




SPECIFICATION SHEET

SPECIFICATION SHEET NO.	N0308-CP4M910000S001
DATE	March. 08, 2021
REVISION	A0
DESCRIPTION	<p>MHz SMD Ceramic Resonator, 6030 Type, L6.0*W3.0*H1.5mm, 3 pads</p> <p>4.91000MHz, Built-in Capacitance, 30 pF</p> <p>Frequency Accuracy +/-0.5%, Operating Temp. Range -25°C ~+85°C,</p> <p>Tape/Reel, Reflow Profile Condition 260 °C Max.</p> <p>RoHS/RoHS III compliant, Tape/Reel</p>
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	TGS CRTP 4.91MG TLF
PART CODE	CP4M910000S001

VENDOR APPROVE		
Issued/Checked/Approved	  	
DATE: March. 08, 2021		

CUSTOMER APPROVE
DATE:

MHZ SMD CERAMIC RESONATOR CRTP SERIES

MAIN FEATURE

- MHz SMD Ceramic Resonator, L6.0*W3.0*H1.5mm, 3 pads
- Low cost, Built-in load capacitance type.
- Reflow Profile Condition 260 °C Max.
- Cross more competitors part
- RoHS/RoHS III compliant



APPLICATION

- Measurement Instrument
- Communication Electronics

PART CODE GUIDE

RFQ
[Request For Quotation](#)

CP	4M910000	S	001
1	2	3	4

- 1) CP: Part family Code for MHz SMD Ceramic Resonator, L6.0*W3.0*H1.5mm, 3 pads, CRTP series
- 2) 4M910000: Frequency range code for 4.91000MHz
- 3) S: SMD type, Package Tape/Reel, 4000pcs/Reel
- 4) 001 Specification code for original Part No. **TGS CRTP 4.91MG TLF**

MORE FREQUENCY RANGE AVAILABLE (MHz)

4.0000	4.9100	7.3700	8.000	12.000					

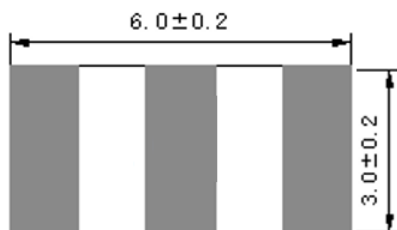
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DIMENSION (Unit: mm, Tol. +/-0.15mm)

