




SPECIFICATION SHEET

SPECIFICATION SHEET NO.	Q1107-SBF947M500S613
DATE	Nov.07, 2023
REVISION	A1
DESCRIPTION	SMD SAW Filter L3.8*W3.8*H1.50mm 3838 Type 6 Pads SBF Series 947.5000MHz, Insertion Loss: 1.4 dB Typical Bandwidth: 25MHz Operating Temp. Range -40°C ~+85°C, Reflow Profile Condition 260 °C Max. Tape/Reel, 1000pcs/Reel RoHS/RoHS III compliant
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	TGS SBF 947.5MA TLF
PART CODE	SBF947M500S613

VENDOR APPROVE			
Issued/Checked/Approved			
DATE: Nov.07, 2023			

CUSTOMER APPROVE	
DATE:	
11/7/2023	

11/7/2023

SMD SAW FILTER 3838 TYPE SBF SERIES

MAIN FEATURE

- SMD SAW Filter L3.8*W3.8*H1.50mm 3838 Type 6 Pads
- Low-loss SAW Components
- Low Amplitude Ripple
- Sharp Rejection As Both Out-bands
- Usable Passband 25.00MHz
- Package code DCC6
- Electronic Sensitive Device (ESD)
- Cross More Competitors Part
- RoHS/RoHS III Compliant



APPLICATION

- Bluetooth, wireless communication set
- Communication Electronics

RFQ

[Request For Quotation](#)

PART CODE GUIDE

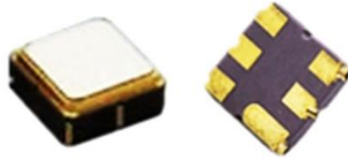
SBF	947M500	S	613
1	2	3	4

- 1) SBF: SMD SAW Filter L3.8*W3.8*H1.50mm 3838 Type 6 Pads SBF Series
- 2) 947M500: Frequency range code for 947.50000MHz
- 3) S: SMD type, Package Tape/Reel,
- 4) 613: Internal code (A~Z or 1~9 or Blank) for custom specification

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DIMENSION (Unit: mm, Tol.: +/-0.15mm)

Image for reference



Marking

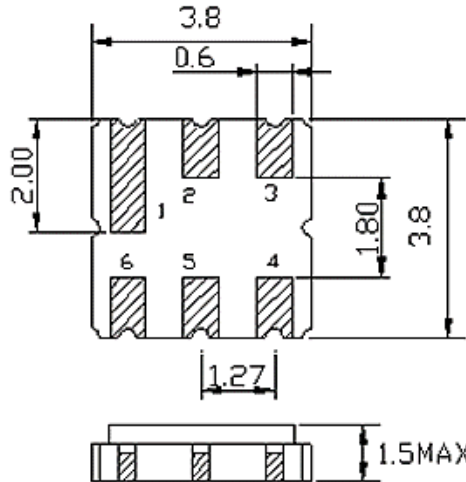
Line 1: Internal code

Line 2: ● Pin 1 + Special code

SBF series

L3.8*W3.8*H1.50mm

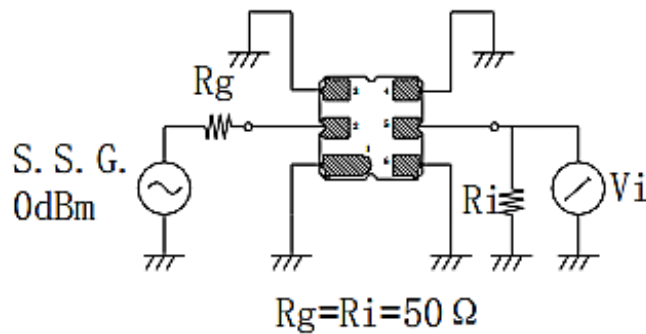
3838 Type



Pin	Configuration
2	Input
5	Output
1,3,4,6	Case Ground

Test Circuit

(Bottom View)



