




SPECIFICATION SHEET

| | | |
|---|--|-------------------------------|
| SPECIFICATION SHEET NO. | R0730- TTR6MFTTF00S6A | |
| DATE | July 30, 2024 | |
| REVISION | A2 | Updated With Most Recent Data |
| DESCRIPTION AND MAIN PARAMETRICS | <p>SMD Glass Passivated Bridge Rectifier, TTR Series, Case TTF Type, Reverse Voltage 1000V 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> | |
| CUSTOMER | | |
| CUSTOMER PART NO. | | |
| CROSS REF. PART NO. | | |
| ORIGINAL MFG/PART NO. | MDD Diodes/TTR6MF | |
| PART CODE | TTR6MFTTF00S6A | |

| |
|--|
| VENDOR APPROVE |
| Issued/Checked/Approved <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;">    </div> |
| DATE: July. 30, 2024 |

| |
|-------------------------|
| CUSTOMER APPROVE |
| |
| DATE: |

SMD GLASS PASSIVATED BRIDGE RECTIFIER TTR SERIES CASE TTF

MAIN FEATURE

- Glass Passivated Chip Junction
- Reverse Voltage 1000 V
- Forward Current 6.0 A
- 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 |
|------|-----------------------|---|
| TTR | Product Series Code | SMD Glass Passivated Bridge Rectifiers, TTR Series |
| 6MF | Specification Code | For Voltage Range - 1000 V, Current – 6.0 A |
| TTF | Case Code | Case TTF |
| 00S | Internal Control Code | Custom letter A~Z, a-z or Digits (0-9) |
| 6A | Marking Code | Custom letter A~Z, a-z or Digits (0-9) for Marking “6A” |

SMD GLASS PASSIVATED BRIDGE RECTIFIER TTR SERIES CASE TTF

DIMENSION (Unit: Inch/mm)

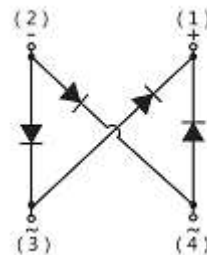
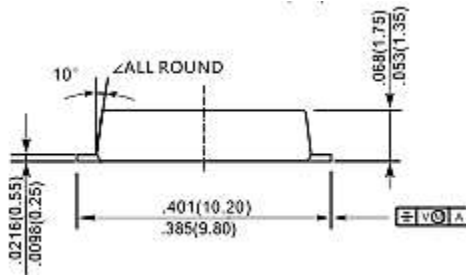
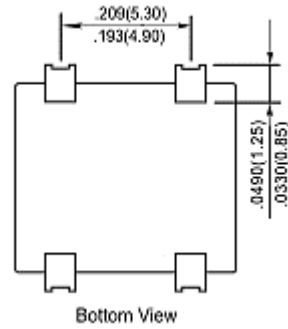
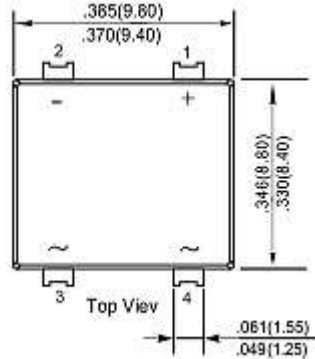
Image for reference



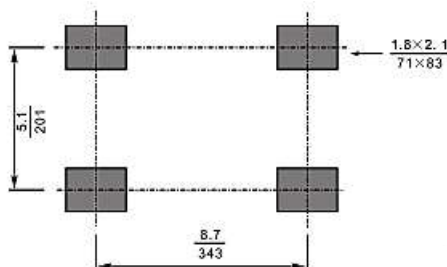
Marking:

6A

Case TTF



Recommend Pad Layout



SMD GLASS PASSIVATED BRIDGE RECTIFIER TTR SERIES CASE TTF
MECHANICAL DATA

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

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS - @ 25 °C

| PARAMETER | SYMBOLS | VALUE | UNITS |
|---|-----------------|------------|---------------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 1000 | V |
| Maximum RMS Voltage | V_{RMS} | 700 | V |
| Maximum DC Blocking Voltage | V_{DC} | 1000 | V |
| Average Rectified Output Current at $T_c = 100^\circ\text{C}$ | I_o | 6.0 | A |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 200 | A |
| Rating for Fusing | I^2t | 166 | A^2S |
| Typical Thermal Resistance (Note 2) | $R_{\theta JA}$ | 60 | $^\circ\text{C}/\text{W}$ |
| | $R_{\theta JC}$ | 6 | |
| | $R_{\theta JL}$ | 14 | |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55 ~ +150 | $^\circ\text{C}$ |

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 $4 \times 1.5'' \times 1.5''$ (3.81×3.81 Cm) copper Pad Areas.

