




SPECIFICATION SHEET

| | |
|--------------------------------|---|
| SPECIFICATION SHEET NO. | N0521-SA315M0000S001 |
| DATE | May 21, 2021 |
| REVISION | A0 |
| DESCRIPTION | 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 |
| CUSTOMER | |
| CUSTOMER PART NUMBER | |
| CROSS REF. PART NUMBER | |
| ORIGINAL PART NUMBER | TGS SR 315.0MA S3 TLF |
| PART CODE | SA315M0000S001 |

| | | | |
|-------------------------|---|--|---|
| VENDOR APPROVE | | | |
| Issued/Checked/Approved |  |  |  |
| DATE: May 21, 2021 | | | |

| | |
|-------------------------|--|
| CUSTOMER APPROVE | |
| | |
| 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**

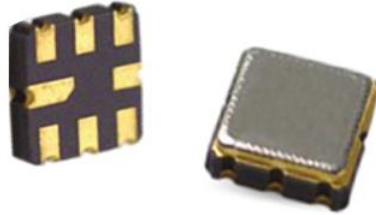
MORE FREQUENCY RANGE AVAILABLE (MHz)

| | | | | | | | | | |
|--------|---------|--|--|--|--|--|--|--|--|
| 315.00 | 340.000 | | | | | | | | |
| | | | | | | | | | |
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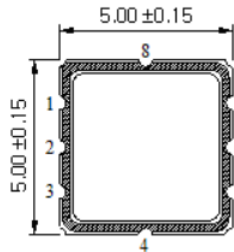
SMD SAW RESONATOR 5050 TYPE S3 SERIES

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

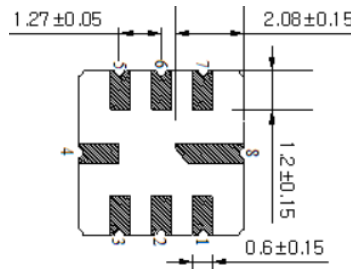
Image for reference



S3



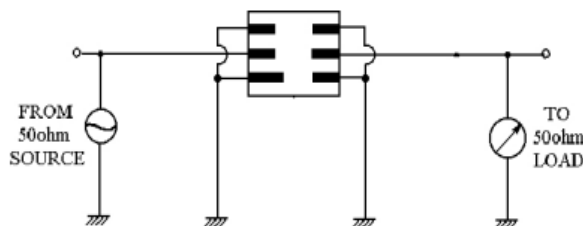
Marking
Frequency Range



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

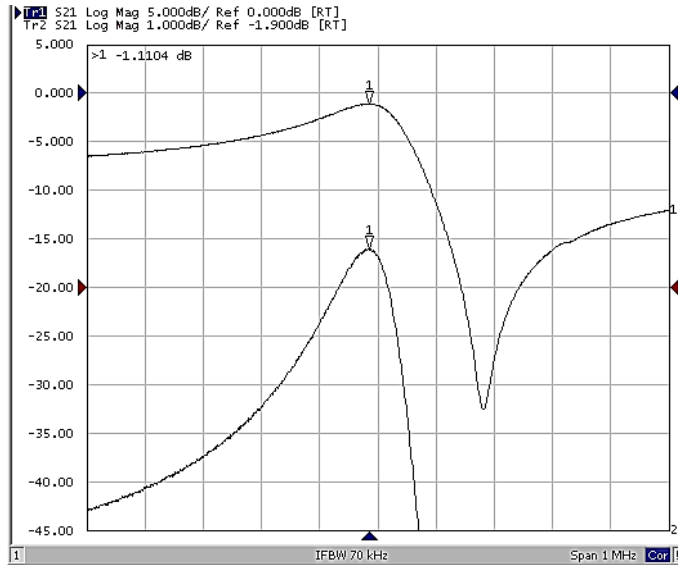
| Parameter | | Part No. Symbol | Units | Value | | |
|------------------------------------|-----------------------------------|-----------------|---------------------------------------|----------|---------|-------|
| | | | | Min. | Typical | Max. |
| Original Manufacturer | | TGS | TGS Crystals | |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

Note:

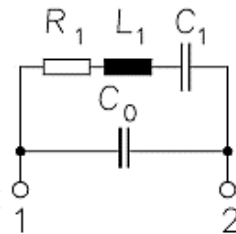
Original Part Number: TGS SR 315.0MA S3 TLF

