

# FRD MODULE 300A/1200V/trr:250nsec

# PD300F12

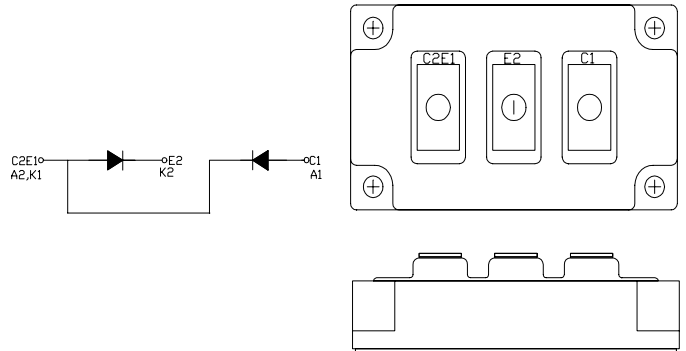
## OUTLINE DRAWING

### FEATURES

- \* Isolated Base
- \* Dual Diode Doubler Circuit
- \* Ultra Fast Recovery
- \* High Surge Capability
- \* UL Recognized, File No. E187184

### TYPICAL APPLICATIONS

- \* High Frequency Rectification



### Maximum Ratings

Approx Net Weight:450g

| Voltage Rating                          | Symbol       | PD300F12                                             |             | Unit                 |
|-----------------------------------------|--------------|------------------------------------------------------|-------------|----------------------|
| Repetitive Peak Reverse Voltage per Arm | $V_{RRM}$    | 1200                                                 |             | V                    |
| Electrical Rating                       |              | Condition                                            | Rating      |                      |
| Direct Forward Current                  | $I_{F(DC)}$  | per Arm $T_c=81^{\circ}\text{C}$                     | 300         | A                    |
| RMS Forward Current                     | $I_{F(RMS)}$ | per Arm                                              | 300         | A                    |
| Surge Forward Current                   | $I_{FSM}$    | 50 Hz Half Sine Wave, 1 cycle Non-repetitive per Arm | 3000        | A                    |
| I Squared t                             | $I^2t$       | 2 msec to 10 msec per Arm                            | 45000       | $\text{A}^2\text{s}$ |
| Operating Junction Temperature Range    | $T_{jw}$     |                                                      | -40 to +150 | $^{\circ}\text{C}$   |
| Storage Temperature Range               | $T_{stg}$    |                                                      | -40 to +125 | $^{\circ}\text{C}$   |
| Isolation Voltage                       | Viso         | Base Plate to Terminal, AC 1min                      | 2500        | V                    |
| Mounting torque                         | Ftor         | Case mounting(recommended)                           | 2.8         | N.m                  |
|                                         |              | Terminal Screw(recommended)                          | 2.8         |                      |

### Electrical • Thermal Characteristics

| Characteristics          | Symbol        | Test Conditions                                                                               | Max. | Unit                        |
|--------------------------|---------------|-----------------------------------------------------------------------------------------------|------|-----------------------------|
| Peak Forward Voltage     | $V_{FM}$      | $I_{FM}= 300\text{A}$ , $T_j=25^{\circ}\text{C}$ , per Arm                                    | 2.60 | V                           |
| Peak Reverse Current     | $I_{RM}$      | $V_{RM}= V_{RRM}$ , $T_j= 150^{\circ}\text{C}$ , per Arm                                      | 60   | mA                          |
| Reverse Recovery Time    | trr           | $I_{FM}= 10\text{A}$ , $-di/dt= 50 \text{ A}/\mu\text{s}$ , $T_a= 25^{\circ}\text{C}$ Per Arm | 250  | ns                          |
| Thermal Resistance       | $R_{th(j-c)}$ | Junction to Case per Arm                                                                      | 0.1  | $^{\circ}\text{C}/\text{W}$ |
|                          | $R_{th(c-f)}$ | Base Plate to Heat Sink with Thermal Compound                                                 | 0.06 |                             |
| Internal Lead Inductance | $L_s$         | Anode Terminal to Cathode Terminal Per Element                                                | 30   | nH                          |

PD300F12 OUTLINE DRAWING (Dimensions in mm)

