SPECIFICATION SHEET

SMD GENERAL PURPOSE RECTIFIER CASE SMA M SERIES

SPECIFICATION SHEET NO.	S0512– M7A000000S1000	
ORIGINAL MFG/PART NO.	MDD Diodes/M7/SMAM700000S10A	
NEXTGEN PART CODE	M7A000000S1000	Indicate This Code For RFQ /Order
DATE	May. 12, 2025	
REVISION	A3	Updated With Most Recent Data
DESCRIPTION AND MAIN PARAMETRICS	SMD General Purpose Rectifier, Case SMA, M Series, 2 Pads Repetitive Peak Reverse Voltage V_{RRM}: 1000V Max. RMS Voltage V_{RMS}: 700V Max. Average Forward Rectified Current $I_{(AV)}$: 1.0A Max. Operating Junction And Storage Temperature Range T_J,T_{STG} : -55°C ~+150°C Package in Tape, 5000pcs/Reel RoHS/RoHS III compliant, RoHS Annex III lead Exemption (Exempt per RoHS EU 2015/863) and Halogen Free (HF)	
CUSTOMER		
CUSTOMER PART NUMBER		
CROSS REF. PART NUMBER		
MEMO		

VENDOR APPROVE
Issued/Checked/Approved NextGen Components, Inc. Mandy Xu NextGen Components, Inc. Ruby Zhang NextGen Components, Inc. Jack Zhang
Effective Date: May. 12, 2025

CUSTOMER APPROVE
Date:

MAIN FEATURE

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

- 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)

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 M7A000000S1000 For RFQ and Order.

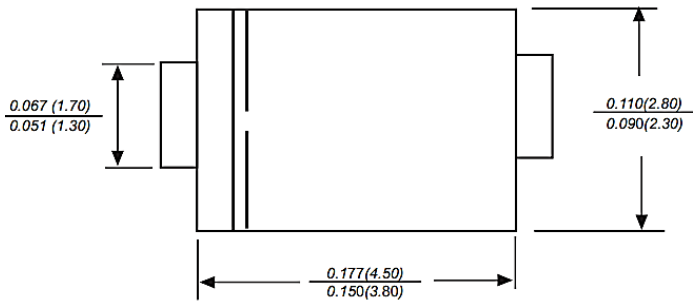
PART CODE GUIDE

RFQ
Request For Quotation

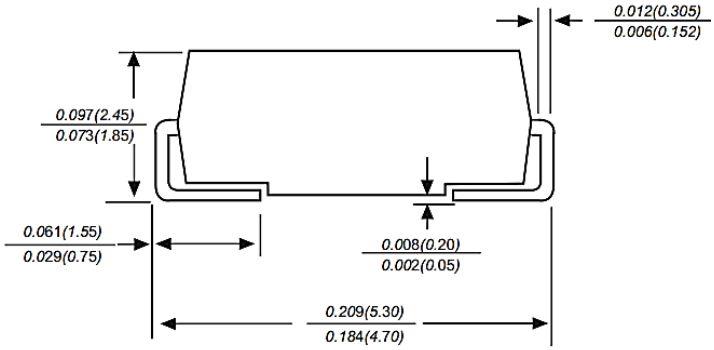
CODE	NAME	KEY SPECIFICATION OPTION
M	Product Series Code	SMD General Purpose Rectifier, M Series, 2 Pads
7	Max. RMS Voltage Code	1: 35V ; 2: 70V; 3: 140V; 4: 280V; 5: 420V; 6: 560V; 7: 700V
A	Case Code	A: SMA/DO-214AC
000000S	Internal Control Code	Letter A~Z, a~z or digits (0~9)
1000	Max. DC Blocking 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

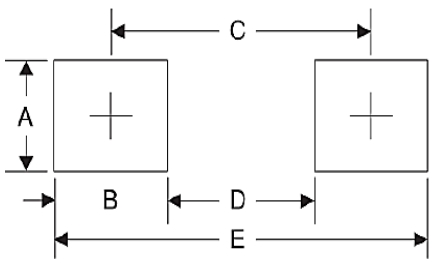
Top View



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℃	I_R			5	μA
	T_A=125℃				50	
Junction Capacitance (Note 1)		C_J		15		pF
Thermal Resistance (Note 2)		$R_{\theta JA}$		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℃