SMD SAW RESONATOR 5050 TYPE S3 SERIES

FREQUENCY RESPONSE

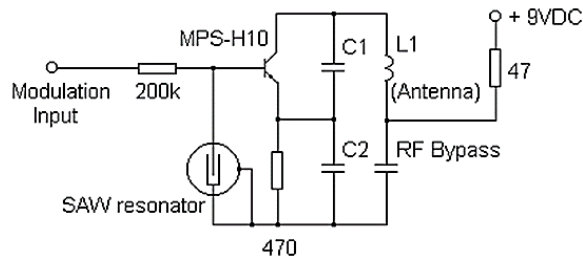


EQUIVALENT LC MODEL

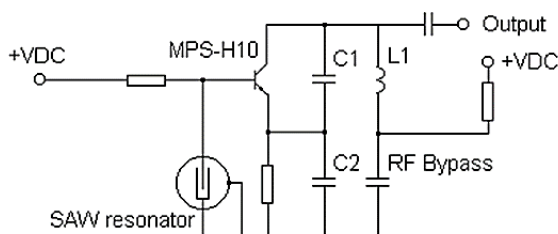


PLICTYPICAL APATION CIRCUITS

Typical Low-power Transmitter Application



Typical Local Oscillator Application

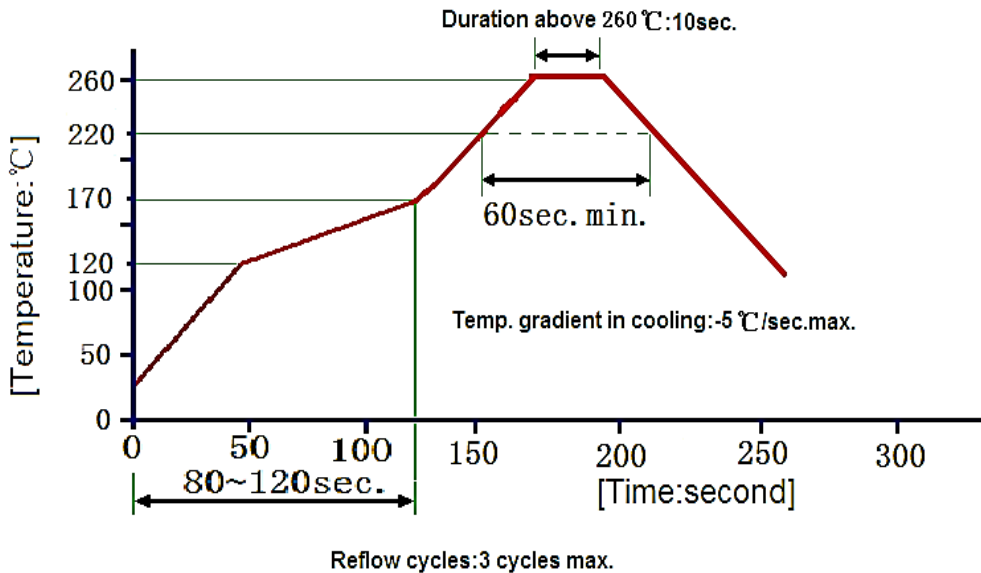


SMD SAW RESONATOR 5050 TYPE S3 SERIES

RELIABILITY

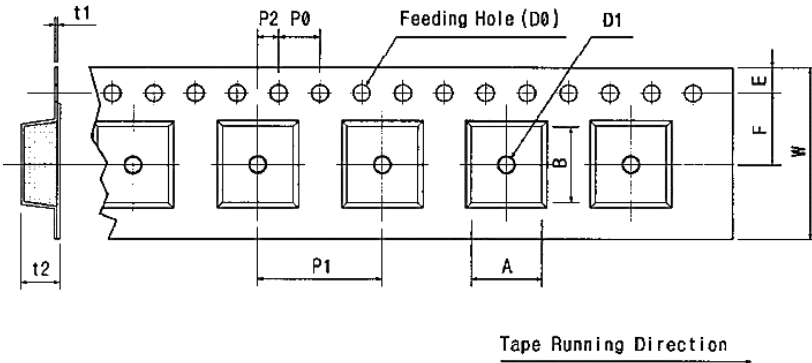
| Test Items | Test Method And Conditions | Requirement |
|-------------------------------------|---|--|
| Temperature Storage | (1) Temperature: 85°C±2°C , Duration: 250h , Recovery time: 2h±0.5h (2) Temperature: -55°C±3°C , Duration: 250h ,Recovery time: 2h±0.5h | It shall remain electrical performance 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 | |

SUGGESTED REFLOW PROFILE (For Reference Only)



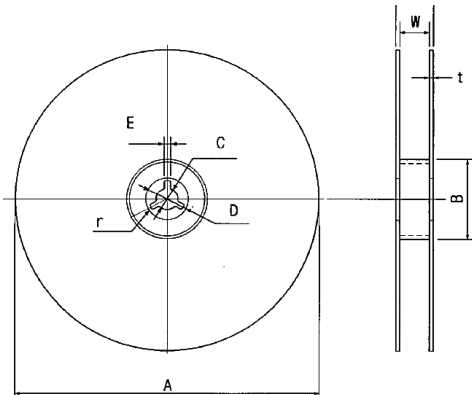
SMD SAW RESONATOR 5050 TYPE S3 SERIES

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

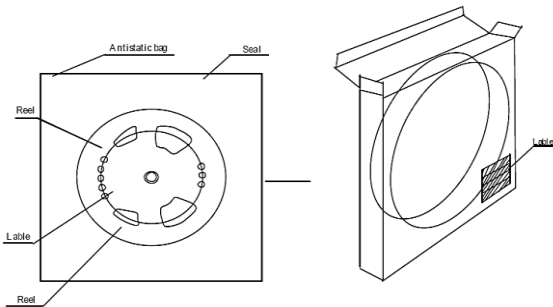


| Code | Dimension |
|------|-------------|
| W | 12.0+/-0.30 |
| F | 5.50+/-0.05 |
| E | 1.75+/-0.10 |
| P 0 | 4.00+/-0.10 |
| P 1 | 8.00+/-0.10 |
| P 2 | 2.00+/-0.05 |
| D 0 | Ø1.5+/-0.10 |
| D 1 | Ø1.0+/-0.25 |
| t 1 | 0.30+/-0.05 |
| t 2 | 2.10+/-0.10 |
| A | 6.40+/-0.10 |
| B | 5.20+/-0.10 |

TAPE WIDE 8MM DIMENSION (Unit: mm)



| Code | Dimension |
|------|-------------|
| A | Ø330+/-1.0 |
| B | Ø100+/-0.5 |
| C | Ø13.0+/-0.5 |
| D | Ø21+/-0.8 |
| E | 2.00+/-0.5 |
| W | 13.0+/-0.30 |
| t | 3.00 Max. |
| r | 1.00 Max. |



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