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

| PARAMETER | SYMBOL | TEST CONDITIONS | VALUE | | | UNITS |
|--|----------|--|-------|------|------|---------------|
| | | | Min. | Typ. | Max. | |
| Instantaneous Forward Voltage | V_F | $I_F = 6 \text{ A } T_J = 25^\circ\text{C}$ | - | - | 1.0 | V |
| Reverse Current At DC Blocking Voltage | I_R | $T_J = 25^\circ\text{C}$ | - | - | 5.0 | μA |
| | | $T_J = 125^\circ\text{C}$ | - | - | 200 | |
| Maximum Reverse Recovery Time | t_{rr} | Measured with $I_F = 0.5 \text{ A}, I_R = 1 \text{ A},$ $I = 0.25 \text{ A}$ | - | - | 500 | ns |
| Typical Junction Capacitance | C_j | $f = 1\text{MHz}, V_R = 4\text{V DC}$ $T_J = 25^\circ\text{C}$ | - | 80 | - | pF |

SMD GLASS PASSIVATED BRIDGE RECTIFIER TTR SERIES CASE TTF

TYPICAL CHARACTERISTIC CURVES - For Reference Only

Fig.1 Average Rectified Output Current Derating Curve

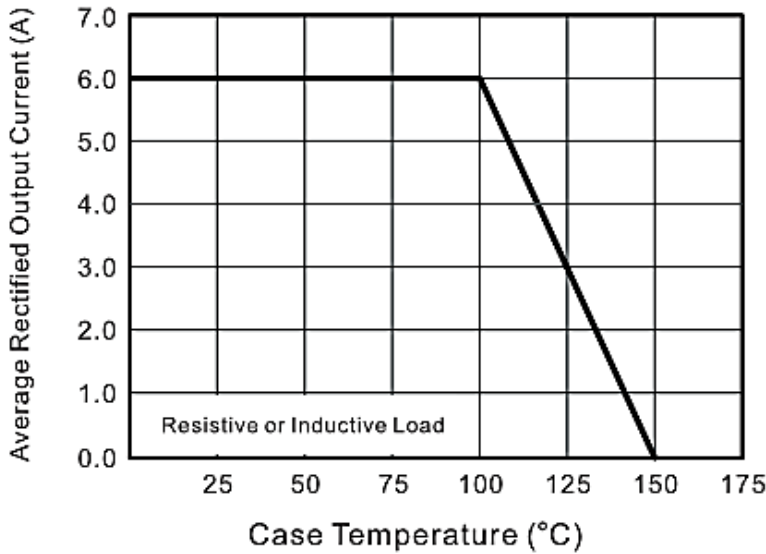
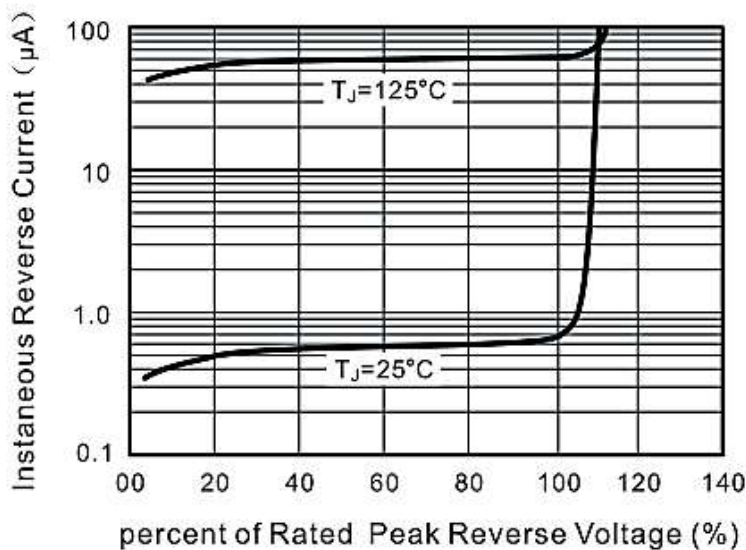


