

| | | |
|---|---|---|
| SPECIFICATION SHEET NO. | S0512– M6A0000000S800 | |
| ORIGINAL MFG/PART NO. | MDD Diodes/M6/SMAM600000S180 | |
| NEXTGEN PART CODE | M6A0000000S800 | Indicate This Code For RFQ /Order |
| DATE | May. 12, 2025 | |
| REVISION | A3 | Updated With Most Recent Data |
| DESCRIPTION AND MAIN PARAMETRICS | <p>SMD General Purpose Rectifier, Case SMA, M Series, 2 Pads</p> <p>Repetitive Peak Reverse Voltage VRRM: 800V Max.</p> <p>RMS Voltage VRMS: 560V Max.</p> <p>Average Forward Rectified Current I(AV): 1.0A Max.</p> <p>Operating Junction And Storage Temperature Range T_J,T_{STG} : -55°C ~+150°C</p> <p>Package in Tape, 5000pcs/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 |
| <div> <div>Issued/Checked/Approved</div> <div>    </div> </div> |
| Effective Date: May. 12, 2025 |

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

MAIN FEATURE

- The Plastic Package Carries Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated Junction chip
- Low Reverse Leakage
- High Forward Surge Current Capability
- High Temperature Soldering Guaranteed: 250° C/10 Seconds
- 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 Printed Circuit Board

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 M6A0000000S800 For RFQ and Order.

PART CODE GUIDE

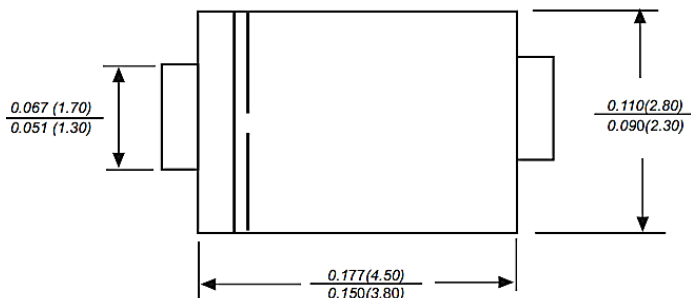
RFQ

[Request For Quotation](#)

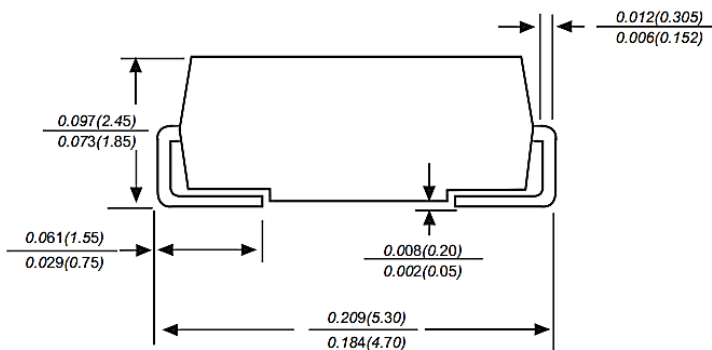
| CODE | NAME | KEY SPECIFICATION OPTION |
|----------|---------------------------|--|
| M | Product Series Code | SMD General Purpose Rectifier, M Series, 2 Pads |
| 6 | Max. RMS Voltage Code | 1: 35V ; 2: 70V; 3: 140V; 4: 280V; 5: 420V; 6: 560V; 7: 700V |
| A | Case Code | A: SMA/DO-214AC |
| 0000000S | Internal Control Code | Letter A~Z, a~z or digits (0~9) |
| 800 | Max. DC Blocking Voltage | 050: 50V ; 100: 100V; 200: 200V; 400: 400V; 600: 600V; 800: 800V; 1000: 1000V |
| XX | Special/Custom Parameters | Blank: N/A; XX: Letter A~Z, a~z or digits (0~9) for Special/Custom Parameters |

