



SPECIFICATION SHEET NO.	S0318 - SCR315M000S001	
ORIGINAL MFG/PART NO.	TGS Crystals/SCR 315.0MB TLF/R315.00MHZ- ± 100KH-CSP2016	
NEXTGEN PART CODE	SCR315M000S001	Indicate This Code For RFQ /Order
DATE	Mar. 18, 2025	
REVISION	A3	Updated With Most Recent Data
DESCRIPTION AND MAIN PARBMETRICS	<p>SMD SAW Resonator, 2 Pads, 2016 Type, SCR Series</p> <p>Dimension L2.0*W1.6*H0.9mm</p> <p>Center Frequency 315.000MHz; Frequency Tolerance ± 100KHz</p> <p>Insertion Loss: 1.3dB Typical, 2.2dB Max.</p> <p>Operating Temp. Range -40°C ~ +85°C</p> <p>Reflow Profile Condition 260°C Max.</p> <p>Package in Tape/Reel, 4000pcs/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. 18, 2025

CUSTOMER APPROVE
Date:

MAIN FEATURE

- SMD SAW Resonator 2016 Type 2 Pads
- Ceramic Case Dimension L2.0*W1.6*H0.9mm
- Low-loss SAW Resonator
- One Port SAW Resonator
- CSP 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

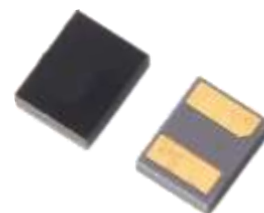


Image shown is a representation only. Exact specifications should be obtained from the product dimension.



APPLICATION

- Bluetooth, Wireless Communication Set
- Communication Electronics

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 SCR315M000S001 For RFQ and Order.

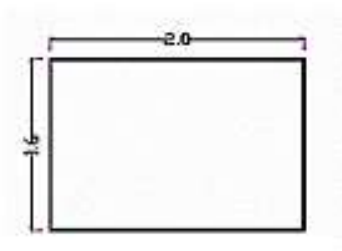
PART CODE GUIDE

RFQ
[Request For Quotation](#)

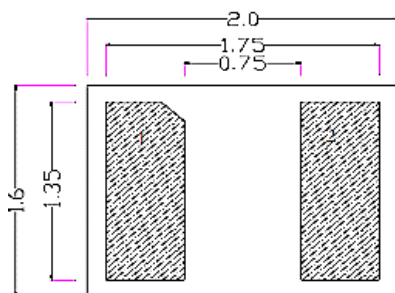
CODE	NAME	KEY SPECIFICATION OPTION
SCR	Series Code	SMD SAW Resonator, 2 Pads, 2016 Type, Case Dimension L2.0*W1.6*H0.9mm
315M0	Frequency Range Code	315M0: 315.000MHz
00S001	Internal Control Code	Letter A~Z, a~z or Digits (1-9)
XX	Special/Custom Parameters Code	Blank: N/A XX: Letter A~Z, a~z or Digits (0~9) for Special/Custom Parameters

DIMENSION - Unit: mm, L2.0*W1.6*H0.9mm, 2016 Type

Top View:

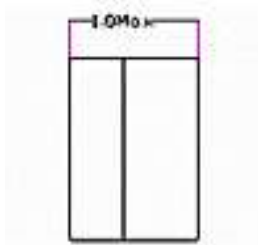


Bottom View



PIN NO.	CONFIGURATI ON
1	Input/Output
2	Output/Input

Side View



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

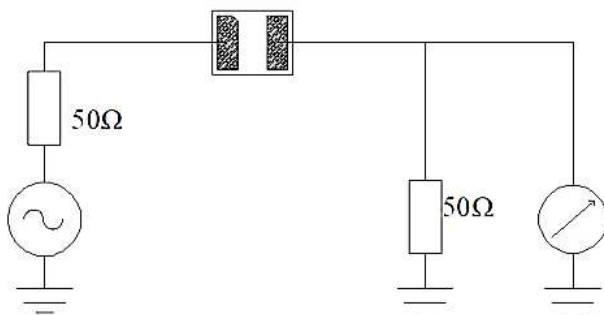
PARAMETER	SYMBOLS	VALUE	UNITS
RF Power Level	P	10	dBm
DC Voltage	V _{bc}	10	V
Operating Temperature Range	T _A	-40 to +85	°C
Storage Temperature Range	T _{stg}	-55 to +125	°C

