

SPECIFICATION SHEET NO.	S0307 - SDF866M5DX8043	
ORIGINAL MFG/PART NO.	TGS Crystals/SDF866.5MATLF/SDF866.5M DX8043/DX8043	
NEXTGEN PART CODE	SDF866M5DX8043	Indicate This Code For RFQ /Order
DATE	Mar.7, 2025	
REVISION	A3	Updated With Most Recent Data
DESCRIPTION AND MAIN PARBMETRICS	<p>SMD SAW Filter, 6 Pads, 3030 Type, SDF Series</p> <p>Case Code DCC6C, Case Dimension L3.0*W3.0*H1.25mm</p> <p>Center Frequency 866.50MHz; Insertion Loss: 2.7dB Typical. 3.5dB Max.</p> <p>Amplitude Ripple : 1.0dB Max.; 3dB Bandwidth: 7.0MHz Min.</p> <p>Operating Temp. Range -40°C ~ +85°C</p> <p>Reflow Profile Condition 260°C Max.</p> <p>Package in Tape/Reel, 1000pcs/Reel</p> <p>REACH/RoHS/RoHS III Compliant</p>	
CUSTOMER		
CUSTOMER PART NUMBER		
CROSS REF. PART NUMBER		
MEMO		

VENDOR APPROVE
<div> <div>Issued/Checked/Approved</div> <div>    </div> </div>
Effective Date: Mar. 7, 2025

CUSTOMER APPROVE
Date:

MAIN FEATURE

- SMD SAW Filter 3030 Type 6 Pads
- Dimension L3.0*W3.0*H1.25mm
- Low-loss SAW Filter
- Low Amplitude Ripple
- Sharp Rejection As Both Out-bands
- Usable Passband 7.0MHz
- Case code DCC6C
- Ceramic Package For Surface Mounted Technology (SMT)
- Electrostatic Sensitive Device (ESD)
- Moisture Sensitivity Level (MSL) 1
- Short Lead time
- Cross Competitors Parts and More
- REACH/RoHS/RoHS III Compliant

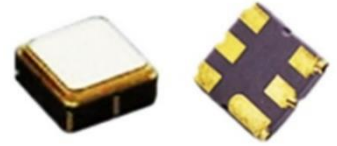


Image shown is a representation only. Exact specifications should be obtained from the product dimension.



APPLICATION

- Bluetooth, Wireless Communication Set
- Communication Electronics
- GPS, Remote Control Application

ELECTRICAL CHARBCTERISTICS

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

HOW TO ORDER

- Please Follow Up Part Code Guide And Indicate NextGen Part Code SDF866M5DX8043 For RFQ and Order.

PART CODE GUIDE

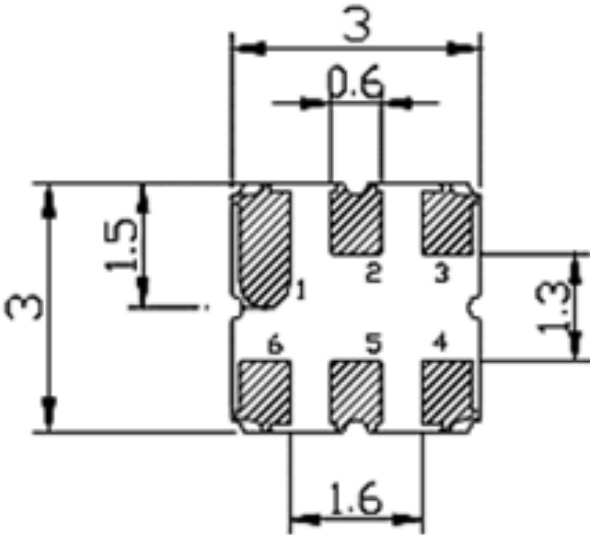
RFQ

[Request For Quotation](#)

CODE	NAME	KEY SPECIFICATION OPTION
SDF	Series Code	SMD SAW Filter, 6 Pads, 3030 Type, Case Code DCC6C, Case Dimension L3.0*W3.0*H1.25mm
866M5	Frequency Range Code	866M5: 866.500MHz
DX8043	Internal Control Code	Letter A~Z, a~z or Digits (1-9)
XX	Special/Custom Parameters Code	Blank: N/A XX: Letter A~Z, a~z or Digits (0~9) for Special/Custom Parameters