DIMENSION - Unit: Inch (mm) SMA/DO-214AC, Outline

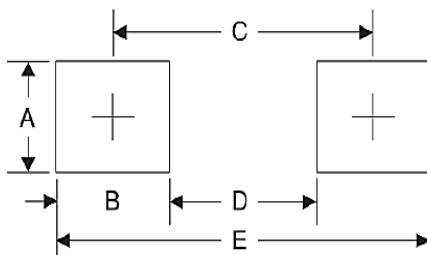
Top View



Side View



Recommend Pad Layout



| SYMBOL | A | B | C | D | E |
|-------------|-------|-------|-------|-------|-------|
| Unit (Inch) | 0.066 | 0.060 | 0.095 | 0.086 | 0.215 |
| Unit (mm) | 1.68 | 1.52 | 3.93 | 2.41 | 5.45 |

MECHANICAL DATA

| CASE | TERMINALS | POLARITY | MOUNTING POSITION | WEIGHT PER PIECE |
|---|---|------------------------------------|-------------------|------------------------------|
| JEDEC DO-214AC/SMA Molded plastic body | Solder plated, solderable per MIL-STD-750,Method 2026 | Polarity Symbol Marking On Body | Any | 0.0019 Ounce, 0.055 grams |

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25 °C ambient temperature unless otherwise specified.
- Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

| PARAMETER | | SYMBOLS | VALUE | | | UNITS |
|--|-----------------------|-----------------------------------|-------|---------|------|-------|
| | | | MIN. | TYPICAL | MAX. | |
| Average Forward Rectified Current | | I _{AV} | | | 1.0 | A |
| Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rated Load | | I _{FSM} | | | 30 | A |
| Instantaneous Forward Voltage at 1.0A | | V _F | | | 1.1 | V |
| DC Reverse Current At Rated DC Blocking Voltage | T _A =25°C | I _R | | | 5 | μA |
| | T _A =125°C | | | | 50 | |
| Junction Capacitance (Note 1) | | C _J | | 15 | | pF |
| Thermal Resistance (Note 2) | | R _{θJA} | | 75 | | °C/W |
| Operating Junction And Storage Temperature Range | | T _J , T _{STG} | -55 | | +150 | °C |

Notes

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. P.C.B. mounted with 2.0x2.0”(2.54x2.54cm) copper pad areas

ELECTRICAL PARAMETERS – FOR DIFFERENT PART CODE- Ta = 25°C

| PART CODE | ORINIGAL PART NO. | MAX. REVERSE VOLTAGE VRRM | MAX. RMS VOLTAGE VRMS | MAX. DC BLOCKING VOLTAGE VDC | MARKING |
|----------------|----------------------|---------------------------------|-----------------------------|------------------------------------|---------|
| | | V | V | V | |
| M1A0000000S050 | M1 | 50 | 35 | 50 | M1 |
| M2A0000000S100 | M2 | 100 | 70 | 100 | M2 |
| M3A0000000S200 | M3 | 200 | 140 | 200 | M3 |
| M4A0000000S400 | M4 | 400 | 280 | 400 | M4 |
| M5A0000000S600 | M5 | 600 | 420 | 600 | M5 |
| M6A0000000S800 | M6 | 800 | 560 | 800 | M6 |
| M7A000000S1000 | M7 | 1000 | 700 | 1000 | M7 |