Fig.2 Typical Reverse Characteristics



SMD GLASS PASSIVATED BRIDGE RECTIFIER TTR SERIES CASE TTF

TYPICAL CHARACTERISTIC CURVES - For Reference Only

Fig.3 Typical Instaneous Forward Characteristics

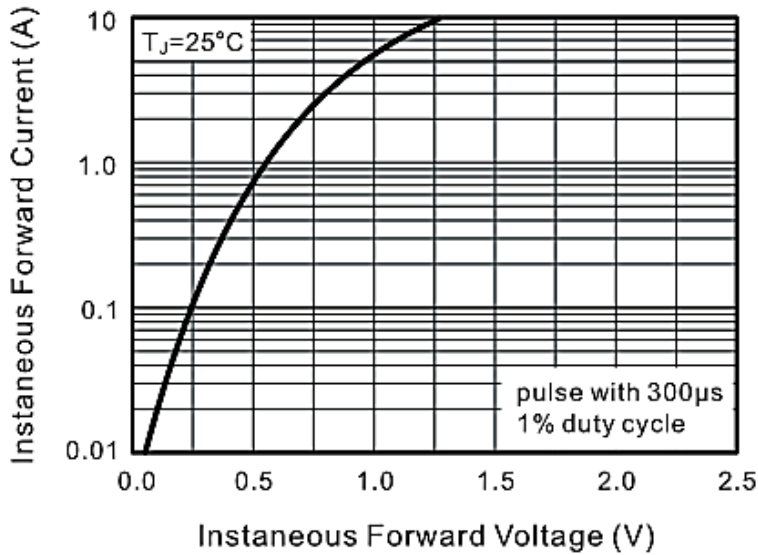
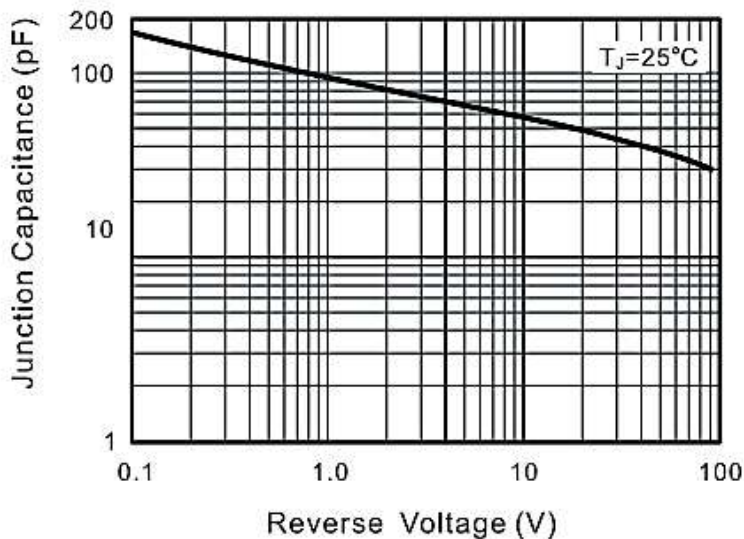


Fig.4 Typical Junction Capacitance



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TYPICAL CHARACTERISTIC CURVES - For Reference Only

Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

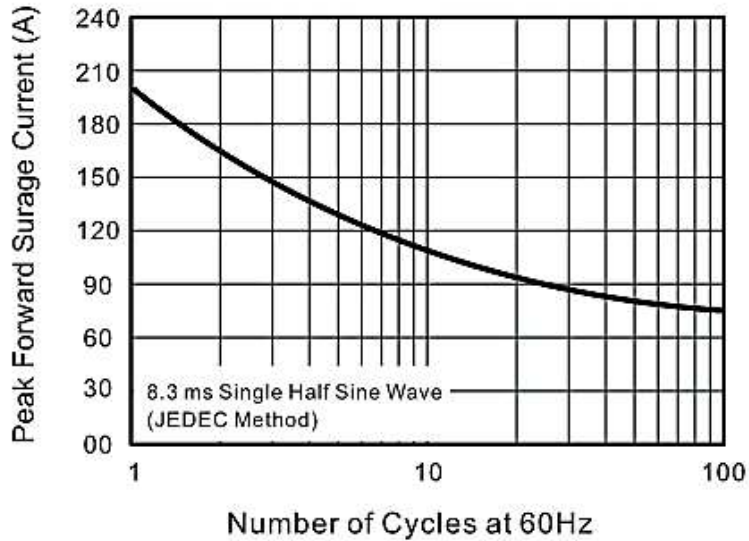
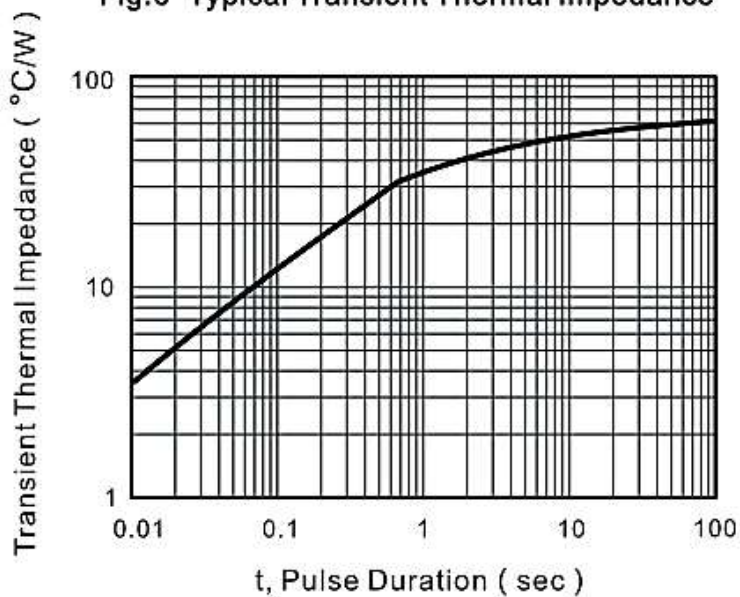


