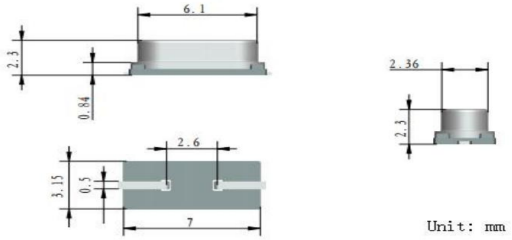
Victorlands **Technical Specification**

Product name	Quartz crystal unit
Model	M-49USSMD　13.560MHz
Product code	K2M13560S0Q2A2
Product parameters	20PF/±20PPM
Product reliability	P．3
Packing form	P．4~8

1.Product parameters

1	Nominal Frequency	13.560 MHz
2	Mode of Oscillation	AT FUND
3	Frequency Tolerance	±20PPM
4	Temperature Tolerance	±20PPM
5	Operating Temperature Range	-20℃～+70℃
6	Storage Temperature	-40℃～+85℃
7	Equivalency Resistance	≤ 80Ω
8	Load Capacitance	20 PF
9	Drive Level	100μW
10	Shunt Capacitance	≤7.0 PF
11	Insulation Resistance	≥500MΩ at DC 100V±15V
12	Aging	≤±5ppm/year
13	Hold Type (mm)	
14	Marking	 Nominal Frequency

2.Reliability testing

Projects	Inspection conditions and requirements	Demands
Vibration	Endurance condition by a frequency sweep shall be made. The entire frequency range from 10HZ to 50HZ and return to 10HZ,shall be transverseb in 1min. Amplitude(total excursion):1.5mm this motion shall be applied for a period of 2h each of 3 mutually perpendicular axes(a total of 6h)	(1).FL:+/-10ppm (2).Rr:+/-10 Ω
Drop	Form 70cm height 3 times on 3cm hard wooden floor	
Shock	Peak acceleration:981m/s^2 duration of the pulse :6ms three successive shocks shall be applied in both direction of 3 mutually perpendicular axes(a total of 18 shocks)	(1).FL:+/-10ppm (2).Rr:+/-10Ω
Damp heat,constant	The unit shall be stored at a temperature of 40℃±2℃with relative humidity of 90%to95% for 48h, then it shall be subjected to standard atmospheric conditions for 1～2h after which measurement shall be made.	
Cold	The unit shall be stored at a temperature of-40℃±5℃ for 48h, then it shall be subjected to standard atmospheric conditions for 1～2h after which measurement shall be made.	
Dry heat	The unit shall be stored at a temperature of 100℃±5℃ for 24h, then it shall be subjected to standard atmospheric conditions for 1～2h after which measurement shall be made.	
Aging	The unit shall be stored at a temperature of 85℃±5℃ for 7d then it shall be subjected to standard atmospheric conditions for 1～2h after which measurement shall be made.	
Strength Test	No flaking，Pressure 10n 10 ± 1 s, according to IEC 60068-2-21 standard	
Stripping test	No flaking，Pressure 10n 10 ± 1 s, according to IEC 60068-2-21 standard	
Bending test	No flaking，Bending: 3 mm 5 ± 1 SEC. Thickness of test plate: 1mm.	