RATINGS AND CHARACTERISTIC CURVES - For Reference Only

Fig.1 Forward Current Derating Curve

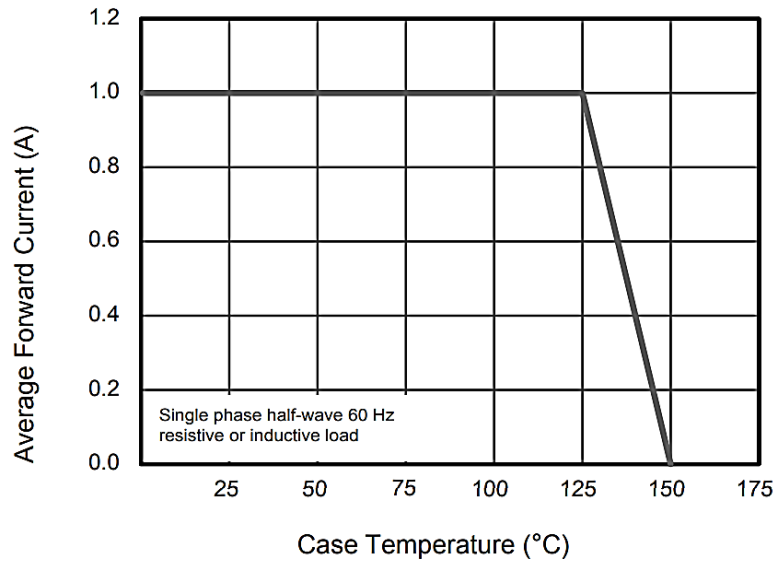
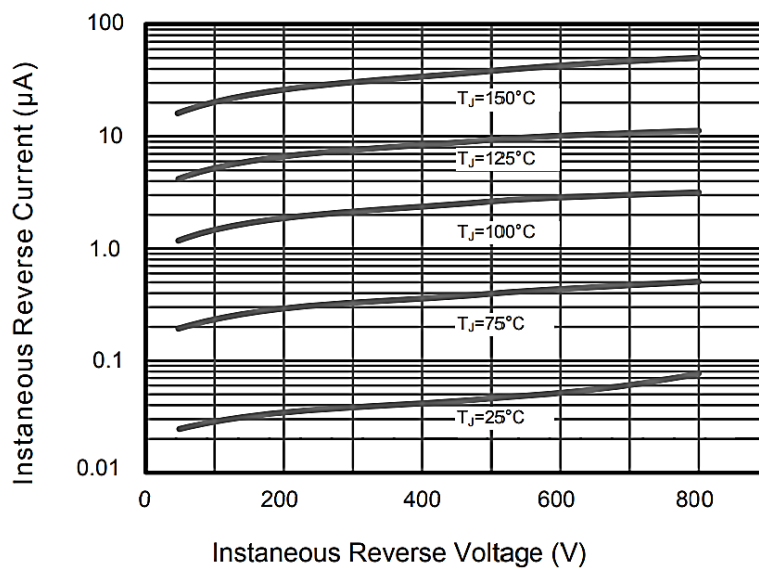


