

**SPECIFICATION SHEET**

|   |  |                               |
|---|--|-------------------------------|
| <b>SPECIFICATION SHEET NO.</b>          | R0725- TT6KFTTF000S6K  |                               |
| <b>DATE</b>                             | Jul. 25, 2024  |                               |
| <b>REVISION</b>                         | A1   | Updated With Most Recent Data |
| <b>DESCRIPTION AND MAIN PARAMETRICS</b> | <p>SMD Glass Passivated Bridge Rectifier, TT Series, Case TTF Type,<br/>Reverse Voltage 800V Max. Forward Current 6.0 A Max..</p> <p>Operating Temp. Range -55°C ~+150°C</p> <p>Package in Tape/Reel, 3000pcs/Reel</p> <p>RoHS III/REACH Compliant and Halogen Free (HF)</p> |                               |
| <b>CUSTOMER</b>                         |  |                               |
| <b>CUSTOMER PART NO.</b>                |  |                               |
| <b>CROSS REF. PART NO.</b>              |  |                               |
| <b>ORIGINAL MFG/PART NO.</b>            | MDD Diodes/TT6KF   |                               |
| <b>PART CODE</b>                        | TT6KFTTF000S6K   |                               |

**VENDOR APPROVE**

Issued/Checked/Approved



DATE: Jul. 25, 2024

**CUSTOMER APPROVE**

DATE:

**SMD GLASS PASSIVATED BRIDGE RECTIFIER TT SERIES CASE TTF**

**MAIN FEATURE**

- Glass Passivated Chip Junction
- Reverse Voltage - 800 to 1000V
- Forward Current- 6.0 A
- High Surge Current Capability
- REACH/RoHS III Complaint and Halogen Free
- Fast Reverse Recovery Time



• **APPLICATION**

- Designed for Surface Mount Application

• **ELECTRICAL CHARACTERISTICS**

- See Page 4~ Page 5

**HOW TO ORDER**

- Please Follow Up Part Code Guide And Indicate Pat Code When You Order Or RFQ For Custom Specification

**RFQ**  
Request For Quotation

**PART CODE GUIDE**

| CODE | NAME                  | KEY SPECIFICATION OPTION  |
|------|-----------------------|---|
| TT   | Product Series Code   | SMD Glass Passivated Bridge Rectifiers, TT Series   |
| 6KF  | Specification Code    | 6KF: Voltage Range - 800 V, Current - 6.0 A<br>6MF: Voltage Range - 1000 V, Current - 6.0 A |
| TTF  | Case Code             | Case TTF  |
| 000S | Internal Control Code | Custom letter A~Z, a-z or Digits (0-9)  |
| 6K   | Marking Code          | 6K: Marking "TT6KF" ; 6M: Marking "TT6MF"   |

**SMD GLASS PASSIVATED BRIDGE RECTIFIER TT SERIES CASE TTF**

**DIMENSION** (Unit: Inch/mm)

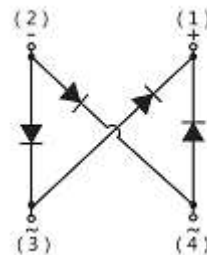
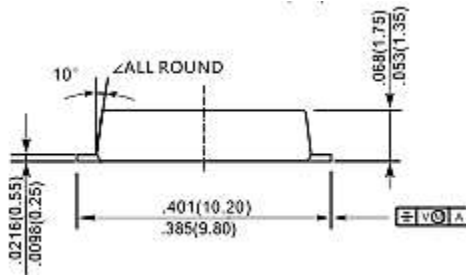
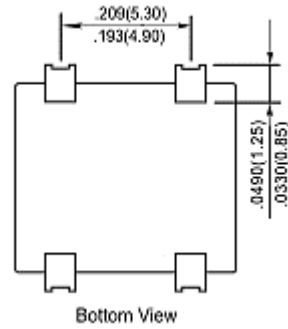
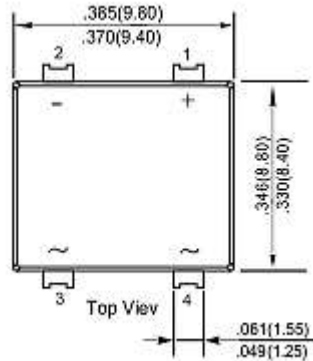
Image for reference



