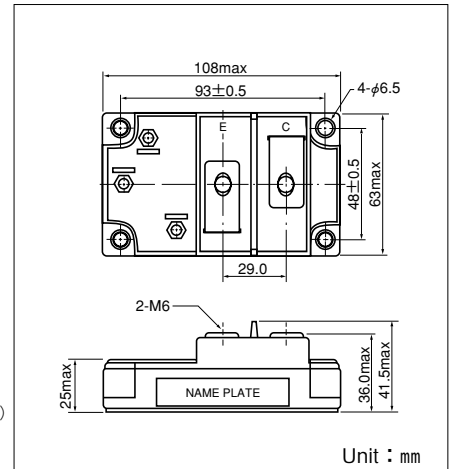
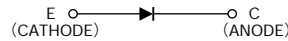
UL;E76102 (M)

FRS400CA120 is a high speed (fast recovery) isolated diode module designed for high power switching application. FRS400CA120 is suitable for high frequency application requiring low loss and high speed control.

- High Speed  $t_{rr} \leq 400\text{ns}$
- $I_F (AV)$  400A
- Isolated Mounting base.
- High Surge Capability

### (Applications)

Inverter Welding Power Supply  
Power Supply for Telecommunication  
Various Switching Power Supply.



### Maximum Ratings

(T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Item	Ratings	Unit
		FRS400CA120	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	1200	V
V <sub>R(DC)</sub>	D.C. Reverse Voltage	960	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Forward Current	D.C. T <sub>c</sub> : 78°C	400	A	
I <sub>FMS</sub>	Surge Forward Current	1/2 cycle, 60Hz, peak value, non-repetitive	4000	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	66640	A <sup>2</sup> S	
T <sub>j</sub>	Operating Junction Temperature		-40 to +150	°C	
T <sub>stg</sub>	Storage Temperature		-40 to +125	°C	
V <sub>iso</sub>	Isolation Breakdown Voltage (R.M.S.)	A.C. 1 minute	2500	V	
	Mounting Torque	Mounting(M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	N·m (kgf·cm)
		Terminal (M6)	Recommended Value 2.5-3.9 (25-40)	4.7 (48)	
	Mass	Typical Value	460	g	

### Electrical Characteristics

Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I <sub>RRM</sub>	Repetitive Peak Reverse Current	V <sub>R</sub> =V <sub>RRM</sub> , T <sub>j</sub> =150°C			20	mA
V <sub>FM</sub>	Forward Voltage Drop	I <sub>F</sub> =400A, Inst. measurement			1.8	V
t <sub>rr</sub>	Reverse Recovery Time	I <sub>F</sub> =400A, -di/dt=400A/μs			400	ns
R <sub>th(j-c)</sub>	Thermal Impedance	Junction to case			0.1	°C/W

