

Shoulder 好达

SHOULDER ELECTRONICS CO., LTD.

CRYSTAL RESONATOR Data Sheet

PRODUCT 产 品: CRYSTAL RESONATOR

MODEL NO 型 号: ZM206

PREPARED 编 制: Fengyu

CHECKED 审 核: York

APPROVED 批 准:

DATE 日 期: 2007-01-25

1. SCOPE

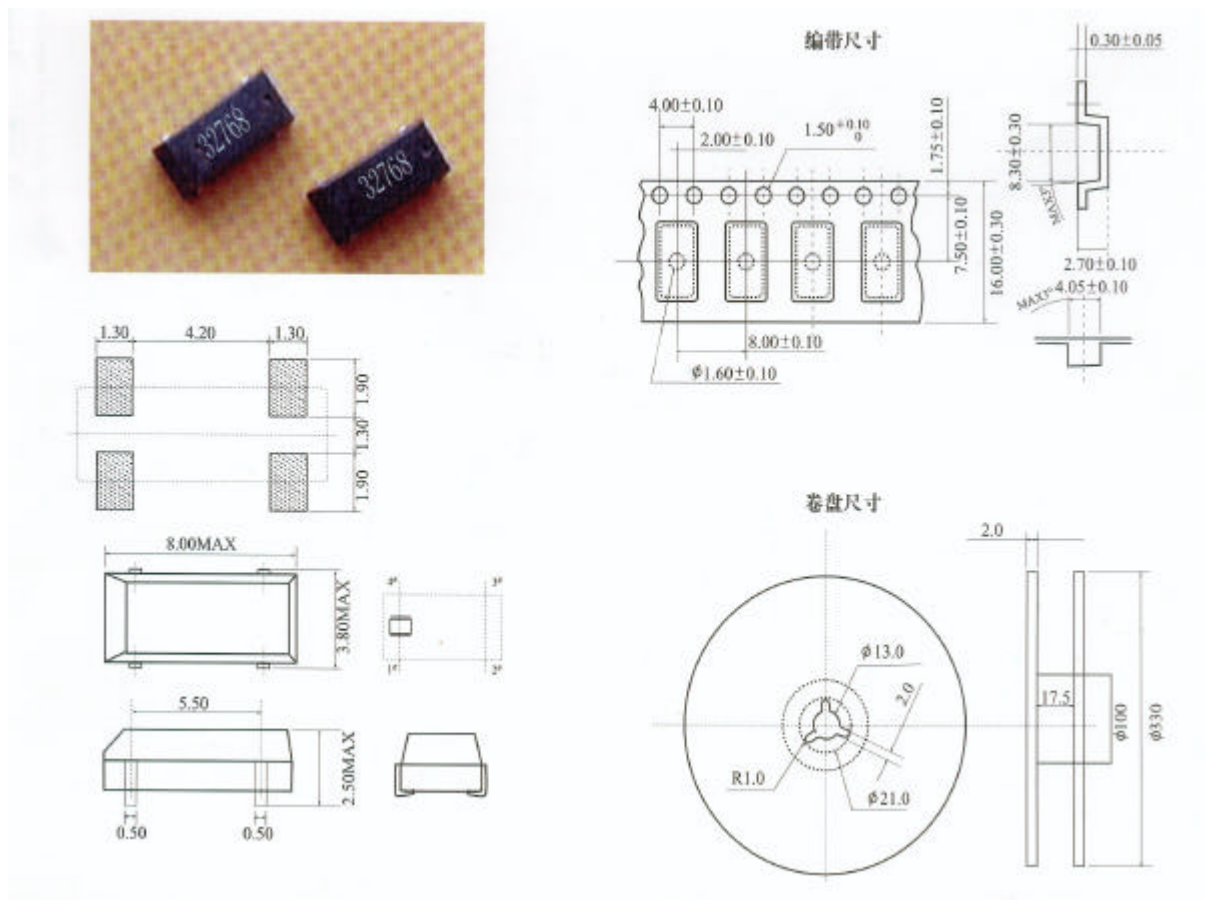
This specification shall cover the characteristics of crystal unit with

P/N: ZM206

2. ELECTRICAL SPECIFICATION

ITEM	SPECIFICATION
HOLDER TYPE	8X3.8x2.5mm
NOMINAL FREQUENCY	30.000-200.000KHz
LOAD CAPACITANCE	12.5PF
FREQUENCY TOLERANCE (25°C±2°C)	±20PPM ±30 ±50
EQUIVALENT SERIES RESISTANCE	40KΩ max
DRIVE LEVEL	1.0μW
OPERATING TEMPERATURE RANGE	-10°C~+60°C
STORAGE TEMPERATURE	-40°C~+85°C
AGING	±5PPM/YEAR
INSULATION RESISTANCE	>500MΩ

3. DIMENSION (Unit: 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°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°C±2°C
	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.	