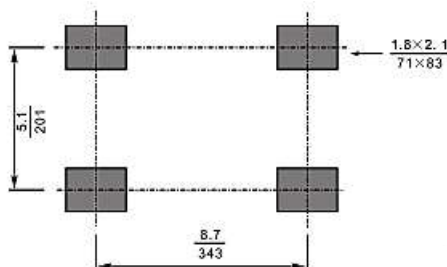
**Marking:**

See Page 4 for different Part Code

Case TTF



**Recommend Pad Layout**



**SMD GLASS PASSIVATED BRIDGE RECTIFIER TT SERIES CASE TTF**
**MECHANICAL DATA**

| Case                                     | Terminals                               | Polarity                           | Mounting Position | Weight per piece             |
|--|---|------------------------------------|-------------------|------------------------------|
| JEDEC<br>Case TTF<br>Molded plastic body | Solderable per MIL-STD-750, Method 2026 | Polarity symbol<br>Marking on body | Any               | 0.0163 ounce,<br>0.461 grams |

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS - @ 25 °C**

| Part Code                      | Maximum Repetitive Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage | Marking |
|--------------------------------|---|---------------------|-----------------------------|---------|
|                                | V <sub>RRM</sub>                        | V <sub>RMS</sub>    | V <sub>DC</sub>             |         |
|                                | V                                       | V                   | V                           | V       |
| <a href="#">TT6KFTTF000S6K</a> | 800                                     | 560                 | 800                         | TT6KF   |
| TT6MFTTF000S6M                 | 1000                                    | 700                 | 1000                        | TT6MF   |

**SMD GLASS PASSIVATED BRIDGE RECTIFIER TT SERIES CASE TTF**
**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS - @ 25 °C**

| PARAMETER   | SYMBOLS                           | VALUE      | UNITS            |
|---|-----------------------------------|------------|------------------|
| Average Rectified Output Current at Tc = 100°C  | I <sub>O</sub>                    | 6.0        | A                |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I <sub>FSM</sub>                  | 200        | A                |
| Rating for Fusing   | I <sup>2</sup> t                  | 166        | A <sup>2</sup> S |
| Maximum Forward Voltage at 1.0 A  | V <sub>F</sub>                    | 0.83 Typ.  | V                |
| Maximum Forward Voltage at 6.0 A  |                                   | 1.0        |                  |
| Maximum DC Reverse Current at Rated DC Blocking Voltage   | I <sub>R</sub>                    | @Ta=25 °C  | μA               |
|   |                                   | @Ta=125 °C |                  |
| Typical Junction Capacitance (Note 2)   | C <sub>j</sub>                    | 60         | pF               |
| Typical Thermal Resistance (Note 3)   | R <sub>θJA</sub>                  | 60         | °C/W             |
|   | R <sub>θJC</sub>                  | 10         |                  |
|   | R <sub>θJL</sub>                  | 12         |                  |
| Operating and Storage Temperature Range   | T <sub>J</sub> , T <sub>stg</sub> | -55 ~ +150 | °C               |

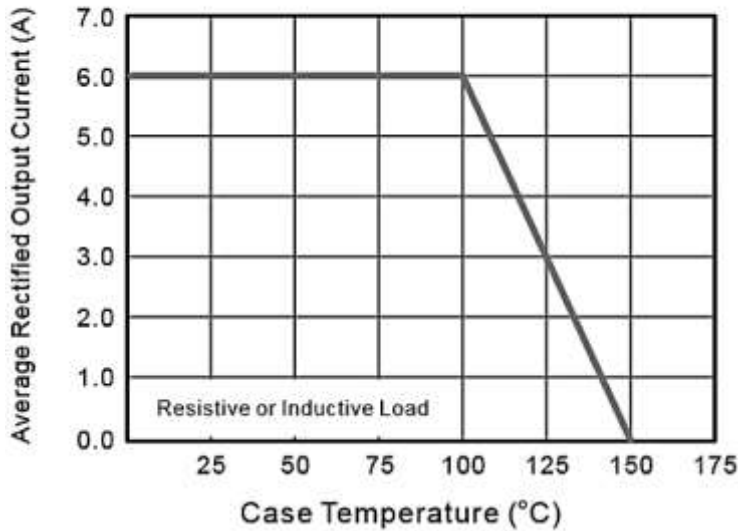
**Note:**

1. Single Phase Half-wave 60hz, resistive Or Inductive Load, For Capacitive Load Current Derate By 20% .
2. Measured At 1mhz And Applied Reverse Voltage Of 4 V D.C.
3. P.C.B. Mounted With 4 × 1.5" × 1.5" ( 3.81 × 3.81 Cm ) copper Pad Areas.

