SPECIFICATION SHEET

SMD SCHOTTKY BARRIER RECTIFER SMAF SS5 SERIES

SPECIFICATION SHEET NO.	S0217 – SS55F00000S050	
ORIGINAL MFG/PART NO.	MDD Diodes/SS55F	
NEXTGEN PART CODE	SS55F00000S050	Indicate This Code For RFQ /Order
DATE	Feb. 17, 2025	
REVISION	A2	Updated With Most Recent Data
DESCRIPTION AND MAIN PARAMETRICS	SMD Schottky Barrier Rectifier 2 Pads, Case SMAF, SS5 Series, Average Forward Rectified Current 5.0A Max. RMS Voltage 35V Max. Repetitive Peak Reverse Voltage 50V Max. Operating Junction Temperature Range TJ: -55°C ~+125°C Package in Tape/Reel, 3000pcs/Reel RoHS III/REACH Compliant 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: Feb. 17, 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
- 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
- Cross Main Competitor Parts in Market

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 SS55F00000S050 For RFQ and Order.

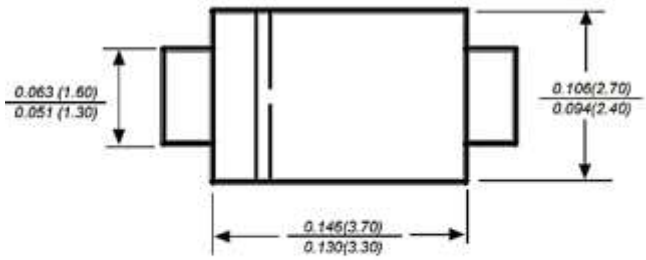
PART CODE GUIDE

RFQ
Request For Quotation

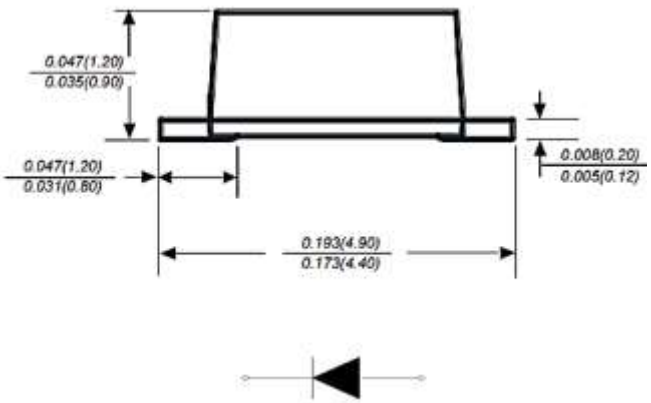
CODE	NAME	KEY SPECIFICATION OPTION
SS5	Product Series Code	SMD Schottky Barrier Rectifier, Forward Current 5.0A
5	Repetitive Peak Reverse Voltage Code	2: 20V Max. ; 3: 30V Max. ; 4: 40V Max.; 5: 50V Max.; 6: 60V Max.; 8: 80V Max.; 10: 100V Max.; 150: 150V Max.; 200: 200V Max
F0	Case Code	A0: Case DO-214AC/SMA; 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	0000S: Letter A~Z, a-z or Digits (0-9)
050	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 SMAF Outline

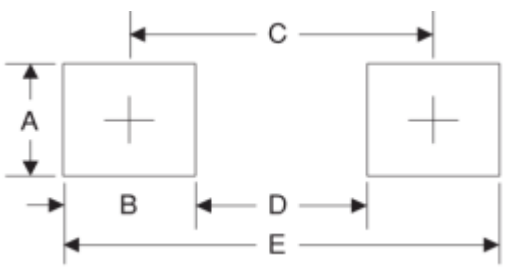
Top View



Side View



Recommend Pad Layout



SYMBOL	A	B	C	D	E
Unit (inch)	0.071	0.063	0.150	0.087	0.213
Unit (mm)	1.80	1.60	3.80	2.20	5.40

