NextGen Components,Inc.

PART CODE: SBF947M5000S613

SPECIFICATION SHEET

SPECIFICATION SHEET NO.	Q0719-SBF947M5000S613
DATE	July 19, 2023
REVISION	A0
DESCRIPITION	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	SBF947M5000S613

VENDOR APPROVE			
Issued/Checked/Approved	NextGen Components, Inc. Mandy Xu	NextGen Components, Inc. Ruby Zhang	NextGen Components, Inc. Jack Zhang
DATE: July 19, 2023			

CUSTOMER APPROVE
DATE:

NextGen Components, Inc. sales@NextGenComponent.com www.NextGenComponent.com

NextGen Components,Inc.

PART CODE: **SBF947M5000S613**

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

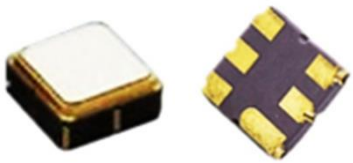
2) 947M500: Frequency range code for 947.50000MHz

3) S: SMD type, Package Tape/Reel,

4) 613: Internal code (A~Z or 1~9 or Blank) for custom specification

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

Image for reference



Marking

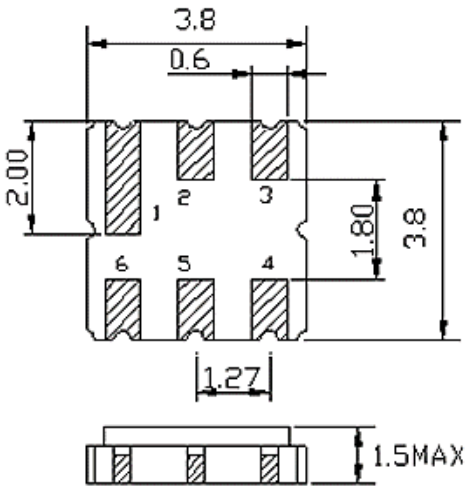
Line 1: Internal code

Line 2: ● Pin 1 + Special code

SBF series

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

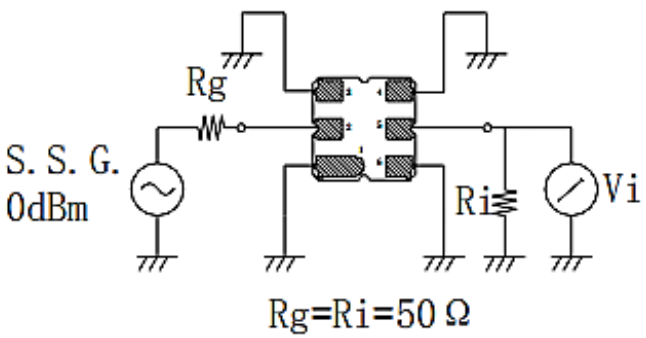
3838 Type



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

Test Circuit

(Bottom View)