Image for reference

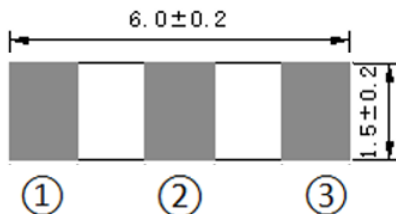


CRTP



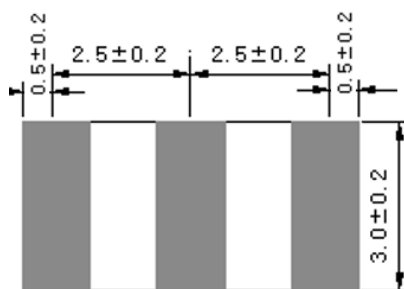
Marking

Line 1: Frequency Range, 4.91

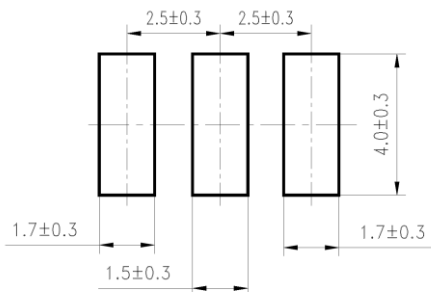


Connection

① Input ② Ground ③ Output




Recommend Pad Layout



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ELECTRICAL PARAMETERS

Parameter		Part No. Symbol	Units	Value			Condition
				Min.	Typical	Max.	
Original Manufacturer		TGS	TGS Crystals				
Holder Type		CRTP	SMD Ceramic Resonator, L6.0*W3.0*H1.5mm, 3 pads,				
Frequency Range		4.91	MHz	4.9100			
Withstanding Voltage			V	100			@DC, 5s Max.
Insulation Resistance			MΩ	500			@10V, 1 min.
Operation Temperance			°C	-25		+85	
Storage Temperance			°C	-55		+85	
Rating Voltage			V	6			DC
				15			p-p AC
Frequency Accuracy			%	+/-0.5			
Resonant Impedance			Ω			30	
Temperature Coefficient of Oscillation Frequency			%			+/-0.3	Oscillation Frequency drift, - 25°C ~ +85°C)
Oscillation Frequency Aging Rate (10 years)			%			+/-0.10	From initial value
IC application			1/6TC4069UBPx2				
Design Mode		MG					
Built-in Capacitance			pF	30			
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 CRTP 4.91MG TLF**

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

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RELIABILITY

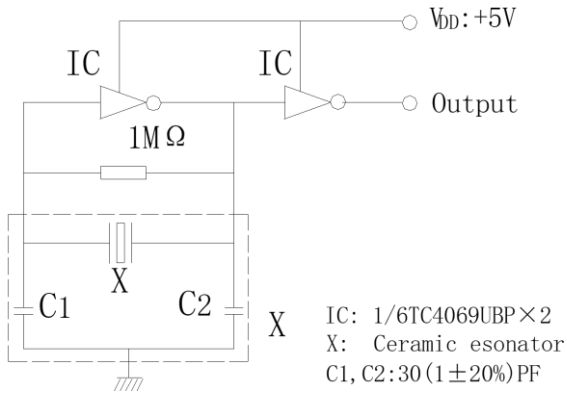
Test Items	Test Method And Conditions	Performance Requirements
Humidity	Keep the resonator at 60°C±2°C and 90%-95% RH for 1000h. Then Release the resonator into the room Condition for 1h prior to the Measurement.	It shall fulfill the specifications in Table 1.
High Temperature Exposure	Subject the resonator to 85°C±2°C for 1000h, 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 -40°C±2°C for 1000h, 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°C ; Time: 30 min. @85 +/--3°C	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°C±5°C 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 $\Delta F_{osc}/F_{osc}$ (%) max	±0.2
Resonant Impedance (Ω) max	35
The limits in the above table are referenced to the initial measurements.	

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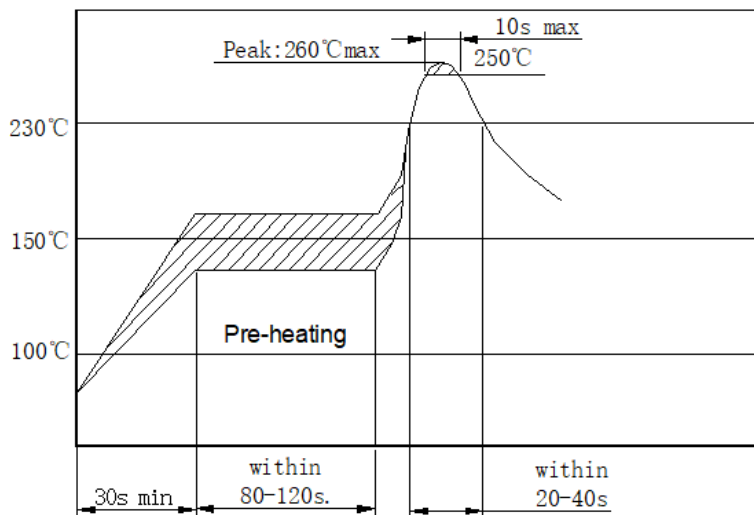
TEST CIRCUIT (For Reference Only)



