



ZMX QUARTZ CRYSTAL UNITS

SPECIFICATION

Client Name:

Product : Quartz Crystal Resonator

General Part Number and Client Part Number:

General :

Client :

制作(Prepared)

检查(Checked)

确认(Approved)

何林峰

Remarks :

Product Liability, Quality Assurance and Right of the patent shall be under the responsibility of the Manufacturer mentioned above.

Client Acknowledgement :

Date of receipt :

**ZMX QUARTZ CRYSTAL UNITS****Record of Change**

	Issuing Date	Last	New	Page	Contents of	Reason	Remarks
		Version	Version	Item#	the Change		
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

# ZMX QUARTZ CRYSTAL UNITS

## SPECIFICATION OF QUARTZ CRYSTAL UNITS

### 1.HOLDER TYPE: SMD3225

### 2.GENERAL

2-1 FREQUENCY (F0)	26.000000MHz
2-2 MODE OF OSCILLATION (Mn)	FUND(AT)
2-3 OPERATION TEMPERATURE RANGE (T0)	-20°C/+70°C
2-4 STORAGE TEMPERATURE RANGE (Ts)	-40°C/+85°C
2-5 TEST SET	S&A 250B Network Analyzer
2-6 DRIVE LEVEL (DL)	10uW
2-7 LOADING CAPACITANCE (CL)	9pF

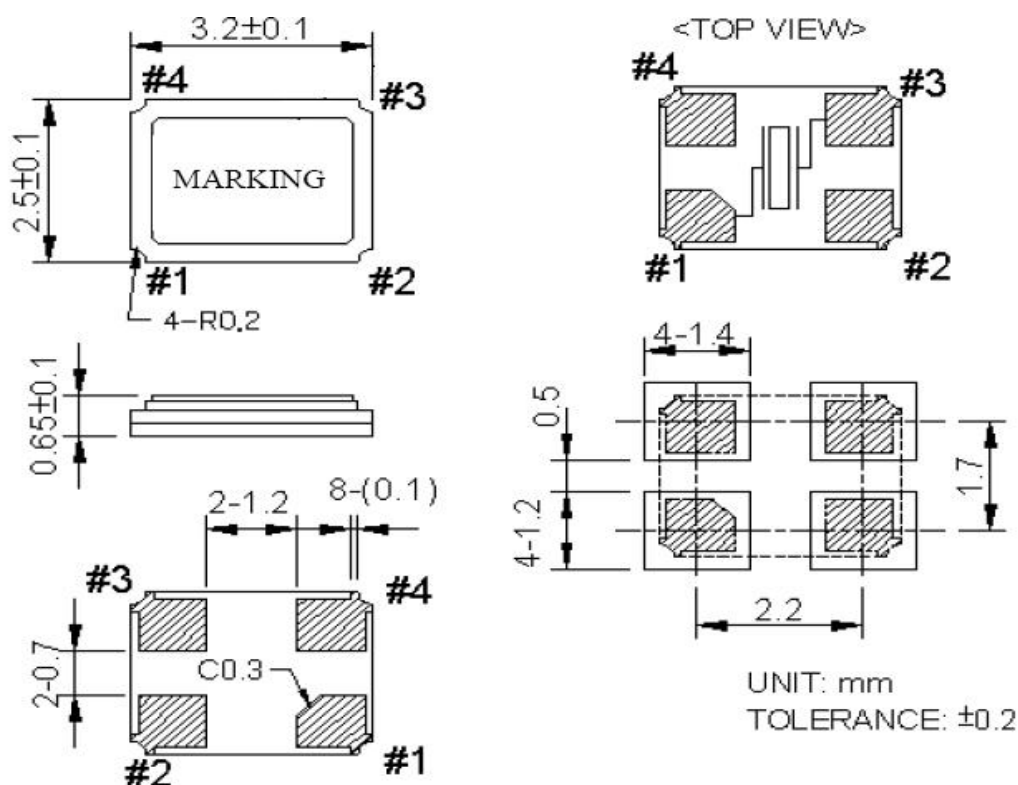
### 3.ELECTRICAL CHARACTERISTICS

(This test shall be performed under the condition of temperature at  $25\pm 2^{\circ}\text{C}$ , humidity 60% Max.)

