NextGen Components,Inc.

PART CODE: CD4M000000S001

SPECIFICATION SHEET

SPECIFICATION SHEET NO.	Q0503-CD4M000000S001
DATE	May 03, 2023
REVISION	A2
DESCRIPITION	Thru-Hole Ceramic Resonator, L9.5*W4.0*H6.0mm, 3 Pins Lead: 13.5mm 4.00000MHz, Built-in Capacitance, CRTWS Series Frequency Accuracy ±0.5%, Operating Temp. Range -40°C ~+85°C RoHS3 EU Directive 2011/65/EU 2015/863 The 233 Substances of Very High Concern, as specified by Regulation (EC) No.1907/2006 (REACH). Packed in AMNO-Pack, 2000pcs/Tape, 1 Tape/Box
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	TGS CRTWS 4.0MG TLF
PART CODE	CD4M000000S001

VENDOR APPROVE
Issued/Checked/Approved   
DATE: May 03, 2023

CUSTOMER APPROVE
DATE:

NextGen Components,Inc.

PART CODE: **CD4M000000S001**

MHZ THRU-HOLE CERAMIC RESONATOR CRTWS SERIES

MAIN FEATURE

- MHz Thru-Hole Ceramic Resonator, L9.5*W4.0*H6.0mm, 3 pins
- Low cost, Built-in load capacitance type.
- Cross more competitors part
- RoHS3 EU Directive 2011/65/EU 2015/863
- The 233 Substances of Very High Concern, as specified by Regulation (EC) No.1907/2006 (REACH).

APPLICATION

- Measurement Instrument
- Communication Electronics

RFQ
Request For Quotation

PART CODE GUIDE

CD	4M000000	S	001
1	2	3	4

1) CD: Part family Code for MHz Thru-Hole Ceramic Resonator, L9.5*W4.0*H6.0mm, 3 Pins , CRTWS series

2) 4M000000: Frequency range code for 4.00000MHz

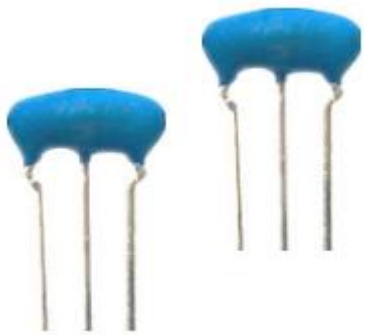
3) S: Packed in AMNO-Pack, 2000pcs/Tape, 1 Tape/Box

4) 001: Specification code for original Part No. **TGS CRTWS 4.0MG TLF**

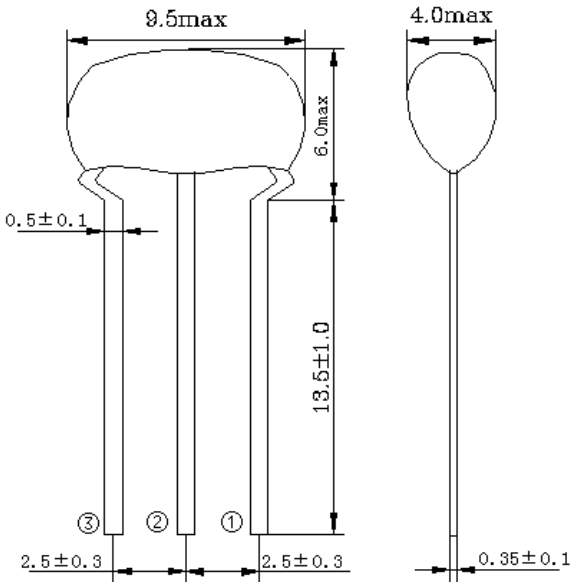
MHZ THRU-HOLE CERAMIC RESONATOR CRTWS SERIES

DIMENSION (Unit: mm)