ELECTRONICAL CHARACTERISTICS

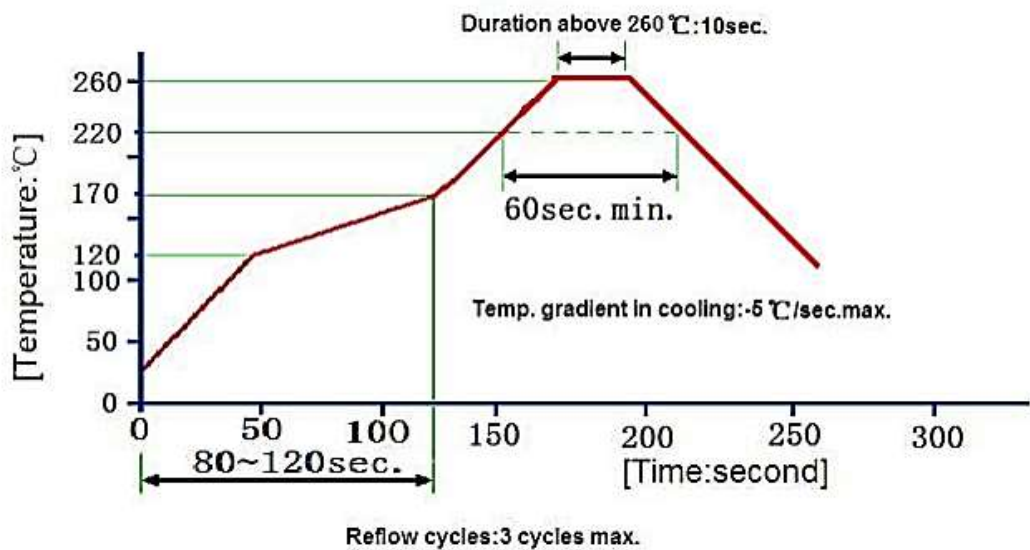
1) Test Temperature: 25°C±2°C 2) Terminating source impedance: 50Ω 3) Terminating load impedance: 50Ω .

PARAMETER		SYMBOLS	CHARACTERISTICS			
			MIN.	TYPICAL	MAX.	UNIT
Center Frequency- Absolute Frequency		FC	314.900	315.000	315.100	MHz
Frequency Tolerance from 315.000MHz		Δfc	-	± 100	-	KHz
Insertion Loss		IL	-	1.3	2.2	dB
Quality	Unloaded Q	Q _U	-	12800	-	
Factor	50Ω Loaded Q	Q _L	-	2000	-	
Temperature Stability	Turnover Temperature	T ₀	25	40	55	°C
	Turnover Frequency	f ₀	-	f _c	-	
	Frequency Temp. Coefficient	FTC	-	0.032	-	ppm/°C
Frequency Aging	Absolute Value during the 1 st Year	f _A	-	≤10	-	ppm/yr
DC Insulation Resistance between Any Two Pins			1.0	-	-	MΩ
RF Equivalent RLC Model	Motional Resistance	R _M	-	13	-	Ω
	Motional Inductance	L _M	-	228	-	μH
	Motional Capacitance	C _M	-	112	-	fF
	Static Capacitance	C ₀	-	2.9	-	pF

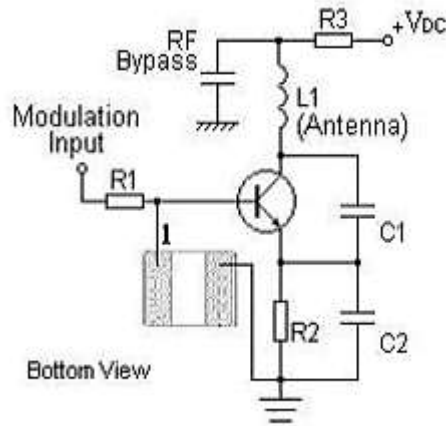
MEASUREMENT CIRCUIT – FOR REFERENCE ONLY



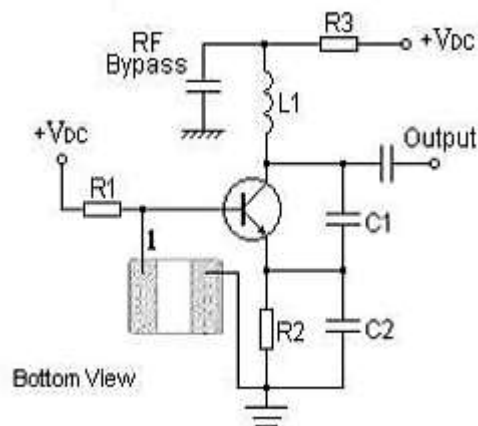
RECOMMENDED SOLDERING PROFILE – FOR REFERENCE ONLY