3-1 FREQUENCY TOLERANCE ( $\Delta f$ )	$\pm 5\text{ppm Max}$
3-2 EQUIVALENT RESISTANCE (Rr)	$60\ \Omega \text{ Max/ Series}$
3-3 TEMPERATURE DRIFT ( $T_c$ )	$\pm 20\text{ppm/Max}(-20^{\circ}\text{C}/+70^{\circ}\text{C})$
3-4 SHUNT CAPACITANCE ( $C_0$ )	$\leq 7\text{pF}$
3-5 MOTIONAL CAPACITANCE ( $C_1$ )	N/A
3-6 INSULATION RESISTANCE	$500\text{M}\ \Omega \text{ min/DC100V}\pm 15\text{V}$ (Lead to lead ,case to lead)
3-7 AGING RATE PER YEAR:	$\pm 5\text{ppm/Year}$
3-8 TS	$\leq 31\text{ppm/pF Max}$

### 4.DIMENSIONS AND MARKING

#### 4.1 HOLDER TYPE AND DIMENSION (mm)

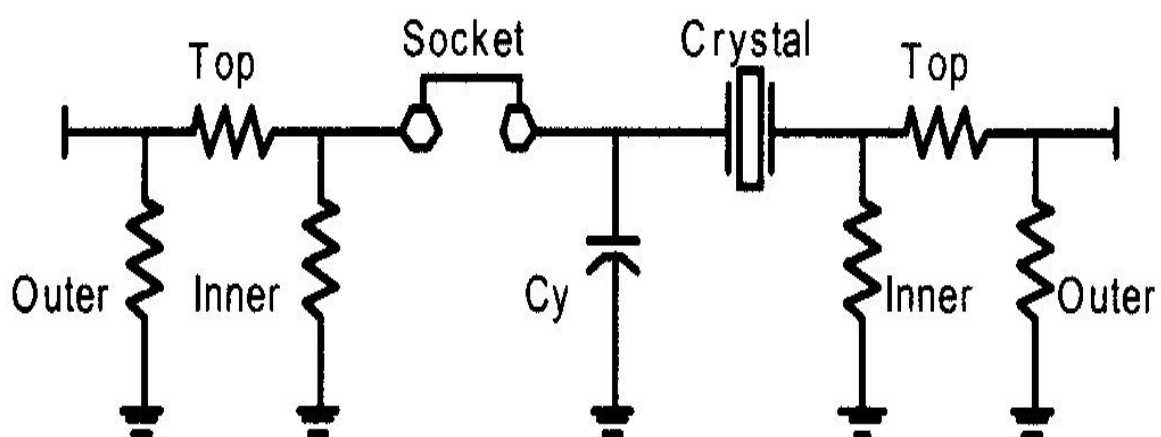


## ZMX QUARTZ CRYSTAL UNITS

### 4.2 MARKING

RFW26.000

### 4.3 Crystal Test circuit (TEST SET S&A 250B) :



LNA 12.5 Ohm PI

