

| | | |
|---|---|---|
| SPECIFICATION SHEET NO. | S0510 – BAV21WS000S0T3 | |
| ORIGINAL MFG/PART NO. | MDD Diodes/BAV21WS/SOD323V21WSST3 | |
| NEXTGEN PART CODE | BAV21WS000S0T3 | Indicate This Code For RFQ /Order |
| DATE | May. 10, 2025 | |
| REVISION | A3 | Updated With Most Recent Data |
| DESCRIPTION AND MAIN PARAMETRICS | <p>SMD Fast Switching Diodes, Case SOD-323 BAV Series, 2 Pads</p> <p>Repetitive Peak Reverse Voltage: 250V Max.</p> <p>Continuous Forward Current: 0.25A Max.</p> <p>Operating Junction Temp. Range -55 to +150°C</p> <p>Package in Tape/Reel, 3000pcs/Reel</p> <p>RoHS/RoHS III compliant, RoHS Annex III lead Exemption (Exempt per RoHS EU 2015/863) and Halogen Free (HF)</p> | |
| CUSTOMER | | |
| CUSTOMER PART NUMBER | | |
| CROSS REF. PART NUMBER | | |
| MEMO | | |

| | | |
|-------------------------------|---|--|
| VENDOR APPROVE | | |
| Issued/Checked/Approved |  |  |
| Effective Date: May. 10, 2025 | | |

| |
|-------------------------|
| CUSTOMER APPROVE |
| |
| Date: |

MAIN FEATURE

- Glass Passivated Chip Junction
- Case Type SOD-323
- Fast Reverse Recovery Time
- Ideal For Automated Placement
- Meet MSL 1 Requirement
- Cross Competitors Parts and More.
- RoHS/RoHS III compliant, RoHS Annex III lead Exemption (Exempt per RoHS EU 2015/863) and Halogen Free (HF)



Image shown is a representation only. Exact specifications should be obtained from the product dimension.

APPLICATION

- For Surface Mounted Applications

ELECTRICAL CHARACTERISTICS

- See Page 5 ~ Page 6.
- All Products Parameters are Subject To NextGen Components' Final Confirmation.



HOW TO ORDER

- Please Follow Up Part Code Guide And Indicate NextGen Part Code BAV21WS000S0T3 For RFQ and Order.

PART CODE GUIDE

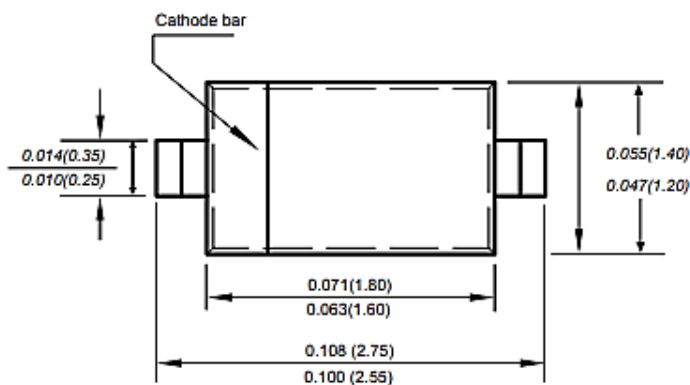
RFQ

[Request For Quotation](#)

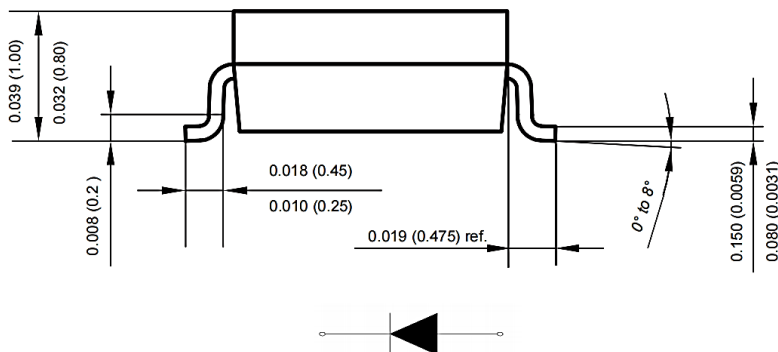
| CODE | NAME | KEY SPECIFICATION OPTION |
|-------|--------------------------------|--|
| BAV | Product Series Code | SMD Fast Switching Diodes, 2 Pads |
| 21WS | Parameters Code | Letter or Digits (A~Z, a~z or 0~9) |
| 000S0 | Internal Control Code | Letter or Digits (A~Z, a~z or 0~9) |
| T3 | Marking Code | Marking "T3" |
| XX | Special/Custom Parameters Code | Letter or Digits (A~Z, a~z or 0~9) for Special Parametric; Blank: N/A |