PART CODE	ORINIGAL PART NO.	MAX. REVERSE VOLTAGE V_{RRM}	MAX. RMS VOLTAGE V_{RMS}	MAX. DC BLOCKING VOLTAGE V_{DC}	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

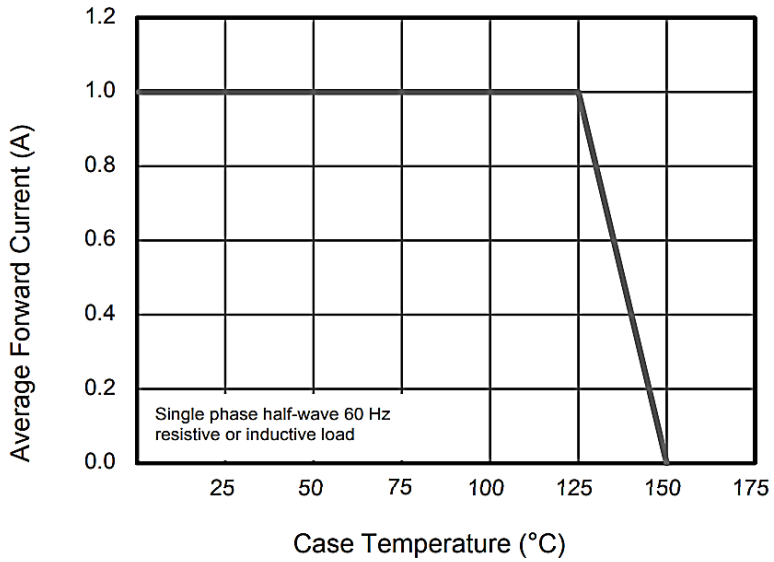
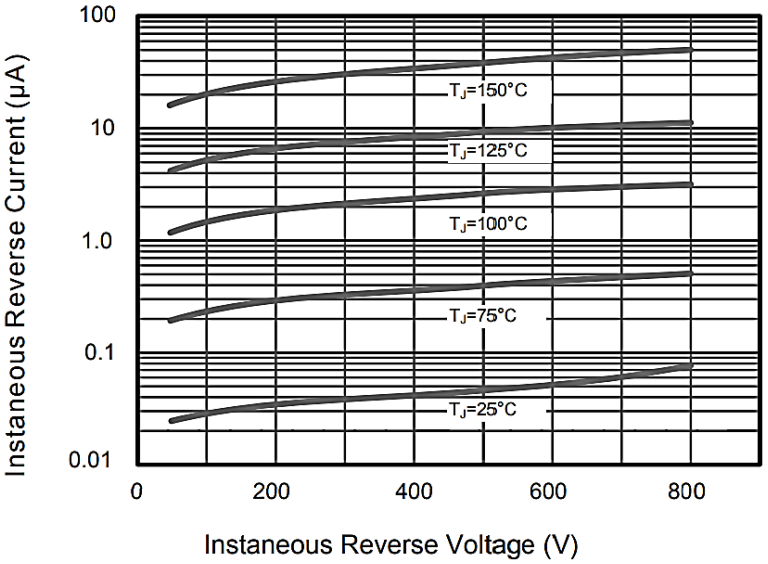


