

DIODE MODULE (F.R.D.)

FRS200CA100/120

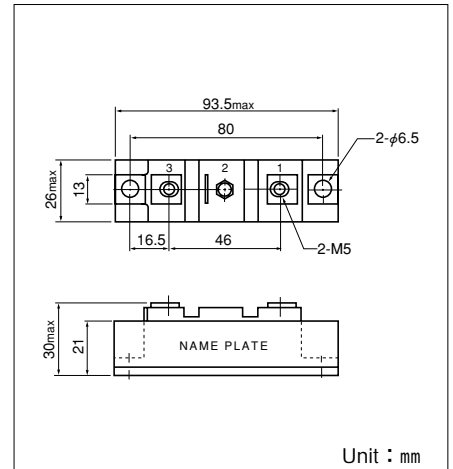
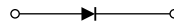
UL;E76102(M)

FRS200CA is a high speed (fast recovery) isolated diode module designed for high power switching application. FRS200CA is suitable for high frequency application requiring low loss and high speed control.

- High Speed $t_{rr} \leq 350\text{ns}$
- $I_{F(AV)}$ 200A
- Isolated Mounting base.
- High Surge Capability

(Applications)

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



Maximum Ratings

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

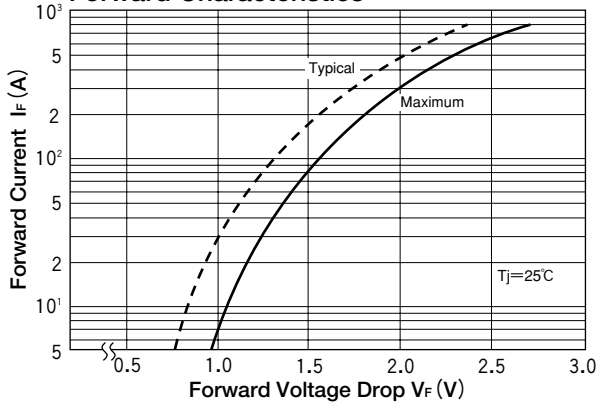
Symbol	Item	Ratings		Unit
		FRS200CA100	FRS200CA120	
V_{RRM}	Repetitive Peak Reverse Voltage	1000	1200	V
$V_{R(DC)}$	D.C. Reverse Voltage	800	960	V

Symbol	Item	Conditions	Ratings	Unit	
I_F	Forward Current	D.C. $T_c : 78^\circ\text{C}$	200	A	
I_{FSM}	Surge Forward Current	$1/2$ cycle, 60Hz, peak value, non-repetitive	3300	A	
I^2t	I^2t	Value for one cycle of surge current	45000	A^2S	
T_j	Operating Junction Temperature		-40 to +150	$^\circ\text{C}$	
T_{stg}	Storage Temperature		-40 to +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)	$\text{N}\cdot\text{m}$ ($\text{kgf}\cdot\text{cm}$)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass	Typical Value	170	g	

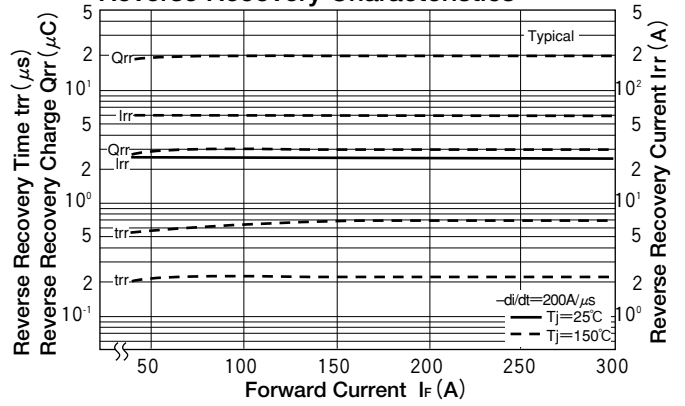
Electrical Characteristics

Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I_{RRM}	Repetitive Peak Reverse Current	$T_j = 150^\circ\text{C}$ at V_{RRM}			10	mA
V_{FM}	Forward Voltage Drop	$T_j = 25^\circ\text{C}$ $I_F = 200\text{A}$, Inst. measurement			1.8	V
t_{rr}	Reverse Recovery Time	$I_F = 200\text{A}$, $-di/dt = 200\text{A}/\mu\text{s}$			350	ns
$R_{th(j-c)}$	Thermal Impedance	Junction to case			0.2	$^\circ\text{C}/\text{W}$

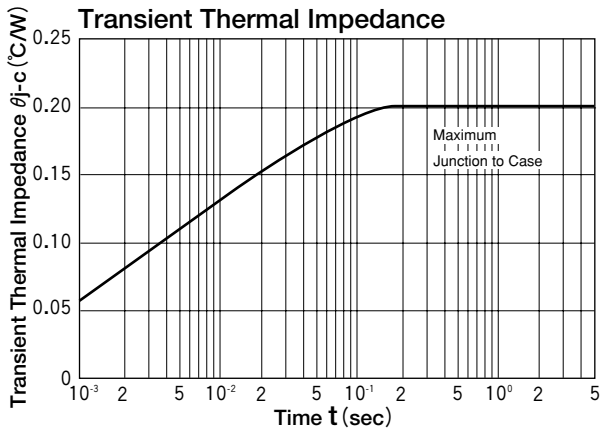
Forward Characteristics



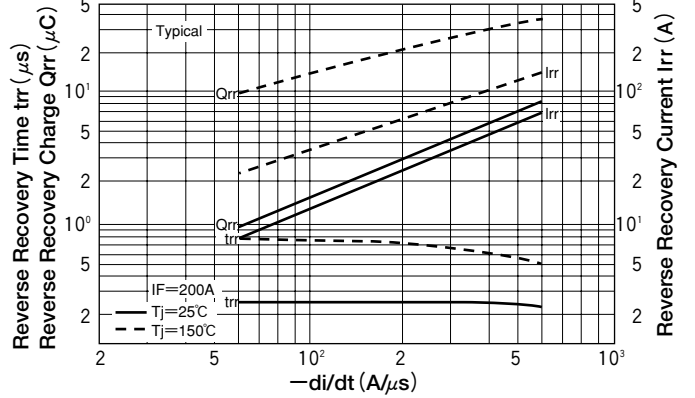
Reverse Recovery Characteristics



Transient Thermal Impedance



Reverse Recovery Characteristics



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