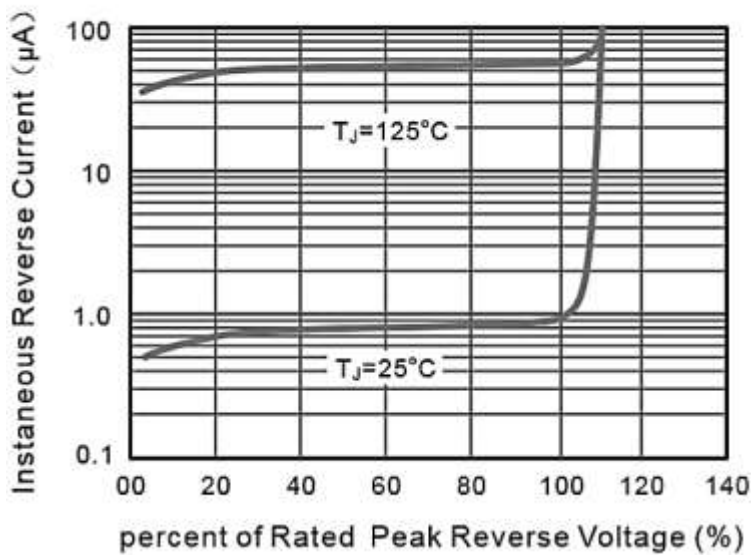
**SMD GLASS PASSIVATED BRIDGE RECTIFIER TT SERIES CASE TTF**

TYPICAL CHARACTERISTIC CURVES - For Reference Only

**Fig.1 Average Rectified Output Current Derating Curve**



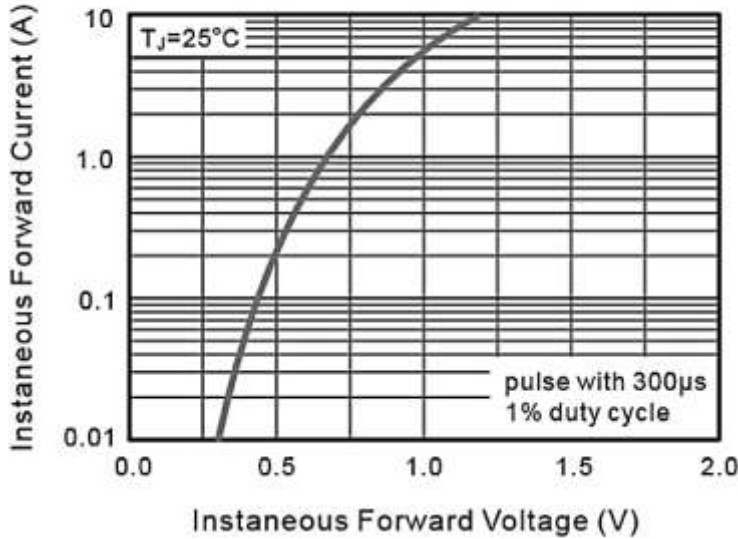
**Fig.2 Typical Reverse Characteristics**



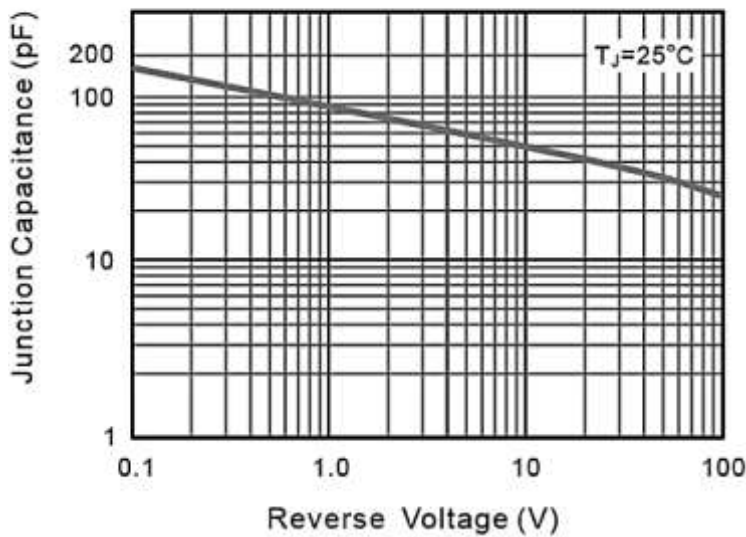
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TYPICAL CHARACTERISTIC CURVES - For Reference Only