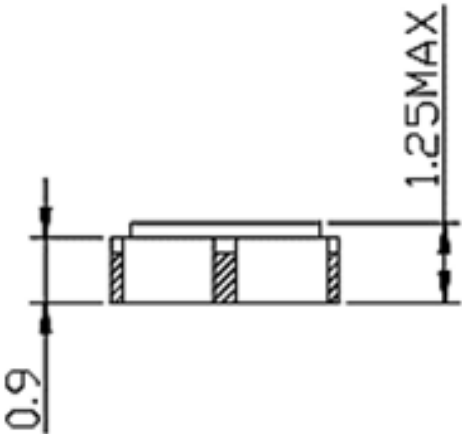
DIMENSION - Unit: mm, L3.0*W3.0*H1.25mm

Bottom View



PIN	CONFIGURATION
2	Input
5	Output
1, 3, 4, 6	Grounded

Side View



MAX. RATING & CHARACTERISTICS - At 25±2°C Ambient Temperature Unless Otherwise Specified.

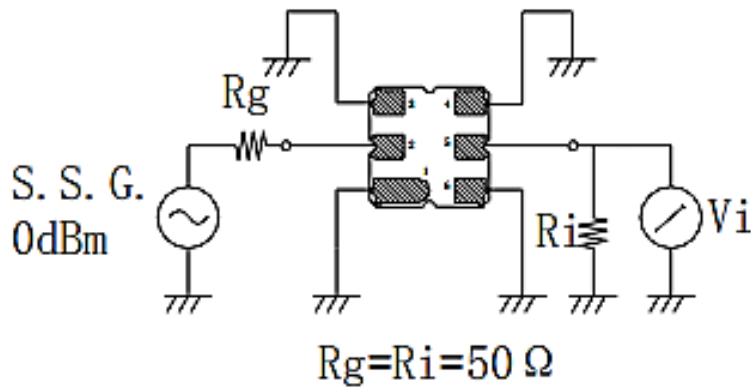
PARAMETER	SYMBOLS	VALUE	UNITS
RF Power Level	P	20	dBm
DC Voltage	V _{dc}	5	V
Operating Temperature Range	T _A	-40 to +85	°C
Storage Temperature Range	T _{stg}	-40 to +85	°C

ELECTRONICAL CHARACTERISTICS

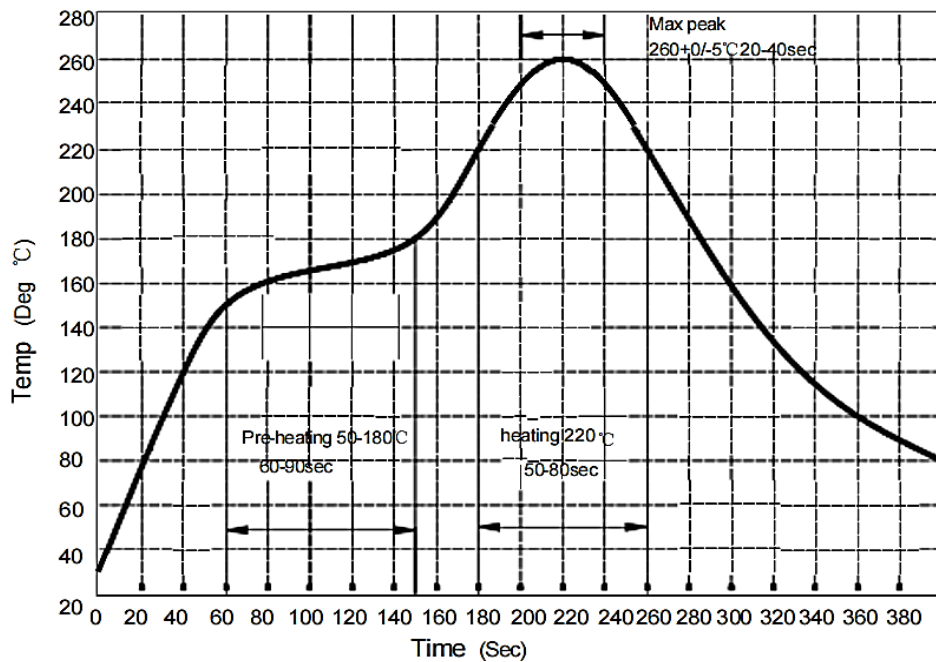
1) Test Temperature: 25°C±2°C 2) Terminating source impedance: 50Ω 3) Terminating load impedance: 50Ω .

