



CRYSTAL UNIT

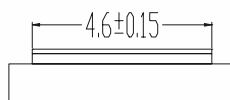
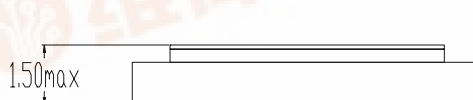
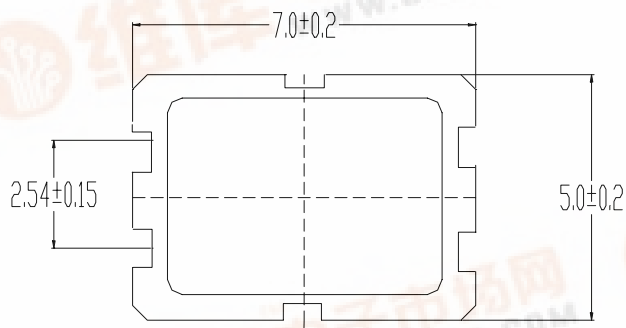
1. SCOPE

This specification shall cover the characteristics of crystal unit with
SMD0705-10.00—27.00MHz

2. ELECTRICAL SPECIFICATION

ITEM	SPECIFICATION
HOLDER TYPE	SMD0705
NOMINAL FREQUENCY	10.00—27.00MHz
LOAD CAPACITANCE	10PF to series
OSCILLATION MODE	Fundamental
FREQUENCY TOLERANCE AT $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$	$\pm 30\text{PPM}$
EQUIVALENT SERIES RESISTANCE	$40\ \Omega$ max.
DRIVE LEVEL	0.5MW
OPERATING TEMPERATURE RANGE	$-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$
FREQUENCY STABILITY	$\pm 30\text{PPM}$
SHUNT CAPACITANCE	$<7\text{PF}$
AGING	$\pm 5\text{PPM/YEAR}$
INSULATION RESISTANCE	$>500\text{M}\ \Omega$ at DC 100V

3.Dimension (mm)



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($+230^{\circ}\text{C} \pm 5^{\circ}\text{C}$)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.	

5. ENVIRONMENTAL SPECIFICATION

1) Temperature test

* Temperature cycling test

Conditions: Steps of cycle

- 1) At -55°C , 30 minutes
- 2) At $+25^{\circ}\text{C}$, 10 - 15 minutes
- 3) At $+85^{\circ}\text{C}$, 30 minutes
- 4) At $+25^{\circ}\text{C}$, 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 $-20^{\circ}\text{C} \pm 2^{\circ}\text{C}$
 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 $+85^{\circ}\text{C} \pm 20^{\circ}\text{C}$
 Length of test 96 hours

Results: Deviation of frequency must be less than $\pm 3\text{ppm}$

3) Salt spray test

Conditions: Temperature $+35^{\circ}\text{C} \pm 2^{\circ}\text{C}$
 Length of test 48 hours
 NaCl % 5%

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

4) Humidity test

Conditions: Temperature $+40^{\circ}\text{C} \pm 2^{\circ}\text{C}$
 Relative humidity 90 - 95%
 Length of test 96 hours

Results: a. Insulation resistance must be $500\text{ M}\Omega/100\text{ Vac}$. minimum
 b. Resistance and wave form must remain within specifications.