NextGen Components,Inc.

PART CODE: CH12M00000S010

SPECIFICATION SHEET

SPECIFICATION SHEET NO.	Q0501-CH12M00000S010
DATE	May 01, 2023
REVISION	A0
DESCRIPITION	SMD Ceramic Resonator, 3731 Type, L3.2*W1.3*H1.0mm, Built-in Capacitance, 3 pads, CRTE Series 12.000MHz, Frequency Accuracy +/-0.5%, Operating Temp. Range -25°C ~+85°C, Reflow Profile Condition 260 °C Max. RoHS/RoHS III compliant, Tape/Reel
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	TGS CRTE 12.0MG-10 TLF
PART CODE	CH12M00000S010

VENDOR APPROVE
Issued/Checked/Approved NextGen Components, Inc. Mandy Xu NextGen Components, Inc. Ruby Zhang NextGen Components, Inc. Jack Zhang
DATE: May 01, 2023

CUSTOMER APPROVE
DATE:

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

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PART CODE: **CH12M00000S010**

SMD CERAMIC RESONATOR CRTE SERIES

MAIN FEATURE

- SMD Ceramic Resonator, L3.2*W1.3*H1.0mm, , 3 pads
- Low cost & Built-in Capacitance
- Reflow Profile Condition 260 °C Max.
- Wide Frequency Range
- Cross more competitors part
- RoHS III compliant

APPLICATION

- Bluetooth, wireless communication set
- Communication Electronics

RFQ
Request For Quotation

PART CODE GUIDE

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1) CH: Part Code for SMD Ceramic Resonator, Built-in Capacitance, L3.2*W1.3*H1.0mm , 3 pads, CRTE series

2) 12M00000: Frequency range code for 12.00000MHz

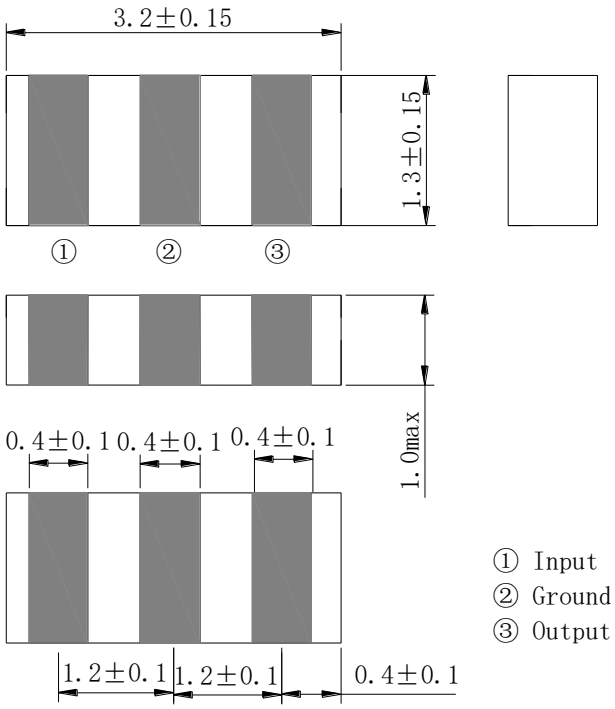
3) S: SMD type, Package Tape/Reel, 3000pcs/Reel

4) 010: Specification code for original part No.: **TGS CRTE 12.0MG-10 TLF**

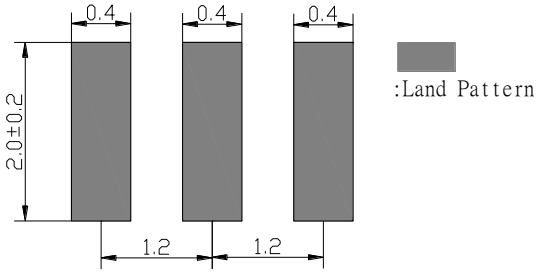
DIMENSION (Unit: mm)