DIMENSION - Unit: mm, Case SOD-323, Inch/mm

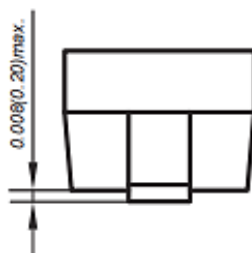
Top View



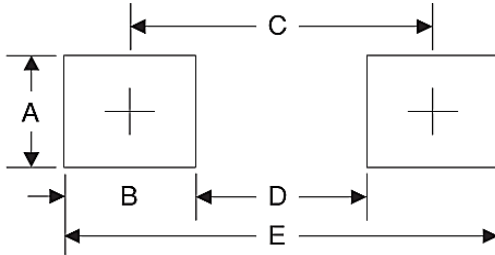
Side View



Side View



Recommend Pad Layout - Tolerance: $\pm 0.05\text{mm}$



| SYMBOL | UNIT (INCH) | UNIT (MM) |
|--------|-------------|-----------|
| A | 0.047 | 1.2 |
| B | 0.047 | 1.2 |
| C | 0.141 | 2.6 |
| D | 0.055 | 1.4 |
| E | 0.149 | 3.8 |

MECHANICAL CHARACTERISTICS

| CASE | FLAMMABILITY RATING | TERMINALS | MARKING |
|-----------------------------------|---------------------|--|---------|
| JEDEC SOD-323 molded plastic body | UL 94V-0 | Solder plated, solderable per MIL-STD-750, Method 2026 | T3 |

ABSOLUTE MAX. RATING - $T_A=25^{\circ}\text{C}$ unless otherwise specified, For Reference Only

| PARAMETER | | SYMBOLS | VALUE | UNITS |
|---|---------|-----------|-----------|--------------------|
| Continuous Forward Current | | I_O | 250 | mA |
| Repetitive Peak Forward Current | | I_{FM} | 625 | mA |
| Non-repetitive Peak Forward Surge Current | @ 1.0s | I_{FSM} | 1 | A |
| | @ 1.0ms | | 3 | |
| | @ 1.0us | | 9 | |
| Total Power Dissipation | | P_{tot} | 500 | mW |
| Operating Junction Temperature | | T_j | -55 ~+150 | $^{\circ}\text{C}$ |
| Storage Temperature Range | | T_{STG} | -55 ~+150 | $^{\circ}\text{C}$ |

