FRS400CA120

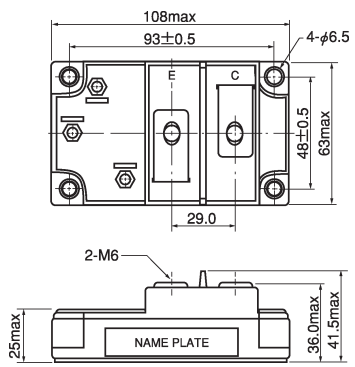
UL;E76102 (M)

FRS400CA120 is a high speed 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}≦400ns
- $I_{F\ (AV)}$ 400A
- Isolated Mounting base.
- High Surge Capability

(Applications)

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



Unit : mm

■Maximum Ratings

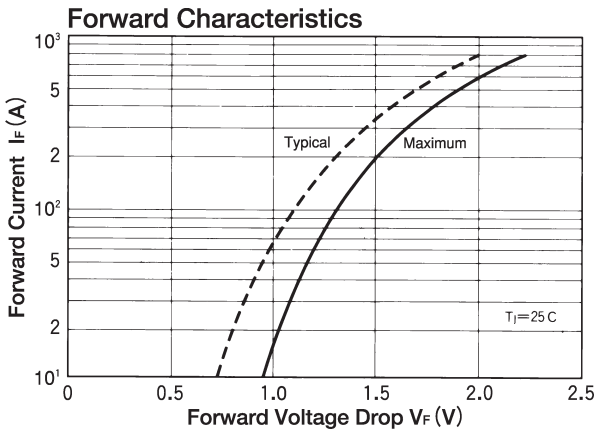
(Tj=25℃)

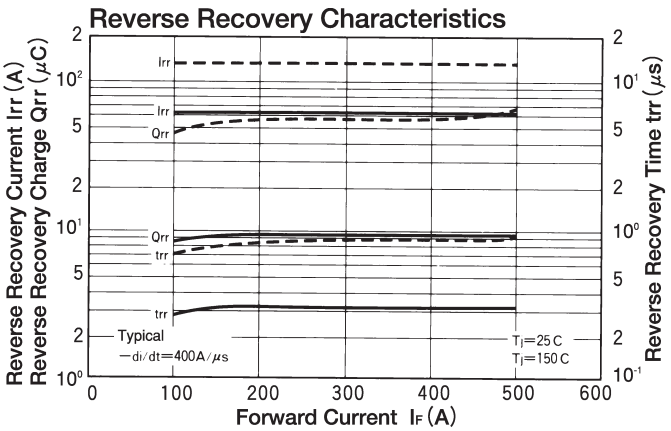
Symbol	Item	Ratings	Unit
		FRS400CA120	
V_{RRM}	Repetitive Peak Reverse Voltage	1200	V
$V_{R\ (DC)}$	D.C. Reverse Voltage	960	V

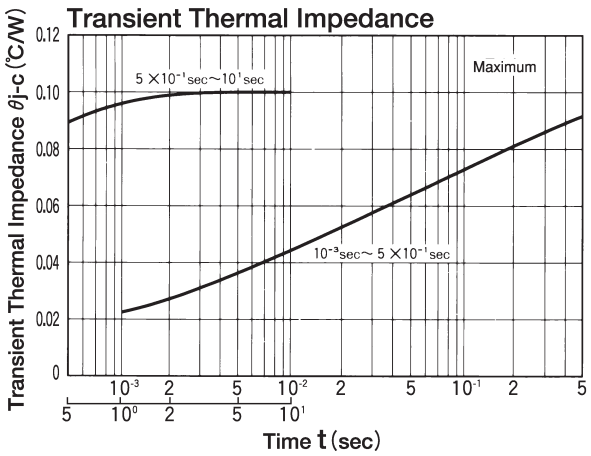
Symbol	Item		Conditions	Ratings	Unit
I_F	Forward Current		D.C. Tc : 78℃	400	A
I_{FSM}	Surge Forward Current		1/2 cycle, 60Hz, peak value, non-repetitive	4000	A
I^2t	I^2t		Value for one cycle of surge current	66640	A^2S
Tj	Operating Junction Temperature			−40～+150	℃
Tstg	Storage Temperature			−40～+125	℃
V_{ISO}	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

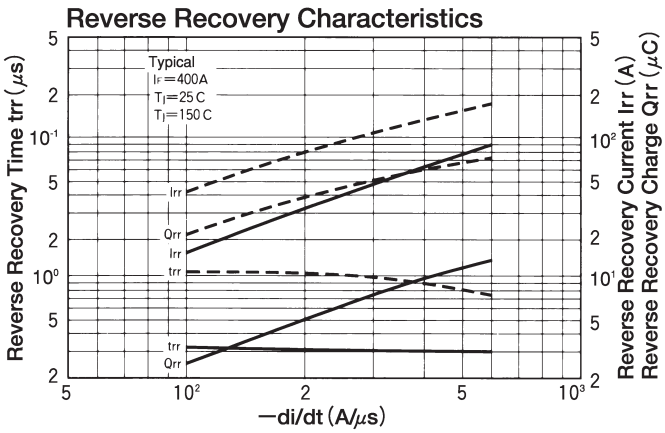
■Electrical Characteristics

Symbol	Item	Conditions	Ratings			Unit
			Min,	Typ.	Max.	
I_{RRM}	Repetitive Peak Reverse Current	V_R=V_{RRM}, T_j=150℃			20	mA
V_{FM}	Forward Voltage Drop	I_F=400A, Inst. measurement			1.8	V
trr	Reverse Recovery Time	I_F=400A, −di/dt=400A/μs			400	ns
Rth (j-c)	Thermal Impedance	Junction to case			0.1	℃/W


Forward Characteristics
Forward Current IF (A)
Forward Voltage Drop VF (V)
Typical
Maximum
TJ=25 C


Reverse Recovery Characteristics
Reverse Recovery Current Irr (A)
Reverse Recovery Charge Qrr (μC)
Reverse Recovery Time trr (μs)
Forward Current IF (A)
Irr
Qrr
trr
Typical
−di/dt=400A/μs
TJ=25 C
TJ=150 C


Transient Thermal Impedance
Transient Thermal Impedance θj-c (°C/W)
Time t (sec)
5×10⁻¹sec~10¹sec
10⁻³sec~5×10⁻¹sec
Maximum


Reverse Recovery Characteristics
Reverse Recovery Time trr (μs)
Reverse Recovery Current Irr (A)
Reverse Recovery Charge Qrr (μC)
−di/dt (A/μs)
Typical
IF=400A
TJ=25 C
TJ=150 C
Irr
Qrr
trr