Fig.2 Typical Instantaneous Reverse Characteristics



RATINGS AND CHARACTERISTIC CURVES - For Reference Only

Fig.3 Typical Forward Characteristic

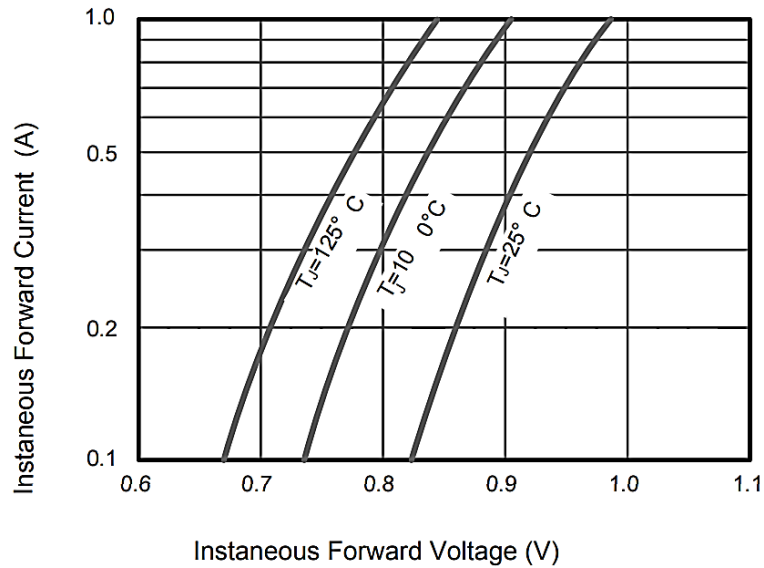
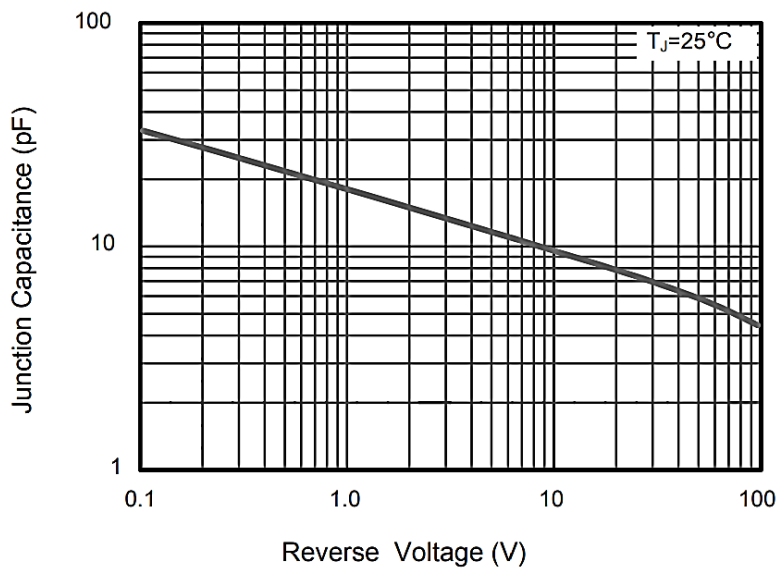


