




**SPECIFICATION SHEET**

<b>SPECIFICATION SHEET NO.</b>	N0521-SA315M0000S001
<b>DATE</b>	May 21, 2021
<b>REVISION</b>	A0
<b>DESCRIPTION</b>	SMD SAW Resonator 5050 Type L5.0*W5.0*H1.35mm 8 Pads S3 Series 315.000KHz, Insertion Loss: 2.2 dB Max. Tolerance: +/-75KHz Operating Temp. Range -40°C ~+85°C Reflow Profile Condition 260 °C Max. Tape/Reel, RoHS/RoHS III compliant
<b>CUSTOMER</b>	
<b>CUSTOMER PART NUMBER</b>	
<b>CROSS REF. PART NUMBER</b>	
<b>ORIGINAL PART NUMBER</b>	TGS SR 315.0MA S3 TLF
<b>PART CODE</b>	SA315M0000S001

<b>VENDOR APPROVE</b>			
Issued/Checked/Approved			
DATE: May 21, 2021			

<b>CUSTOMER APPROVE</b>	
DATE:	

**SMD SAW RESONATOR 5050 TYPE S3 SERIES**

**MAIN FEATURE**

- SMD SAW Resonator 5050 Type 8 Pads
- Dimension L5.0\*W5.0\*H1.35mm
- Reflow Profile Condition 260 °C Max.
- Cross more competitors part
- RoHS/RoHS III compliant



**APPLICATION**

- Bluetooth, wireless communication set
- Communication Electronics

**RFQ**  
[Request For Quotation](#)

**PART CODE GUIDE**

SA	315M0000	S	001
1	2	3	4

- 1) SA: Part family Code for SMD SAW Resonator 5050 Type L5.0\*W5.0\*H1.35mm 8 Pads S3 Series
- 2) 315M0000: Frequency range code for 315.000MHz
- 3) S: SMD type, Package Tape/Reel, 1000pcs/Reel
- 4) 001: Specification code for original part No.: **TGS SR 315.0MA S3 TLF**

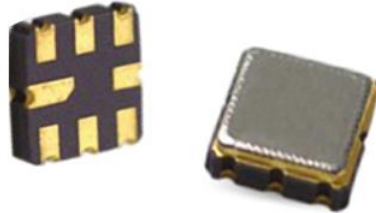
**MORE FREQUENCY RANGE AVAILABLE (MHz)**

315.00	340.000								

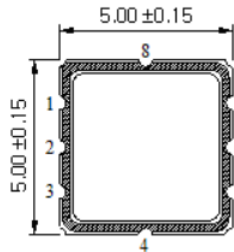
**SMD SAW RESONATOR 5050 TYPE S3 SERIES**

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

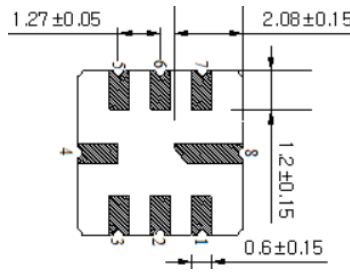
Image for reference



S3



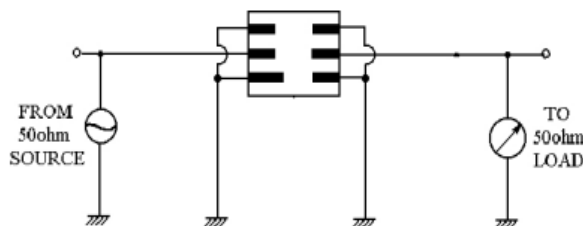
**Marking**  
Frequency Range



**Connection**  
Pin 2: Input  
Pin 6: Output  
Other pins: Ground



**Measuring Circuit**



Note:  
Test Temperature: 25 °C±2 °C  
Terminating Source Impedance: 50Ω  
Termination Load Impedance: 50Ω