MECHANICAL DATA

CASE	TERMINALS	POLARITY	MOUNTING POSITION	WEIGHT PER PIECE
JEDEC SMAF Molded Plastic Body	Solder plated, Solderable per MIL-STD-750, Method 2026	Color band denotes cathode end Mounting	Any	0.0018 Ounce, 0.0640 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		$I_{(AV)}$	5.0	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed On Rated Load (JEDEC Method)		I_{FSM}	150	A
Typical Thermal Resistance (Note 2)		$R_{\theta JA}$	50.0	°C/W
Operating Junction Temperature Range	@ V_{RRM} 20V ~60V	T_J	-55 to +125	°C
	@ V_{RRM} 80V ~200V	T_J	-55 to +150	°C
Storage Temperature Range		T_{STG}	-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	@ 125 °C		
	V_{RRM}	V_{RMS}	V_{DC}	V_F	I_R		C_J	
	V	V	V	V	mA		pF	
SS52F00000S020	20	14	20	0.55	0.5	20	200	SS52F
SS53F00000S030	30	21	30	0.55	0.5	20	200	SS53F
SS54F00000S040	40	28	40	0.55	0.5	20	200	SS54F
SS55F00000S050	50	35	50	0.70	0.5	20	200	SS55F
SS56F00000S060	60	42	60	0.70	0.5	20	200	SS56F
SS58F00000S080	80	56	80	0.85	0.5	10	200	SS58F
SS510F0000S100	100	70	100	0.85	0.5	10	200	SS510F
SS5150F000S150	150	105	150	0.85	0.2	2	200	SS5150F
SS5200F000S200	200	140	200	0.95	0.2	2	200	SS5200F

