CRYSTAL RESONATOR 49S-SMD 3.579545MHz to 27MHz-16-30/30/A

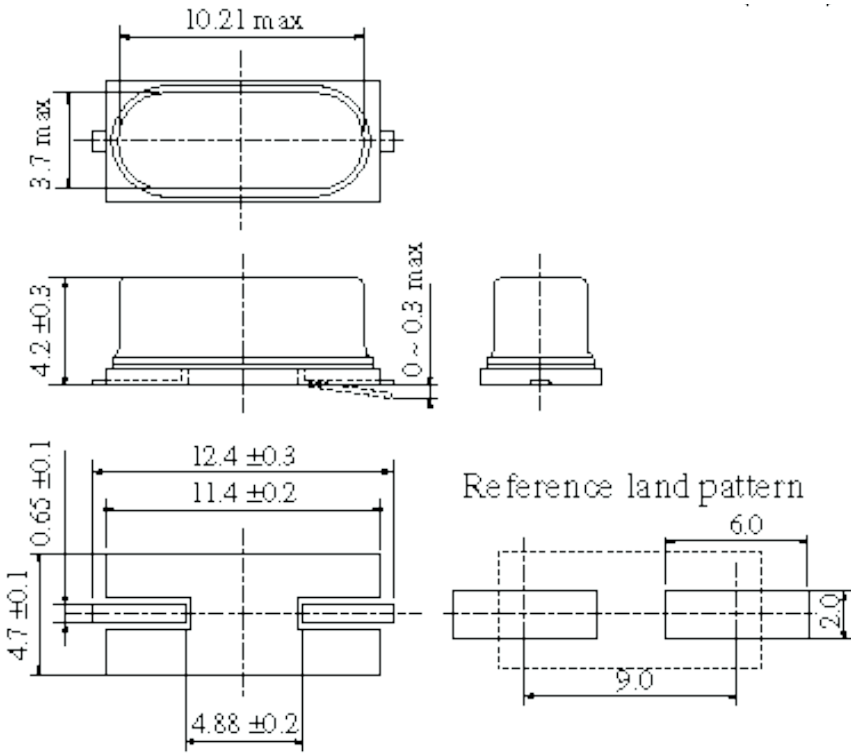
1. SPECIFICATION

FREQUENCY RANGE	3.579545MHz to 27MHz
LOAD CAPACITANCE	16PF
FREQUENCY TOLERANCE AT 25℃+/-2℃	–/+30PPM
FREQUENCY STABILITY AT –20 TO +70℃	–/+30PPM
OPERATING TEMPERATURE RANGE	–20TO +70℃
OSCILLATING MODE/CUTTING	Fundamental
STORAGE TEMPERATURE RANGE	–40 TO +85℃
EQUIVALENT SERIES RESISTANCE (ESR)	See ESR table
DRIVE LEVEL	100μW
SHUNT CAPACITANCE	7PF MAX
AGING	–/+5PPM PER YEAR
INSULATION RESISTANCE	500 MOhm MIN

2. ESR TABLE (Ohm)

Overtone	Frequency Range (MHz)	Equivalent Series Resistance (Ω)
Fundamental	3.500 ~ 3.700	150 max
	3.701 ~ 3.999	120 max
	4.000 ~ 4.999	100 max
	5.000 ~ 5.999	80 max
	6.000 ~ 11.999	60 max
	12.000 ~ 33.500	40 max
3rd overtone	27.000 ~ 39.999	100 max
	40.000 ~ 75.000	80 max

3. DIMENSIONS



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 75cm
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
NaCl % 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.