CERAMIC FILTER

Approved by:
Checked by:
Issued by:

SPECIFICATION

P/N: LTCS10.7MA20GJM

深圳市晶科鑫实业有限公司
SHENZHEN CRYSTAL TECHNOLOGY INDUSTRIAL CO., LTD.

Tel: 86-755-88352809
Fax: 86-755-88353718
E-mail: sjksale@126.com
URL: Http://www.q-crystal.com

1 SCOPE

This specification shall cover the characteristics of the ceramic filter with the type LTCS10.7MA20GJM. The LTCS10.7MA20GJM filters are small, high performance and very thin (1.4mm) chip devices consisting of 2 ceramic elements for communication equipment. They are designed on MgTiO3 ceramic cap package.

2 PART NO.

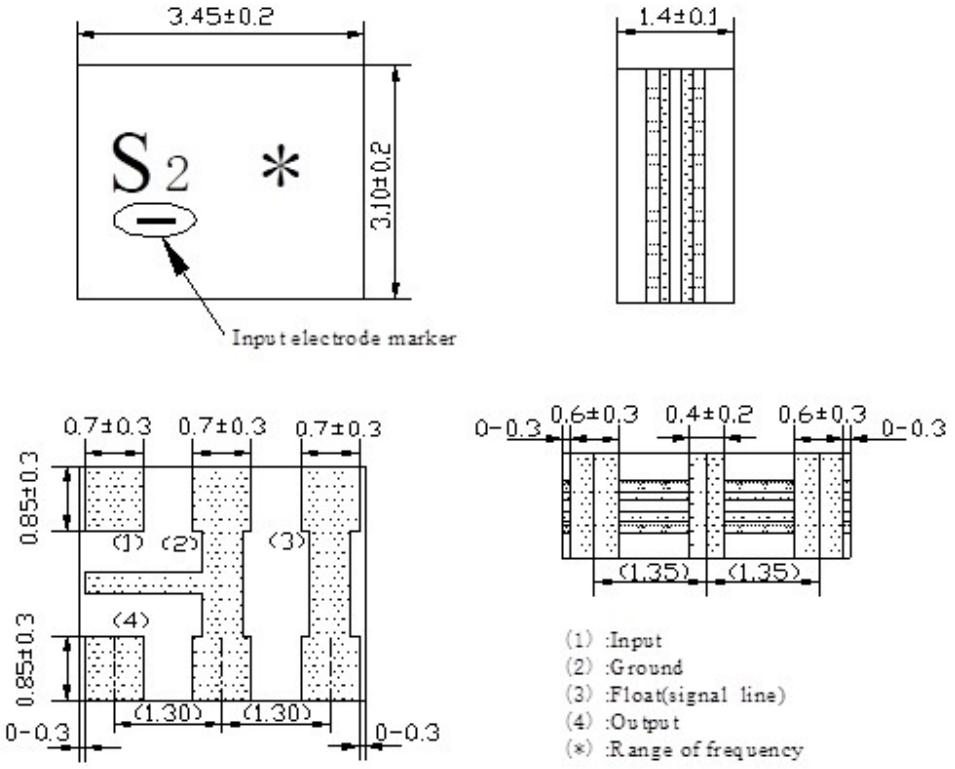
PART NUMBER	CUSTOMER PART NO.	SPECIFICATION NO.
LTCS10.7MA20GJM		

3 OUTLINE DRAWING

3.1 Appearance

No visible damage and dirt.

3.2 Dimensions (unit: mm)



4 ELECTRICAL SPECIFICATIONS

4.1 RATING

Items	Content
Withstanding Voltage (V)	50 (DC，1min)
Insulation Resistance Ri,（MΩ） min.	100 （100V，1min）
Operating Temperature Range (℃)	-25～+85
Storage Temperature Range (℃)	-40～+85

4.2 ELECTRICAL SPECIFICATIONS

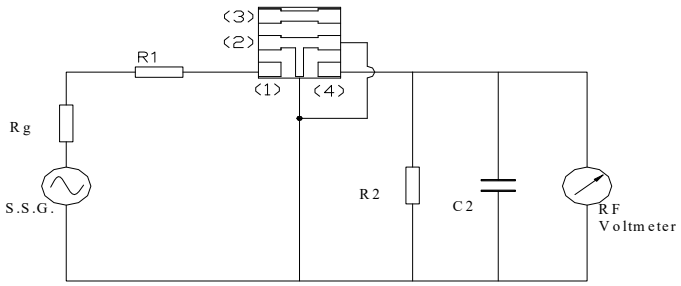
Items	Content
Center Frequency(fo)(MHz)	10.700±0.020
3dB Bandwidth(kHz)	330±20
20dB Bandwidth(kHz) max	700
Insertion Loss (dB) (at minimum loss point)	3.0±2.0
Ripple (dB) max (within 3dB Bandwidth)	1.0
Spurious Response (dB) min(9MHz-12MHz)	30
Input/output Impedance(Ω)	330
Temp. Characteristic	±0.5% (–20℃ to 80℃)

5 TESTS

5.1 Test Conditions

Parts shall be tested under a condition (Temperature:+20℃±15℃，Humidity:65%±20%R.H.)unless the standard condition(Temperature:+25℃±3℃,Humidity:65%±5% R.H.) is regulated to test.