PARAMETER		SYMBOLS	CHARACTERISTICS			
			MIN.	TYPICAL	MAX.	UNIT
Center Frequency		FC	-	868.50	-	MHz
Insertion Loss		IL	-	2.7	3.5	dB
Amplitude Ripple (p-p)		Δa	-	0.3	1.0	dB
3 dB Bandwidth		BW _{3dB}	7.0	10.5	-	MHz
Group Delay Ripple	863.0 ~ 870.0MHz	GDR	-	30	100	ns
Absolute Attenuation	DC ~ 800MHz	α	50	55	-	dB
	800 ~ 853.5MHz		40	45	-	dB
	881.5 ~ 1200MHz		50	55	-	dB
	1200 ~ 2000MHz		40	45	-	dB
			-	-	-	
			-	-	-	
Input VSWR	863.0 ~ 870.0MHz		-	1.5:1	2.0:1	/
Output VSWR	863.0 ~ 870.0MHz		-	1.5:1	2.0:1	/

MEASUREMENT CIRCUIT – FOR REFERENCE ONLY

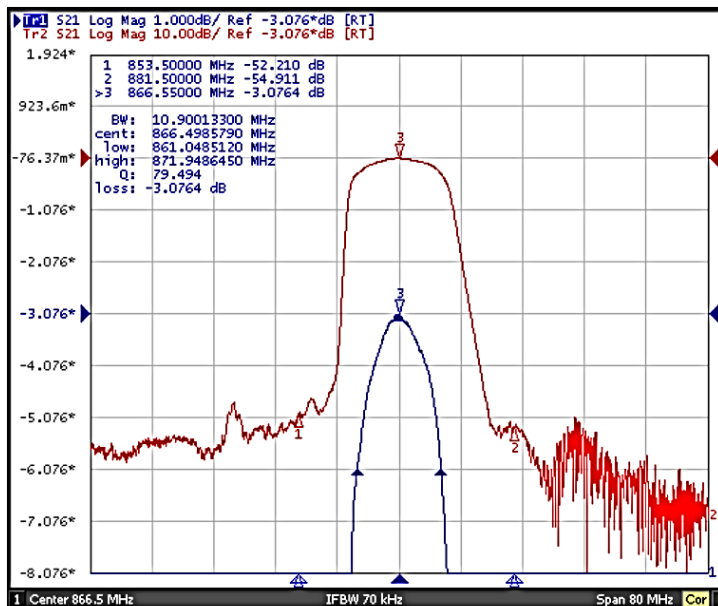


RECOMMENDED SOLDERING PROFILE – FOR REFERENCE ONLY

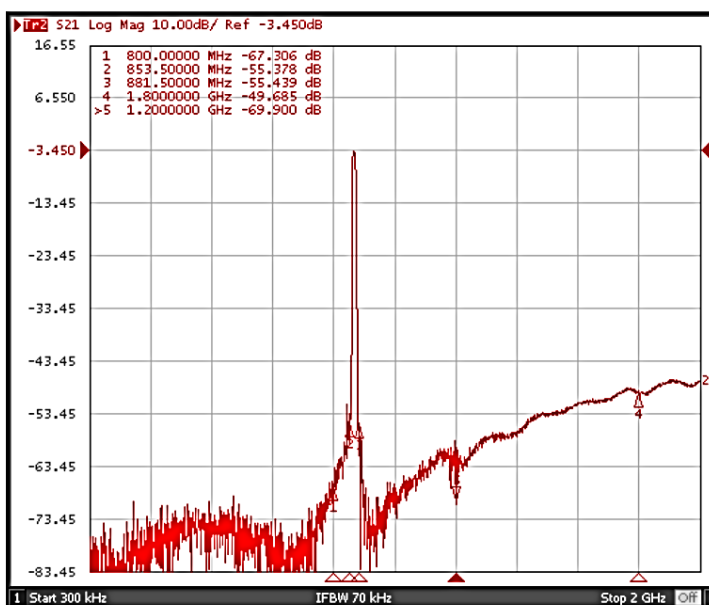


FREQUENCY CHARACTERISTICS – FOR REFERENCE ONLY

Frequency Response

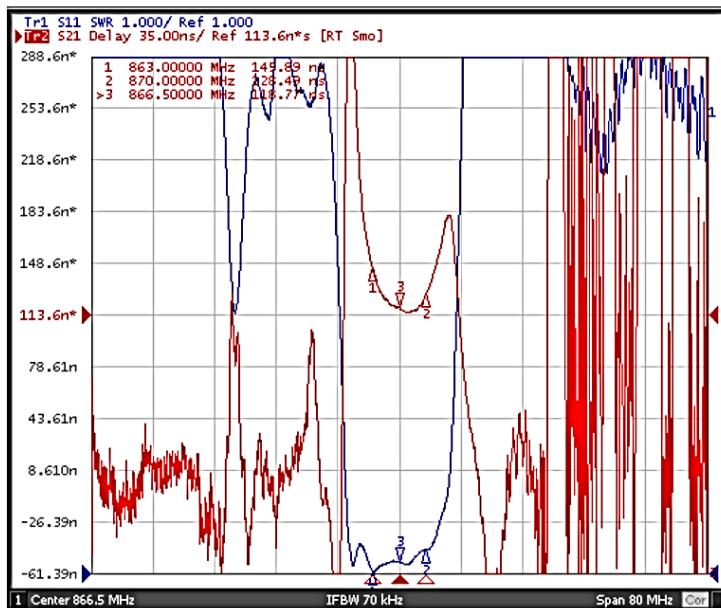


Frequency Response (wideband)