**Fig.3 Typical Instaneous Forward Characteristics**



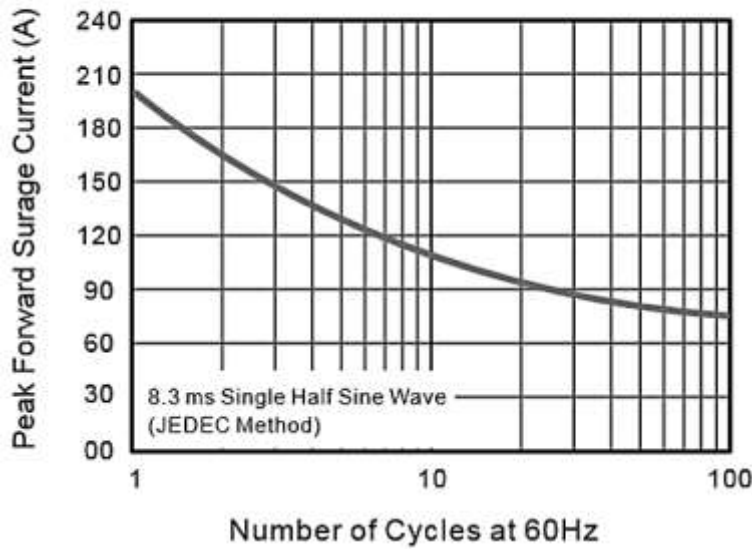
**Fig.4 Typical Junction Capacitance**



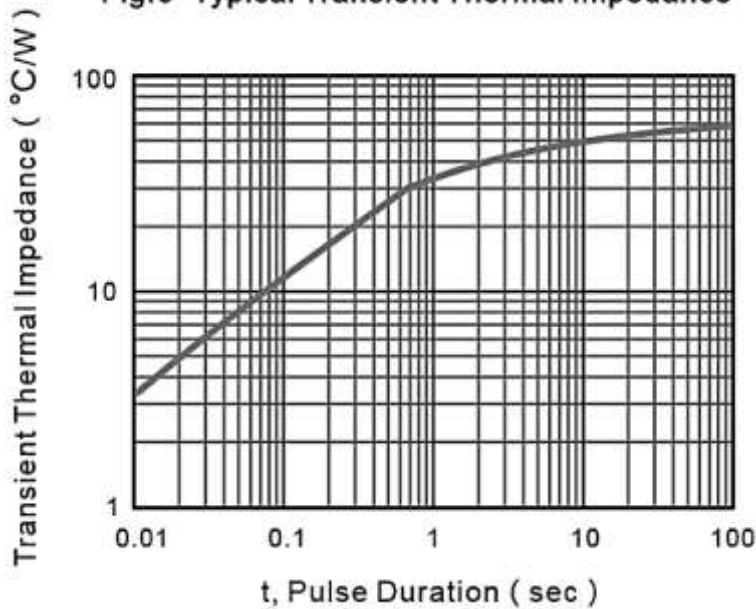
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TYPICAL CHARACTERISTIC CURVES - For Reference Only