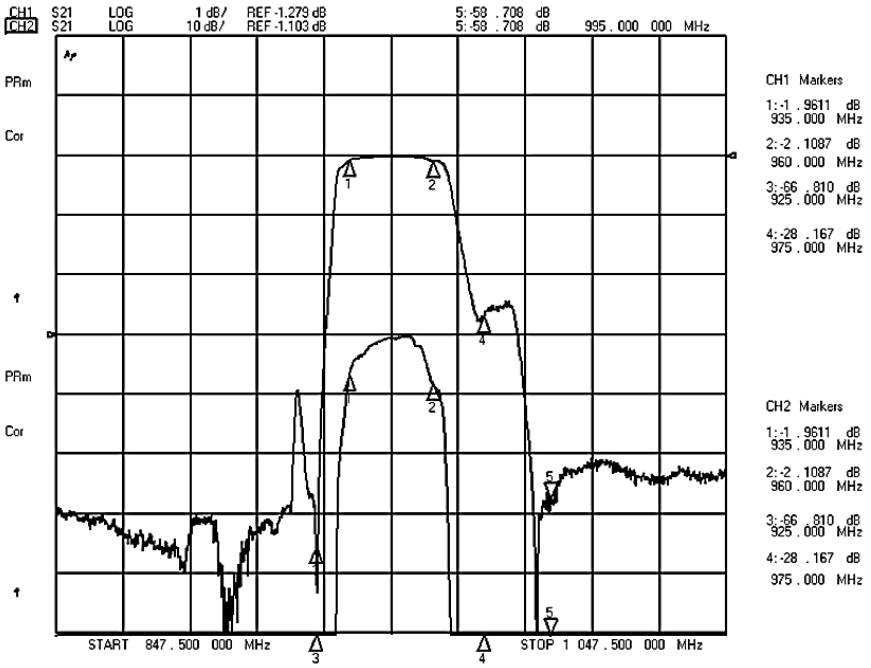
SMD SAW FILTER 3838 TYPE SBF SERIES

ELECTRICAL PARAMETERS

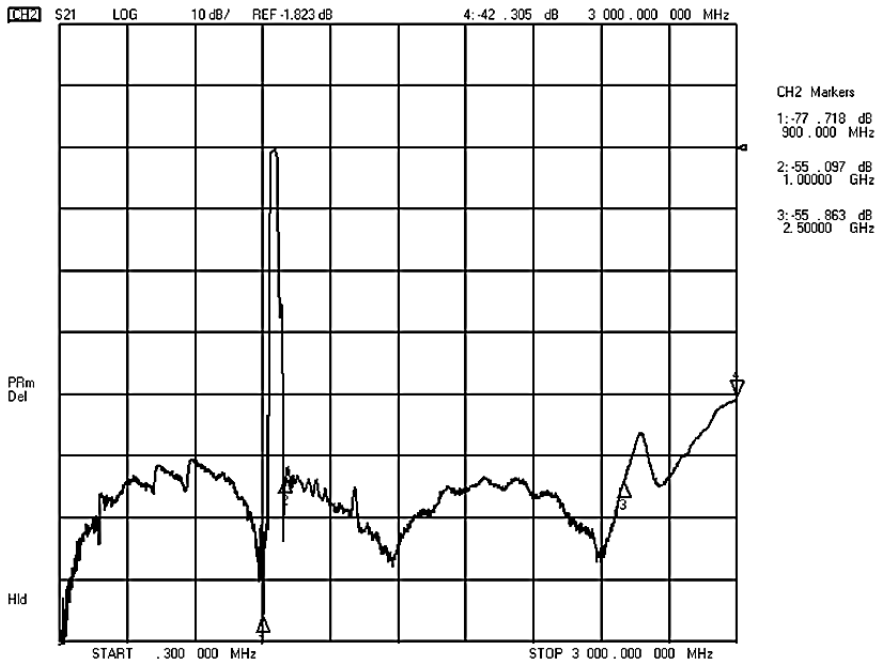
Parameter		Part No. Symbol	Units	Value		
				Min.	Typical	Max.
Original Manufacturer		TGS		TGS Crystals		
Holder Type		SBF		SMD SAW Filter, L3.8*W3.8*H1.50mm 3838 Type 6 Pads		
Center Frequency (fc)		947.5M	MHz	947.50000		
DC Voltage (VDC)		A	V		3.0	
Operation Temperature Range (T)			℃	-40		+85
Storage Temperature Range (Tstg)			℃	-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 (△α)			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		≤±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℃±2℃ 2) Terminating source impedance: 50Ω 3) Terminating load impedance: 50Ω

