


<b>SPECIFICATION SHEET NO.</b>	S0210 – SS54A00000S040	
<b>ORIGINAL MFG/PART NO.</b>	MDD Diodes/SS54	
<b>NEXTGEN PART CODE</b>	SS54A00000S040	Indicate This Code For <a href="#">RFQ</a> /Order
<b>DATE</b>	Feb. 10, 2025	
<b>REVISION</b>	A2	Updated With Most Recent Data
<b>DESCRIPTION AND MAIN PARAMETRICS</b>	<p>SMD Schottky Barrier Rectifier 2 Pads, Case DO-214AC/SMA, SS5 Series, Average Forward Rectified Current 5.0A Max.</p> <p>RMS Voltage 28V Max.</p> <p>Repetitive Peak Reverse Voltage 40V Max.</p> <p>Operating Junction Temperature Range TJ: -55°C ~+125°C</p> <p>Package in Tape/Reel, 5000pcs/Reel</p> <p>RoHS III/REACH Compliant and Halogen Free (HF)</p>	
<b>CUSTOMER</b>		
<b>CUSTOMER PART NUMBER</b>		
<b>CROSS REF. PART NUMBER</b>		
<b>MEMO</b>		

<b>VENDOR APPROVE</b>			
Issued/Checked/Approved			
Effective Date: Feb. 10, 2025			

<b>CUSTOMER APPROVE</b>
Date:

## MAIN FEATURE

- The Plastic Package Carries Underwriters Laboratory Flammability Classification 94V-0
- Low Power Loss and High Efficiency
- Metal Silicon Junction and Majority Carrier Conduction
- Built-in Strain Relief and Ideal For Automated Placement
- High Forward Surge Current Capability
- High Temperature Soldering Guaranteed: 250° C/10 Seconds At Terminals
- Surface Mount Package Ideally Suited for Automatic Insertion
- REACH/RoHS III Complaint and Halogen Free (HF)
- Cross Main Competitor Parts in Market



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



## APPLICATION

- For SMD Application

## 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 SS54A00000S040 For RFQ and Order.

## PART CODE GUIDE

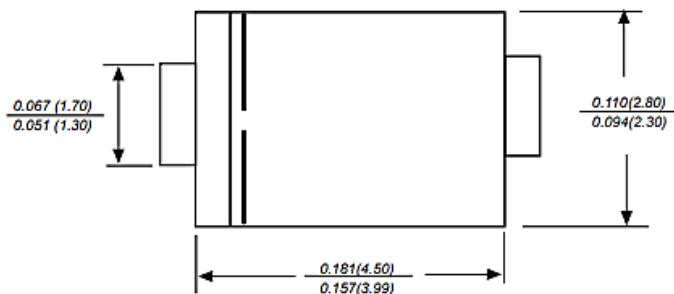
**RFQ**

[Request For Quotation](#)

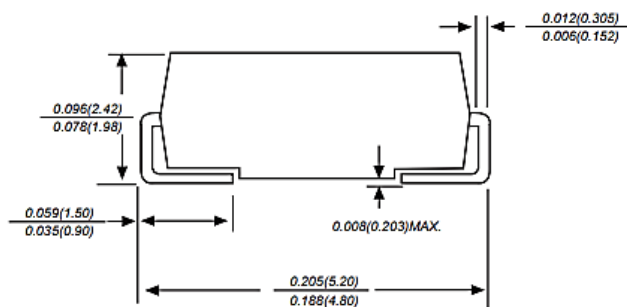
CODE	NAME	KEY SPECIFICATION OPTION
SS5	Product Series Code	SMD Schottky Barrier Rectifier, Forward Current 5.0A
4	Repetitive Peak Reverse Voltage Code	2: 20V Max. ; 3: 30V Max. ; 4: 40V Max.; 5: 50V Max.; 6: 60V Max.; 8: 80V Max.; 10: 100V Max.; 150: 150V Max.; 200: 200V Max
A0	Case Code	A0: Case DO-214AC/SMA; B0: Case DO-214AA/SMB; BF: Case SMBF; C0: Case SMC/DO-214AB ; F0: Case SMAF; W0: Case SMF/SOD-123FL
0000S	Internal Control Code	00S: Letter A~Z, a-z or Digits (0-9)
040	DC Blocking Voltage Code	020: 20V Max. ; 030: 30V Max. ; 040: 40V Max.; 050: 50V Max.; 060: 60V Max.; 080: 80V Max.; 100: 100V Max.; 150: 150V Max.; 200: 200V Max
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), Case DO-214AC/SMA Outline