Image for reference



CRTWS



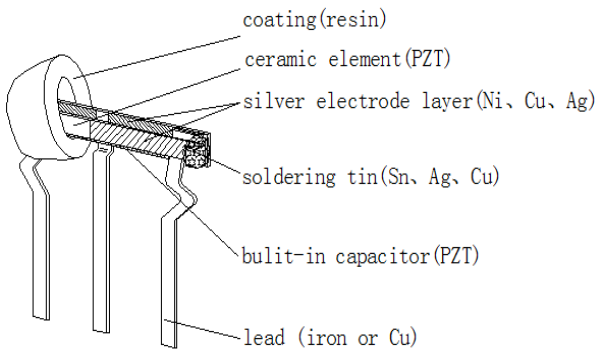
Marking

Line 1: Frequency Range + QC Code/stamp

Connection

① Input ② Ground ③ Output

Structure



MHZ THRU-HOLE CERAMIC RESONATOR CRTWS SERIES

ELECTRICAL PARAMETERS

Parameter		Part No. Symbol	Units	Value			Condition
				Min.	Typical	Max.	
Original Manufacturer		TGS	TGS Crystals				
Holder Type		CRTWS	MHz Thru-Hole Ceramic Resonator L9.5*W4.0*H6.0mm, 3 Pins Lead: 13.5mm				
Frequency Range		4.0	MHz	4.0			
Withstanding Voltage			V	50			@DC, 1 min
Insulation Resistance			MΩ	100			@100V, 1 min.
Operation Temperance			℃	-40		+85	
Storage Temperance			℃	-55		+85	
Rating Voltage			V	10			DC
				20			p-p
Frequency Accuracy			%	±0.5			
Resonant Impedance			Ω			20	
Temperature Coefficient of Oscillation Frequency			%			±0.3	Oscillation Frequency drift，-40℃ ~ +85℃)
Oscillation Frequency Aging Rate (10 years)			%			±0.3	From initial value
IC Application				1/6 TC4069UBPx2			
Design Mode		MG					
Built-in Capacitance （C1,C2)			pF	30pF±20%			
Other	**Package**	T	Packed in AMNO-Pack, 2000pcs/Tape, 1 Tape/Box				
	RoHS Status	LF	RoHS3 EU Directive 2011/65/EU 2015/863				
	Add Value		N/A				
	Internal Control Code		N/A				

Note: Original Part Number: **TGS CRTWS 4.0MG TLF**

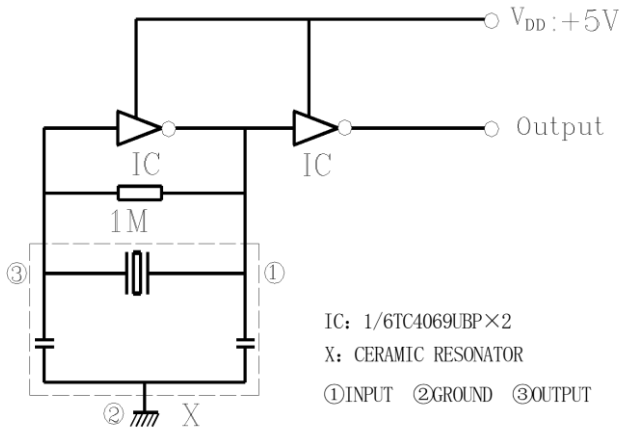
RELIABILITY

Test Items	Test Method And Conditions	Performance Requirements
Humidity	Subject the resonator at +60℃±2℃ and 90%-95% R.H. for 1000h, resonator shall be measured after being placed in natural conditions for 1h.	It shall fulfill the specifications in Table 1.
High Temperature Exposure	Subject the resonator to +85℃±2℃ for 1000h, resonator shall be measured after being placed in natural conditions for 1h.	It shall fulfill the specifications in Table 1.
Low Temperature Exposure	Subject the resonator to –40℃±3℃ for 1000h, resonator shall be measured after being placed in natural conditions for 1h.	It shall fulfill the specifications in Table 1.
Temperature Cycling	Submit to 100 cycles of the above sequence at condition in air. Time: 30±3 min. @ -40 +/-3℃ Time: 30±3 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 10Hz-55Hz and then resonator shall be measured.	It shall fulfill the specifications in Table 1.
Mechanical Shock	Apply the half-sine shock pulses:981m/s2,6ms for 3 times in each direction of three mutually perpendicular planes.	It shall fulfill the specifications in Table 1.
Resistance to Soldering Heat	Lead terminals are immersed up to 2 mm from resonator's body in soldering bath of 260℃±5℃ for 10s±1s and then resonator shall be measured after being placed in natural conditions for 1h.	It shall fulfill the specifications in Table 1.
Solderability	With Rosin-methanol 25% by weight, dip in 230℃±5℃ solder(H63A) bath for 3s±0.5s.	More than 95% of the terminal surface of the filter shall be covered with fresh solder.
Lead restraint	Apply the force of 5N to the lead in direction of axis and with the load of 2.5N bend the lead through 0°→90°→-90°→0°..	It shall fulfill the specifications in Table 1.