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ELECTRICAL PARAMETERS

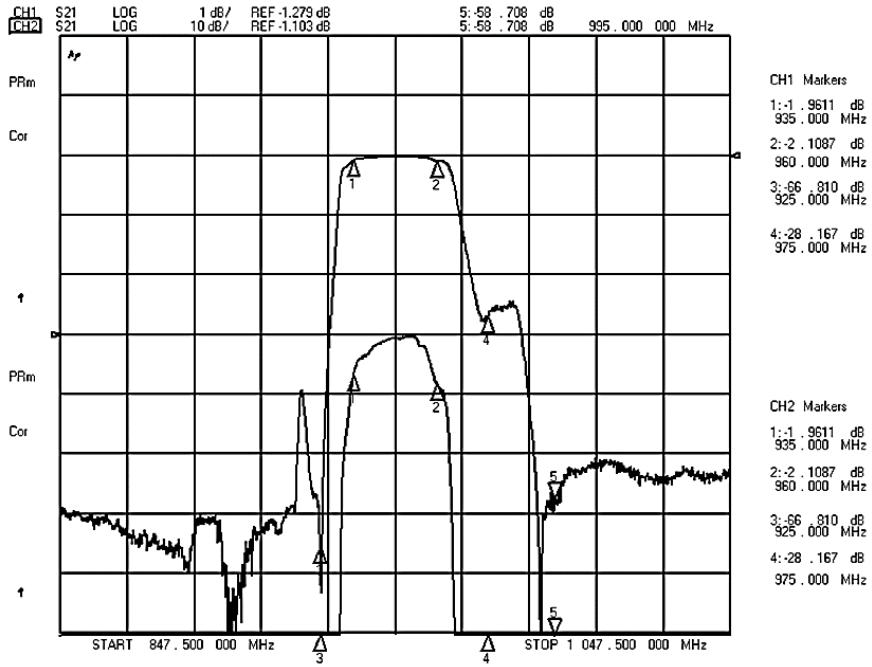
Parameter	Part No. Symbol	Units	Value			
			Min.	Typical	Max.	
Original Manufacturer	TGS		TGS Crystals			
Holder Type	SBF		SMD SAW Filter, L3.8*W3.8*H1.50mm 3838 Type 6 Pads			
Center Frequency (fc)	947.5M	MHz	947.50000			
DC Voltage (VDC)	A	V		3.0		
Operation Temperature Range (T)		°C	-40		+85	
Storage Temperature Range (Tstg)		°C	-55		+125	
RF Power Dissipation (P)		dBm		10		
Insertion Loss (Min.) (IL)		dB		1.4	2.0	
Insertion Loss 935.00 - 960.00MHz (IL)		dB		2.1	3.2	
Amplitude Ripple (p-p) 935.00 - 960.00MHz ($\Delta\alpha$)		dB		0.9	2.0	
Bandwidth		MHz		25.0		
Group Delay Ripple 935.00 - 960.00MHz (GDR)		ns		40.0	100.0	
Amplitude Consistency		dB		/		
Aging (Absolute Value during the First Year)		ppm/y		$\leq\pm 10$		
Input VSWR 935.00 - 960.00MHz				1.8:1.0	2.0:1.0	
Output VSWR 935.00 - 960.00MHz				1.8:1.0	2.0:1.0	
Absolute Attenuation (α)		DC - 910.00 MHz	dB	45.0	52.0	
		910.00 - 975.00 MHz		25.0	40.0	
		975.00 - 1000.00 MHz		20.0	25.0	
	1000.00 - 2000.00 MHz	45.0		50.0		
	2000.00 - 3000.00 MHz	30.0		35.0		
Package	T		Tape/Reel			
RoHS Status	LF		RoHS III compliant			
Add Value			Blank: N/A			
Internal Control Code			Blank: N/A			