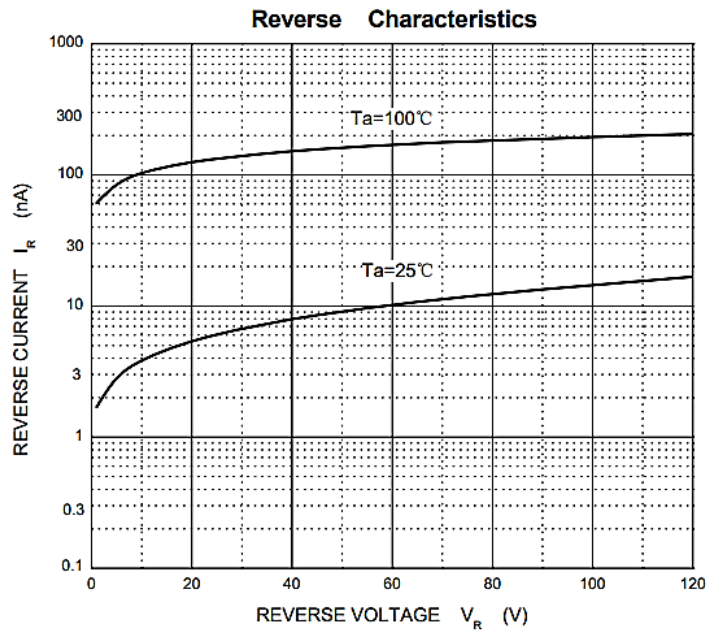
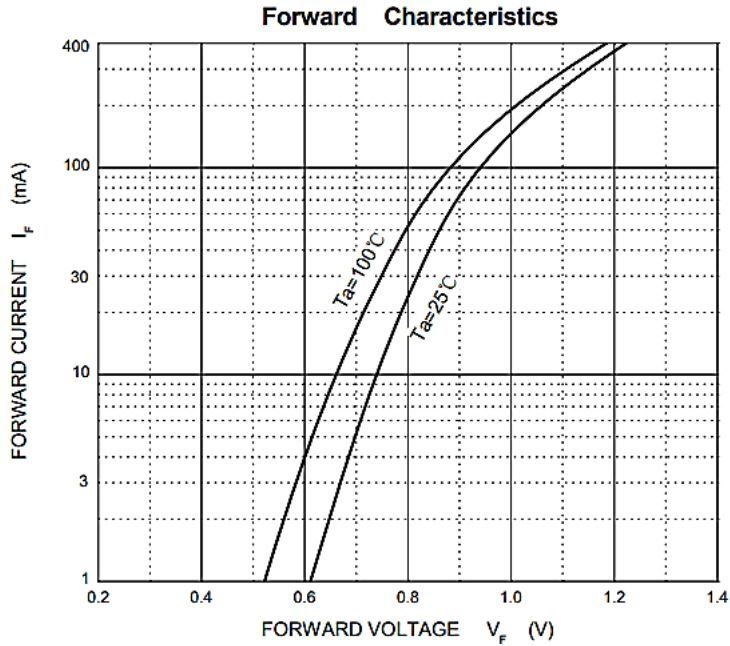
ABSOLUTE MAX. RATINGS AND CHARASCTERISTICS – TA=25°C unless otherwise specified

| PART CODE | MAX. PEAK REPETITIVE PEAK REVERSE VOLTAGE | MAX. RMS REVERSE VOLTAGE | CONTINUOUS FORWARD CURRENT | MAX. REVERSE CURRENT | | MARKING LIST |
|----------------|---|--------------------------------|----------------------------------|----------------------|-----------|-----------------|
| | | | | @Ta=25°C | @Ta=150°C | |
| | VRRM | VR(RMS) | IO | IR | | |
| | V | V | mA | uA | | |
| BAV19WD000S0A8 | 120 | 100 | 250 | 0.1 | 100 | A8 |
| BAV20WS000S0T2 | 200 | 150 | 250 | 0.1 | 100 | T2 |
| BAV21WS000S0T3 | 250 | 200 | 250 | 0.1 | 100 | T3 |