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

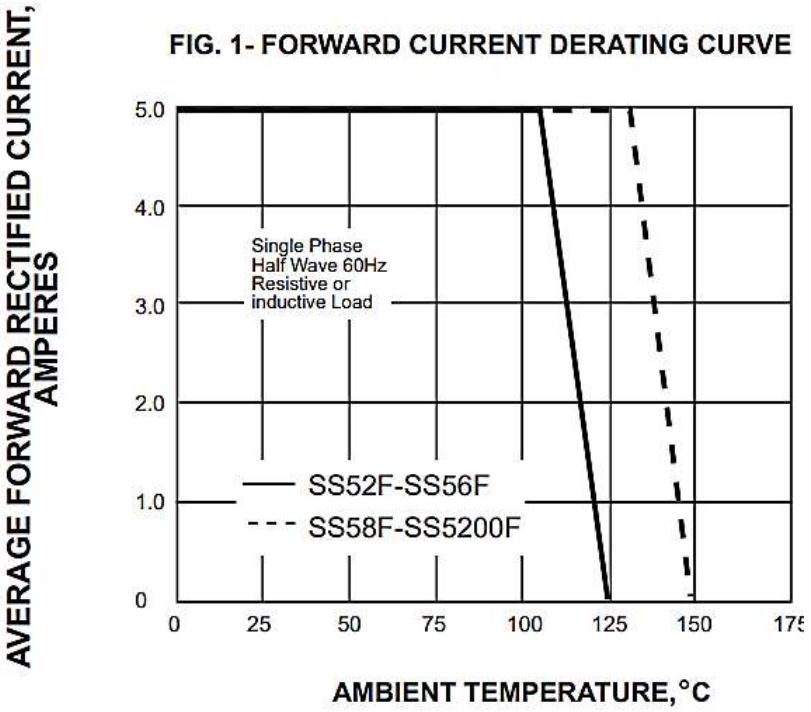
