



深圳市凯越翔电子有限公司

石英谐振器规格书

产品名称:	石英晶体谐振器
产品型号:	HC-49USSMD/24.000 MHZ
产品参数:	10PF/±10ppm
原厂型号:	KBD240001010
凯越翔技术部:	董宗全

客 户 确 认 栏

认证印章	负责人印章
年 月 日	年 月 日

本规格章程连同本页共 5 页

产品规格书

1.GENERAL	
1.1 HOLDER TYPE	HC-49USSMD
1.2 MODE OF VIBRATION	AT CUT
1.3 OSCILLATION MODE	FUND
1.4 TEST FACILITIES	S&A KH-1240
1.5 STORAGE TEMPERATURE	-40°C TO +85°C
1.6 DRIVER LEVEL	100 μ W
2.ELECTRICAL PARAMETER	
2.1 NORMAL FREQUENCY	24.000 MHz
2.2 FREQUENCY TOLERANCE (25°C ±2°C)	±10ppm
2.3 TEMPERATURE STABILITY	±20ppm
2.4 OPERATING TEMPERATURE RANGE	-20°C TO + 70°C
2.5 LOAD CAPACITANCE	10 PF
2.6 MOTIONAL CAPACITANCE	
2.7 SHUNT CAPACITANCE	3PF MAX
2.8 EFFECTIVE SERIES RESISTANCE	40 Ω MAX
2.9 INSULATION RESISTANCE	500M OHMS MIN AT DC 100V
3.MECHANICAL PARAMETER	
3.1 SOLDERABILITY	95%COVERAGE BY USING 90/10 SOLD AT 245°C FOR 5 SEC. DIPPING AFTER IMMERSION IN ALPHA 611 FLUX FOR 5 SEC.

I MECHANICAL ENDURANCE 机械特性

Provided that measurement shall be carried out after letting it alone in the room temperature for 1 hour.

试验产品应在室温下放置 1 小时后方可进行以下试验。

① SHOCK 抗击测试

Electrical characteristics shall be satisfied after dropping three time from the height of 50 cm onto Hard wooden board .

产品从 50 cm 高度自由落下到硬木板 3 次电气参数仍符合要求。

② VIBRATION 抗振测试

Electrical characteristics shall be satisfied after supplying following Vibration .

电气性能应满足以下的振动要求。

(1)VIBRATION FREQUENCY	振动频率	10—55Hz
(2)REPEATED PERIOD	周 期	1—2min
(3)FULL CYCLE	全 振 幅	1.5mm P—P
(4)DIRECTION	振动方向	X.Y.Z
(5)TIME	振动时间	2hours/each direction 2 小时/每个方向

③ STRENGTH OF TERMINALS/LEAD—WIRES 引脚与基座底部的强度测试

-1 PULLING 拉力测试

a)Body of specimen shall be fixed, and 900g of tension weight shall be supplied gradually to axial direction of terminals/lead-wires for 30 sec .

产品应固定在 900g 的拉力的情况下逐渐延基座底部/引线脚中轴方向拉 30 秒钟。

b)After above test a), there is no observation of any visual damages on the specimen.

经过 a)的测试, 产品应没有任何可以目测到的损坏。

-2 BENDING 弯曲度测试

a)Body of specimen shall be fixed, and 90degree bending shall be given, being supplied 225gs tension weight .