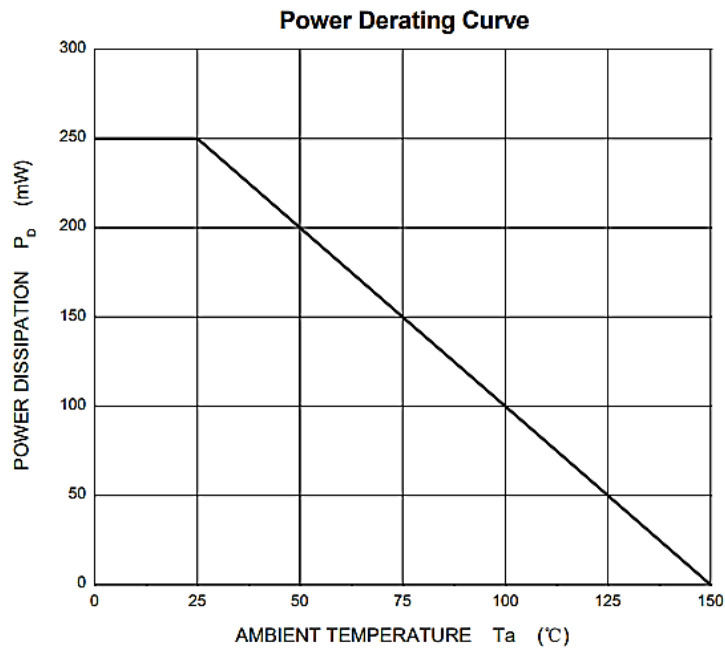
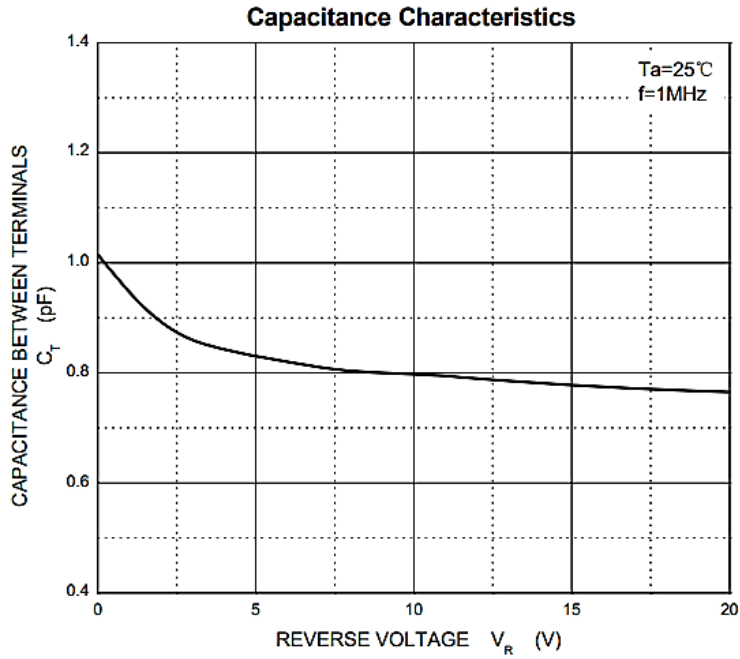
CHARACTERISTICS - TA=25°C unless otherwise specified, For Reference Only

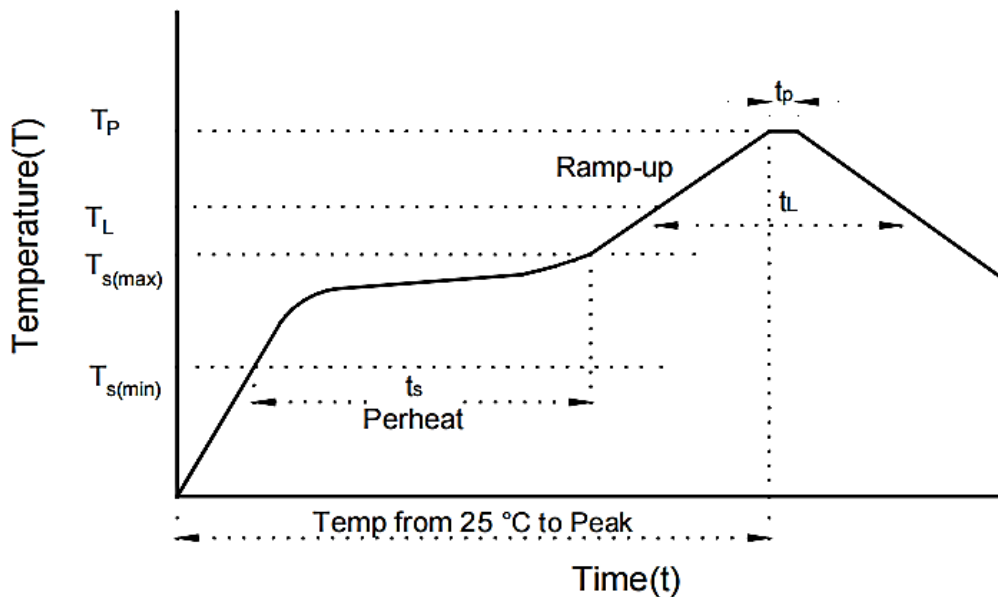
| PARAMETER | | SYMBOLS | MAX. VALUE | UNITS |
|--------------------------|--------------------------------------|---------|------------|-------|
| Forward Voltage | IF=0.1A | VF1 | 1.0 | V |
| | IF=0.2A | VF2 | 1.25 | |
| Total Capacitance | VR=0V, f=1.0MHz | Ctot | 5 | pF |
| Reverse Recovery Time | IF=0.5A IR=1A, Irr=0.25A, RL=100Ω | trr | 50 | ns |

RATINGS AND CHARACTERISTICS CURVES- For Reference Only, $T_a=25^{\circ}\text{C}$ Unless Otherwise Specified.