PI Outer Resistor=159.0  $\Omega$

PI Top Resistor=66.2  $\Omega$

PI Inner Resistor=14.2  $\Omega$

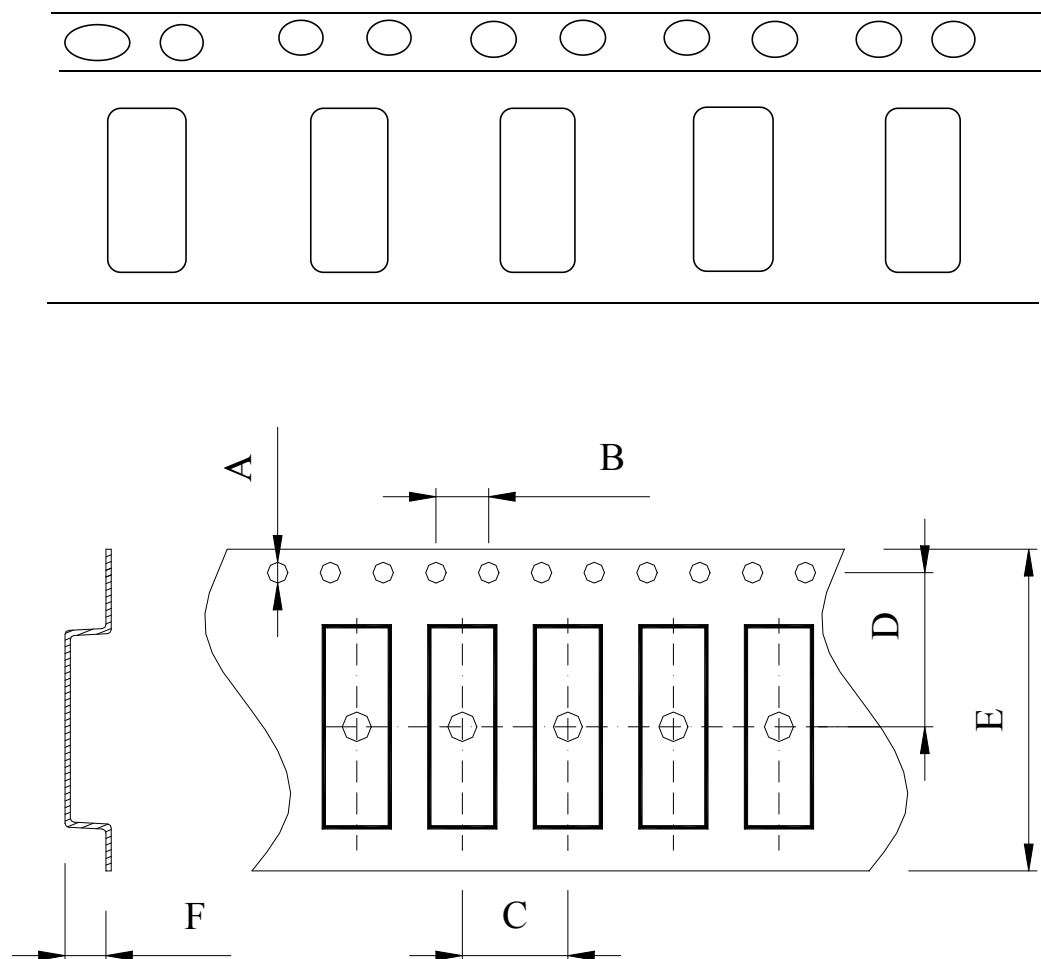
# ZMX QUARTZ CRYSTAL UNITS

## 4.4 THE SPELIFILATION OF TAPE PACKING

### 4.4.1 The packing requirements and methods of TAPE

Free in the head air sealed	Direction of MK	Quanfity	free in the end	
			Air sealed	plasfics
22±5cm	see the figure	50-1000PCS	45±2cm	8±1cm
3.5±1cm	see the figure	100PCS(Included)	3.5±1cm	3±1cm
9.5±1cm	see the figure	50PCS(Included)	9.5±1cm	8±1cm

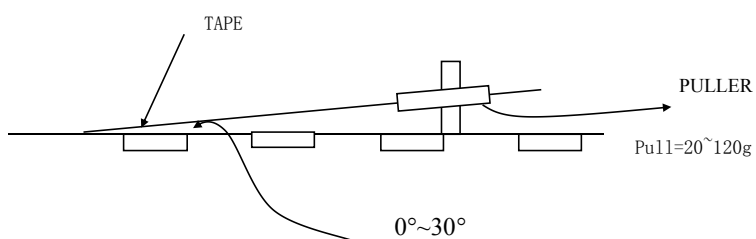
The figure of direction of MK



### 4.4.2 Pull test of TAPE Packing

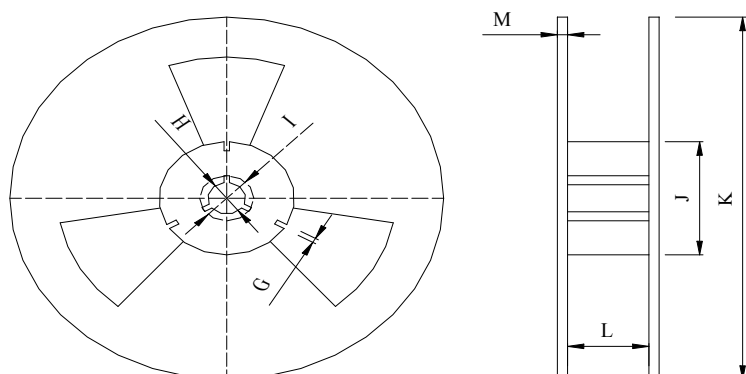
Tools: Puller and speed Monitor (2mm±1mm/sec)