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

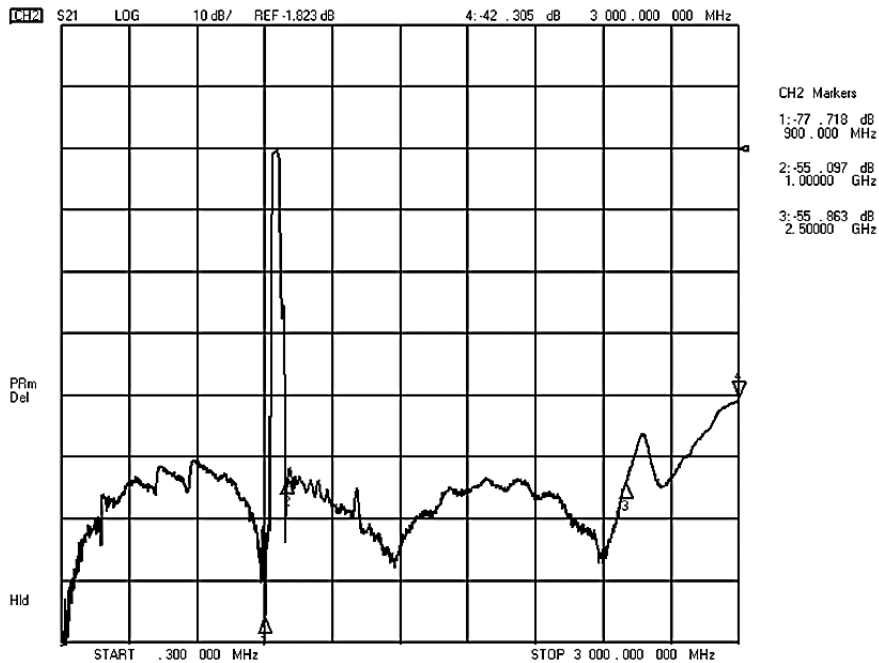
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FREQUENCY CHARACTERISTICS



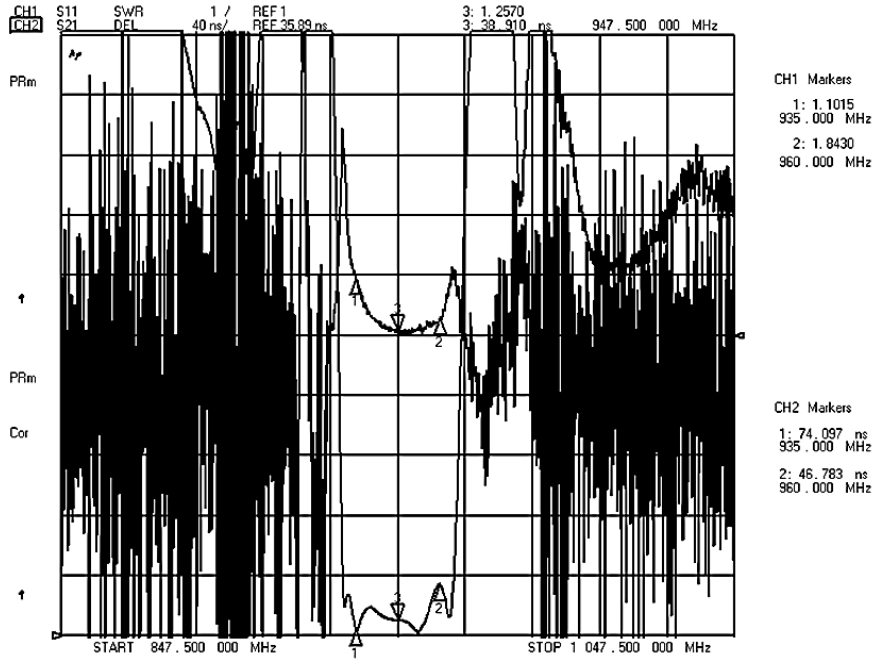
Frequency Response



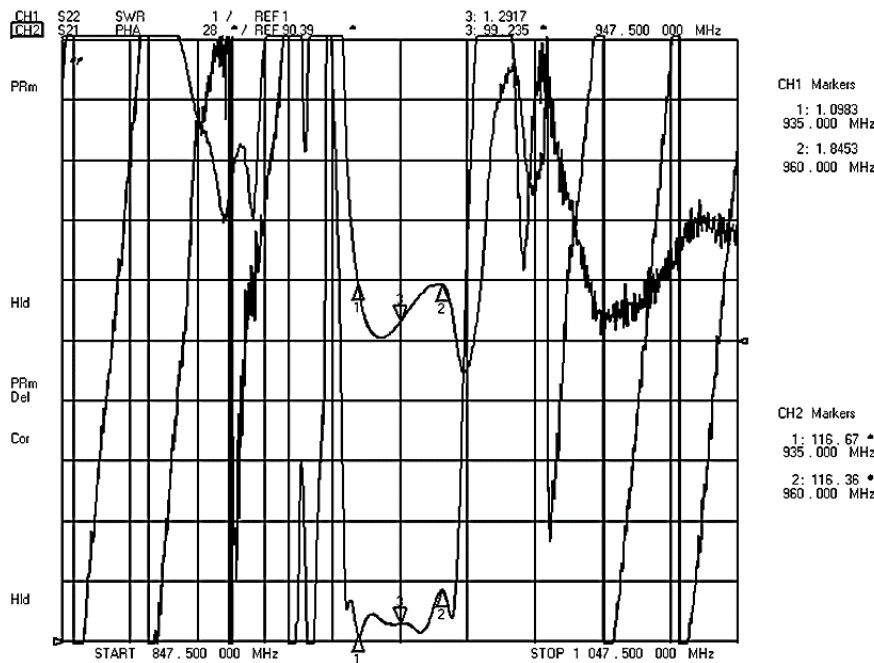
Frequency Response (wideband)