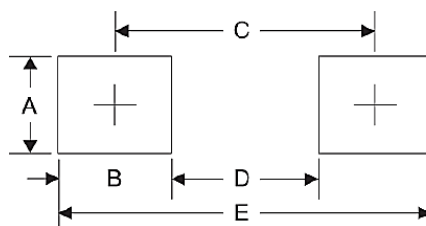
Top View



Side View



Recommend Pad Layout



SYMBOL	A	B	C	D	E
Unit (inch)	0.066	0.060	0.154	0.095	0.215
Unit (mm)	1.68	1.52	3.90	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	Color band denotes cathode end Mounting	Any	0.002 Ounce, 0.07 Grams

## MAX. RATINGS & 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
Maximum Average Forward Rectified Current		I <sub>AV</sub>	5.0	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rated Load (JEDEC Method)		I <sub>FSM</sub>	120	A
Typical Thermal Resistance (Note 2)		R <sub>θJA</sub>	60	°C/W
Operating Junction Temperature Range	@V <sub>RRM</sub> 20V to 50V	T <sub>J</sub>	-55 to +125	°C
	@V <sub>RRM</sub> 60V to 200V	T <sub>J</sub>	-55 to +150	°C
Storage Temperature Range		T <sub>STG</sub>	-55 to +150	°C

Note:

1. Measured at 1MHz And Applied Reverse Voltage Of 4.0V D.C
2. P.C.B. Mounted With 0.2"x0.2" (5.0 x 5.0 mm) Copper Pad Areas

## MAX. RATINGS & ELECTRICAL CHARACTERISTICS - FOR DIFFERENT PART CODE

- 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%.

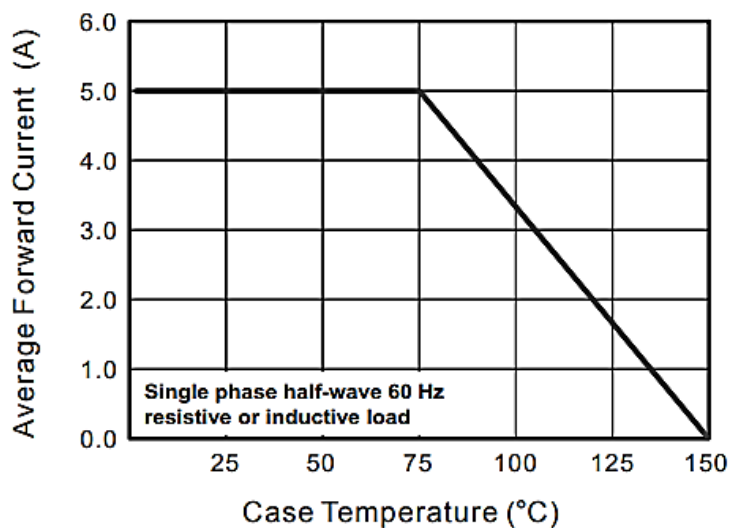
PART CODE	Max. Repetitive Peak Reverse Voltage	Max. RMS Voltage	Max. DC Blocking Voltage	Max. Inst. Forward Voltage @ 5.0A	Maximum DC Reverse Current At Rated DC Blocking Voltage		Typical Junction Cap. (Note 1)	Marking List
					@ 25 °C	@ 100 °C		
	V <sub>RRM</sub>	V <sub>RMS</sub>	V <sub>DC</sub>	V <sub>F</sub>	I <sub>R</sub>		C <sub>J</sub>	
V	V	V	V	V	mA		pF	
SS52A00000S020	20	14	20	0.55	1.0	50	500	SS52
SS53A00000S030	30	21	30	0.55	1.0	50	500	SS53
SS54A00000S040	40	28	40	0.55	1.0	50	500	SS54
SS55A00000S050	50	35	50	0.70	1.0	50	300	SS55
SS56A00000S060	60	42	60	0.70	1.0	50	300	SS56
SS58A00000S080	80	56	80	0.85	1.0	50	300	SS58
SS510A0000S100	100	70	100	0.85	1.0	50	300	SS510
SS5150A000S150	150	105	150	0.85	1.0	50	300	SS5150
SS5200A000S200	200	140	200	0.85	1.0	50	300	SS5200

