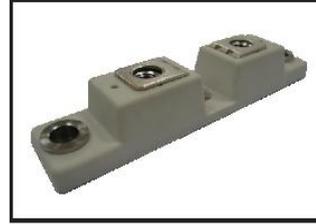
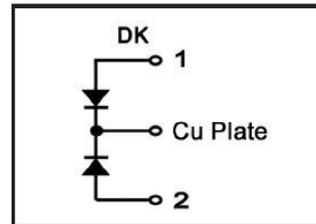


**PRODUCT FEATURES**

- Ultrafast Reverse Recovery Time
- Soft Reverse Recovery Characteristics
- Low Reverse Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Inductance 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  | Values      | Unit                        |
|-----------------|--------------------------------------|--|-------------|-----------------------------|
| $V_R$           | Maximum D.C. Reverse Voltage         |  | 400         | V                           |
| $V_{RRM}$       | Maximum Repetitive Reverse Voltage   |  | 400         | V                           |
| $I_{F(AV)}$     | Average Forward Current              | $T_C=100^{\circ}\text{C}$ , Per Diode                    | 100         | A                           |
|                 |                                      | $T_C=100^{\circ}\text{C}$ , Per Moudle                   | 200         | A                           |
|                 |                                      | $T_C=100^{\circ}\text{C}$ , 20KHz, Per Moudle            | 150         | A                           |
| $I_{F(RMS)}$    | RMS Forward Current                  | $T_C=100^{\circ}\text{C}$ , Per Diode                    | 150         | A                           |
| $I_{FSM}$       | Non-Repetitive Surge Forward Current | 1/2 Cycle , 50Hz, Sine                                   | 1500        | A                           |
|                 |                                      | 1/2 Cycle , 60Hz, Sine                                   | 1800        | A                           |
| $I^2t$          | $I^2t$ (For Fusing)                  | $T_J=45^{\circ}\text{C}$ , $t=10\text{ms}$ , 50Hz, Sine  | 11250       | $\text{A}^2\text{s}$        |
|                 |                                      | $T_J=45^{\circ}\text{C}$ , $t=8.3\text{ms}$ , 60Hz, Sine | 16200       | $\text{A}^2\text{s}$        |
| $P_D$           | Power Dissipation                    |  | 625         | W                           |
| $T_J$           | Junction Temperature                 |  | -40 to +150 | $^{\circ}\text{C}$          |
| $T_{STG}$       | Storage Temperature Range            |  | -40 to +125 | $^{\circ}\text{C}$          |
| Torque          | Module-to-Sink                       | Recommended (M6)   | 3~4.7       | N·m                         |
| Torque          | Module Electrodes                    | Recommended (M6)   | 3~4.7       | N·m                         |
| $R_{\theta JC}$ | Thermal Resistance                   | Junction-to-Case   | 0.20        | $^{\circ}\text{C}/\text{W}$ |
| Weight          |                                      |  | 70          | g                           |

**ELECTRICAL CHARACTERISTICS**

T<sub>C</sub>=25°C unless otherwise specified

| Symbol           | Parameter                     | Test Conditions   | Min. | Typ. | Max. | Unit |
|------------------|-------------------------------|---|------|------|------|------|
| I <sub>RM</sub>  | Reverse Leakage Current       | V <sub>R</sub> =400V  | --   | --   | 0.5  | mA   |
|                  |                               | V <sub>R</sub> =400V, T <sub>J</sub> =125°C                           | --   | --   | 1    | mA   |
| V <sub>F</sub>   | Forward Voltage               | I <sub>F</sub> =100A  | --   | 1.1  | 1.35 | V    |
|                  |                               | I <sub>F</sub> =100A, T <sub>J</sub> =125°C                           | --   | 1.0  | 1.25 | V    |
| t <sub>rr</sub>  | Reverse Recovery Time         | I <sub>F</sub> =1A, V <sub>R</sub> =30V, di <sub>F</sub> /dt=-200A/μs | --   | 38   | --   | ns   |
| t <sub>rr</sub>  | Reverse Recovery Time         | V <sub>R</sub> =200V, I <sub>F</sub> =100A                            | --   | 95   | --   | ns   |
| I <sub>RRM</sub> | Max. Reverse Recovery Current | di <sub>F</sub> /dt=-200A/μs, T <sub>J</sub> =25°C                    | --   | 8.5  | --   | A    |
| t <sub>rr</sub>  | Reverse Recovery Time         | V <sub>R</sub> =200V, I <sub>F</sub> =100A                            | --   | 150  | --   | ns   |
| I <sub>RRM</sub> | Max. Reverse Recovery Current | di <sub>F</sub> /dt=-200A/μs, T <sub>J</sub> =125°C                   | --   | 14   | --   | A    |

