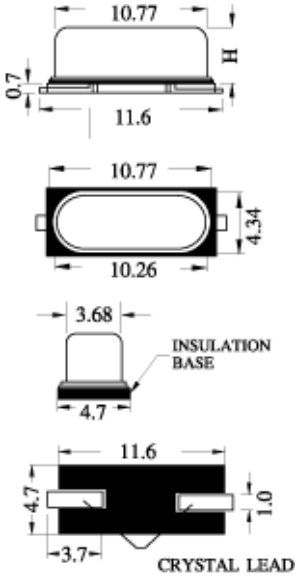
1. SCOPE

This specification shall cover the characteristics of crystal unit with HC-49/S SMD 3.579545—27.00MHz

2. ELECTRICAL SPECIFICATION

ITEM	SPECIFICATION
HOLDER TYPE	HC-49/S SMD
NOMINAL FREQUENCY	3.579545—27.00MHz
LOAD CAPACITANCE	10PF to series
OSCILLATION MODE	Fundamental
FREQUENCY TOLERANCE AT 25℃±2℃	±30PPM
EQUIVALENT SERIES RESISTANCE	Based on frequency
DRIVE LEVEL	0.5MW
OPERATING TEMPERATURE RANGE	-10℃~+60℃
FREQUENCY STABILITY	±30PPM
SHUNT CAPACITANCE	7PF max
AGING	±5PPM/YEAR
INSULATION RESISTANCE	>500MΩ at DC 100V

3. Dimension (mm)



H=4.0mm

4. 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℃±5℃)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.	

5. ENVIRONMENTAL SPECIFICATION

1) Temperature test

* Temperature cycling test

Conditions: Steps of cycle 1) At -55℃,30 minutes
2) At +25℃,10 - 15 minutes
3) At +85℃,30 minutes
4) At +25℃,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℃±2℃
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℃±20℃
Length of test 96 hours

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

3) Salt spray test

Conditions: Temperature +35℃±2℃
Length of test 48 hours
NaCI % 5%

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

4) Humidity test

Conditions: Temperature +40℃±2℃
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.