Note:

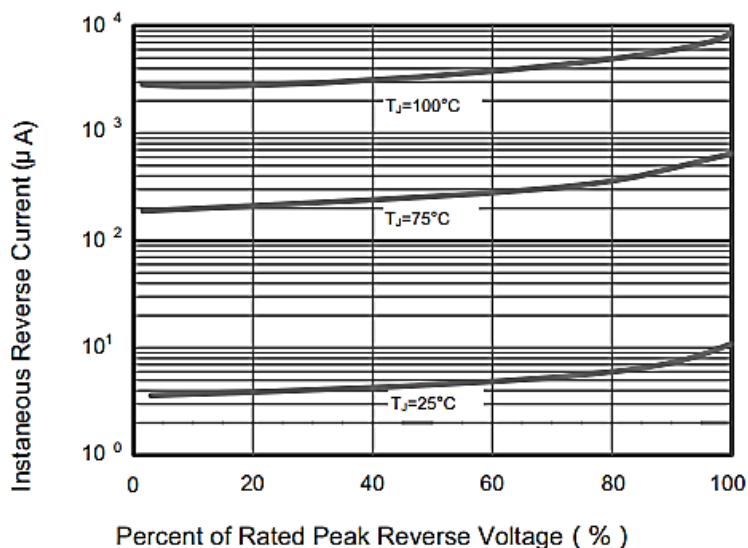
1. Measured at 1MHz And Applied Reverse Voltage Of 4.0V D.C
2. P.C.B. mounted with 0.20"x0.20" (5.0 x 5.0 mm) Copper Pad Areas