**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



**Fig.6- Typical Transient Thermal Impedance**



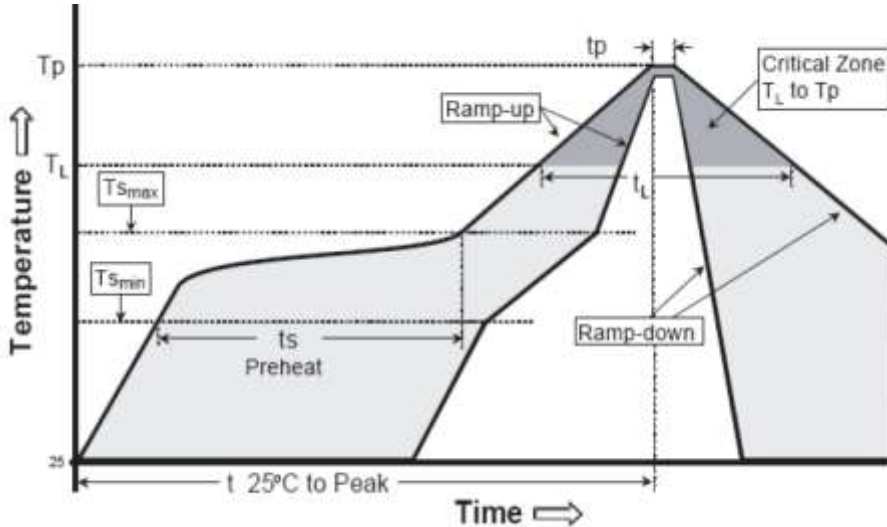


**SMD GLASS PASSIVATED BRIDGE RECTIFIER TT SERIES CASE TTF**
**RELIABILITY**

| NUMBER | EXPERIMENT ITEMS                   | EXPERIMENT METHOD AND CONDITIONS   | REFERENCE DOCUMENTS             |
|--------|------------------------------------|--|---------------------------------|
| 1      | Solder Resistance Test             | Test 260°C± 5°C for 10 ± 2 sec.<br>Immerse body into solder 1/16" ± 1/32"                                      | MIL-STD-750D<br>METHOD-2031.2   |
| 2      | Solderability Test                 | 230°C ±5°C for 5 sec.  | MIL-STD-750D<br>METHOD-2026.1 0 |
| 3      | Pull Test                          | 1 kg in axial lead direction for 10 sec.   | MIL-STD-750D<br>METHOD-2036.4   |
| 4      | Bend Test                          | 0.5Kg Weight Applied To Each Lead,<br>Bending Arcs 90 °C ± 5 °C For 3 Times                                    | MIL-STD-750D<br>METHOD-2036.4   |
| 5      | High Temperature Reverse Bias Test | TA=100°C for 1000 Hours at VR=80%<br>Rated VR  | MIL-STD-750D<br>METHOD-1038.4   |
| 6      | Forward Operation Life Test        | TA=25°C Rated Average Rectified<br>Current   | MIL-STD-750D<br>METHOD-1027.3   |
| 7      | Intermittent Operation Life Test   | On state: 5 min with rated IRMS Power<br>Off state: 5 min with Cool Forced Air.<br>On and off for 1000 cycles. | MIL-STD-750D<br>METHOD-1036.3   |
| 8      | Pressure Cooker Test               | 15 PSIG, TA=121°C, 4 hours   | MIL-S-19500<br>APPENOIXC        |
| 9      | Temperature Cycling Test           | -55°C~+125°C; 30 Minutes For Dwelled<br>Time 5 minutes for transferred time.<br>Total: 10 cycles.              | MIL-STD-750D<br>METHOD-1051.7   |
| 10     | Thermal Shock Test                 | 0°C for 5 minutes., 100°C for 5minutes,<br>Total: 10 cycles  | MIL-STD-750D<br>METHOD-1056.7   |
| 11     | Forward Surge Test                 | 8.3ms Single Sale Sine-wave One Surge.   | MIL-STD-750D<br>METHOD-4066.4   |
| 12     | Humidity Test                      | TA=65°C, RH=98% for 1000 hours.  | MIL-STD-750D<br>METHOD-1021.3   |
| 13     | High Temperature Storage life Test | 150°C for 1000 Hours   | MIL-STD-750D<br>METHOD-1031.5   |

**SMD GLASS PASSIVATED BRIDGE RECTIFIER TT SERIES CASE TTF**

**SUGGESTED REFLOW PROFILE - For Reference Only**



| PROFILE FEATURE                                 |                           | PB-FREE ASSEMBLY  |
|---|---------------------------|-------------------|
| Average Ramp-up Rate (Ts Max to Tp)             |                           | 3°C/second Max    |
| Preheat   | Temperature Min (Ts Min.) | 150°C             |
|   | Temperature Max (Ts Max.) | 200°C             |
|   | Time (ts Min. to ts Max.) | 60~120 seconds    |
| Time maintained above                           | Temperature (Tl)          | 217°C             |
|   | Time (tL)                 | 60~150 seconds    |
| Peak/Classification Temperature (Tp)            |                           | 260 +/-5°C        |
| Time within 5°C of actual Peak Temperature (tp) |                           | 20~40 seconds     |
| Ramp-down rate                                  |                           | 6 °C /Second Max. |
| Time 25 °C to Peak Temperature                  |                           | 8 minutes Max.    |
| Suggest reflow times                            |                           | 3 Times Max.      |

## SMD GLASS PASSIVATED BRIDGE RECTIFIER TT SERIES CASE TTF

### IMPORTANT NOTES AND DISCLAIMER

1. **ROHS COMPLIANCE:** The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU RoHS Directive (EU) 2015/863 EC (RoHS3). RoHS Test Report for this product can be obtained at Download Center.
2. **REACH COMPLIANCE:** REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, REACH Test Report for this product can be obtained at Download Center.
3. All Product parametric performance is indicated in the Electrical Characteristics for the listed herein test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
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