

DIODE MODULE (F.R.D.)

# FRS300BA50

TOP



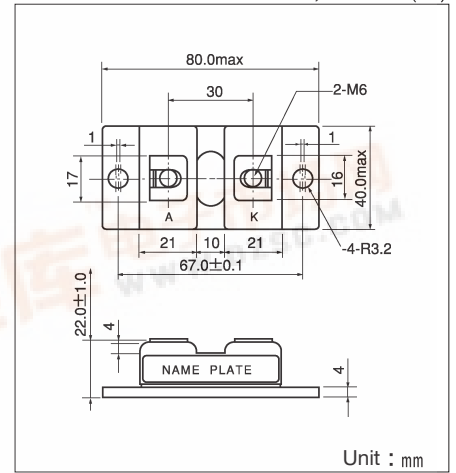
UL;E76102 (M)

FRS300BA is a high speed isolated diode module designed for high power switching application. FRS300BA is suitable for high frequency application requiring low loss and high speed control.

- High Speed  $t_{rr} \leq 200ns$
- $I_F(AV)$  300A
- Isolated Mounting base.
- High Surge Capability

(Applications)

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



Unit : mm

Maximum Ratings

(T<sub>j</sub>=25°C)

| Symbol             | Item                            | Ratings    |  | Unit |
|--------------------|---------------------------------|------------|--|------|
|                    |                                 | FRS300BA50 |  |      |
| V <sub>RRM</sub>   | Repetitive Peak Reverse Voltage | 500        |  | V    |
| V <sub>R(DC)</sub> | D.C. Reverse Voltage            | 400        |  | V    |

| Symbol           | Item                                 | Conditions                                  | Ratings                           | Unit             |                 |
|------------------|--------------------------------------|---|-----------------------------------|------------------|-----------------|
| I <sub>F</sub>   | Forward Current                      | D.C. T <sub>c</sub> : 85°C                  | 300                               | A                |                 |
| I <sub>FSM</sub> | Surge Forward Current                | 1/2 cycle, 60Hz, peak value, non-repetitive | 4000                              | A                |                 |
| I <sub>t</sub>   | I <sub>t</sub>                       | Value for one cycle of surge current        | 66600                             | A <sup>2</sup> S |                 |
| T <sub>j</sub>   | Operating Junction Temperature       |   | -40 ~ +150                        | °C               |                 |
| T <sub>stg</sub> | Storage Temperature                  |   | -40 ~ +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<br>(kgf·cm) |
|                  |                                      | Terminal (M6)                               | Recommended Value 2.5~3.9 (25~40) | 4.7 (48)         |                 |
|                  | Mass                                 | Typical Value                               | 170                               | g                |                 |

Electrical Characteristics

| Symbol               | Item                            | Conditions   | Ratings |      |       | Unit |
|----------------------|---------------------------------|--|---------|------|-------|------|
|                      |                                 |  | Min.    | Typ. | Max.  |      |
| I <sub>RRM</sub>     | Repetitive Peak Reverse Current | T <sub>j</sub> =125°C, V <sub>RRM</sub> =500V                  |         |      | 300   | mA   |
| V <sub>FM</sub>      | Forward Voltage Drop            | T <sub>j</sub> =25°C, I <sub>FM</sub> =300A, Inst, measurement |         |      | 1.3   | V    |
| t <sub>rr</sub>      | Reverse Recovery Time           | I <sub>F</sub> =300A, -di/dt=300A/μs                           |         |      | 200   | ns   |
| R <sub>th(j-c)</sub> | Thermal Impedance               | Junction to case   |         |      | 0.165 | °C/W |



