

DIODE MODULE (F.R.D.)

FRS400EA180/200



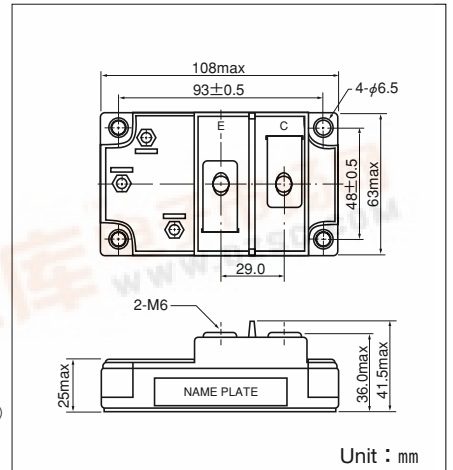
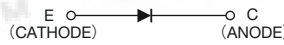
UL;E76102 (M)

FRS400EA is a high speed isolated diode module designed for high power switching application. FRS400EA is suitable for high frequency application requiring low loss and high speed control.

- High Speed  $t_{rr} \leq 700ns$
- $I_F (AV)$  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
		FRS400EA180	FRS400EA200	
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	1800	2000	V
V <sub>R(DC)</sub>	D.C. Reverse Voltage	1440	1600	V

Symbol	Item	Conditions	Ratings	Unit	
I <sub>F(AV)</sub>	Forward Current	D.C. T <sub>c</sub> : 79°C	400	A	
I <sub>FMS</sub>	Surge Forward Current	1/2 cycle, 60Hz, peak value, non-repetitive	5000	A	
I <sup>2</sup> t	I <sup>2</sup> t	Value for one cycle of surge current	104000	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	

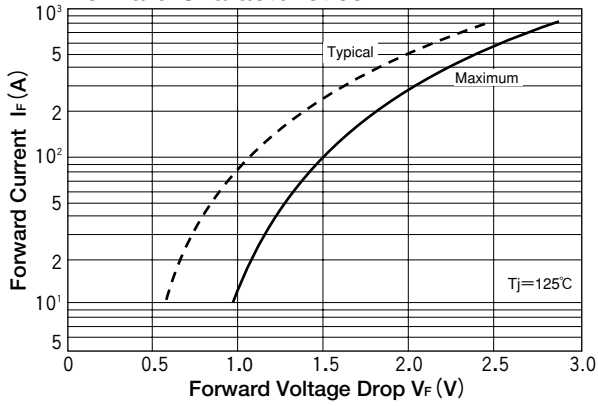
Electrical Characteristics

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			100	mA
V <sub>FM</sub>	Forward Voltage Drop	T <sub>j</sub> =125°C, I <sub>F</sub> =400A, Inst. measurement			2.20	V
t <sub>rr</sub>	Reverse Recovery Time	I <sub>F</sub> =400A, -di/dt=400A/μs			700	ns
R <sub>th(j-c)</sub>	Thermal Impedance	Junction to case			0.08	°C/W

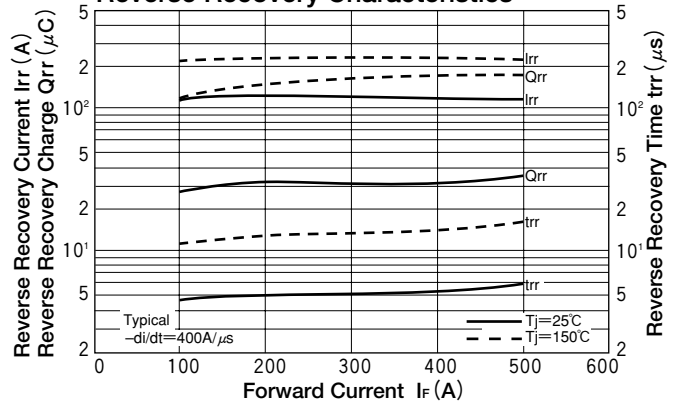




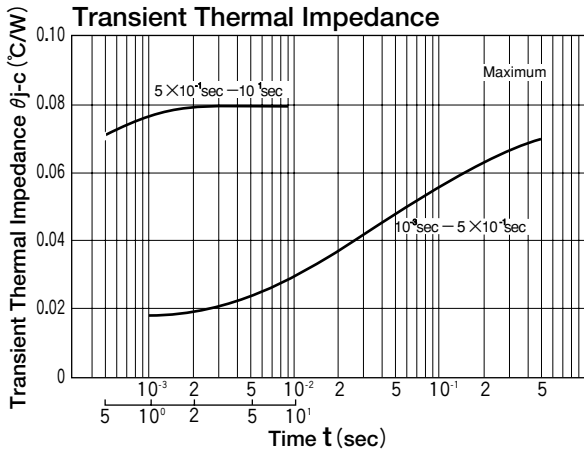
**Forward Characteristics**



**Reverse Recovery Characteristics**



**Transient Thermal Impedance**



**Reverse Recovery Characteristics**