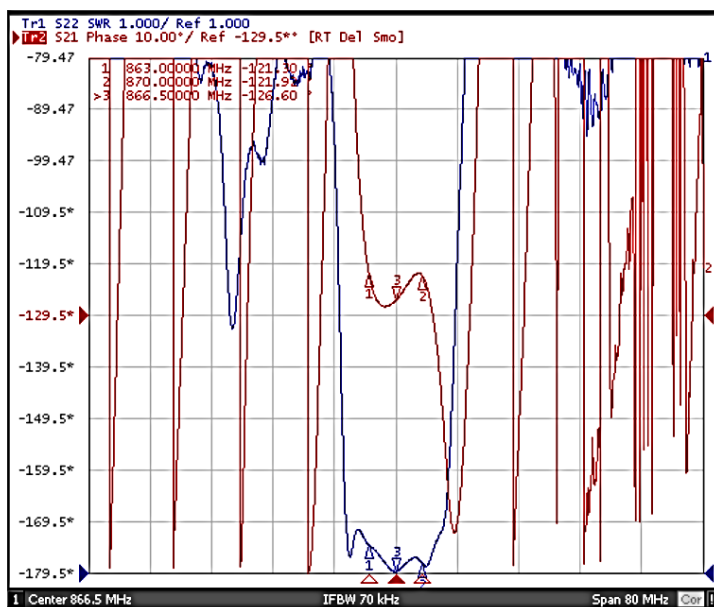


FREQUENCY CHARACTERISTICS – FOR REFERENCE ONLY

Delay Ripple & S11 VSWR

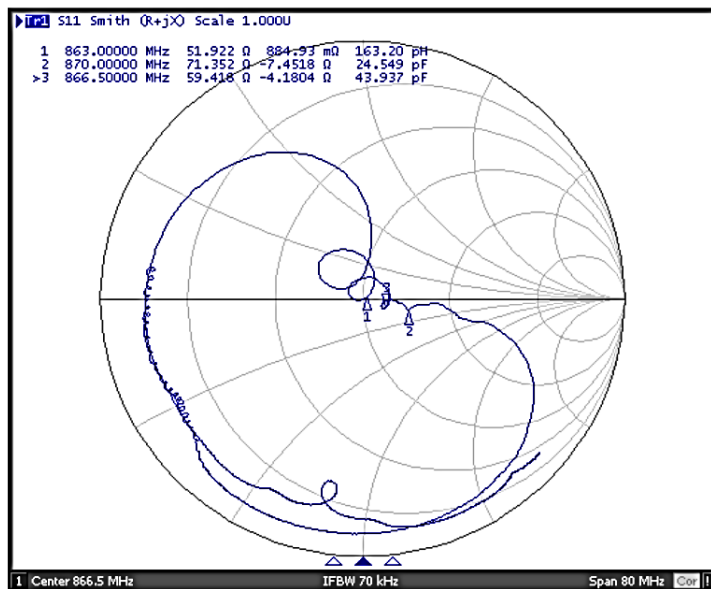


Phase Linearity & S22 VSWR

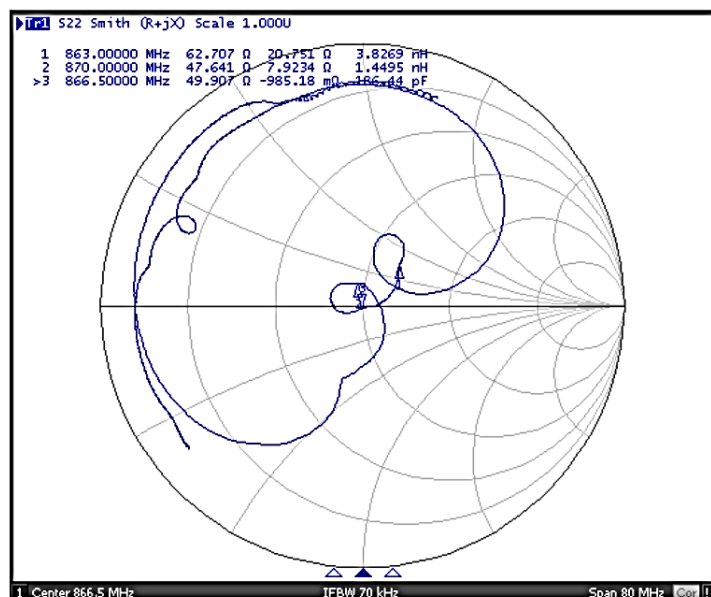


FREQUENCY CHARACTERISTICS – FOR REFERENCE ONLY

S11 Smith Chart



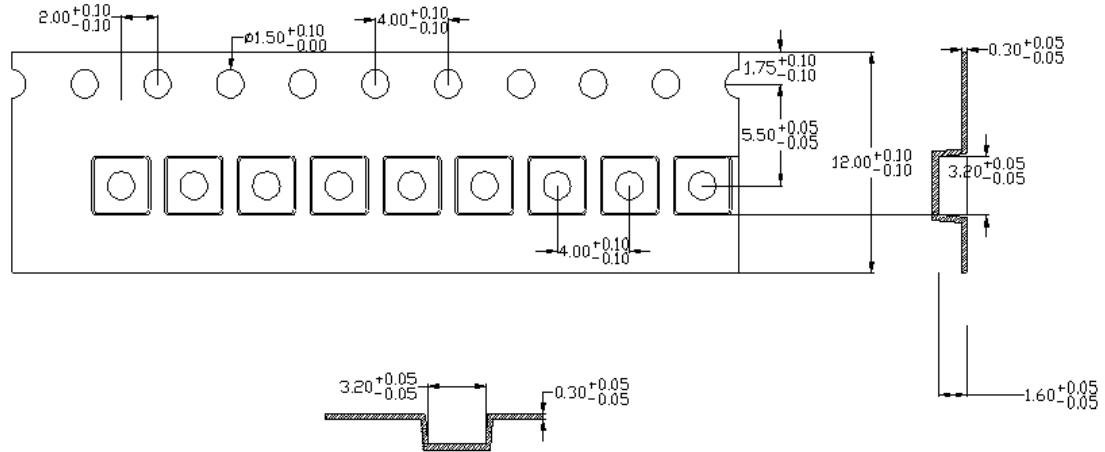
S22 Smith Chart



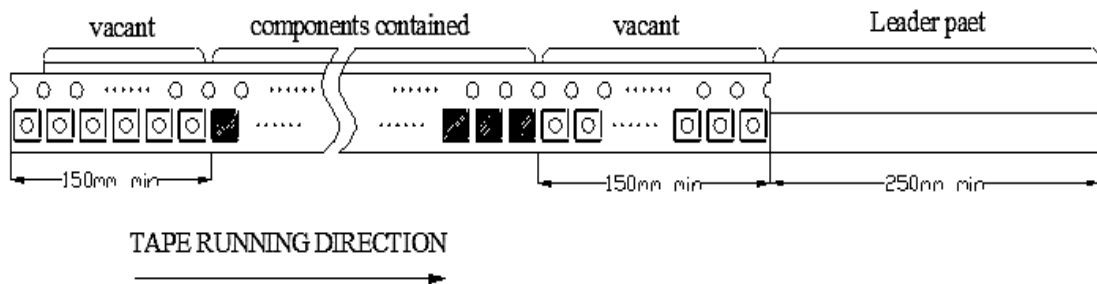
RELIABILITY CHARACTERISTICS

TEST ITEMS	TEST METHOD AND CONDITIONS
High Temperature Storage	<ul style="list-style-type: none"> Temperature: $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$, Duration: 250h , Recovery time: $2\text{h} \pm 0.5\text{h}$ Temperature: $-55^{\circ}\text{C} \pm 3^{\circ}\text{C}$, Duration: 250h ,Recovery time: $2\text{h} \pm 0.5\text{h}$
Humidity Test	<ul style="list-style-type: none"> Conditions: $60^{\circ}\text{C} \pm 2^{\circ}\text{C}$, 90~95% RH, Duration: 250h
Thermal Shock	<ul style="list-style-type: none"> Heat cycle conditions: $\text{TA} = -55^{\circ}\text{C} \pm 3^{\circ}\text{C}$, $\text{TB} = 85^{\circ}\text{C} \pm 2^{\circ}\text{C}$, $t_1 = t_2 = 30\text{min}$, Switch time: $\leq 3\text{min}$, Cycle time: 100 times, Recovery time: $2\text{h} \pm 0.5\text{h}$.