Fig.6- Typical Transient Thermal Impedance

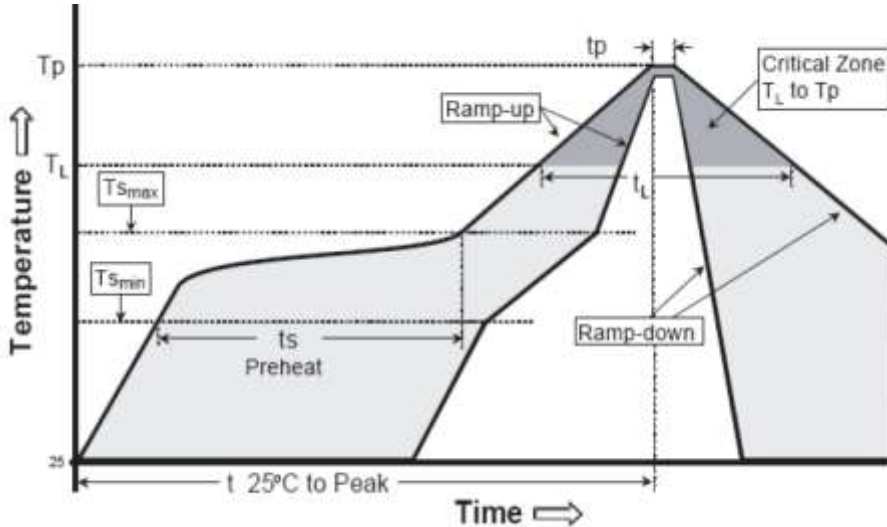


SMD GLASS PASSIVATED BRIDGE RECTIFIER TTR SERIES CASE TTF
RELIABILITY

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

SMD GLASS PASSIVATED BRIDGE RECTIFIER TTR SERIES CASE TTF

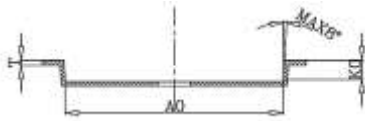
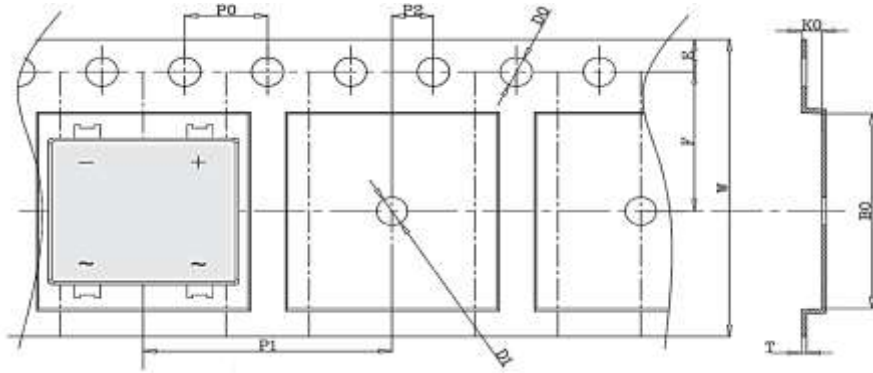
SUGGESTED REFLOW PROFILE - For Reference Only



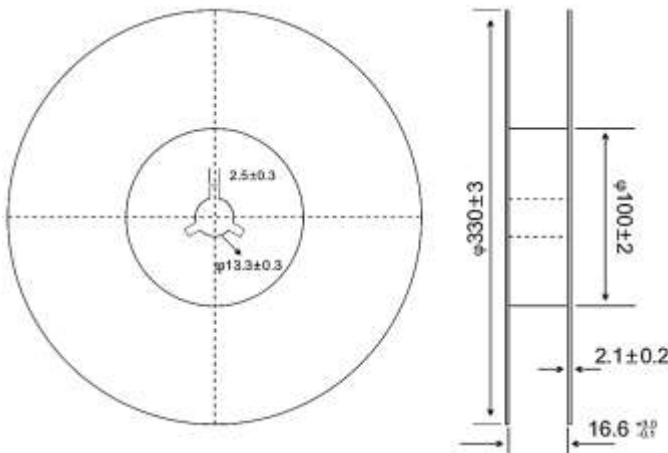
| PROFILE FEATURE | | PB-FREE ASSEMBLY |
|--|----------------------------------|-------------------|
| Average Ramp-up Rate (T_s Max to T_p) | | 3°C/second Max |
| Preheat | Temperature Min (T_s Min.) | 150°C |
| | Temperature Max (T_s Max.) | 200°C |
| | Time (t_s Min. to t_s Max.) | 60~120 seconds |
| Time maintained above | Temperature (T_L) | 217°C |
| | Time (t_L) | 60~150 seconds |
| Peak/Classification Temperature (T_p) | | 260 +/-5°C |
| Time within 5°C of actual Peak Temperature (t_p) | | 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 TTR SERIES CASE TTF

TAPE/REEL (Unit: mm) All Devices are packed in accordance with EIA standard RS-481-A and specifications.



| ITEM | SYMBOL | TOL. | CASE TTF |
|------------------------|---------|-----------------|----------|
| Carrier Width | A0 | 0.10 | 10.1 |
| Carrier Length | B0 | 0.10 | 10.5 |
| Carrier Depth | K0 | 0.10 | 1.85 |
| Sprocket Hole Pitch | P0 | 0.10 | 4.00 |
| Punch Hole Pitch | P1 | 0.10 | 12.00 |
| Embossment Center | P2 | 0.05 | 2.00 |
| Overall Tape Thickness | T | 0.03 | 0.30 |
| Sprocket Hole Position | E | 0.10 | 1.75 |
| Punch Hole Position | F | 0.05 | 7.50 |
| Sprocket Hole | D0 | 0.05 | 1.55 |
| Punch Hole | D1 | 0.25 | 1.50 |
| Tape Width | W | +0.30/ -0.10 | 16.0 |
| Qty. /Reel | 3000pcs | | |



SMD GLASS PASSIVATED BRIDGE RECTIFIER TTR 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.
4. NextGen Component, Inc (*NextGen*) reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.
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6. *NextGen* does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application. No license is granted by implication or otherwise under any intellectual property rights of NextGen.
7. *NextGen* products are not authorized for use as critical components in life support devices or systems without express written approval by *NextGen*.
8. *NextGen* requires that customers first obtain an RMA (Returned Merchandise Authorization) number prior to returning any products. Returns must be made within 30 days of the date of invoice, be in the original packaging, unused and like-new condition. At the time of quoting or purchasing, a product may say that it is Non-Cancelable/ Non-Returnable (NCNR). These products are not returnable and not refundable.