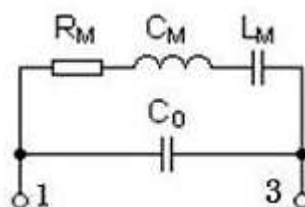
TYPICAL LOW-POWER TRANSMITTER APPLICATION – FOE REFERENCE ONLY



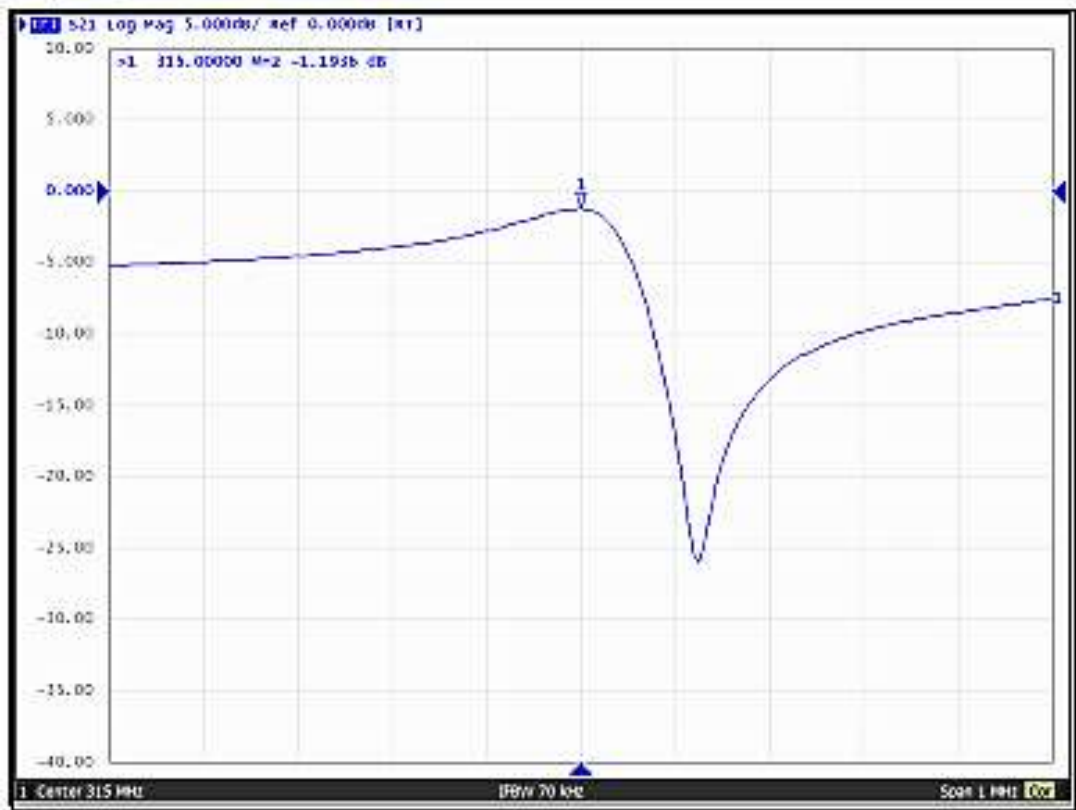
TYPICAL LOCAL OSCILLATOR APPLICATION – FOE REFERENCE ONLY



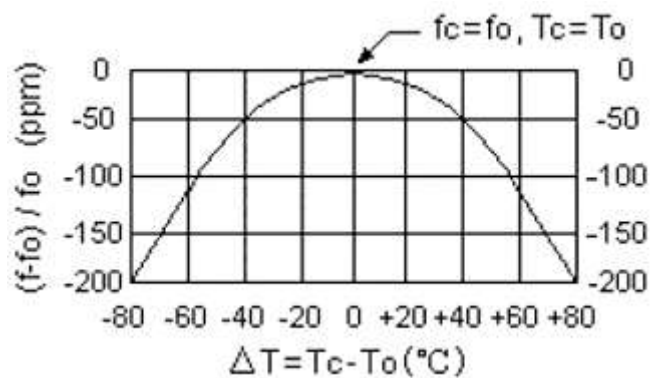
EQUIVALENT LC MODEL – FOR REFERENCE ONLY