Vibration Fatigue	<ul style="list-style-type: none"> Frequency of vibration: 10~55Hz, Amplitude:1.5mm Directions: X,Y and Z, Duration: 2h
Drop Test	<ul style="list-style-type: none"> Cycle time: 10 times, Height: 1.0m
Solderability	<ul style="list-style-type: none"> Temperature: $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$, Duration: 3.0s--5.0s, Depth: DIP--2/3 , SMD--1/5
Resistance to Soldering Heat	<ul style="list-style-type: none"> Thickness of PCB:1mm , Solder condition: $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$, Duration: $10 \pm 1\text{s}$ Temperature of Soldering Iron: $350^{\circ}\text{C} \pm 10^{\circ}\text{C}$, Duration: 3~4s , Recovery time : $2 \pm 0.5\text{h}$
Remarks	<ul style="list-style-type: none"> As a result of the particularity of inner structure of SAW products, it easy to be breakdown by electrostatic, so we should pay attention to ESD protect in the test. Static voltage between signal load and ground may cause deterioration and destruction of the component. Please avoid static voltage. Ultrasonic cleaning may cause deterioration and destruction of the component. Please avoid ultrasonic cleaning. Only leads of component may be soldered. Please avoid soldering another part of component. There is a close relationship between the device's performance and matching network. The specifications of this device are based on the test circuit shown above. L and C values may change depending on board layout. Values shown are intended as a guide only.

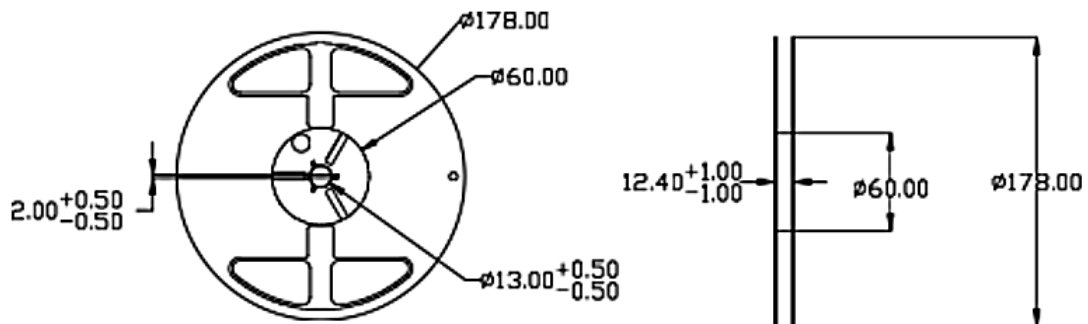
TAPE DIMENSION - Unit: mm, All Devices are packed in accordance with EIA standard RS-481-2.



CARRIER TAPE



REEL DIMENSION - Unit: mm, 1000pcs/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.
4. NextGen Component, Inc (*NextGen*) reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.
5. *NextGen* makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does *NextGen* assume any liability for application assistance or customer product design.
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7. *NextGen* products are not authorized for use as critical components in life support devices or systems without express written approval by *NextGen*.
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.