

Specification

TO:STE508

Model Name: Crystal Unit

PART NO: 49S49S2-3.000-150.000M

CUSTOMER PART NO.:

APPROVAL SHEET

Approved?	Yes
	No.
Customer's comments are welcomed here.	
Pls return this copy as a certificate of your approval by email.	
Approved By	Date: _____

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History Record

Date	Part No.	SPEC No.	Description.	Remarks.
	ISO9001:2000 ISO14001:2004	Approved by	Check by	Design by
		May-15-2007	May-10-2005	Jan-16-1999
Reversions	Total Page	<i>Xu gang dong</i>	<i>Liu jun</i>	<i>Wang hong</i>
CU-002SDIP	1			

SPECIFICATION OF CRYSTAL UNIT

1. RANGE:

This specification shall cover the characteristics of crystal unit with Strong's P/N: 49S-49S2-3.000M-150.0000M

2. ELECTRICAL SPECIFICATION

ITEM	SPECIFICATION
PACKAGE TYPE	49S/49S2
NOMINAL FREQUENCY	3.000MHz-150.000MHz
LOAD CAPACITANCE	20PF, or Specify
OSCILLATION MODE	Fundamental, or 3rd
FREQUENCY TOLERANCE AT 25°C ± 5°C	± 10PPM, or specify
EQUIVALENT SERIES RESISTANCE	Table 1
DRIVE LEVEL	1.0MW
OPERATING TEMPERATURE RANGE	-20°C~+70°C, or -40°C~+85°C
STORAGE TEMPERATURE	-55°C~+105°C
FREQUENCY STABILITY	± 10PPM, or Specify
SHUNT CAPACITANCE	<7PF
AGING	± 3PPM/YEAR
INSULATION RESISTANCE	>500MΩ at DC 100V ± 15V

3. MECHANICAL SPECIFICATION

1) Terminal Strength

* Lead pulling test

Conditions: Load	907.2 gram
Direction	To the downward
Duration of applied force	5 seconds
Results:	There should be no distortion in appearance.

* Lead bending test

Conditions: Load	453.6 gram
Bending angle	90° to normal position
Rate of bending	3 seconds in each cycle
Number of bending	3
Results:	There should be no distortion in appearance.

2) Lead solderability test

Conditions:	Dipping in solder(+230°C ± 5°C)for 5 seconds
Results:	More than 95% of surface being tested should be coated uniformly with solder.

3) Vibration test

Conditions: Frequency 10 – 55Hz
 Amplitude 0.762mm
 Sweep 1.0 minute
 Duration 2 hours

Results: Frequency and wave form of tested products must remain within specifications.

4) Drop test

Conditions: Method of drop Natural drop
 Dropping floor Hard wood board
 Height 30cm
 Number of drops 3 times

Results: Frequency and wave form of tested products must remain within specifications.

4. ENVIRONMENTAL SPECIFICATION

1) Temperature test

* Temperature cycling test

Conditions: Steps of cycle 1) At -55°C,30 minutes
 2) At +25°C,10 - 15 minutes
 3) At +85°C,30 minutes
 4) At +25°C,10 - 15 minutes

Number of cycles 3 times

Results: Frequency and wave form of tested products must remain within specifications.

* Low Temperature test

Conditions: Temperature -20°C ± 2°C
 Length of test 96 hours

Results: There should be no stain on surface of products.
 Frequency and wave form of tested products must remain within specifications.

2) Aging test

Conditions: Temperature +85°C ± 20°C
 Length of test 96 hours

Results: Deviation of frequency must be less than ± 3ppm

3) Salt spray test

Conditions: Temperature +35°C ± 2°C
 Length of test 48 hours
 NaCl % 5%

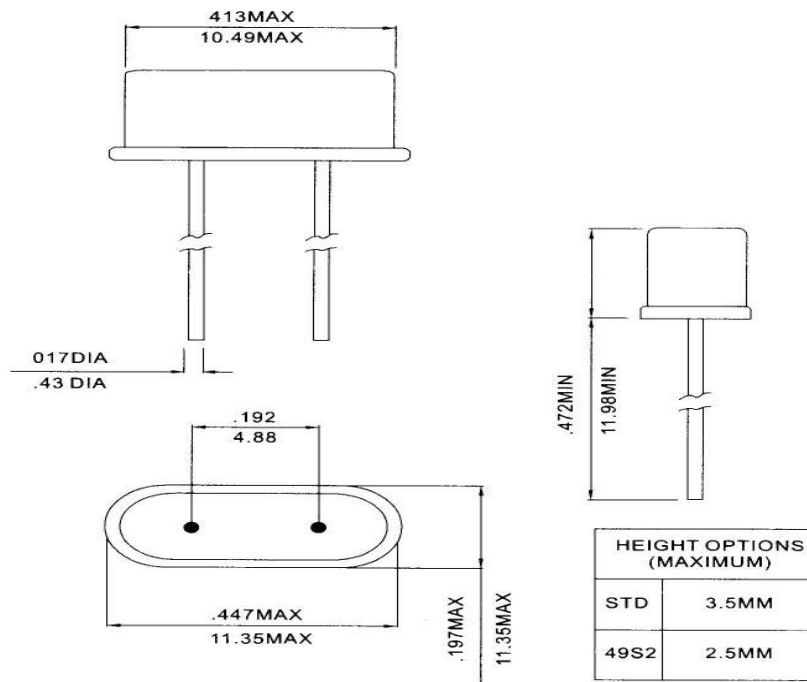
Results: There should be no stain on surface of products.

4) Humidity test

Conditions: Temperature +40°C ± 2°C
 Relative humidity 90 - 95%
 Length of test 96 hours

Results: a. Insulation resistance must be 500 MΩ /100 Vac. minimum
 b. Resistance and wave form must remain within specifications.

5. Dimension (49S)



Frequency	3.0~3.9MHz	4.0~4.9MHz	5.0~5.9MHz	6.0~7.9MHz	8.0~9.9MHz	10.0~14.9MHz	15.0~54.0MHz	36.0~150.0MHz
Mode	Fundamental	Fundamental	Fundamental	Fundamental	Fundamental	Fundamental	Fundamental	3rd
ESR	150 ohmsMax.	130 ohmsMax	120 ohmsMax	100 ohmsMax	80 ohmsMax	60 ohms Max.	40 ohms Max.	70 ohms Max.