

规格书编号

SPEC NO :

# 产品规格书

## SPECIFICATION

CUSTOMER 客 户: \_\_\_\_\_

PRODUCT 产 品: \_\_\_\_\_ CRYSTAL RESONATOR

MODEL NO 型 号: \_\_\_\_\_ 49S-SMD-25.000-20-30

PREPARED 编 制: \_\_\_\_\_ fengyu CHECKED 审 核: \_\_\_\_\_ york

APPROVED 批 准: \_\_\_\_\_ liuming D A T E 日 期: \_\_\_\_\_ 2008-6-28

客户确认 CUSTOMER RECEIVED:		
审核 CHECKED	批准 APPROVED	日期 DATE

无锡市好达电子有限公司  
Shoulder Electronics Limited

## 更改历史记录 History Record

更改日期 Date	规格书编号 Spec No	产品型号 Part No	客户产品型号 Customer No	更改内容描述 Modify Content	备注 Remark

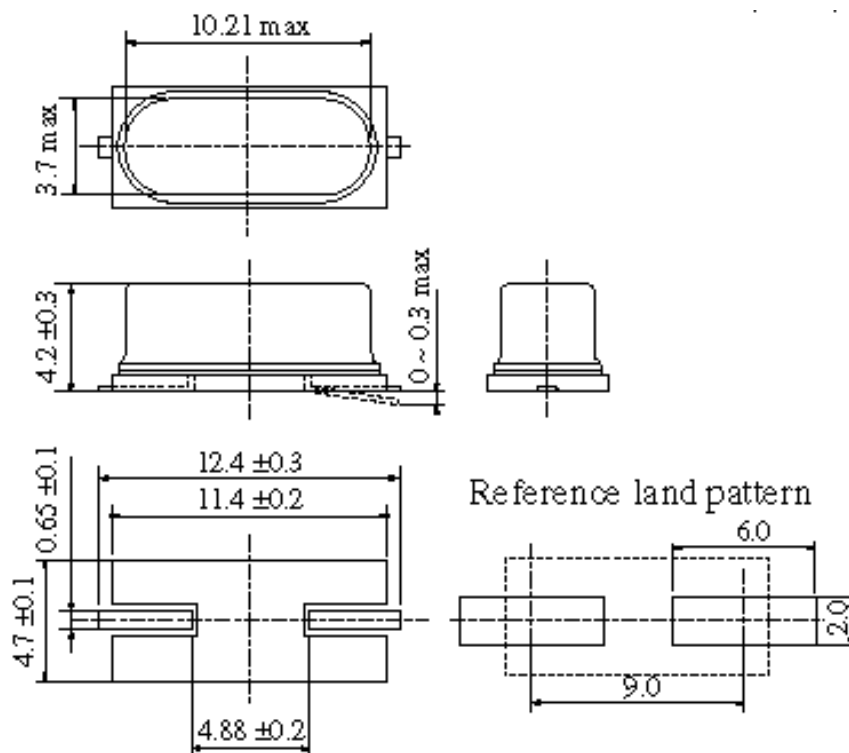
## 1. SPECIFICATION

FREQUENCY RANGE	25.000MHz
LOAD CAPACITANCE	20PF
FREQUENCY TOLERANCE AT 25℃	-/+30PPM MAXIMUM
FREQUENCY STABILITY AT -10 TO +60℃	-/+30PPM MAXIMUM
OPERATING TEMPERATURE RANGE	-10 TO +60℃
STORAGE TEMPERATURE RANGE	-40 TO +85℃
EQUIVALENT SERIES RESISTANCE (ESR)	SEE ESR TABLE
DRIVE LEVEL	1.0 mW MAXIMUM
SHUNT CAPACITANCE	7PF MAXIMUM
AGING	-/+5PPM PER YEAR
INSULATION RESISTANCE	500 MOhm MINIMUM

## 2. ESR TABLE (Ohm)

Overtone	Frequency Range (MHz)	Equivalent Series Resistance (Ω)
Fundamental	3.5 ~ 4.0	150 max
	4.0 ~ 8.0	120 max
	8.0 ~ 12.0	60 max
	12.0 ~ 27.0	40 max
3rd overtone	26.0 ~ 35.0	140 max
	35.0 ~ 50.0	100 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°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°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

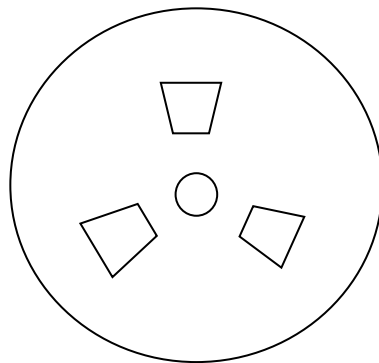
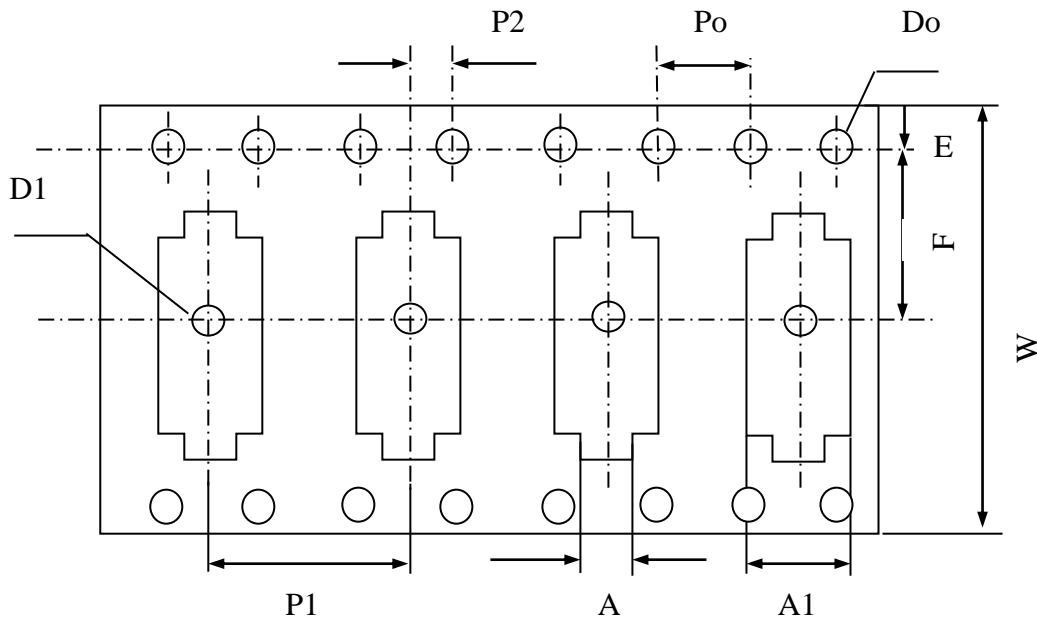
Conditions: Temperature +35°C±2°C  
Length of test 48 hours  
NaCl % 5%  
Results: There should be no stain on surface of products.

4) Humidity test

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

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

## 6. PACKAGE



Symbol	A	P1	P2	Po	Do	F	W
Dimensions	5.0	8.0 or 12.0	2.0	4.0	1.6	11.5	24.0
Symbol	E	D1					
Dimensions	1.8	2.2					

1000PCS / BOX (345X335X36)  
 10000PCS / CARTON (360X360X410)