**SMD SAW RESONATOR 5050 TYPE S3 SERIES**
**ELECTRICAL PARAMETERS**

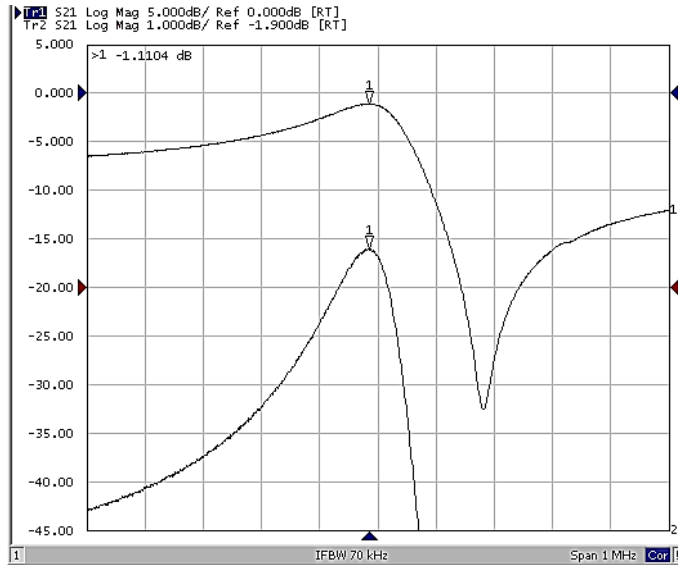
Parameter		Part No. Symbol	Units	Value		
				Min.	Typical	Max.
<b>Original Manufacturer</b>		TGS	TGS Crystals			
<b>Holder Type</b>		SR	SAW Resonator			
<b>Frequency Range (f0)</b>		315.0M	MHz	315.0000		
<b>Frequency Tolerance</b>		A	KHz	-75		+75
<b>Operation Temperature</b>			°C	-40		+85
<b>Storage Temperature</b>			°C	-40		+85
<b>DC Voltage (between any Terminals)</b>			V		5.0	
<b>RF Power (in BW)</b>			dBm		0	
<b>ESD Voltage (HB)</b>			V		400	
<b>Insertion Loss</b>			dB		1.4	2.2
<b>Quality Factor (Q)</b>	<b>Unload</b>				8000	12800
	<b>50 Ω Loaded</b>				1000	2000
<b>Temperature Stability</b>	<b>Turnover Temperature</b>			°C	10	25
	<b>Frequency Temperature Coefficient</b>		ppm/°C		0.032	
<b>Aging</b>			ppm/Year		≤±10	
<b>DC Insulation Resistance</b>			MΩ	1.0		
<b>Transduce Static Capacitance</b>			pF		2.13	
<b>Hold Type</b>		S3		5050 Type 8 Pads L5.0*W5.0*H1.35mm		
<b>Other</b>	<b>Package</b>	T	Tape/Reel, 1000pcs/Reel			
	<b>RoHS Status</b>	LF	RoHS III compliant			
	<b>Add Value</b>		Blank: N/A			
	<b>Internal Control Code</b>		Blank: N/A			

Note:

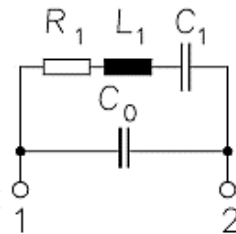
Original Part Number: TGS SR 315.0MA S3 TLF