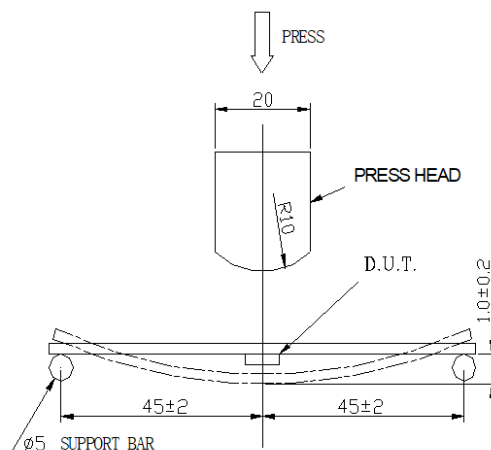
Note:

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

SUGGESTED REFLOW PROFILE (For Reference Only)



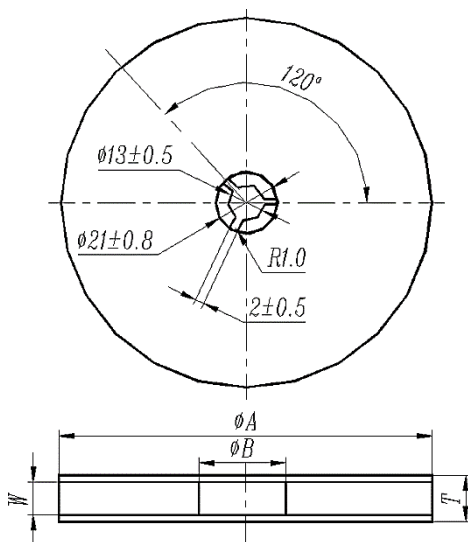
BOARD BENDING TEST- FIGURE 1



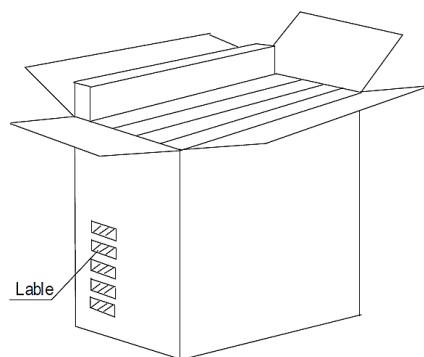
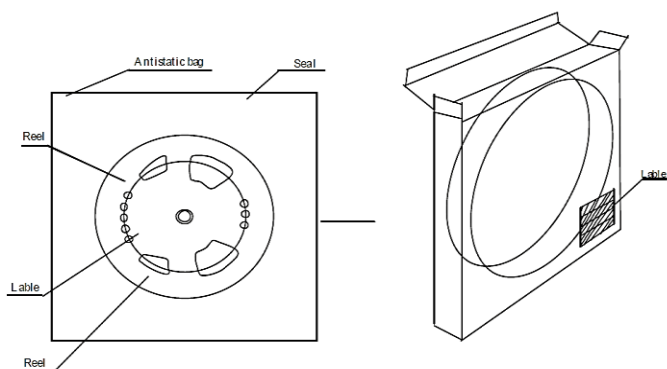
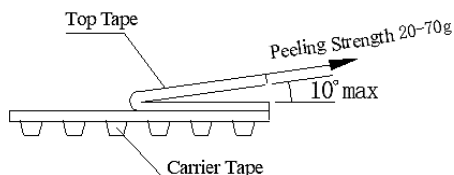
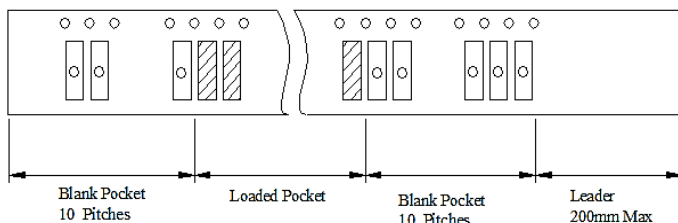
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TAPE/REEL (Unit: mm)

All Devices are packed in accordance with EIA standard RS-481-2 and specifications. 4000pcs/Reel



Symbol	Dimension
ϕA	330±3.0
ϕB	80.0 Min.
W	16.4 Min.
T	22.4 Max.



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