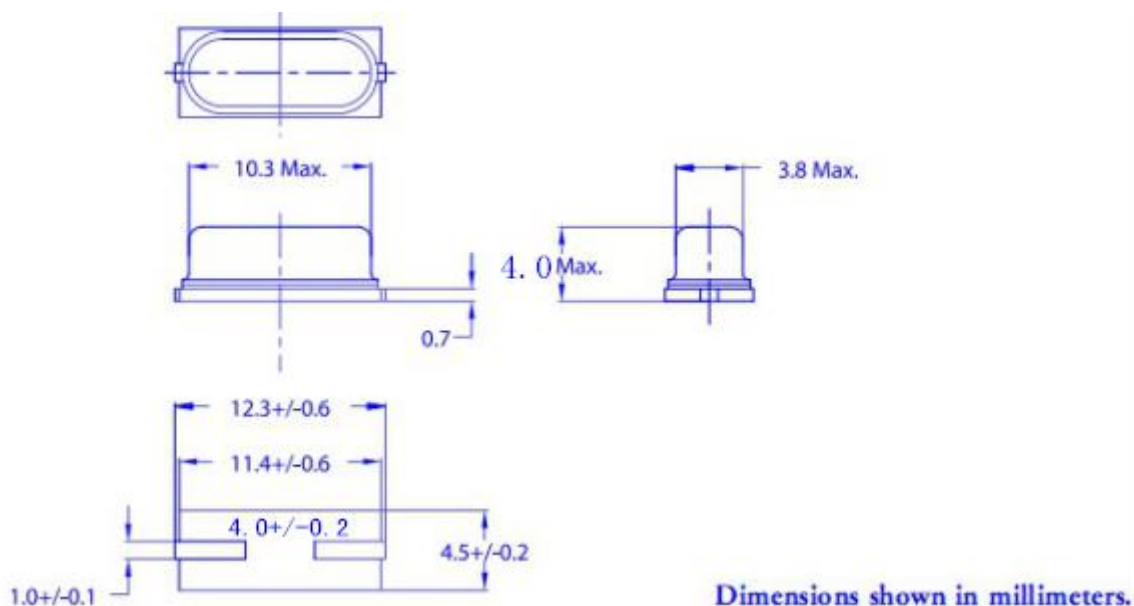
After that, terminals/lead-wires shall be straightened gradually .

Then the same bending and straightening shall be supplied to the opposite direction in the same axial . (Refer to Fig-1)

产品固定后, 以 90° 的弯曲并供以 225g 的拉力, 然后沿同一轴线并与相反的方向 90° 的弯曲及伸直。(产品结构如图 1 所示)

b)After above test a), there is no observation of any visual damages on the specimen .

通过 a)测试后, 晶体上应没有任何可以目测到的损坏。



④ SEALING TIGHTNESS 气密性测试

There is no observation of gas bubble after specimen put in hot water at $+90^{\circ}\text{C}$ — $+95^{\circ}\text{C}$ for 5 min .

晶体置于 $+90^{\circ}\text{C}$ — $+95^{\circ}\text{C}$ 的热水中 5 分钟，应没有气泡产生。

⑤ SOLDERING DIP 浸锡测试

Terminals/lead-wires of specimen shall be dipped into solder melted tank at $+230^{\circ}\text{C}$ — $\pm 5^{\circ}\text{C}$ for 3sec . Dipping depth shall be 2mm from the bottom of specimens body . (After applying ROSIN flux) Soldering portion shall be covered in over 90% of terminals/lead-wires dipped .

将晶体引线脚置于 $+230^{\circ}\text{C}$ — $\pm 5^{\circ}\text{C}$ 的锡桶中 3 分钟，基座底部离锡表面 2mm，（加上松香焊剂后）引线脚的沾锡率为 90%以上。

⑥ SOLDER HEATING 沾锡耐热性测试

Terminals/lead-wires of specimen shall be dipped into solder melted tank at

$+350^{\circ}\text{C}$ — $\pm 10^{\circ}\text{C}$ for 3_{-0}^{+1} sec .

Electrical characteristics shall be satisfied after dipping depth shall be 2mm from edge of terminals/lead-wires .

将已沾锡的产品的引线脚置于 $+350^{\circ}\text{C}$ — $\pm 10^{\circ}\text{C}$ 的锡桶中 3-4 秒钟后 基座底部离锡表面 2mm，电气性能仍符合要求。

II ENVIRONMENTAL ENDURANCE 环境特性

Provided that measurement shall be carried out after letting it alone in the room temperature for 1 hour .

必须将试验产品在室温下放置 1 小时后方可进行测试。

① HUMIDITY 耐湿测试

Electrical characteristics shall be satisfied after letting it alone at $60^{\circ}\text{C} \pm 2^{\circ}\text{C}$ in humidity of 90—95% for 250 hours .

试验产品在温度为 $60^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ，相对湿度 90—95% 的试验箱内放置 250 小时后电气性能仍符合要求。

② STORAGE IN LOW TEMPERATURE 低温储存测试

Electrical characteristics shall be satisfied after letting it alone at $-30^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 250 hours .