FREQUENCY CHARACTERISTICS

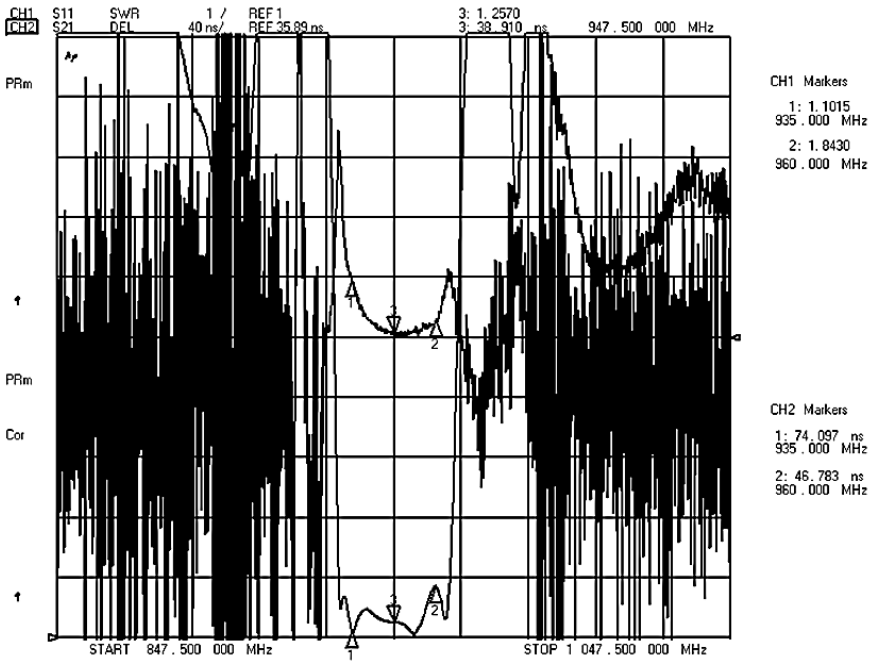


Frequency Response

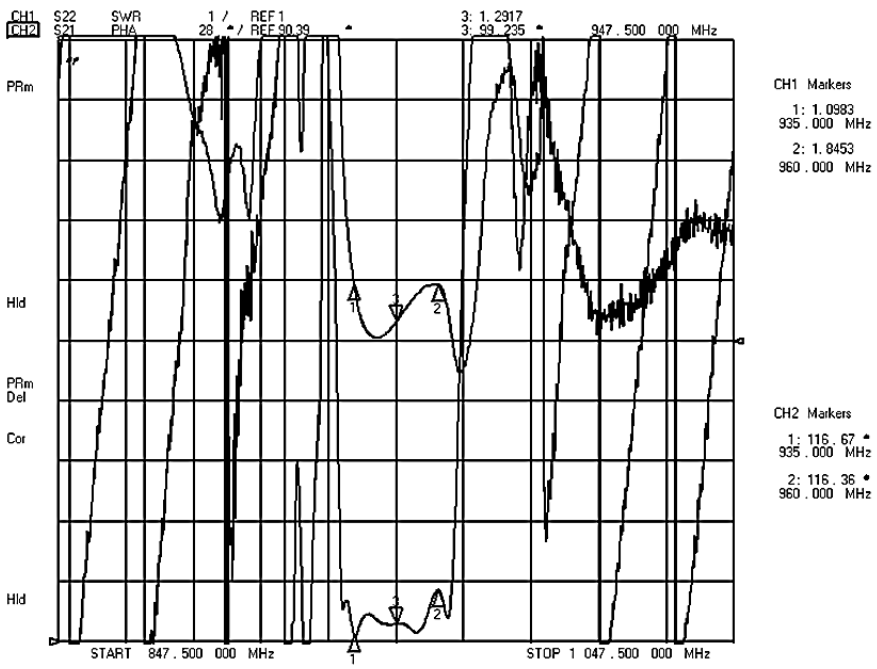


Frequency Response (wideband)

