

SPECIFICATION

SHENZHEN JING PENGYUAN ELECTRONICS CO., LTD

Product Name: QUARTZ CRYSTAL

Type: HC-49US 16.000MHz

Customer P/N:

(APPROVAL BY CUSTOMER) ____ / ____ / ____			

Jingpengyuan Technical ____/____/____		
Approve	Auditing	Compile

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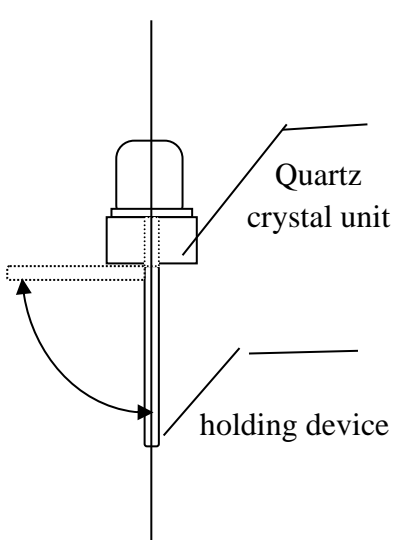
1、Electrical characteristics

Nominal Frequency 标称频率：16.000MHz
Mode of Oscillation 振动模式： AT Fundamental
Frequency Tolerance at 25℃ 调整频差： ±30ppm
Temperature Frequency Stability 温度频差： ±30ppm
Operating Temperature Range 工作温度： -20℃-- +70℃
Storage Temperature 贮存温度： -40℃-- +80℃
Equivalency Resistance 等效电阻： ≤40 Ω
Load Capacitance 负载电容： 18PF
Drive Level 激励功率： 10 uW Max
Shunt Capacitance 静电容： ≤7.0pF
Insulation Resistance 绝缘阻抗： >500M Ω at DC 100V
Aging 老化： ±3ppm/year

2、Reliability Test Sheet

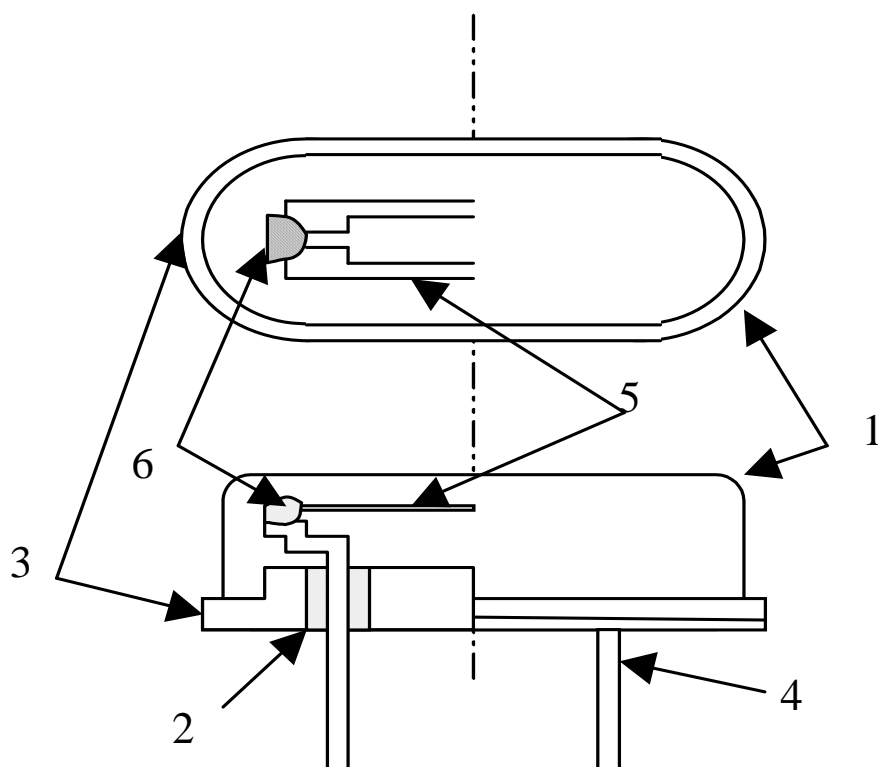
Test Item		Test Method	Spec. No.
Environmental Test			
1-1	Low Temperature Testing	Expose the sample in an inoperative mode to 500 hours in a -40°C	A
1-2	High Temperature Testing	Expose the sample in an inoperative mode to 500 hours in a +85°C	B
1-3	Damp Heat	Expose the sample in an inoperative mode to 500 hours in a +65°C, and 95% RH.	B
1-4	Temperature Cycle Testing	Subject the sample to 5 temperature v variation cycles at -40°C for 30 minutes and +100°C for the next 30 minutes in each cycle.	A
Mechanical Performance Tests			
2-1	Drop Testing	Orient the sample in any attitude and drop it three times from a height of 1m onto a concrete.	B
2-2	Vibration	Subject the sample to 1.5 minute cycles of frequencies of 10 to 55Hz and amplitudes of 1.5 mm for two hours in each of the X,Y, and Z directions, for 6hours in total.	A
2-3	Tensile strength Of terminal	Apply a 1.5kg tensile load to each terminal and sustain it for 30±5seconds.	C
2-4	Bending strength of terminal	Apply a 0.5kg load to one of the terminals, and after tilting the main unit for 90°, restore to its original attitude. Then, tilt it in an opposite direction for 90°, and restore toots original attitude.(See Fig 1)	C
2-5	Solder ability	Dip terminals in RMA flux for 5±0.5sec. Under room temperature. Dip terminals in 230±5°C solder bath for 5±0.5 seconds. The solder shall leave an undipped terminal length of 2mm at their base.	D
2-6	Resistance to Soldering Heat	Dip terminals in a 260±5°C solder bath for 10±0.5 seconds. The solder shall leave an undipped terminal length of 2mm at their base.	A