## SMD SAW RESONATOR 5050 TYPE S3 SERIES

### FREQUENCY RESPONSE

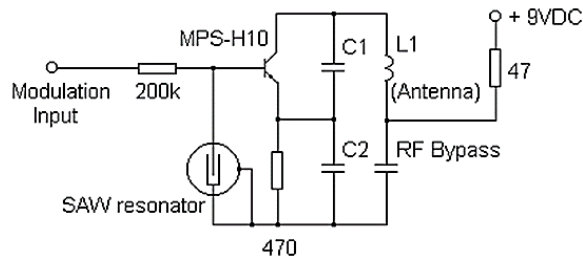


### EQUIVALENT LC MODEL

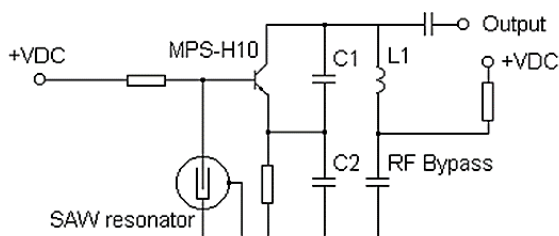


### PLICTYPICAL APATION CIRCUITS

Typical Low-power Transmitter Application



Typical Local Oscillator Application

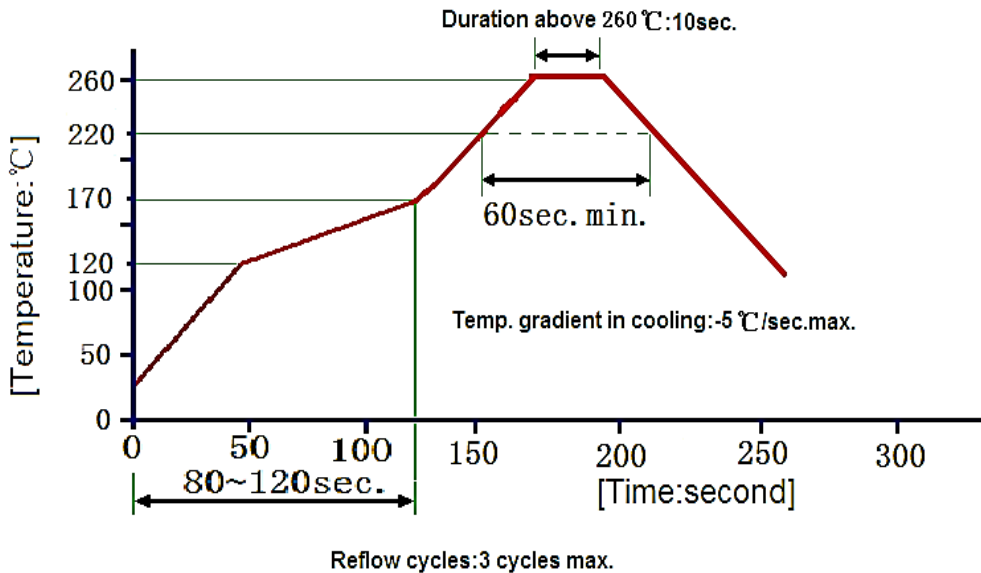


**SMD SAW RESONATOR 5050 TYPE S3 SERIES**

**RELIABILITY**

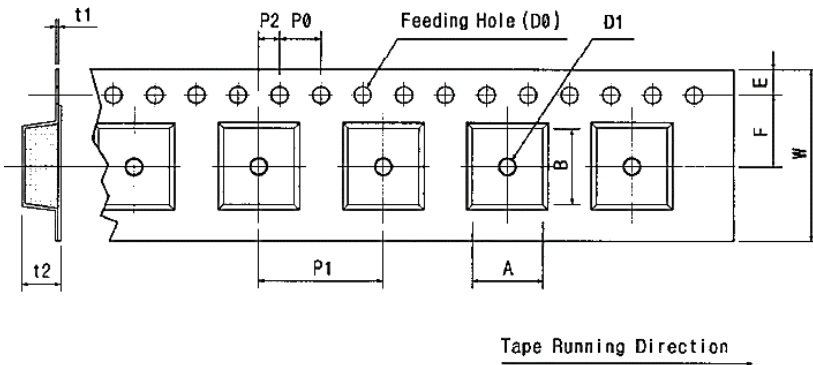
Test Items	Test Method And Conditions	Requirement
<b>Temperature Storage</b>	(1) Temperature: 85°C±2°C , Duration: 250h , Recovery time: 2h±0.5h (2) Temperature: -55°C±3°C , Duration: 250h ,Recovery time: 2h±0.5h	It shall remain electrical performance after tests
<b>Humidity Test</b>	Conditions: 60°C±2°C , 90~95% RH      Duration: 250h	
<b>Thermal Shock</b>	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.	
<b>Vibration Fatigue</b>	Frequency of vibration: 10~55Hz      Amplitude:1.5mm Directions: X,Y and Z      Duration: 2h	
<b>Drop Test</b>	Cycle time: 10 times      Height: 1.0m	
<b>Solderability</b>	Temperature: 245°C±5°C      Duration: 3.0s--5.0s Depth: DIP--2/3 , SMD--1/5	
<b>Resistance to Soldering Heat</b>	(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	

**SUGGESTED REFLOW PROFILE (For Reference Only)**



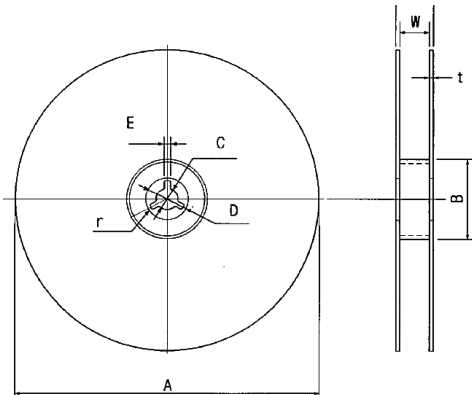
**SMD SAW RESONATOR 5050 TYPE S3 SERIES**

**REEL DIMENSION (Unit: mm, 1000pcs/Reel)**

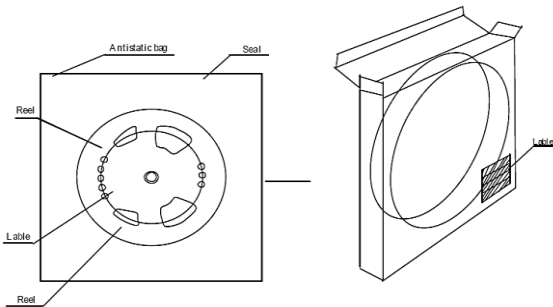


Code	Dimension
W	12.0+/-0.30
F	5.50+/-0.05
E	1.75+/-0.10
P 0	4.00+/-0.10
P 1	8.00+/-0.10
P 2	2.00+/-0.05
D 0	∅1.5+/-0.10
D 1	∅1.0+/-0.25
t 1	0.30+/-0.05
t 2	2.10+/-0.10
A	6.40+/-0.10
B	5.20+/-0.10

**TAPE WIDE 8MM DIMENSION (Unit: mm)**



Code	Dimension
A	∅330+/-1.0
B	∅100+/-0.5
C	∅13.0+/-0.5
D	∅21+/-0.8
E	2.00+/-0.5
W	13.0+/-0.30
t	3.00 Max.
r	1.00 Max.



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