FREQUENCY CHARACTERISTICS

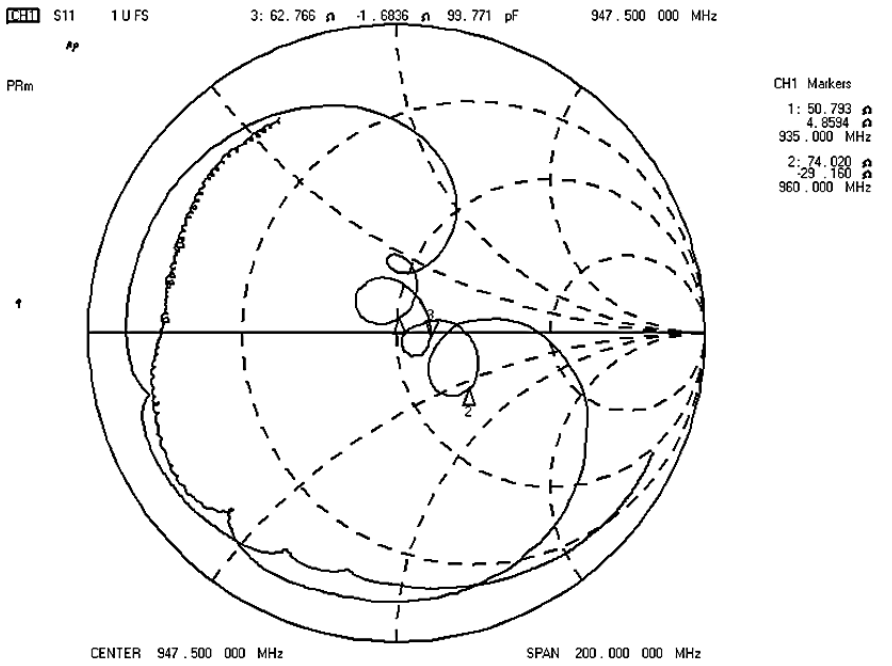


Delay Ripple & S11 VSWR

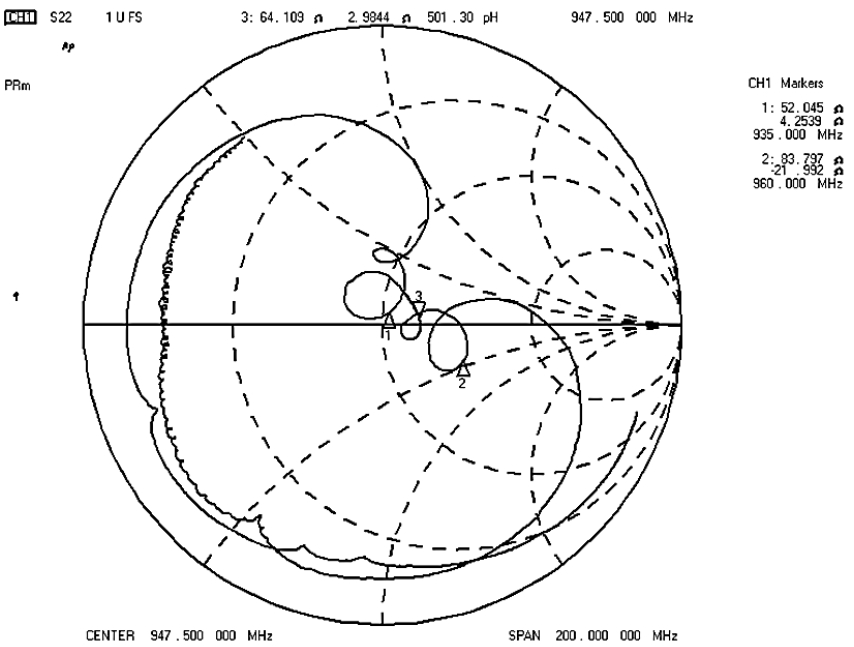


Phase Linearity & S22 VSWR

FREQUENCY CHARACTERISTICS



S11 Smith Chart

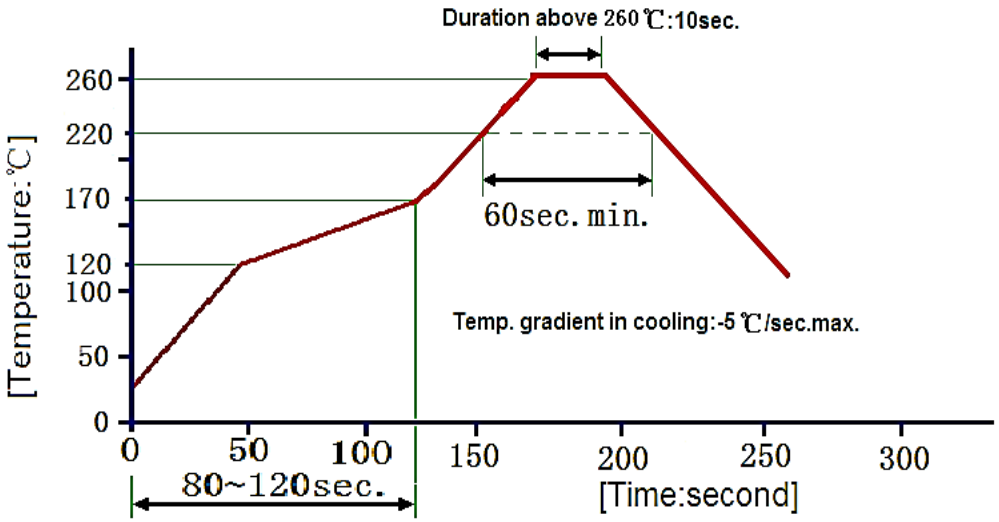


S22 Smith Chart

RELIABILITY

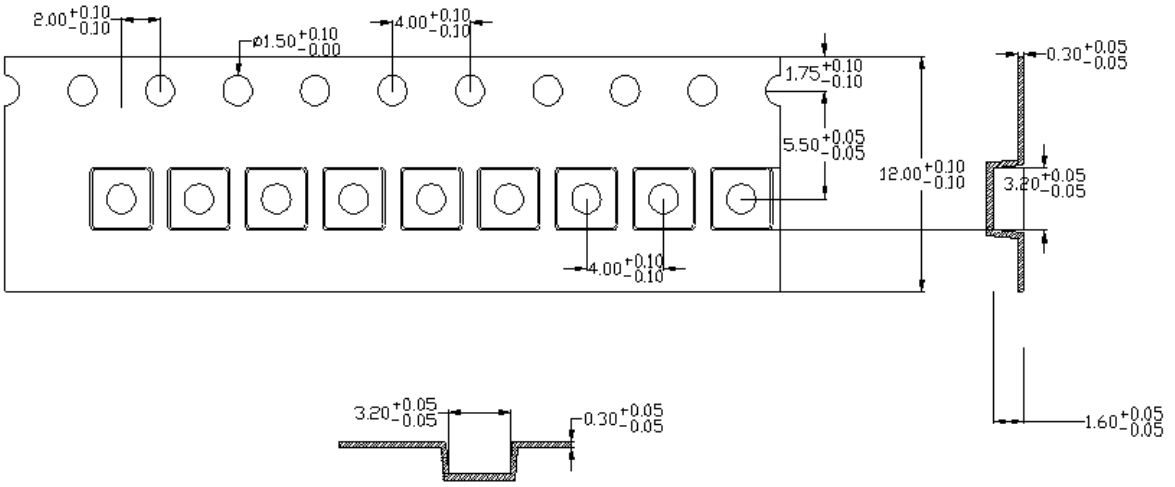
Test Items	Test Method And Conditions	Requirement
Temperature Storage	(1) Temperature: 85℃±2℃ , Duration: 250h , Recovery time: 2h±0.5h (2) Temperature: –55℃±3℃ , Duration: 250h ,Recovery time: 2h±0.5h	It shall remain electrical performance after tests
Humidity Test	Conditions: 60℃±2℃ , 90~95% RH Duration: 250h	