5.2 Test Circuit:



R1+_Rg =R2=330Ω
C2=10 Pf (Including stray capacitance and capacitance of RF Voltmeter)
S.S.G：Output Voltmeter

①:Input
②:Ground
③:Float
④:Output

6 PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

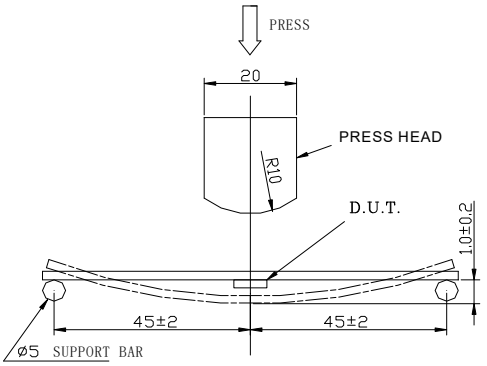
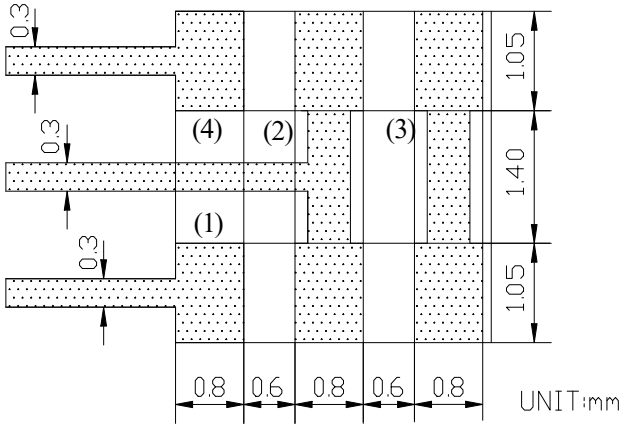
No	Item	Condition of Test	Performance Requirements
6.1	Humidity	Stored at 40℃±2℃，in 90%～95%R.H. for 96h, and left at room temp. for 1h before measurement.	It shall fulfill the specifications in Table 1.
6.2	High Temperature Exposure	Stored in 85℃±2℃ for 96h，and left at room temp. for 1h before measurement.	It shall fulfill the specifications in Table 1.
6.3	Low Temperature Exposure	Stored in -40℃±3℃ for 96h，and left at room temp. for 1h before measurement.	It shall fulfill the specifications in Table 1.
6.4	Temperature Cycling	After temp. cycling of -40℃(30 min) to +85℃(30 min) was performed 5 times, filter shall be measured after being placed in natural condition for 1h .	
6.5	Soldering Test	Passed through the reflow oven under the following condition for 2 times, and left at room temp. for 24h before measurement.	
6.6	Solderability	Dipped in 235℃±5℃ solder bath for 3s±0.5s with rosin flux. Temperature at the surface of the substrate: Time Preheat 150℃±5℃: 60s±10s Peak 235℃±5℃: 10s±3s	The terminals shall be at least 95% covered by solder
6.7	Drop test	Free drop to the wood plate from the height of 70 cm for 3 times.	It shall fulfill the specifications in Table 1.
6.8	Vibration	Apply the vibration of sweep frequency 10 to 55Hz/minutes, amplitude 1.5mm, duration 2h in each direction of 3 planes.	It shall fulfill the specifications in Table 1.
6.9	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) 	Mechanical damage such as breaks shall not occur.