Image for reference

CRTE



Recommend Pad Layout



SMD CERAMIC RESONATOR CRTE SERIES

ELECTRICAL PARAMETERS

Parameter		Part No. Symbol	Units	Value			Condition
				Min.	Typical	Max.	
Original Manufacturer		TGS	TGS Crystals				
Holder Type		CRTE	SMD Ceramic Resonator, L3.2*W1.3*H1.0mm, 3 pads				
Frequency Range		12.0	MHz	12.0			
Withstanding Voltage		MG	V	50			@DC, 1 min
Insulation Resistance			MΩ	500			@AV, 1 min.
Operation Temperance			℃	-25		+85	
Storage Temperance			℃	-55		+85	
Rating Voltage			V	6			DC
				15			p-p
Frequency Accuracy			%	±0.5			
Resonant Impedance			Ω			40	
Temperature Coefficient of Oscillation Frequency			%			±0.3	Oscillation Frequency drift, -25℃~ +85℃)
Oscillation Frequency Aging Rate (10 years)			%			±0.3	From initial value
IC application				1/6TC4069UBPx2			
Design Mode							
Built-in Capacitance		-10	pF	10pF (+/-20%)			
Other	**Package**	T	Tape/Reel				
	RoHS Status	LF	RoHS III compliant				
	Add Value		N/A				
	Internal Control Code *		N/A				

Note: 1) Original Part Number: **TGS CRTE 12.0MG-10 TLF**

2) * Internal Control Code- 2 letter or digits; Blank: N/A

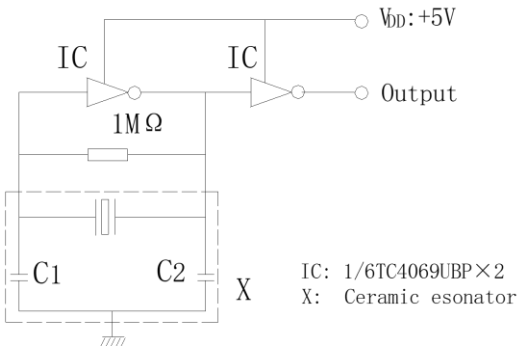
RELIABILITY

Test Items	Test Method And Conditions	Performance Requirements
Humidity	Keep the resonator at 40℃±2℃ and 90%-95% RH for 96h. Then Release the resonator into the room Condition for 1h prior to the Measurement.	It shall fulfill the specifications in Table 1.
High Temperature Exposure	Subject the resonator to -85℃±2℃ for 96h, then release the resonator into the room conditions for 1h prior to the measurement.	It shall fulfill the specifications in Table 1.
Low Temperature Exposure	Subject the resonator to -55℃±2℃ for 96h, then release the resonator into the room conditions for 1h prior to the measurement.	It shall fulfill the specifications in Table 1.
Temperature Cycling	After temperature cycling of blow table was performed 5 times, resonator shall be measured after being placed in natural conditions for 1h. Time: 30 min.@ -25 +/-3℃ ; Time: 30 min. @85 +/-3℃	It shall fulfill the specifications in Table 1.
Vibration	Subject the resonator to vibration for 2h each in x, y and z axis With the amplitude of 1.5mm, the frequency shall be varied uniformly between the limits of 10 Hz—55Hz.	It shall fulfill the specifications in Table 1.
Mechanical Shock	Drop the resonator randomly onto a wooden floor from the height of 100cm 3 times.	It shall fulfill the specifications in Table 1.
Soldering Test	Passed through the re-flow oven under the following condition and left at room temperature for 1h before measurement	It shall fulfill the specifications in Table 1.
Solder Ability	Dipped in 245℃±5℃ solder bath for 3s±0.5 s with rosin flux (25wt% ethanol solution.)	The terminals shall be at least 95% covered by solder.
Board Bending	Mount a glass-epoxy board (Width=40mm,thickness=1.6mm),then bend it to 1mm displacement and keep it for 5s. (See the following figure 1)	Mechanical damage such as breaks shall not occur.

Table 1

Item	Specification after test
Oscillation Frequency Change △Fosc/Fosc (%) max	±0.3
Resonant Impedance (Ω) max	40
The limits in the above table are referenced to the initial measurements.	

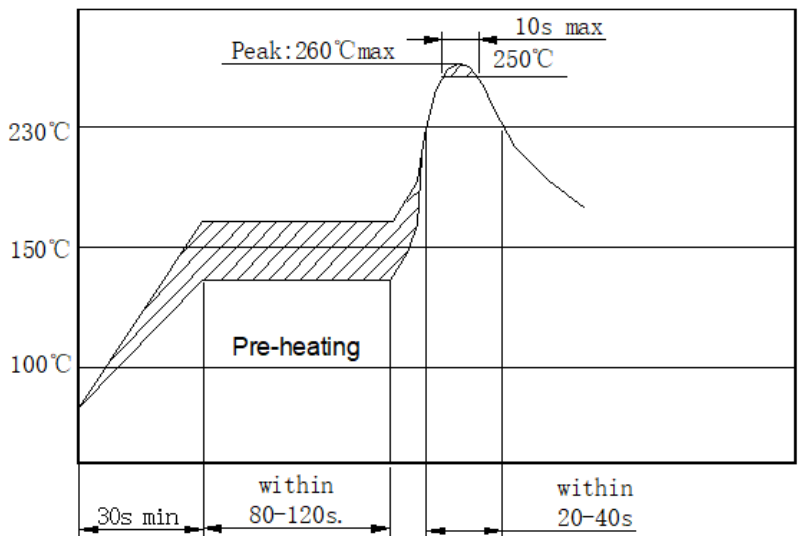
TEST CIRCUIT (For Reference Only)