Fig.2 Typical Instaneous Reverse Characteristics



RATINGS AND CHARACTERISTIC CURVES - For Reference Only

Fig.3 Typical Forward Characteristic

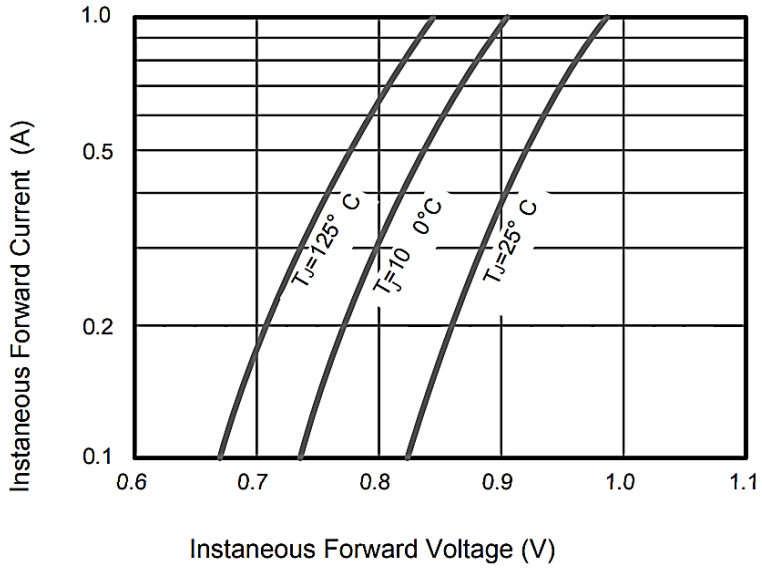
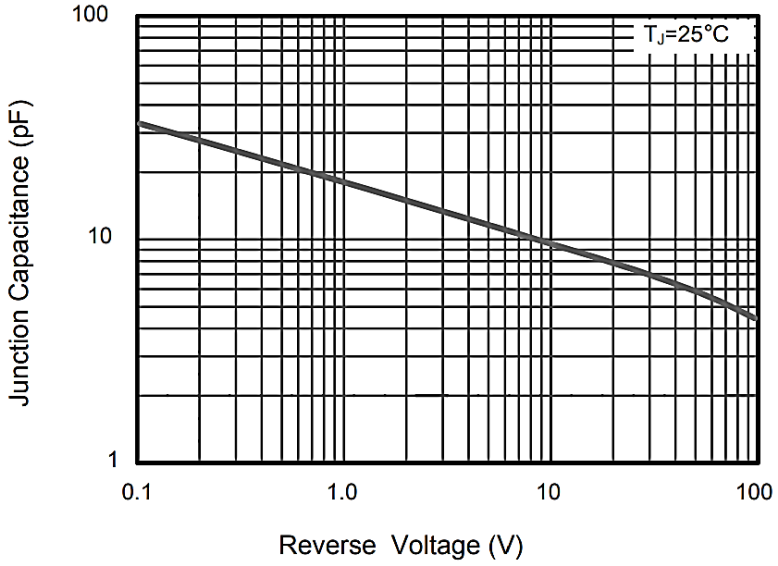