**RATINGS & CHARACTERISTIC CURVES** - For Reference Only

**Fig.1 Forward Current Derating Curve**

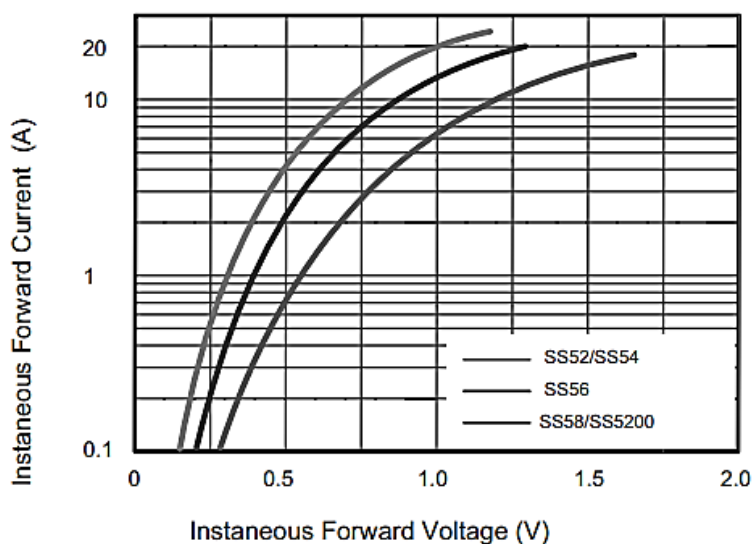


**Fig.2 Typical Reverse Characteristics**

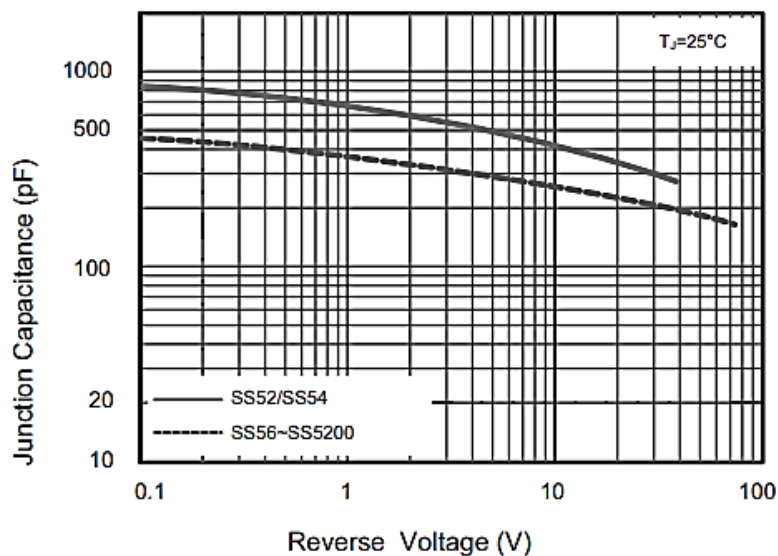


**RATINGS & CHARACTERISTIC CURVES** - For Reference Only

**Fig.3 Typical Forward Characteristic**



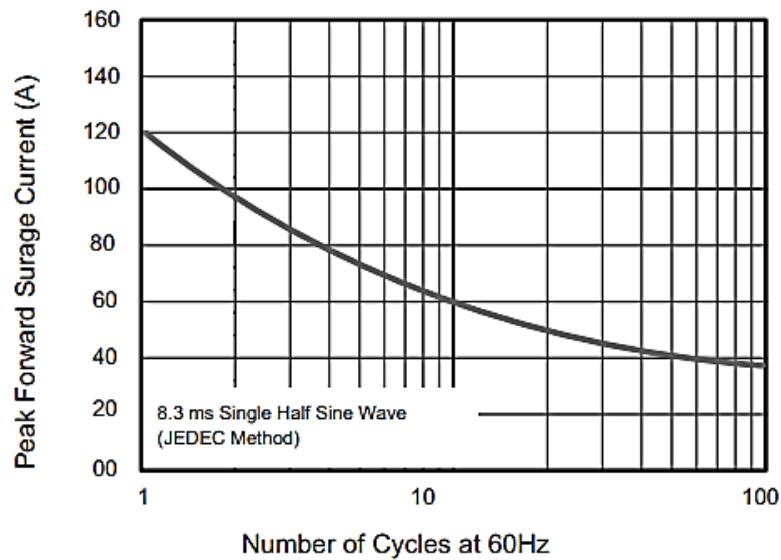
**Fig.4 Typical Junction Capacitance**



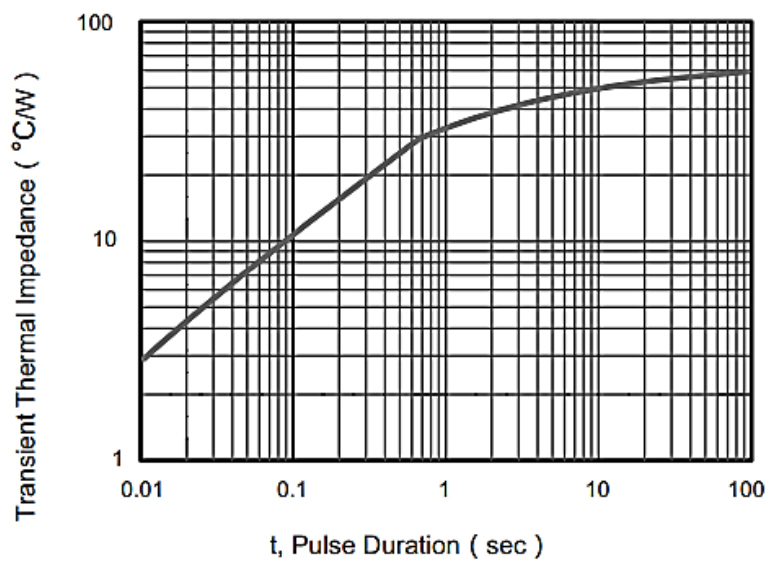


**RATINGS & CHARACTERISTIC CURVES** - For Reference Only

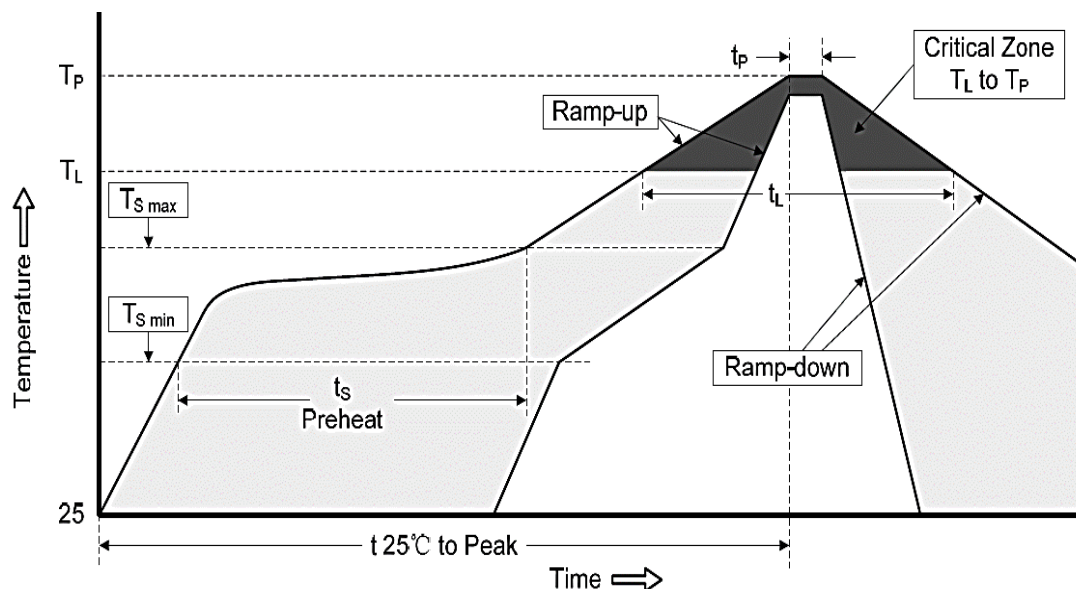
**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



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



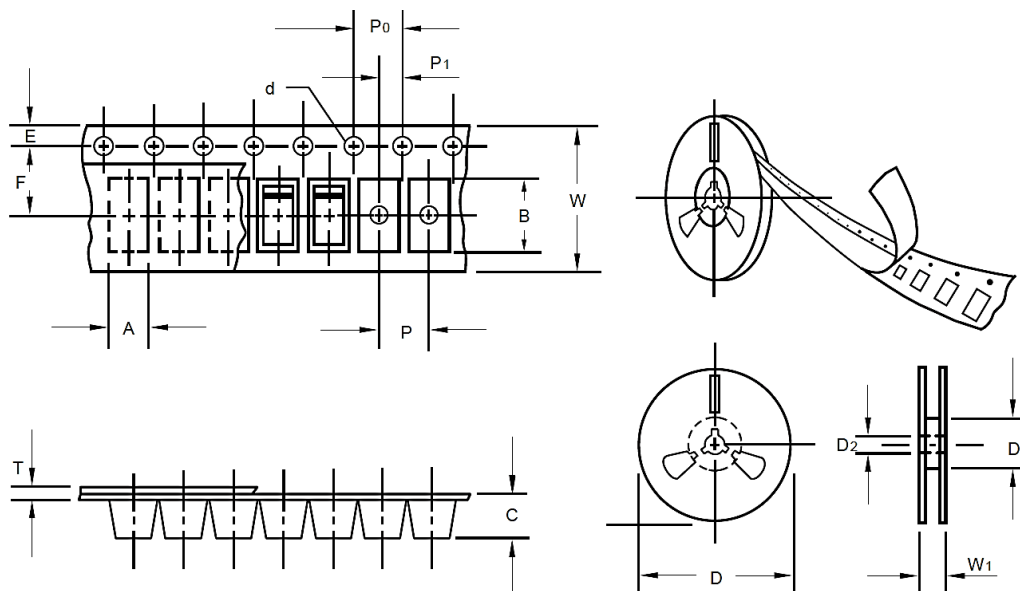
## SUGGESTED REFLOW PROFILE - For Reference Only



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 ~ 180 seconds
Time maintained above	Temperature (Tl)	217°C
	Time (tl)	60 ~ 150 seconds
Peak/Classification Temperature (Tp)		260 °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.

**TAPE AND 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	330.00
13" Reel inner diameter	D1	Min.	50.00
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	2.00
Overall tape thickness	T	0.1	0.28
Tape width	W	0.3	12.00
Reel width	W1	1.0	18.0
MPQ/Reel	5000pcs/Reel		

## 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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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.