Table 1

Item	Specification after test
Oscillation Frequency Change △Fosc/Fosc (%) max	±0.30 (Refer to the initial value)
Resonant Impedance (Ω) max	20
The limits in the above table are referenced to the initial measurements.	

TEST CIRCUIT (For Reference Only)



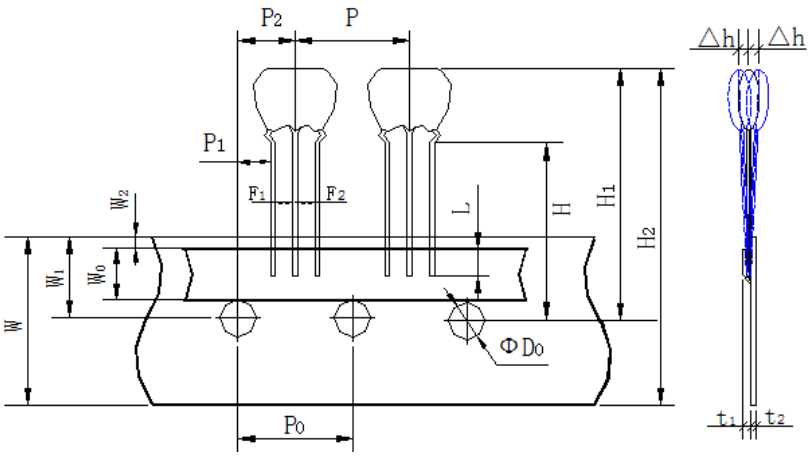
Note:

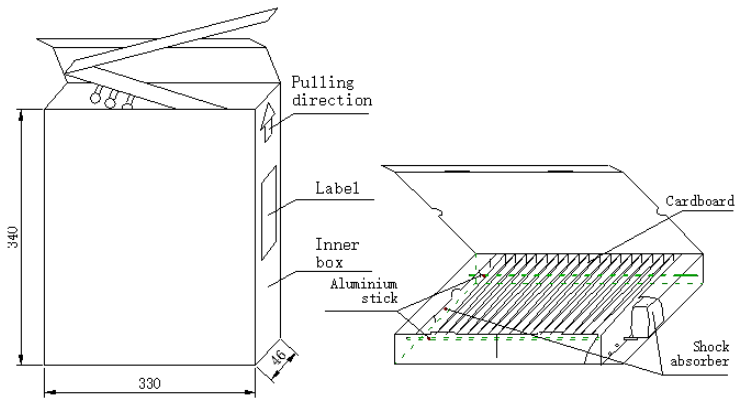
Parts shall be tested under the condition (Temp.: 20±15℃,Humidity 65±20% R.H.) unless the standard condition(Temp.: 25±3 ℃, Humidity :65±10% R.H.) is regulated to measure.

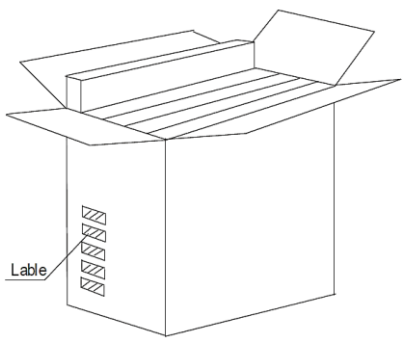
TAPE AND AMNO-Pack (Unit: mm)

All Devices are packed in accordance with EIA standard RS-481-2 and Packed in AMNO-Pack
2000pcs/Tape, 1 Tape/Box

MARK	SIZE(mm)
P	12.7±0.5
Po	12.7±0.2
P1	3.85±0.5
P2	6.35±1.30 (include the slant of product)
F1	2.5±0.3
F2	2.5±0.3
Wo	5.5±0.5
W1	9.0±0.5
W2 max.	1.0
W	18.0±0.5
H	18.0
H1	27.0 max. (Varies with P/N)
H2	36.0 max. (Varies with P/N)
L min.	3.0
ΦDo	4.0±0.2
t1	0.6±0.2
t2 max	1.5.
△h max.	1.0







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