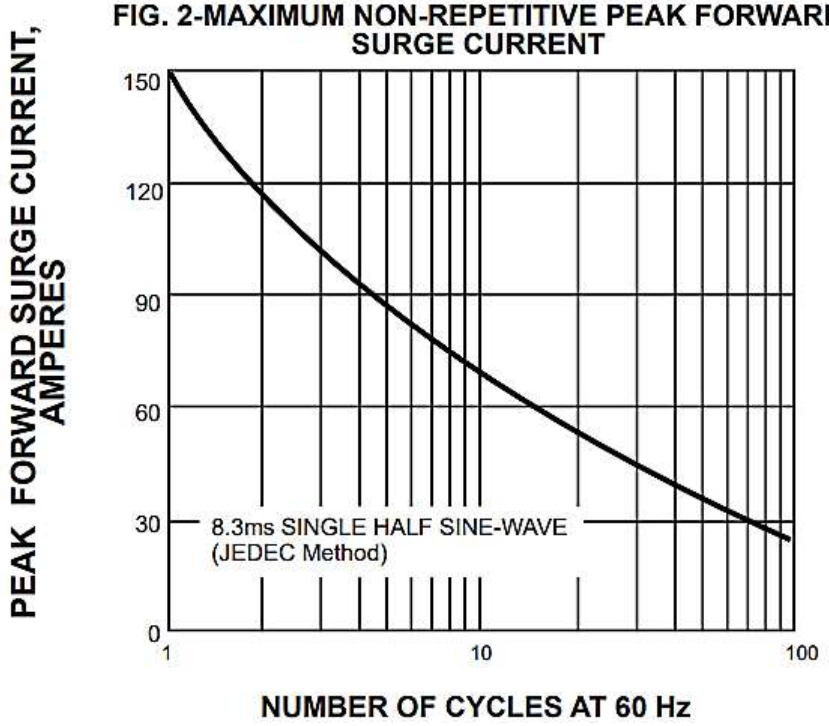
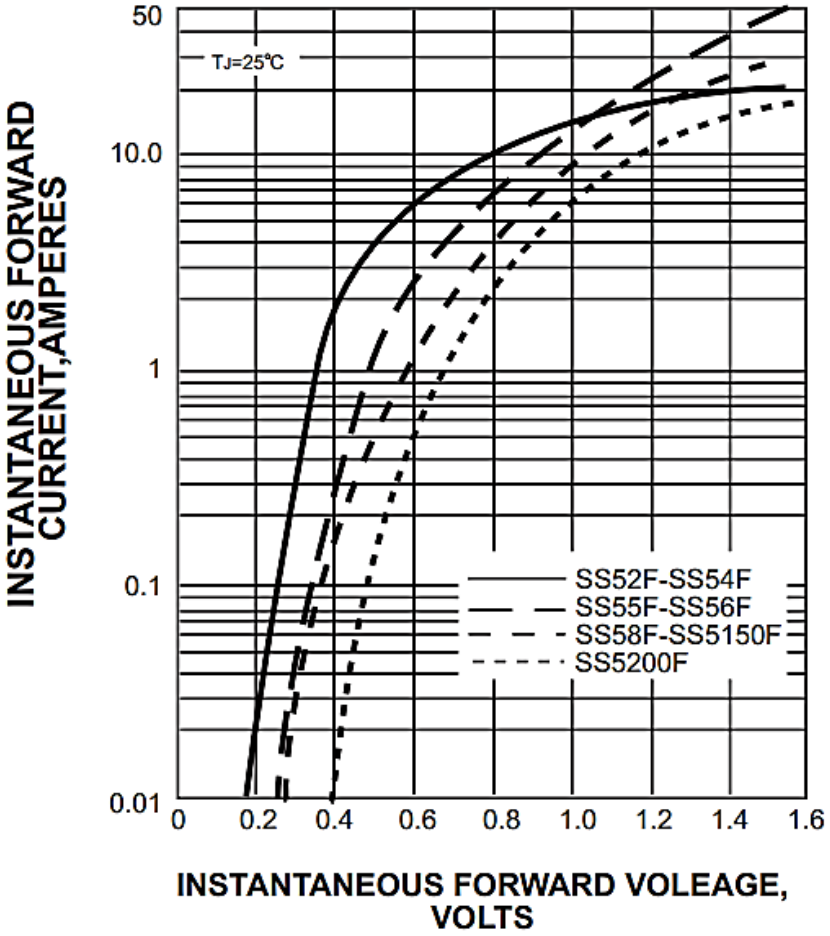