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FREQUENCY CHARACTERISTICS



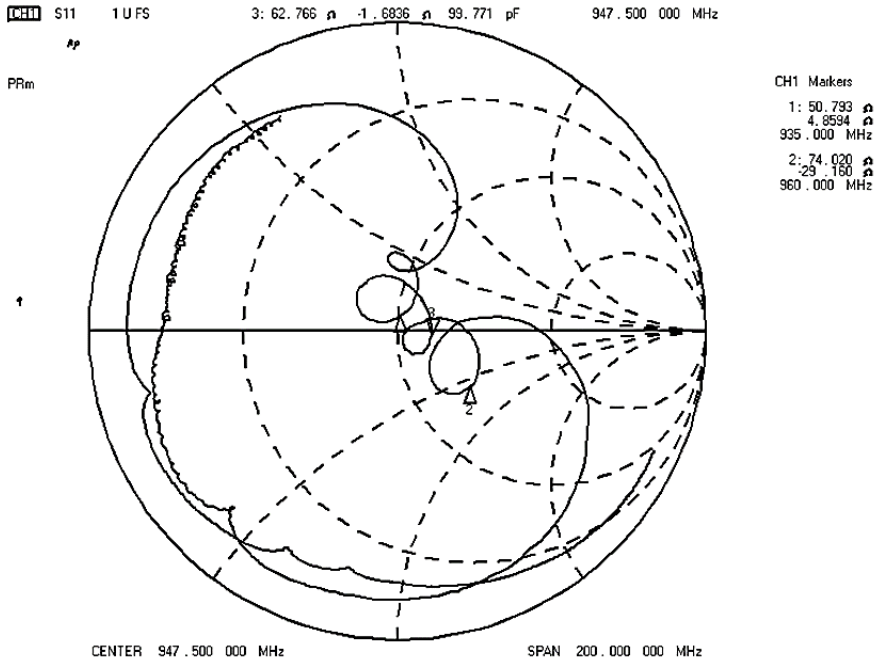
Delay Ripple & S11 VSWR



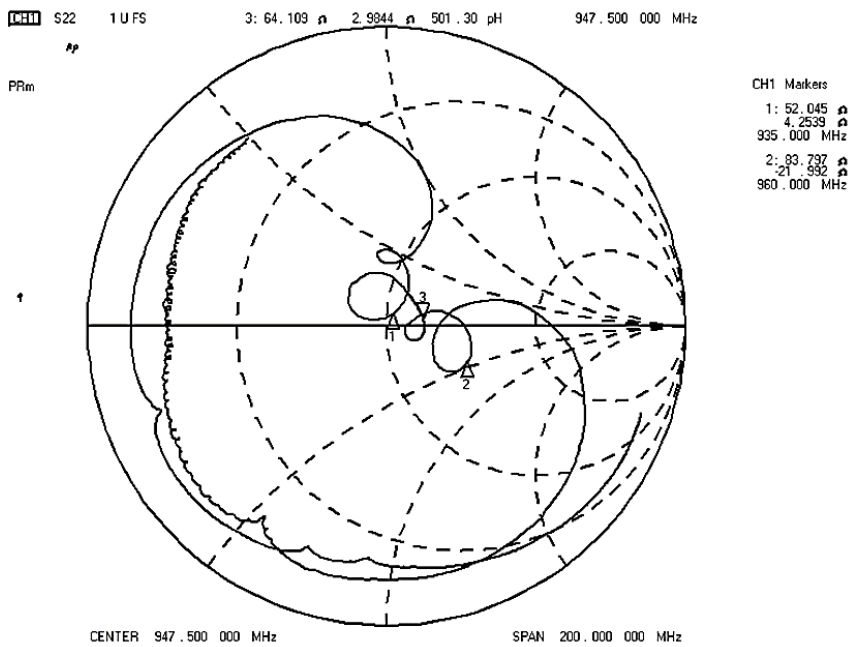
Phase Linearity & S22 VSWR

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FREQUENCY CHARACTERISTICS



S11 Smith Chart



S22 Smith Chart

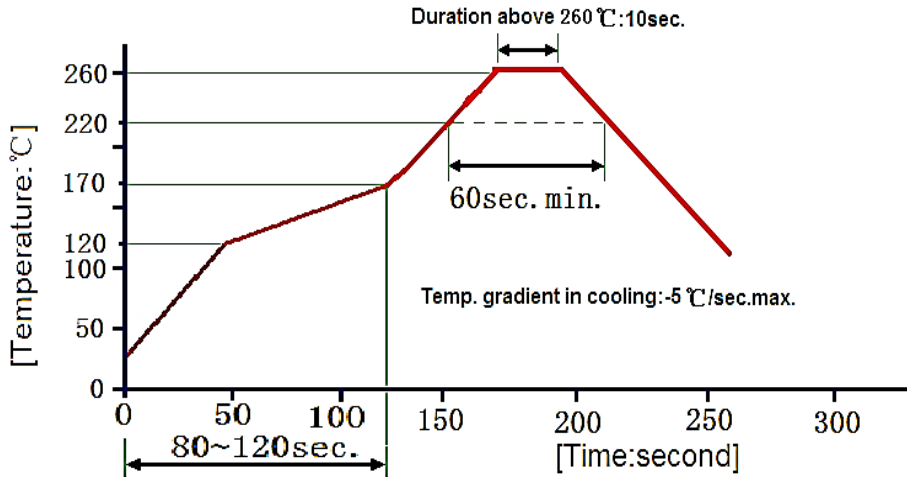
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RELIABILITY

Test Items	Test Method And Conditions	Requirement
Temperature Storage	(1) Temperature: 85°C±2°C , Duration: 250h , Recovery time: 2h±0.5h (2) Temperature: -55°C±3°C , Duration: 250h ,Recovery time: 2h±0.5h	It shall remain electrical performance after tests
Humidity Test	Conditions: 60°C±2°C , 90~95% RH Duration: 250h	
Thermal Shock	Heat cycle conditions: TA=-55°C±3°C, TB=85°C±2°C, t1=t2=30min, Switch time: ≤3min, Cycle time: 100 times, Recovery time: 2h±0.5h.	
Vibration Fatigue	Frequency of vibration: 10~55Hz Amplitude:1.5mm Directions: X,Y and Z Duration: 2h	
Drop Test	Cycle time: 10 times Height: 1.0m	
Solderability	Temperature: 245°C±5°C Duration: 3.0s--5.0s Depth: DIP--2/3 , SMD--1/5	
Resistance to Soldering Heat	(1)Thickness of PCB:1mm , Solder condition: 260°C±5°C , Duration: 10±1s (2)Temperature of Soldering Iron: 350°C±10°C , Duration: 3~4s , Recovery time : 2 ± 0.5h	