TABLE 1 SPECIFICATION AFTER TEST ABOUT CHARACTERISTICS

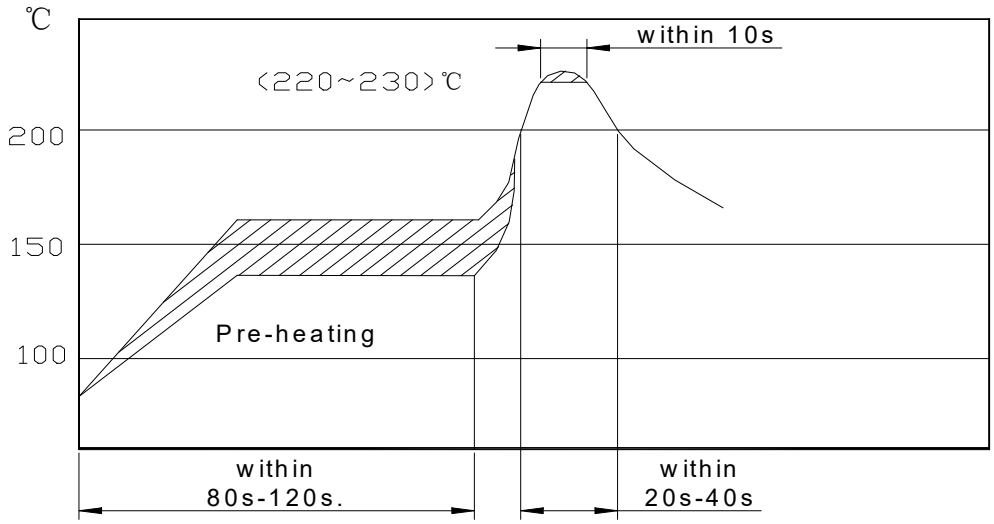
Item	Specification after test
Insertion Loss Drift (dB) max	±2
3dB Bandwidth Drift (kHz) max	±25
20dB Bandwidth Drift (kHz) max	±60
Note： The limits in the above table are referenced to the initial measurements.	

7 RECOMMENDED LAND PATTERN AND REFLOW SOLDERING STANDARD CONDITIONS

7.1 Recommended land pattern



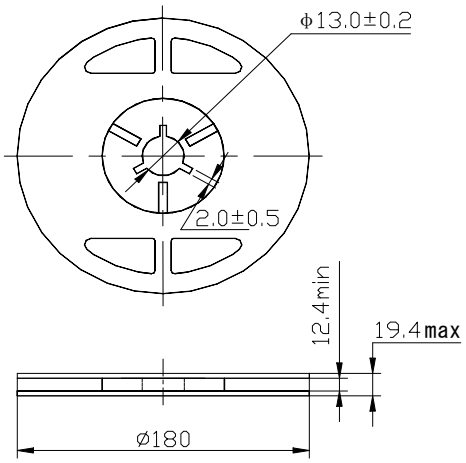
7.2 Recommended reflow soldering standard conditions



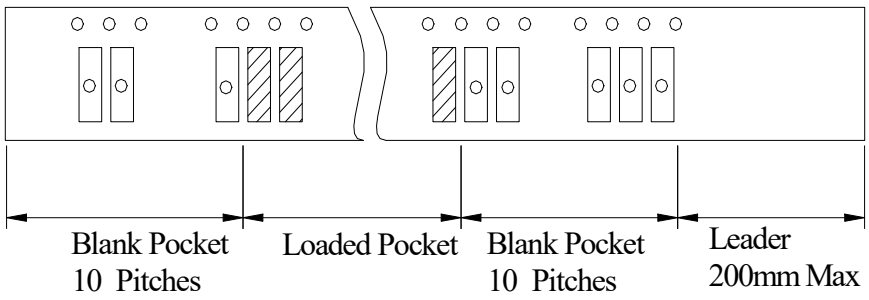
8 PACKAGE

Per plastic reel 1000 pieces of piezoelectric ceramic part

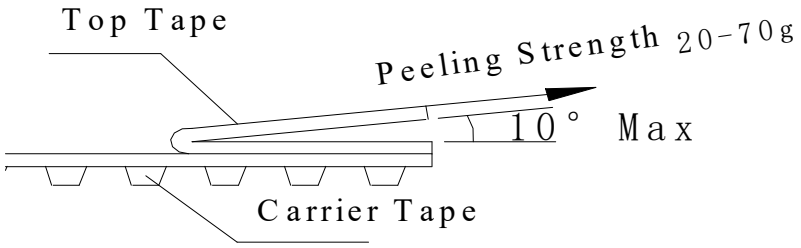
8.1 Reel



8.2 Packing Method Sketch Map



8.3Test Condition of Peeling Strength



9 OTHERS

9.1 Caution of use

9.1.1 Do not use this product with bend. Please don't apply excess mechanical stress to the component and terminals at soldering.

9.1.2 The component may be damaged when an excess stress will be applied.

9.1.3 Conformal coating of the component is acceptable, However the resin materials, curing temperature and other process conditions should be evaluated to conform stable electrical characteristics are maintained.

9.2 Notice

9.2.1 This specification mentions the quality of the component as a single unit. Please insure the component is thoroughly evaluated in your application circuit.

9.2.2 Please return one of this specification after your signature of acceptance.

9.2.3 When something gets doubtful with this specification, we shall jointly work to get an agreement.