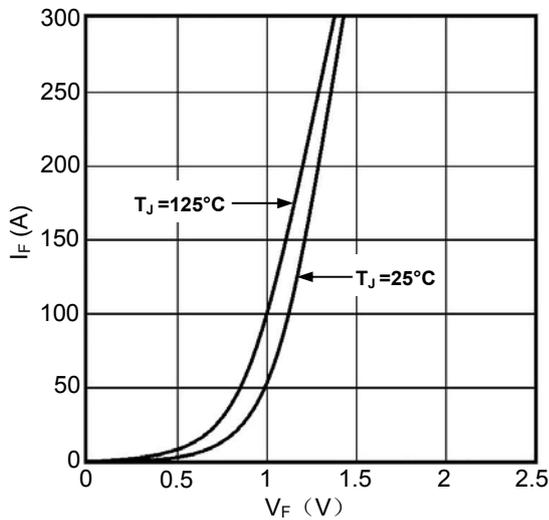


Figure1. Forward Voltage Drop vs Forward Current

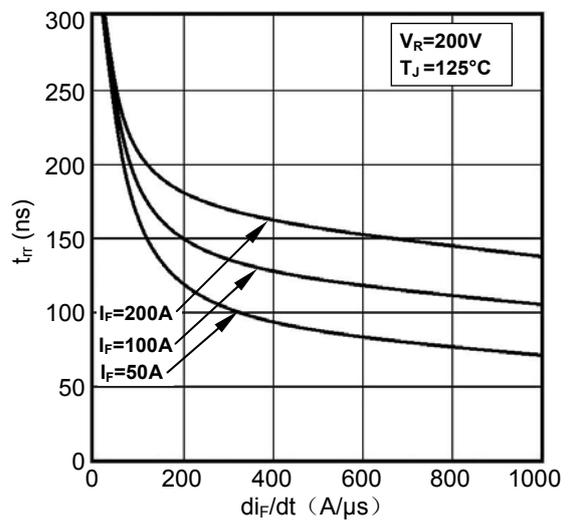


Figure2. Reverse Recovery Time vs di<sub>F</sub>/dt

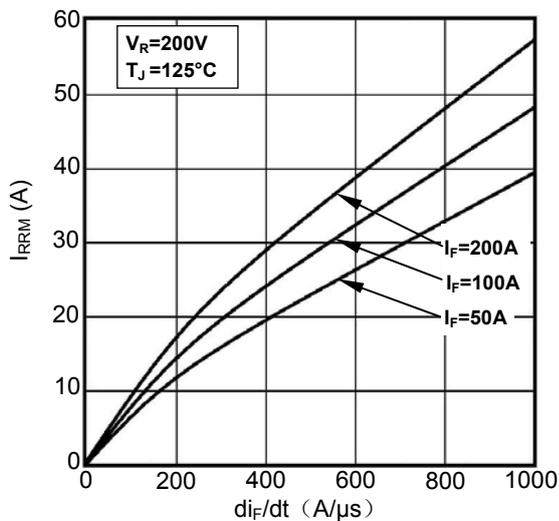


Figure3. Reverse Recovery Current vs di<sub>F</sub>/dt

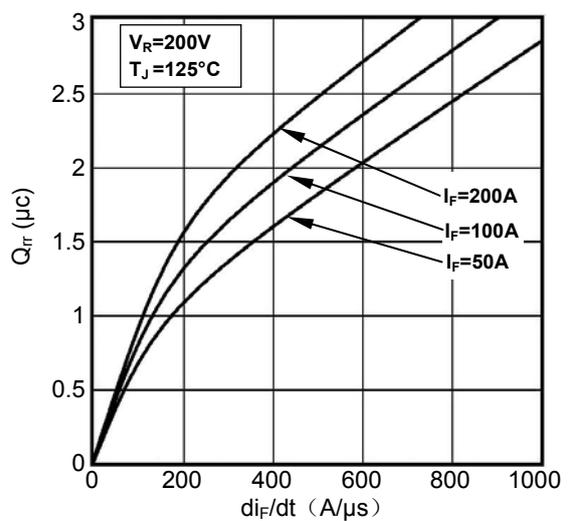