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



RATINGS & CHARACTERISTIC CURVES - For Reference Only

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



RATINGS & CHARACTERISTIC CURVES - For Reference Only

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

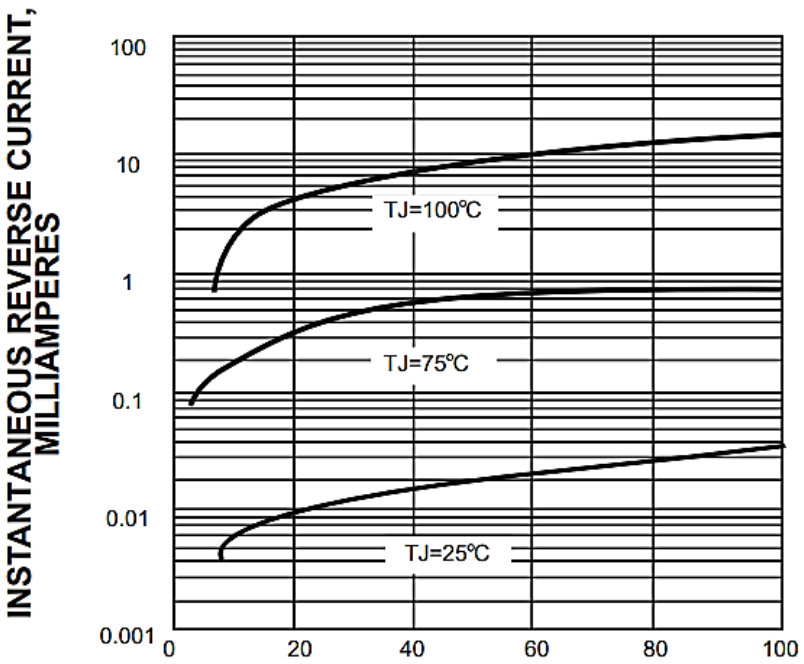
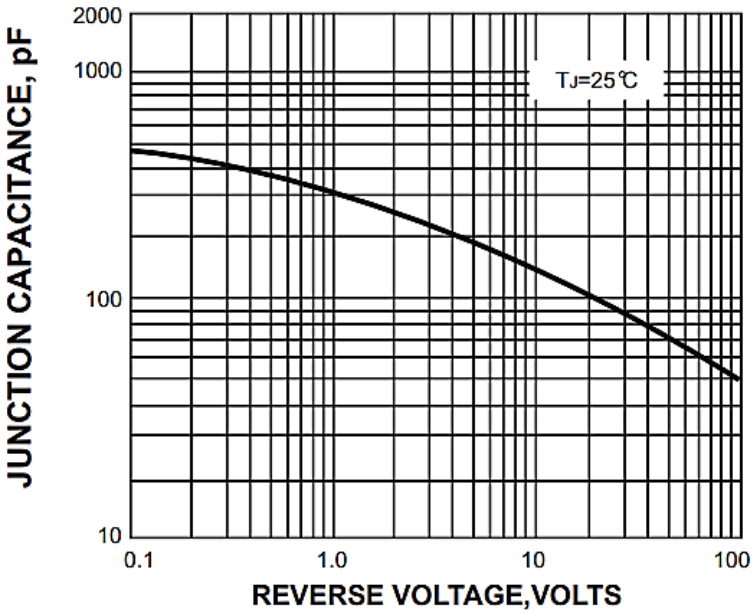
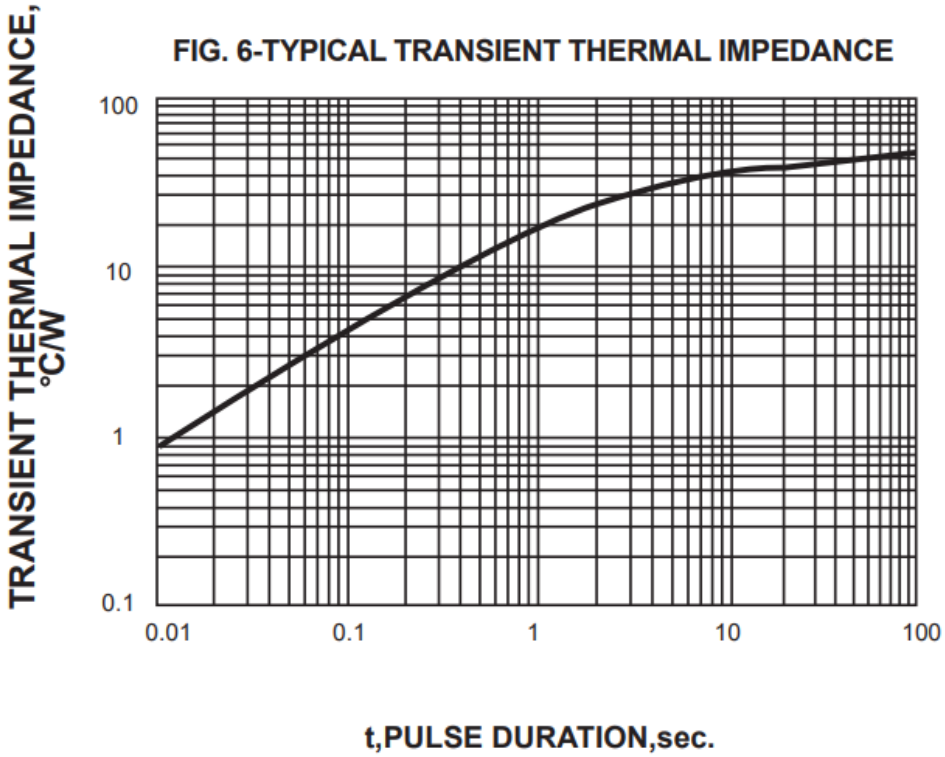