Thermal Shock	Heat cycle conditions: TA=-55℃±3℃, TB=85℃±2℃, 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℃±5℃ Duration: 3.0s--5.0s Depth: DIP--2/3 , SMD--1/5	
Resistance to Soldering Heat	(1)Thickness of PCB:1mm , Solder condition: 260℃±5℃ , Duration: 10±1s (2)Temperature of Soldering Iron: 350℃±10℃ , Duration: 3~4s , Recovery time : 2 ± 0.5h	

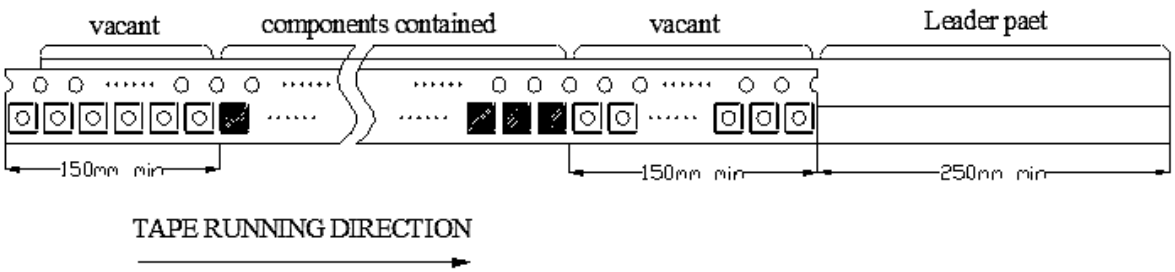
SUGGESTED REFLOW PROFILE (For Reference Only)



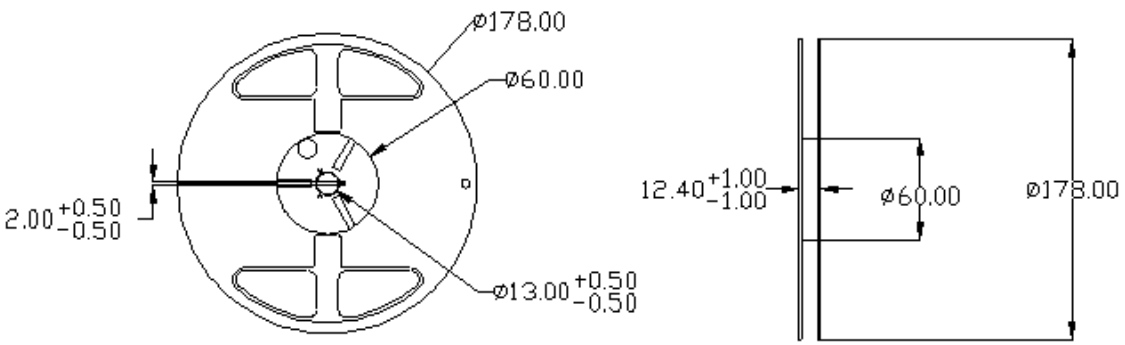
Reflow cycles:3 cycles max.

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





REEL DIMENSION (Unit: mm)



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 ℃.
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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