



## CRYSTAL UNIT

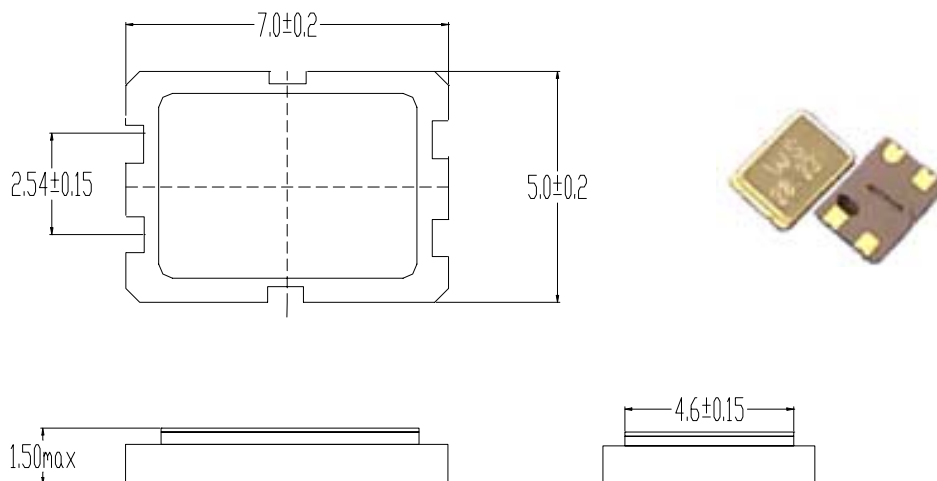
### 1. SCOPE

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°C ± 2°C	± 30PPM
EQUIVALENT SERIES RESISTANCE	40 Ω max.
DRIVE LEVEL	0.5MW
OPERATING TEMPERATURE RANGE	-10°C ~ +60°C
FREQUENCY STABILITY	± 30PPM
SHUNT CAPACITANCE	< 7PF
AGING	± 5PPM/YEAR
INSULATION RESISTANCE	> 500M Ω at DC 100V

### 3. Dimension (mm)



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## 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°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.	

## 5. ENVIRONMENTAL SPECIFICATION

### 1) Temperature test

#### \* Temperature cycling test

Conditions: Steps of cycle

- 1) At  $-55^{\circ}\text{C}$ , 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.