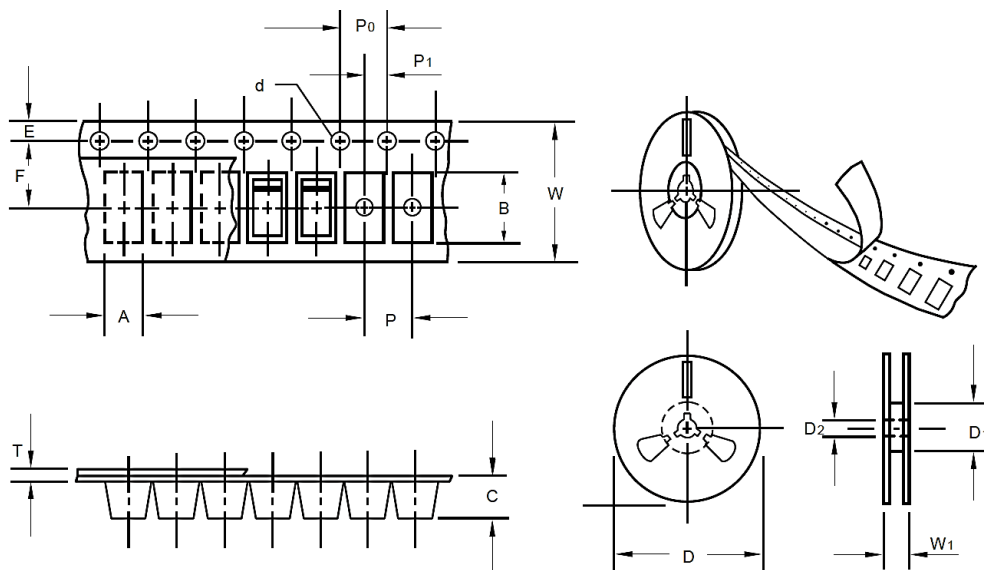
RATINGS AND CHARACTERISTICS CURVES- For Reference Only, $T_a=25^{\circ}\text{C}$ Unless Otherwise Specified.



SUGGESTED REFLOW PROFILE - For Reference Only


| PROFILE FEATURE | | PB-FREE ASSEMBLY |
|--|----------------------------------|-------------------|
| Average Ramp-up Rate (T_L 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 ~ 180 seconds |
| Time maintained above | Temperature (T_L) | 217°C |
| | Time (t_L) | 60 ~ 150 seconds |
| Peak/Classification Temperature (T_p) | | 260 °C |
| Time within 5°C of actual Peak Temperature (t_p) | | 10 seconds Max. |
| Ramp-down Rate | | 6 °C /Second Max. |
| Time 25 °C to Peak Temperature | | 8 Minutes Max. |
| Suggest reflow times | | 3 Times Max. |

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



| ITEM | SYMBOL | TOLERANCE | SOD-323 |
|-------------------------|--------|-----------|---------|
| Carrier width | A | 0.1 | 1.46 |
| Carrier Length | B | 0.1 | 2.90 |
| Carrier Depth | C | 0.1 | 1.25 |
| Sprocket hole | d | 0.05 | 1.50 |
| 7"Reel outside diameter | D | 2 | 178 |
| 7"Reel inner diameter | D1 | Min. | 54.4 |
| Feed hole diameter | D2 | 0.5 | 13 |
| Sprocket hole position | E | 0.1 | 1.75 |
| Punch hole position | F | 0.1 | 3.5 |
| Punch hole pitch | P | 0.1 | 4 |
| Sprocket hole pitch | P0 | 0.1 | 4 |
| Embossment center | P1 | 0.1 | 2 |
| Overall tape thickness | T | 0.1 | 0.06 |
| Tape width | W | 0.3 | 8.00 |
| Reel width | W1 | 1 | 12.30 |
| Qty. Per Reel (pcs) | 3000 | | |

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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