See the illustration:



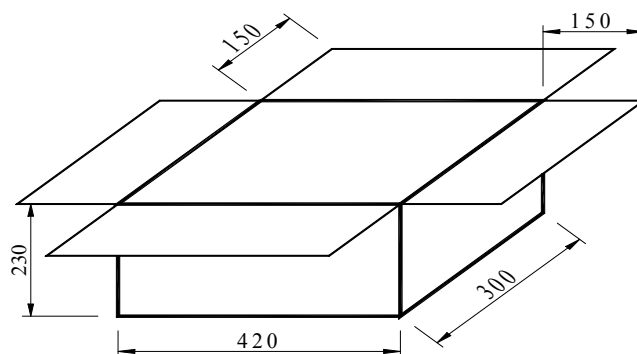
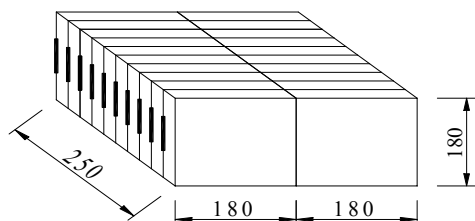
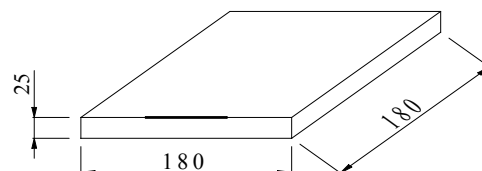
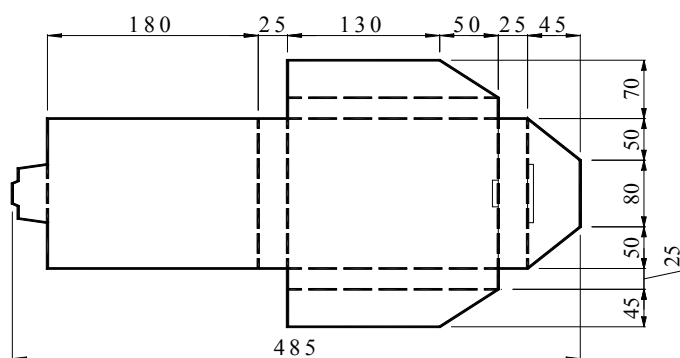
# ZMX QUARTZ CRYSTAL UNITS

## 4.5 PACKING FOR APPROVAL



G	H	I	J	K	L	M
2.5	13.5	21.6	60	178	13.5	1.6

Carton Dimension (unit : mm)



20 Inner boxes = 1 Carton

20kpcs = 1 Carton

## ZMX QUARTZ CRYSTAL UNITS

### 5.MECHANICAL ENDURANCE

Provided that measurement shall be carried out after letting it alone in the room temperature for 1 hour.

#### 5.1.SHOCK

Electrical characteristics shall be satisfied after dropping three times from the height of 75cm onto the Concrete.

#### 5.2.VIBRATION

Electrical characteristics shall be satisfied after supplying following vibration.

- |                           |                       |
|---------------------------|-----------------------|
| a).ENTIRE FREQUENCY RANGE | 10~55Hz               |
| b).REPEATED PERIOD        | 1~2min                |
| c).AMPLITUDE              | 1.5mm                 |
| d).DIRECTION              | X.Y.Z                 |
| e).PERIOD                 | 2hours/Each Direction |

#### 5.3.STRENGTH OF TERMINALS/LEAD-WIRES

##### ①TENSILE

- a).Body of specimen shall be fixed,and 900g of tension weight shall be supplied gradually to axial direction of terminals/lead-wires for 30 sec.
- b).After above test a),there is no distinct damage or damage to sealing.

##### ②BENDING

- a).Body of specimen shall be fixed,and 90 degree bending shall be given,being supplied 225g tension weight.After that,terminals/lead-wires shall be straightened gradually. Then the same bending and straightening shall be supplied to the opposite direction in the same axial.
- b).After above test a),there is no observation of any visual damages on the specimen.