FREQUENCY RESPONSE – FOR REFERENCE ONLY



TEMPERATURE CHARACTERISTICS – FOR REFERENCE ONLY

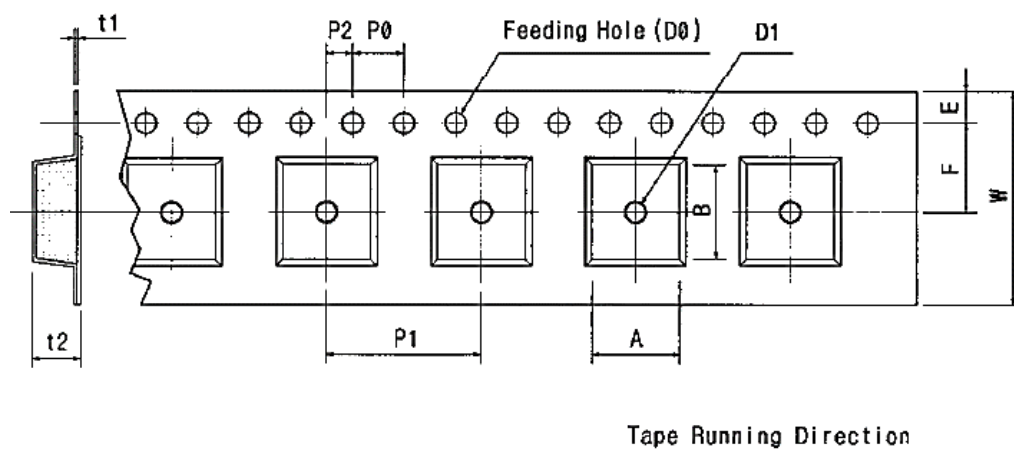


- Note: The curve shown above accounts for resonator contribution only and does not include LC component temperature contributions.

RELIABILITY CHARACTERISTICS

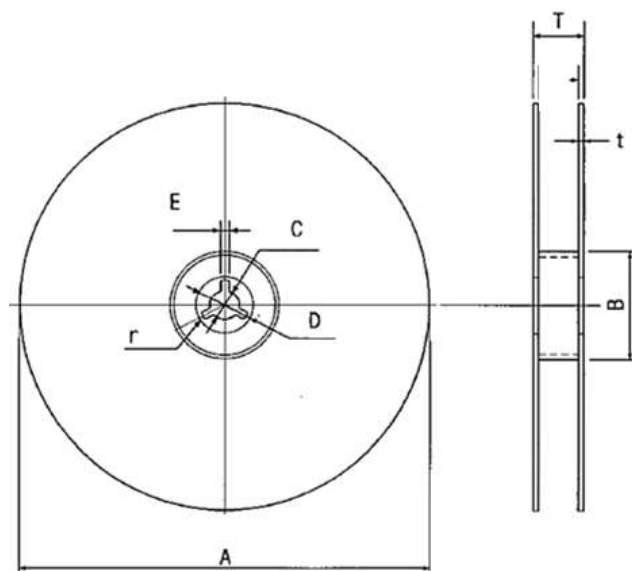
TEST ITEMS	TEST METHOD AND CONDITIONS
Temperature Storage	<ul style="list-style-type: none"> Temperature: $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$, Duration: 250h , Recovery time: $2\text{h} \pm 0.5\text{h}$ Temperature: $-55^{\circ}\text{C} \pm 3^{\circ}\text{C}$, Duration: 250h ,Recovery time: $2\text{h} \pm 0.5\text{h}$
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: $\text{TA} = -40^{\circ}\text{C} \pm 3^{\circ}\text{C}$, $\text{TB} = 85^{\circ}\text{C} \pm 2^{\circ}\text{C}$, $t_1 = t_2 = 30\text{min}$, 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.



W	F	E	P0	P1	P2	D0	D1	t1	t2	A	B
8.00	3.50	1.75	4.00	4.00	2.00	Ø1.5±	Ø1.0±	0.21	1.00	1.90	2.30
±0.30	±0.10	±0.10	±0.10	±0.10	±0.10	0.10	0.25	±0.01	±0.05	±0.10	±0.10

REEL DIMENSION - Unit: mm, 4000pcs/Reel.



A	B	C	D	E	T	t
Ø178.0±2.0	Ø60.0±0.5	Ø13.0±0.5	Ø21±0.8	2.00±0.5	15.4±1.00	0.31 Max.

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.
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