

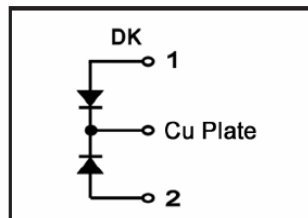
## PRODUCT FEATURES

- Ultrafast Reverse Recovery Time
- Soft Reverse Recovery Characteristics
- Low Reverse Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Mechanical Stress Package



## APPLICATIONS

- Inversion Welder
- Uninterruptible Power Supply (UPS)
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- Power Factor Correction(PFC) Circuit



## ABSOLUTE MAXIMUM RATINGS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

| Symbol      | Parameter                  | Test Conditions                               | Max.        | Unit                 |
|-------------|----------------------------|-----------------------------------------------|-------------|----------------------|
| $V_R$       | D.C. Reverse Voltage       |                                               | 200         | V                    |
| $V_{RRM}$   | Repetitive Reverse Voltage |                                               | 200         | V                    |
| $I_{F(AV)}$ | Average Forward Current    | $T_C=100^{\circ}\text{C}$ , Per Diode         | 200         | A                    |
|             |                            | $T_C=100^{\circ}\text{C}$ , Per Moudle        | 400         | A                    |
|             |                            | $T_C=100^{\circ}\text{C}$ , 20KHz, Per Moudle | 300         | A                    |
| $I_{FSM}$   | Non-Repetitive Surge       | 1/2 Cycle , 50Hz, Sine                        | 1800        | A                    |
|             | Forward Current            | 1/2 Cycle , 60Hz, Sine                        | 2000        | A                    |
| $I^2t$      | $I^2t$ (For Fusing)        | 1/2 Cycle, 50Hz, Sine                         | 16200       | $\text{A}^2\text{s}$ |
| $T_J$       | Junction Temperature       |                                               | -40 to +150 | $^{\circ}\text{C}$   |
| $T_{STG}$   | Storage Temperature Range  |                                               | -40 to +125 | $^{\circ}\text{C}$   |

## ELECTRICAL AND THERMAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

| Symbol          | Parameter               | Test Conditions                                                                                         | Min. | Typ. | Max. | Unit                        |
|-----------------|-------------------------|---------------------------------------------------------------------------------------------------------|------|------|------|-----------------------------|
| $I_{RM}$        | Reverse Leakage Current | $V_R=200\text{V}$                                                                                       | --   | --   | 1    | mA                          |
|                 |                         | $V_R=200\text{V}$ , $T_J=125^{\circ}\text{C}$                                                           | --   | --   | 20   | mA                          |
| $V_F$           | Forward Voltage         | $I_F=200\text{A}$                                                                                       | --   | 1.05 | --   | V                           |
| $t_{rr}$        | Reverse Recovery Time   | $I_F=1\text{A}$ , $V_R=30\text{V}$<br>$di_F/dt=-200\text{A}/\mu\text{s}$                                | --   | 35   | --   | ns                          |
| $t_{rr}$        | Reverse Recovery Time   | $I_F=200\text{A}$ , $di_F/dt=-100\text{A}/\mu\text{s}$<br>$V_R=100\text{V}$ , $T_J=100^{\circ}\text{C}$ | --   | 150  | --   | ns                          |
| $R_{\theta JC}$ | Thermal Resistance      | Junction-to-Case                                                                                        | --   | --   | 0.20 | $^{\circ}\text{C}/\text{W}$ |

Package outline on backside

## MECHANICAL CHARACTERISTICS

| Symbol | Parameter         | Test Conditions  | Min. | Typ. | Max. | Unit  |
|--------|-------------------|------------------|------|------|------|-------|
| Torque | Module-to-Sink    | Recommended (M6) | 3.0  | 3.9  | 4.7  | N · m |
| Torque | Module Electrodes | Recommended (M6) | 3.0  | 3.9  | 4.7  | N · m |

## MTT-17 Package Outline (Dimensions in mm)