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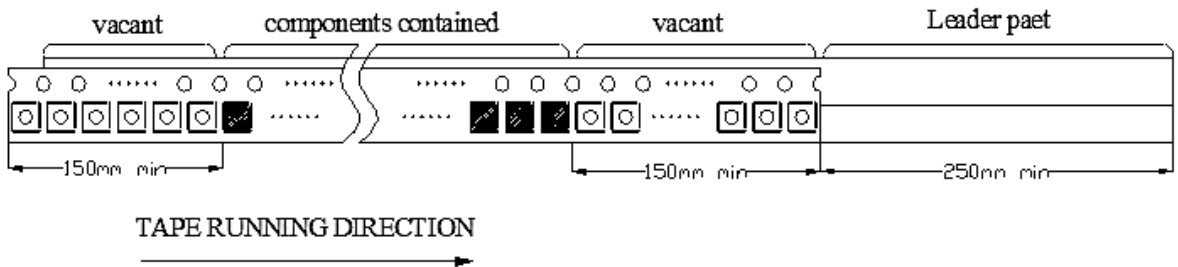
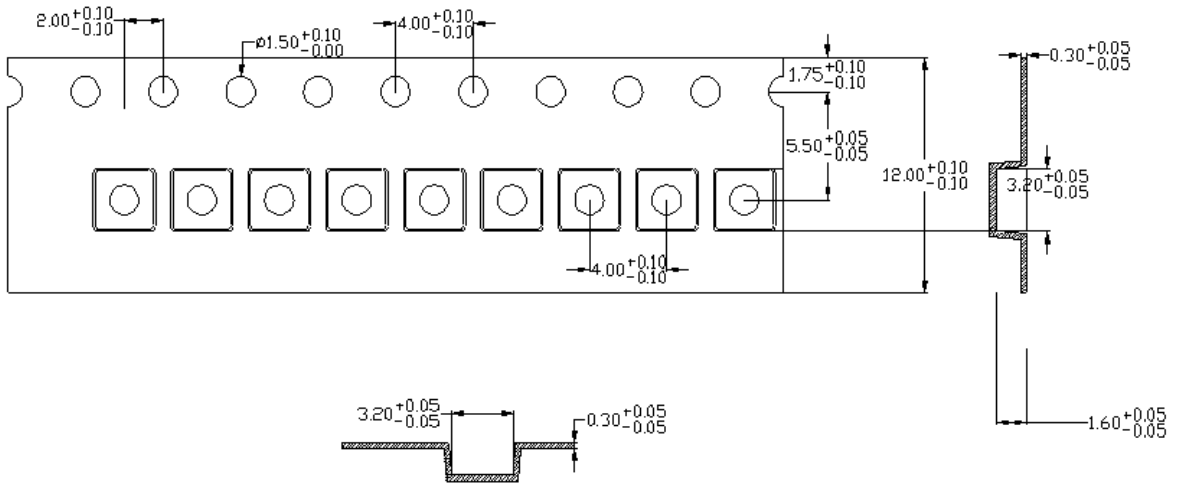
SUGGESTED REFLOW PROFILE (For Reference Only)



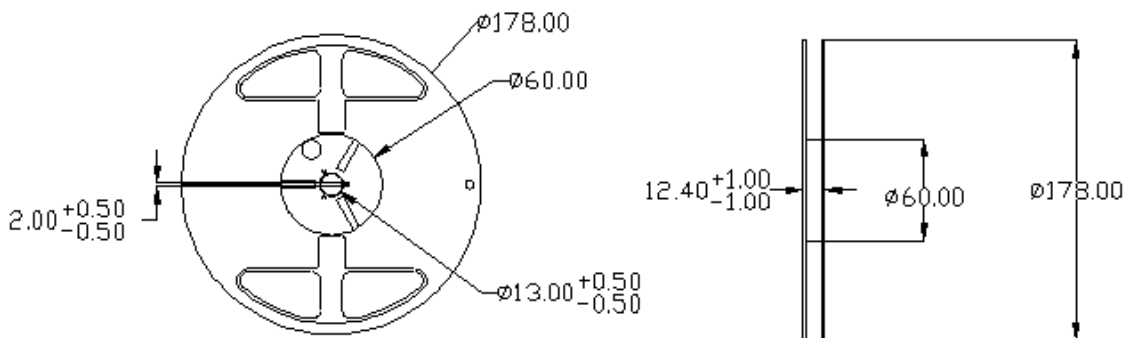
Reflow cycles: 3 cycles max.

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TAPE DIMENSION (Unit: mm, 1000pcs/Reel)



REEL DIMENSION (Unit: mm)



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CAUTION

1. 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.
2. Static voltage between signal load and ground may cause deterioration and destruction of the component. Please avoid static voltage.
3. Ultrasonic cleaning may cause deterioration and destruction of the component. Please avoid ultrasonic cleaning.
4. Only leads of component may be soldered. Please avoid soldering another part of component.
5. 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.
6. The temperature of manual welding should not exceed 300 °C.
7. The specifications of this device are based on the test circuit shown above and subject to change or obsolescence without notice.
8. All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.
9. Our liability is only assumed for the Surface Acoustic Wave (SAW) component(s) perse, not for applications, processes and circuits implemented within components or assemblies.
10. For questions on technology, prices and delivery, please contact our sales offices or e-mail: sales@NextGenComponent.com.

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