

DIODE MODULE (F.R.D.)

FRS400EA180/200



UL;E76102 (M)

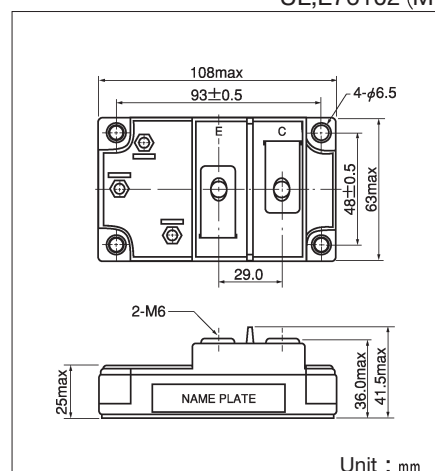
FRS400EA is a high speed isolated diode module designed for high power switching application. **FRS400EA** is suitable for high frequency application requiring low loss and high speed control.

- High Speed $t_{rr} \leq 700\text{ns}$
- I_F (AV) 400A
- Isolated Mounting base.
- High Surge Capability

(Applications)

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

E $\rightarrow$ $\rightarrow$ C



Unit : mm

Maximum Ratings

($T_j = 25^\circ\text{C}$)

Symbol	Item	Ratings		Unit
		FRS400EA180	FRS400EA200	
V_{RRM}	Repetitive Peak Reverse Voltage	1800	2000	V
V_R (DC)	D.C. Reverse Voltage	1440	1600	V

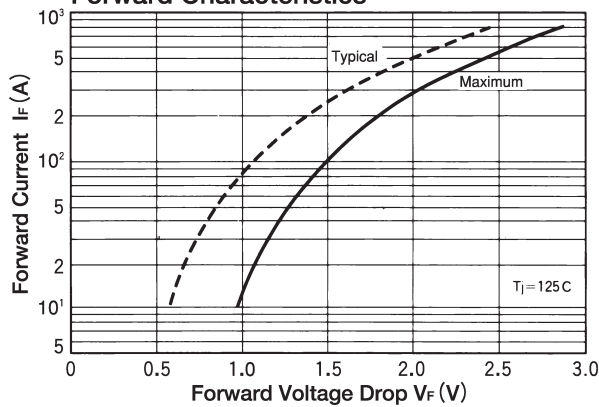
Symbol	Item		Conditions	Ratings	Unit
I_F	Forward Current		D.C. $T_c : 79^\circ\text{C}$	400	A
I_{FSM}	Surge Forward Current		$1/2$ cycle, 60Hz, peak value, non-repetitive	5000	A
I^2t	I^2t		Value for one cycle of surge current	104000	A^2S
T_j	Operating Junction Temperature			$-40 \sim +150$	$^\circ\text{C}$
T_{stg}	Storage Temperature			$-40 \sim +125$	$^\circ\text{C}$
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)	$\text{N} \cdot \text{m}$
		Terminal (M6)	Recommended Value 2.5~3.9 (25~40)	4.7 (48)	$(\text{kgf} \cdot \text{cm})$
	Mass		Typical Value	460	g

Electrical Characteristics

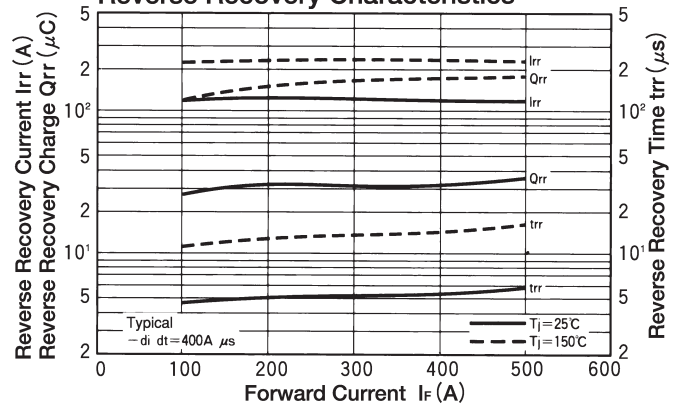
Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I_{RRM}	Repetitive Peak Reverse Current	$V_R = V_{RRM}$, $T_j = 150^\circ\text{C}$			100	mA
V_{FM}	Forward Voltage Drop	$T_j = 125^\circ\text{C}$, $I_{FM} = 400\text{A}$, Inst. measurement			2.20	V
t_{rr}	Reverse Recovery Time	$I_F = 400\text{A}$, $-di/dt = 400\text{A}/\mu\text{s}$			700	ns
$R_{th}(j-c)$	Thermal Impedance	Junction to case			0.08	$^\circ\text{C}/\text{W}$



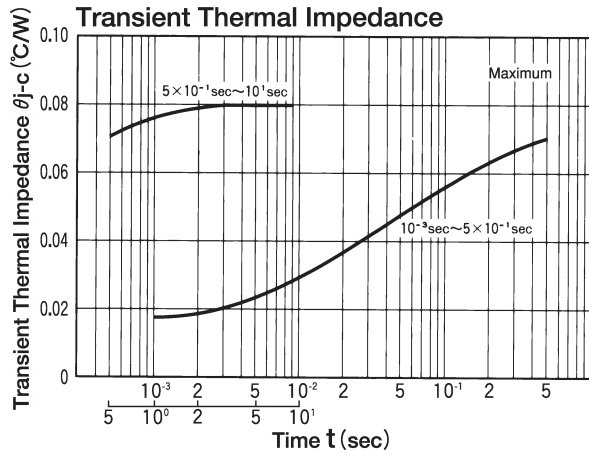
Forward Characteristics



Reverse Recovery Characteristics



Transient Thermal Impedance



Reverse Recovery Characteristics