试验产品在温度为 $-30^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 的试验箱中放置 250 小时后电气性能仍符合要求。

③ STORAGE IN HIGH TEMPERATURE 高温储存测试

Electrical characteristics shall be satisfied after letting it alone at $+85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 250 hours .

试验产品在温度为 $+85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 的试验箱中放置 250 小时后电气性能仍符合要求。

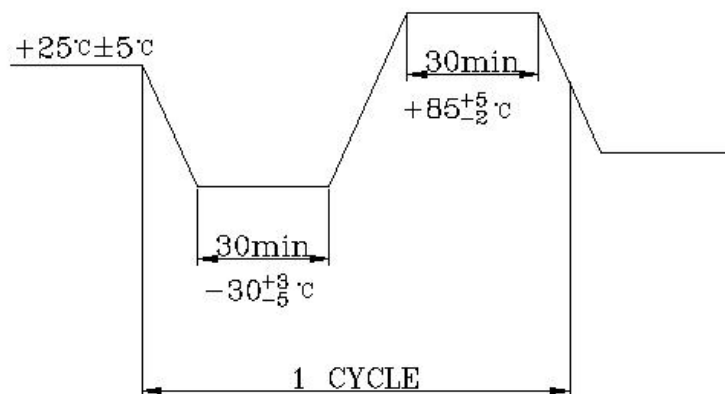
④ TEMPERATURE CYCLE 温度变换测试

Electrical characteristics shall be satisfied after supplying the following temperature cycle (3cycles) .

Temperature shift from low to high, high to low shall be done in $1^{\circ}\text{C}/\text{min}$ (Refer to Fig-2) .

电气性能应满足以下温度周期要求 (3 个周期)

温度变换从低到高，从高到低变化量为 $1^{\circ}\text{C}/\text{分}$ 。(如图 2 所示)



PIG — 2

拟 制	成望生	审 核	董宗全	批 准	谢为亮
-----	-----	-----	-----	-----	-----

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Crystals](#) category:

Click to view products by [KYY](#) manufacturer:

Other Similar products are found below :

[CX3225GB25000M0PPSZ1](#) [718-13.2-1](#) [7A-40.000MAAE-T](#) [FL2000085](#) [99-BU](#) [9B-15.360MBBK-B](#) [9C-7.680MBBK-T](#) [H10S-12.000-18-EXT-TR](#) [ABC2-6.000MHZ-D4Z-T](#) [ABLS-20.000MHZ-D2-T](#) [ABS071-32.768KHZ-6-T](#) [R38-32.768-12.5-5PPM-NPB](#) [BTD1062E05A-513](#) [21U15A-21.4MHZ](#) [RTX-781DF1-S-20.950](#) [LFXTAL066198Cutt](#) [9C-14.31818MBBK-T](#) [A-11.000MHZ-27](#) [ABL-27.000MHZ-B4Y-T](#) [ABM11-132-24.000MHZ-T3](#) [ABM3B1-25.000MHZ-D2Y-T](#) [SPT2A-.032768B](#) [SPT2A.032768G](#) [LFXTAL065253Cutt](#) [LFXTAL066431Cutt](#) [XT9S20ANA14M7456](#) [XT9SNLANA16M](#) [7A-24.576MBBK-T](#) [7B-30.000MBBK-T](#) [CX2520DB16000H0HPQCC](#) [MMCC2R32.7680KHZ](#) [6504-202-1501](#) [6526-202-1501](#) [ABLS-12.000MHZ-B2Y-T](#) [7A-10.000MBBK-T](#) [SG636PCE-20.000MC](#) [3404](#) [CM315D32768EZFT](#) [C1E-24.000-7-2020-R](#) [C1E-19.200-12-1530-X-R](#) [C1E-16.000-12-1530-X-R](#) [ABM11-16.000MHZ-9-B1U-T](#) [FL5000014](#) [EUCA18-3.1872M](#) [FX0800015](#) [425F35E027M0000](#) [FP0800018](#) [MS3V-T1R-32.768kHz-7pF-20PPM-TA-QC-Au](#) [VXM7-1C1-16M000](#) [MS3V-T1R-32.768kHz-9pF-20PPM-TA-QC-Au](#)