Specifications

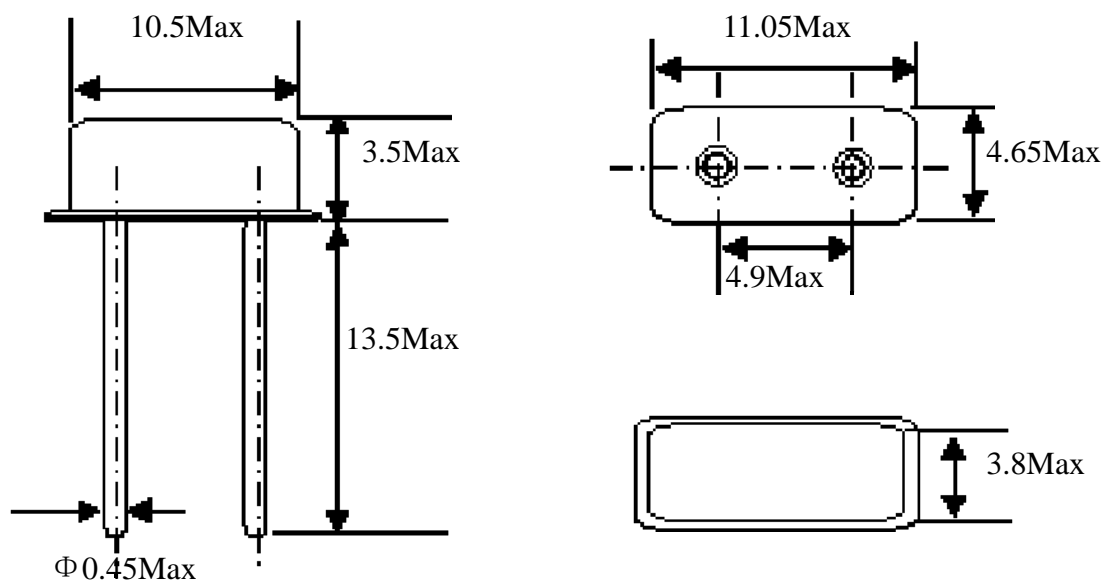
Spec. No.	Specification	 <p>Quartz crystal unit</p> <p>holding device</p>
A	Any variation between the pre- and post-test frequencies shall remain within ± 5 ppm. The post-test equivalent series resistance shall remain within its specified tolerance range.	
B	Any variation between the pre- and post-test frequencies shall remain within ± 10 ppm. The post-test equivalent series resistance shall remain within its specified tolerance range.	
C	After each test, no visible damage shall be manifested, nor shall the hermetic seal break down.	
D	At least 90% of each dipped area shall be covered by fresh solder.	
E	$10^{-2} \text{ uPa} \cdot \text{m}^3/\text{s}$ Max	

3、Part List

Item	Part Name	Material	Qty.	Color	Supplier
1	Enclosure	Nickel Silver	1	Silver	Japan ISO
2	Glass.	Glass	2	Brown	Japan ISO
3	Base	S.P.C	1	Silver	Japan ISO
4	Terminal	Fe-Ni	2	Silver	Japan ISO
5	Blank	Synthetic Quartz Crystal	1	Crystalline	China Jiaojiang
6	Bond	Conductible Bond	2	Silver	Japan Three Bond



4; Dimension(UNIT: mm)



5、Marking specification

