

**DIODE MODULE (F.R.D.)****FRS200AA40/60**

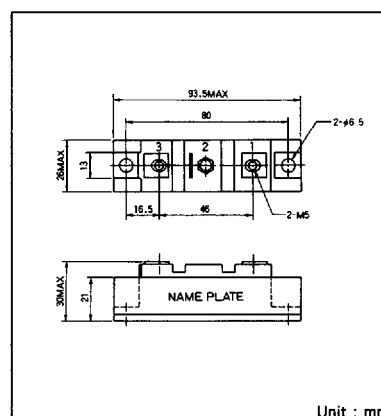
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FRS200AA is a high speed isolated diode module designed for high power switching application. FRS200AA is suitable for high frequency application requiring low loss and high speed control.

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

**(Applications)**

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



Unit : mm

 $T_j = 25^\circ\text{C}$ **Maximum Ratings**

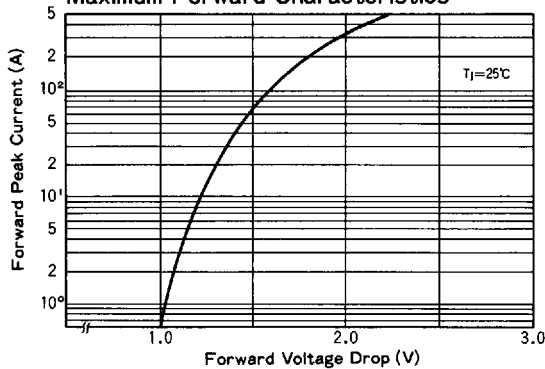
| Symbol    | Item                                | FRS200AA40 | FRS200AA60 | Unit |
|-----------|-------------------------------------|------------|------------|------|
| $V_{RRM}$ | Repetitive Peak Reverse Voltage     | 400        | 600        | V    |
| $V_{RSM}$ | Non-Repetitive Peak Reverse Voltage | 480        | 720        | V    |

| Symbol      | Item                                   | Conditions                                               | Ratings                    | Unit                 |
|-------------|----------------------------------------|----------------------------------------------------------|----------------------------|----------------------|
| $I_{F(AV)}$ | Average Forward Current                | D.C. $T_c : 78^\circ\text{C}$                            | 200                        | A                    |
| $I_{FSM}$   | Surge Forward Current                  | $\frac{1}{2}$ cycle, 50/60Hz, peak value, non-repetitive | 3000/3300                  | A                    |
| $I^2t$      | $I^2t$                                 |                                                          | 45000                      | $\text{A}^2\text{S}$ |
| $T_j$       | 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. 1minute                                             | 2500                       | V                    |
|             | Mounting Torque                        | (M6)                                                     | Recommended Value 43kgf·cm | kgf·cm               |
|             |                                        | Terminal (M5)                                            | Recommended Value 25kgf·cm |                      |
|             | Mass                                   |                                                          | 170                        | g                    |

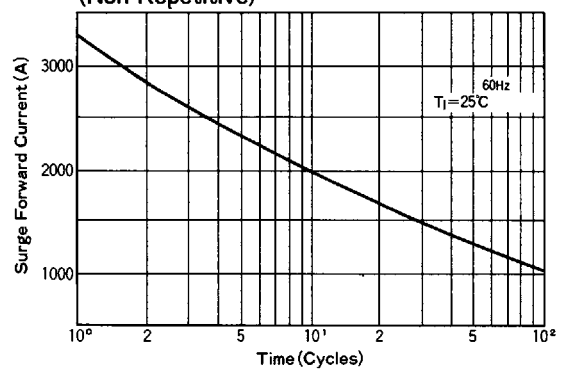
**Electrical Characteristics**

| Symbol        | Item                                  | Conditions                                                        | Ratings | Unit               |
|---------------|---------------------------------------|-------------------------------------------------------------------|---------|--------------------|
| $I_{RRM}$     | Repetitive Peak Reverse Current, max. | at $V_{DRM}$ , single phase, half wave, $T_j = 150^\circ\text{C}$ | 300     | mA                 |
| $V_{FM}$      | Forward Voltage Drop, max.            | Forward current 200A, Inst. measurement                           | 1.8     | V                  |
| $R_{th(j-c)}$ | Thermal Impedance, max.               | Junction to case                                                  | 0.2     | $^\circ\text{C/W}$ |
| $t_{rr}$      | Reverse Recovery Time, Max            | $I_F = 200\text{A}$ , $di/dt = -200\text{A}/\mu\text{s}$          | 200     | ns                 |

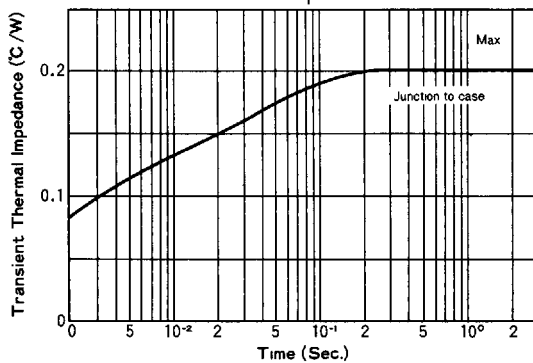
Maximum Forward Characteristics



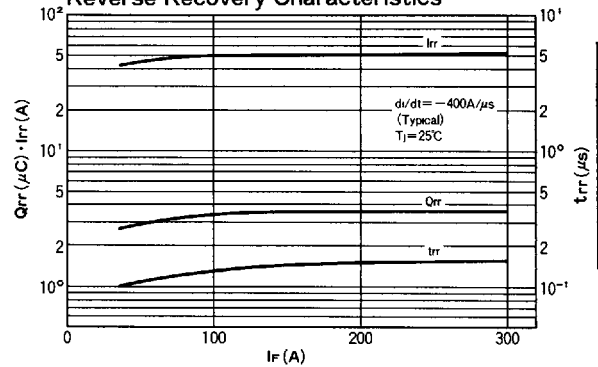
Cycle Surge Forward Current Rating (Non-Repetitive)



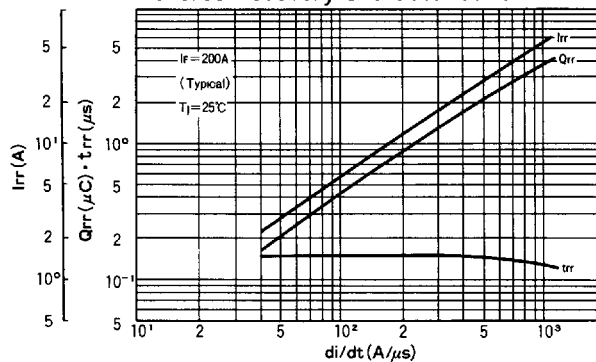
Transient Thermal Impedance



Reverse Recovery Characteristics



Reverse Recovery Characteristics



$Q_{rr}$  Reverse Recovery Charge  
 $I_{rr}$  Reverse Recovery Current  
 $t_{rr}$  Reverse Recovery time

DIODE