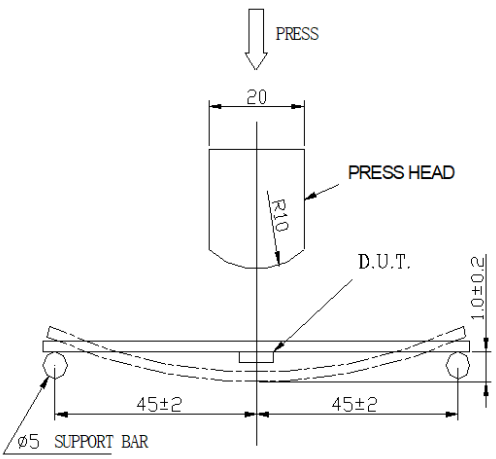
Note:

Parts shall be tested under the condition (Temp.: 20±15℃,Humidity 65±20% R.H.) unless the standard condition(Temp.: 25±3 ℃, Humidity: 65±10% R.H.) is regulated to measure.

SUGGESTED REFLOW PROFILE (For Reference Only)

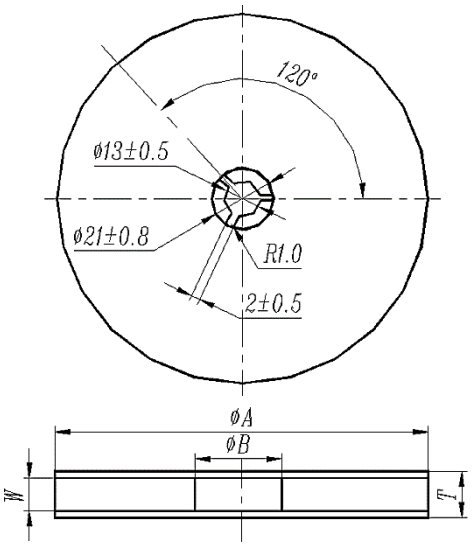


BOARD BENDING TEST- FIGURE 1

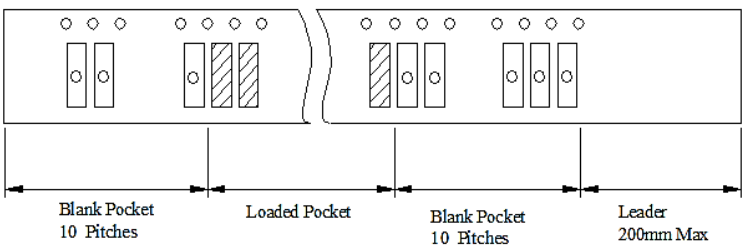


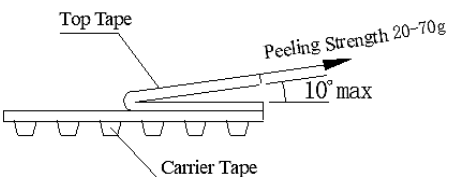
TAPE/REEL (Unit: mm)

All Devices are packed in accordance with EIA standard RS-481-2 and specifications, 3000pcs/Reel



Symbol	Dimension
ϕA	180±3.0
ϕB	60.0 Min.
W	8.4 Min.
T	12.4 Max.





OTHERS

Caution

- Don’t apply excess mechanical stress to the component and terminals at soldering. Do not use this product with bend.
- Do not clean or wash the component for it is not hermetically sealed.
- Do not use strong acidity flux, more than 0.2wt% chlorine content, in flow soldering.
- Don’t be close to fire.
- This specification mentions the quality of the component as a single unit. Please insure the component is thoroughly evaluated in your application circuit
- Expire date (Shelf life) of the products is 12 months after delivery under the conditions of a sealed and an unopened package. Please use the products within 12 months after delivery. If you store the products for a long time (more than 12 months), use carefully because the products may be degraded in the solderability or rusty. Please confirm solderability and characteristics for the products regularly.
- Please contact us before using the product as automobile electronic component.

Notice

- Please return one of these specifications after your signature of acceptance.
- When something gets doubtful with this specification, we shall jointly work to get an agreement

DISCLAIMER