Fig.4 Typical Junction Capacitance



RATINGS AND CHARACTERISTIC CURVES - For Reference Only

Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

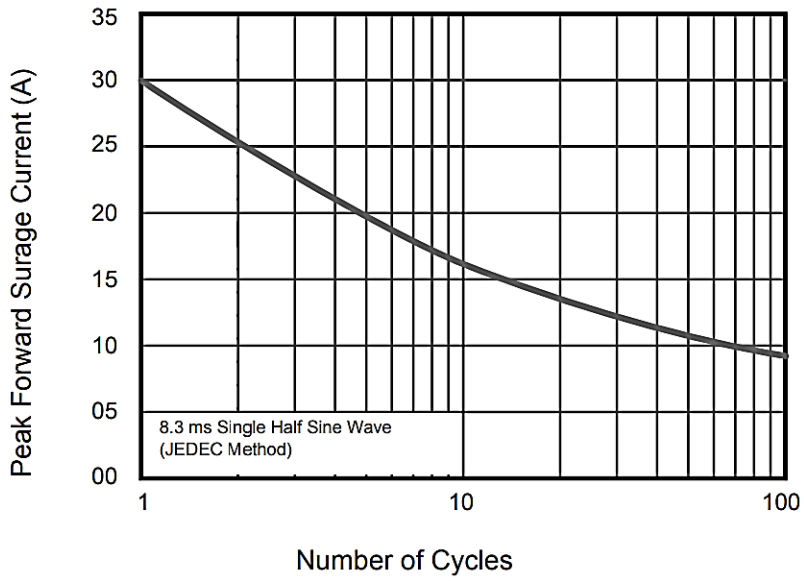
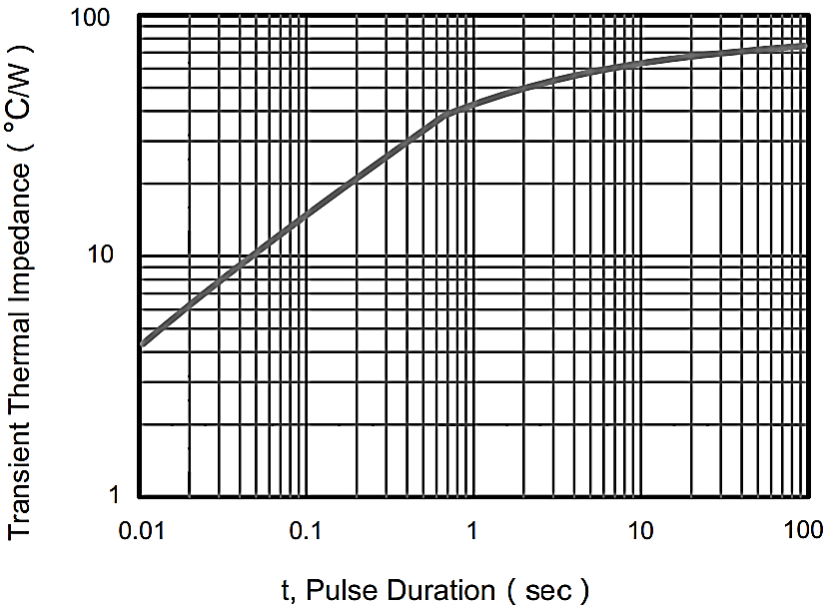
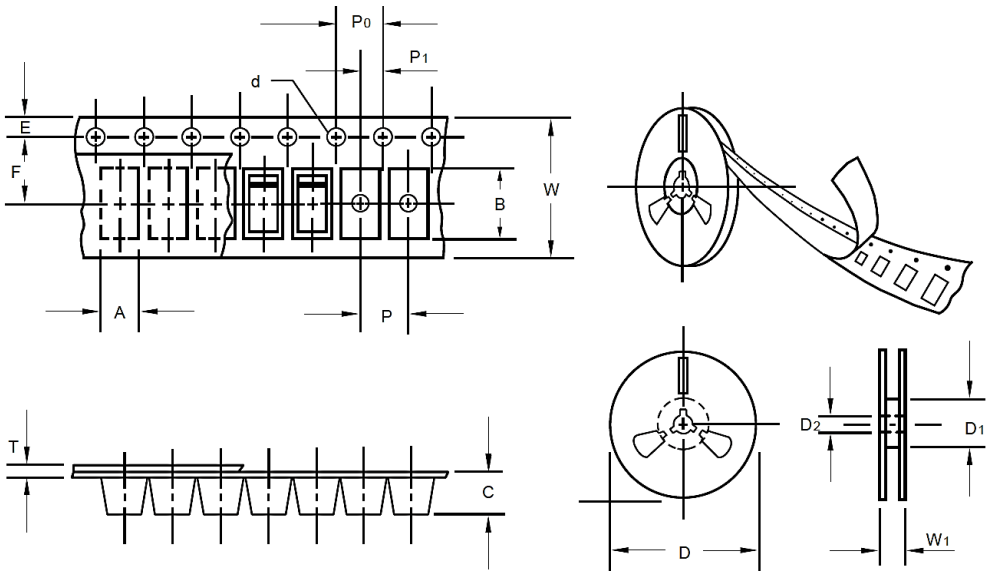


Fig.6- Typical Transient Thermal Impedance



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 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 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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