Fig.4 Typical Junction Capacitance



RATINGS AND CHARACTERISTIC CURVES - For Reference Only

Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

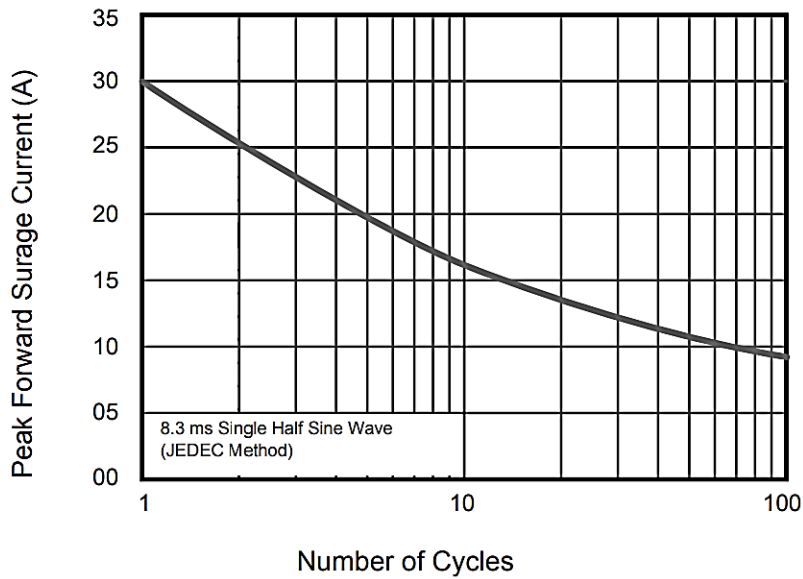
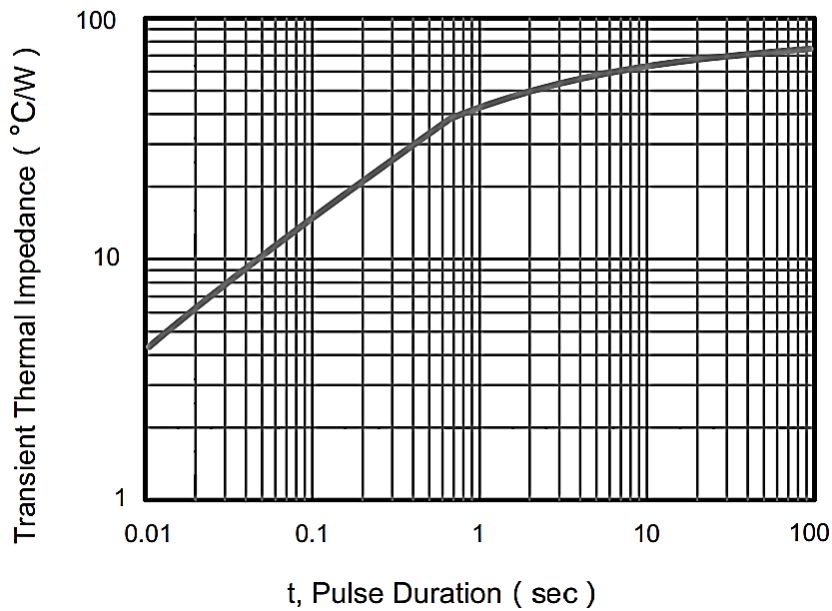
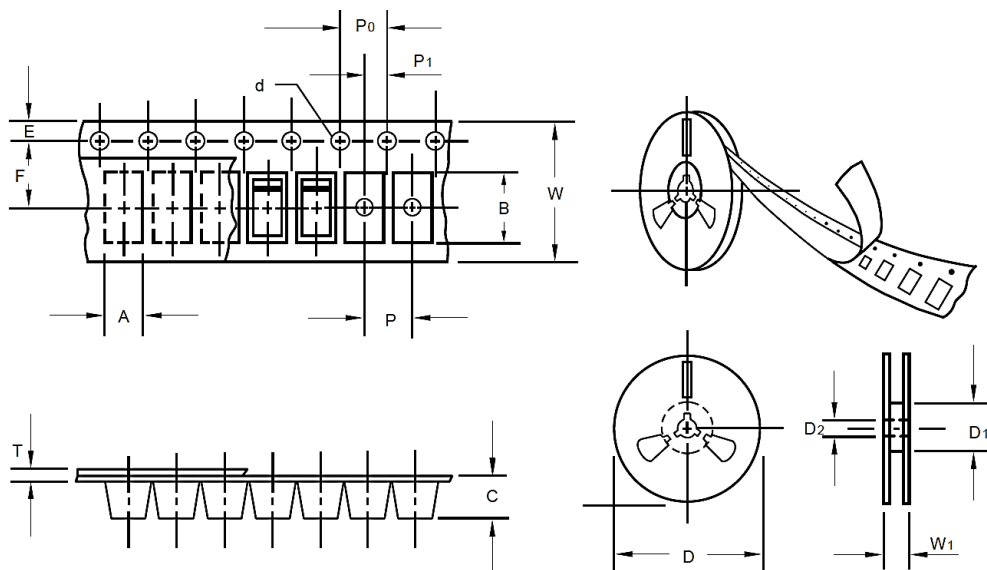


Fig.6- Typical Transient Thermal Impedance



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



| Item | Symbol | Tolerance | SMA/DO-214AC |
|--------------------------|--------|-----------|--------------|
| Carrier width | A | 0.1 | 2.8 |
| Carrier Length | B | 0.1 | 5.33 |
| Carrier Depth | C | 0.1 | 2.36 |
| Sprocket hole | d | 0.05 | 1.50 |
| 13"Reel outside diameter | D | 2.0 | 330.0 |
| 13"Reel inner diameter | D1 | - | 50.0 Min. |
| Feed hole diameter | D2 | 0.5 | 13.00 |
| Sprocket hole position | E | 0.1 | 1.75 |
| Punch hole position | F | 0.1 | 5.50 |
| Punch hole pitch | P | 0.1 | 4.00 |
| Sprocket hole pitch | P0 | 0.1 | 4.00 |
| Embossment center | P1 | 0.1 | 2.0 |
| Overall tape thickness | T | 0.1 | 0.28 |
| Tape width | W | 0.3 | 12.00 |
| Reel width | W1 | 1.0 | 18.0 |
| Qty. Per Reel (pcs) | 5000 | | |

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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