Figure4. Reverse Recovery Charge vs di<sub>F</sub>/dt

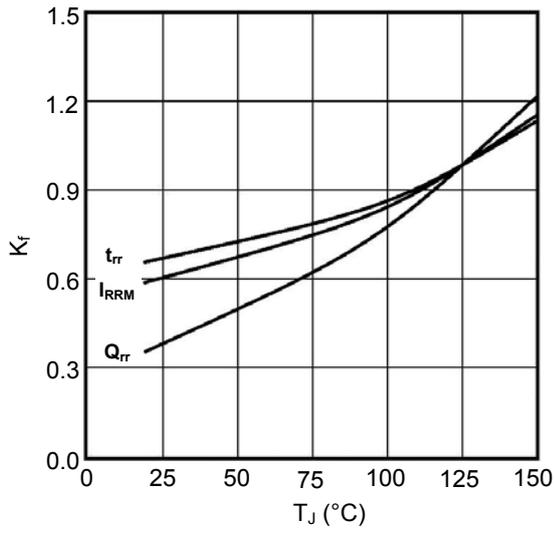


Figure5. Dynamic Parameters vs Junction Temperature

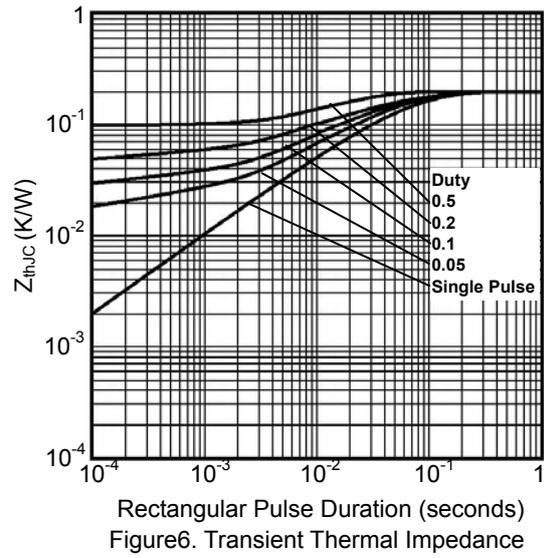
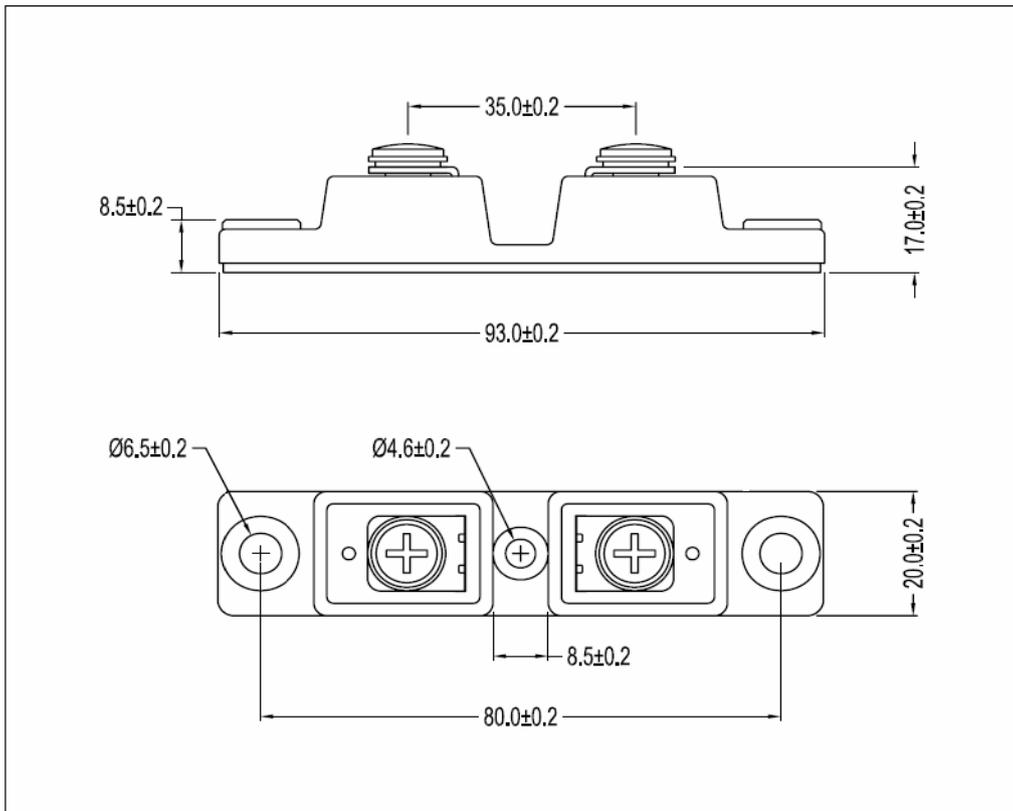


Figure6. Transient Thermal Impedance



Dimensions (mm)  
Figure7. Package Outline