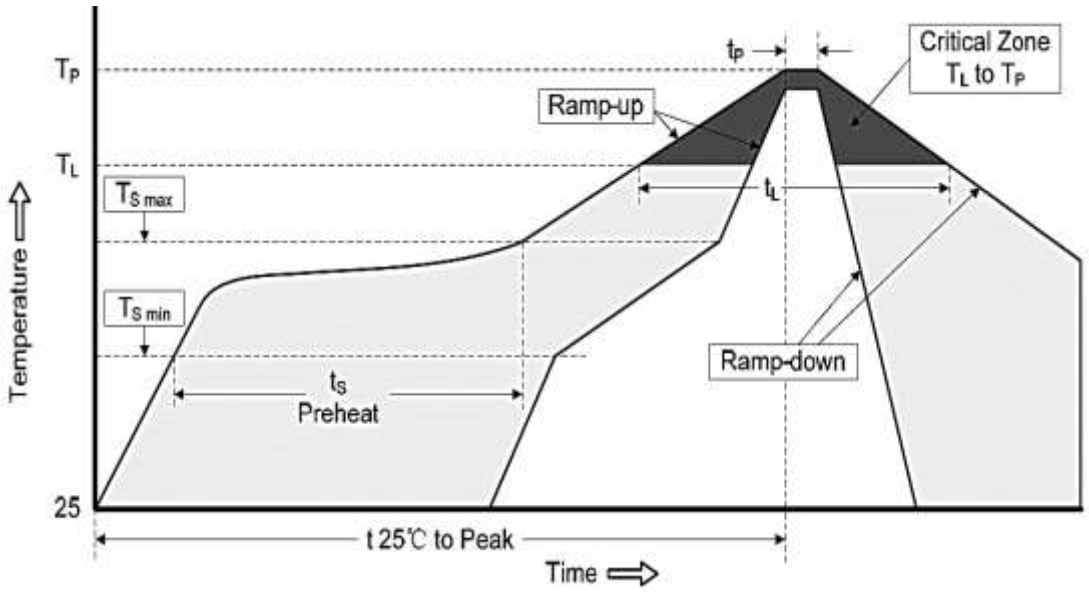
FIG. 5-TYPICAL JUNCTION CAPACITANCE



RATINGS & CHARACTERISTIC CURVES - For Reference Only



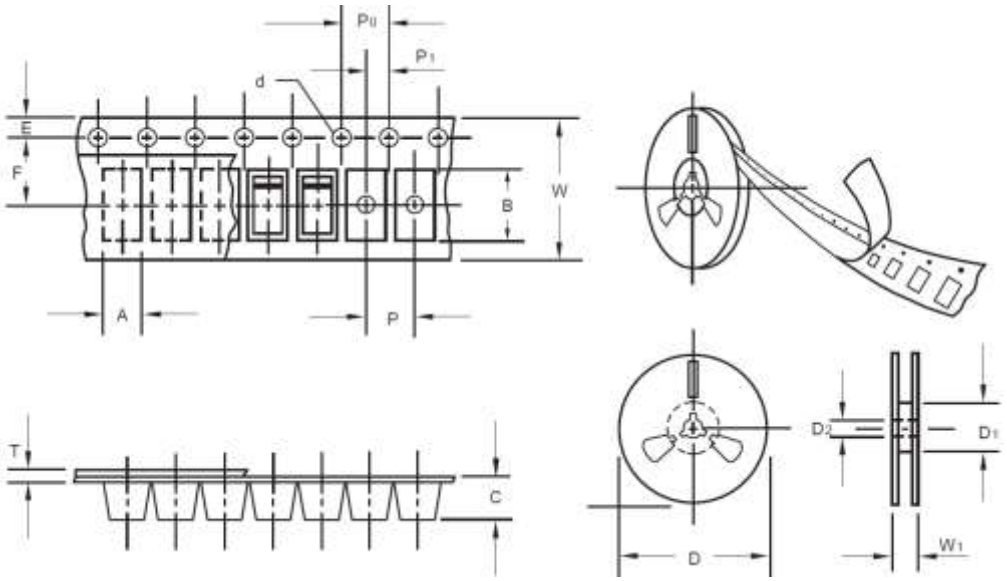
SUGGESTED REFLOW PROFILE - For Reference Only



PROFILE FEATURE		PB-FREE ASSEMBLY
Average Ramp-up Rate (Ts Max to Tp)		3℃/second Max
Preheat	Temperature Min (Ts Min.)	150℃
	Temperature Max (Ts Max.)	200℃
	Time (ts Min. to ts Max.)	60 ~ 180 seconds
Time maintained above	Temperature (TL)	217℃
	Time (tL)	60 ~ 150 seconds
Peak/Classification Temperature (Tp)		260 ℃
Time within 5℃ of actual Peak Temperature (tp)		20 ~ 40 seconds
Ramp-down rate		6 ℃ /Second Max.
Time 25 ℃ 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	SMAF
Carrier width	A	0.1	2.80
Carrier Length	B	0.1	4.75
Carrier Depth	C	0.1	1.42
Sprocket hole	d	0.05	1.50
7” Reel outside diameter	D	2.0	178.00
7” Reel inner diameter	D1	Min.	54.40
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	5.05
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	0.30
Tape width	W	0.3	8.00
Reel width	W1	1.0	12.30
MPQ/Reel	3000pcs/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 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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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.