#### 5.4.SEALING TIGHTNESS

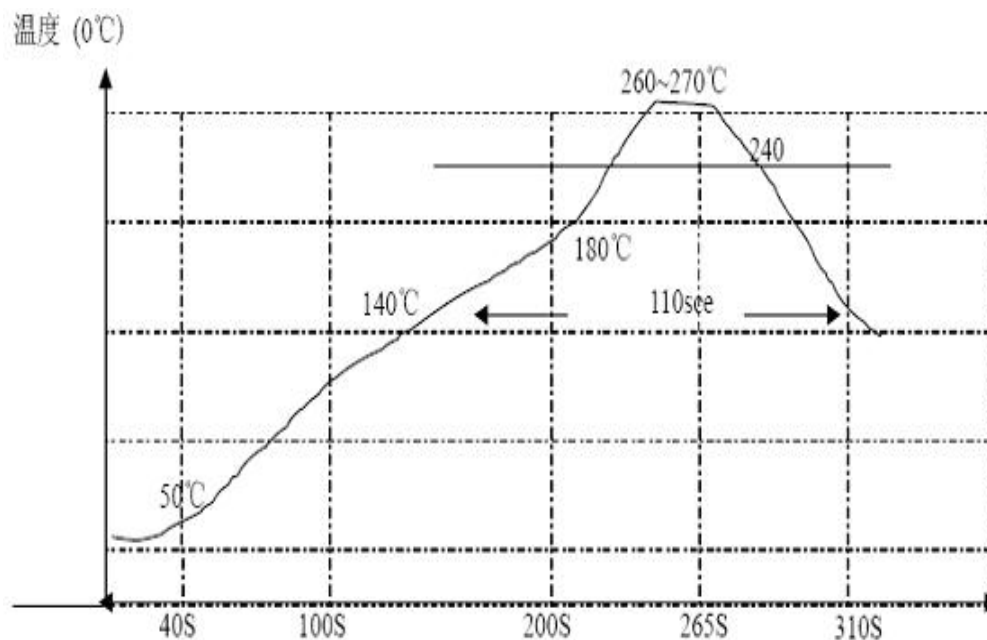
Put the specimens in  $C_2H_5OH$ ,raise pressure it with 0.5Mpa for 10 min, test the insulation resistance at DC.100V,the result shall be over 500M $\Omega$ .  
Electrical characteristics shall be satisfied and no sealing damage.

## ZMX QUARTZ CRYSTAL UNITS

### 5.5.SOLDERING HEAT RESISTANCE

Electrical characteristics shall be satisfied .Without distinct looseness of terminals.

#### ①.FLOW Soldering



Preheating Time  $t_1=60s$

Transmitting Speed at 1.2M/min

Length of Preheating at Least 1.2M

Time of tin-dipping  $t_2+t_3=3\sim5S$

Cooling time  $t_4=120S$

#### ②.SOLDERING DIP

Terminals/lead-wires of specimen shall be dipped into solder melter tank at  $+230^{\circ}\text{C} \pm 5^{\circ}\text{C}$  for 3 sec.

Dipping depth shall be 2mm from the bottom of specimens body.(After applying ROSIN FLUX) soldering portion shall be covered in over 95% of Terminals/lead-wires dipped.

#### ③.SOLDER HEATING

Terminals/lead-wires of specimen shall be dipped into solder melter tank at  $+350^{\circ}\text{C} \pm 10^{\circ}\text{C}$  for 3~4 sec.

Electrical characteristics shall be satisfied after dipping depth shall be 2mm from edge of terminals/lead-wires.



## ZMX QUARTZ CRYSTAL UNITS

### 5.6.ENVIRONMENTAL ENDURANCE

Provided that measurement shall be carried out after letting it alone in the room temperature for 1 hour.

#### ①HUMIDITY

Electrical characteristics shall be satisfied after letting it alone at  $60 \pm 2^{\circ}\text{C}$  in humidity of 90~95% for 250 hours.

#### ②.STORAGE IN LOW TEMPRATURE

Electrical characteristics shall be satisfied after letting it alone at  $-40 \pm 3^{\circ}\text{C}$  for 250 hours.

#### ③.STORAGE IN HIGH TEMPRATURE

Electrical characteristics shall be satisfied after letting it alone at  $85 \pm 2^{\circ}\text{C}$  for 250 hours.

#### ④.TEMPERATURE CYCLE

Electrical characteristics shall be satisfied after supplying the following temperature cycle(3cycle).Temperature shift from low to high, high to low shall be done in  $1^{\circ}\text{C}/\text{sec}$ .