<table>
<tr>
<td>Temperature cycling</td>
<td>The unit shall be subjected to 5 successive change of temperature cycles, each as show in table below,then it shall be subjected to standard atmospheric conditions for 1～2h after which measurement shall be made
<table>
<tr><th></th><th>Temperature</th><th>Duration</th></tr>
<tr><td>1</td><td>-40℃±3℃</td><td>30min</td></tr>
<tr><td>2</td><td>Standard atmospheric conditions</td><td>Within 30s</td></tr>
<tr><td>3</td><td>100℃±3℃</td><td>30min</td></tr>
<tr><td>4</td><td>Standard atmospheric conditions</td><td>Within 30s</td></tr>
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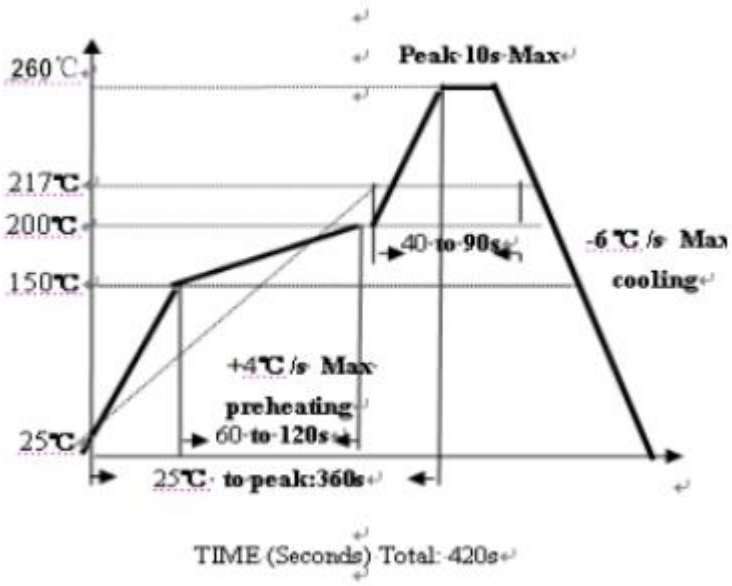
<tr>
<td>Resistance to soldering heat</td>
<td> 
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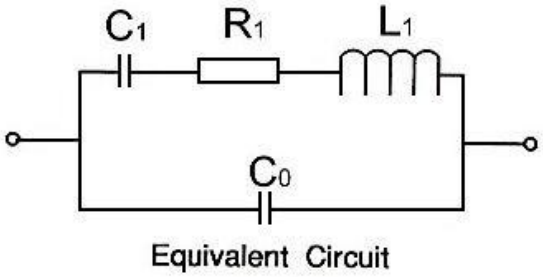
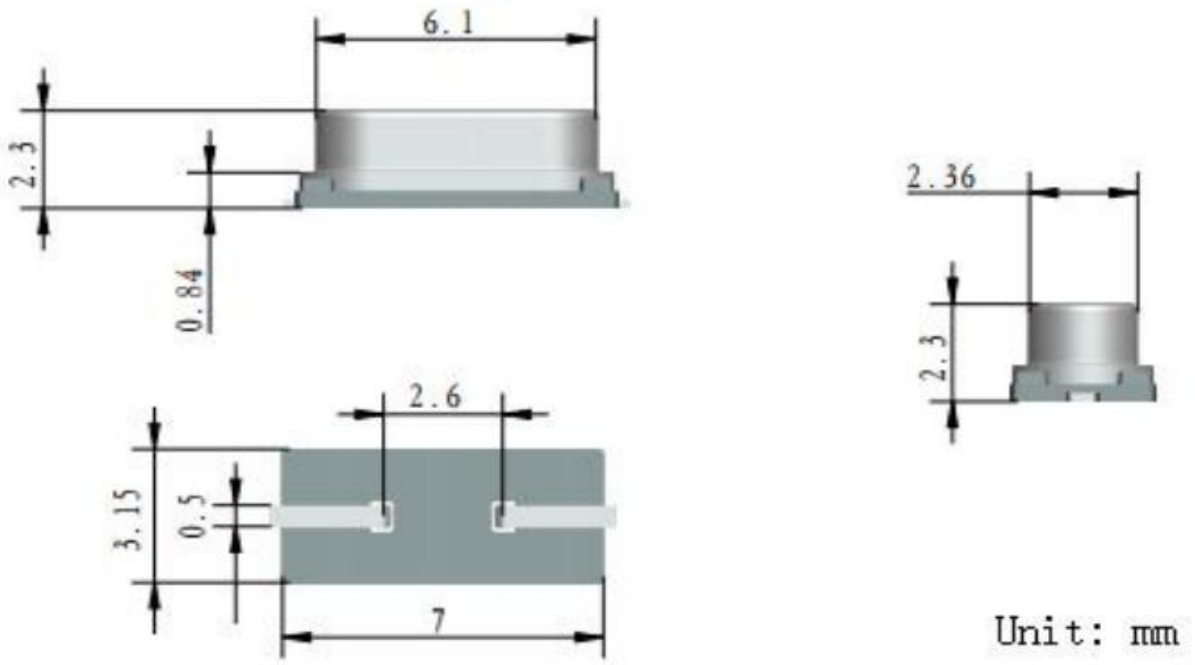
EQUIVALENT CIRCUIT：

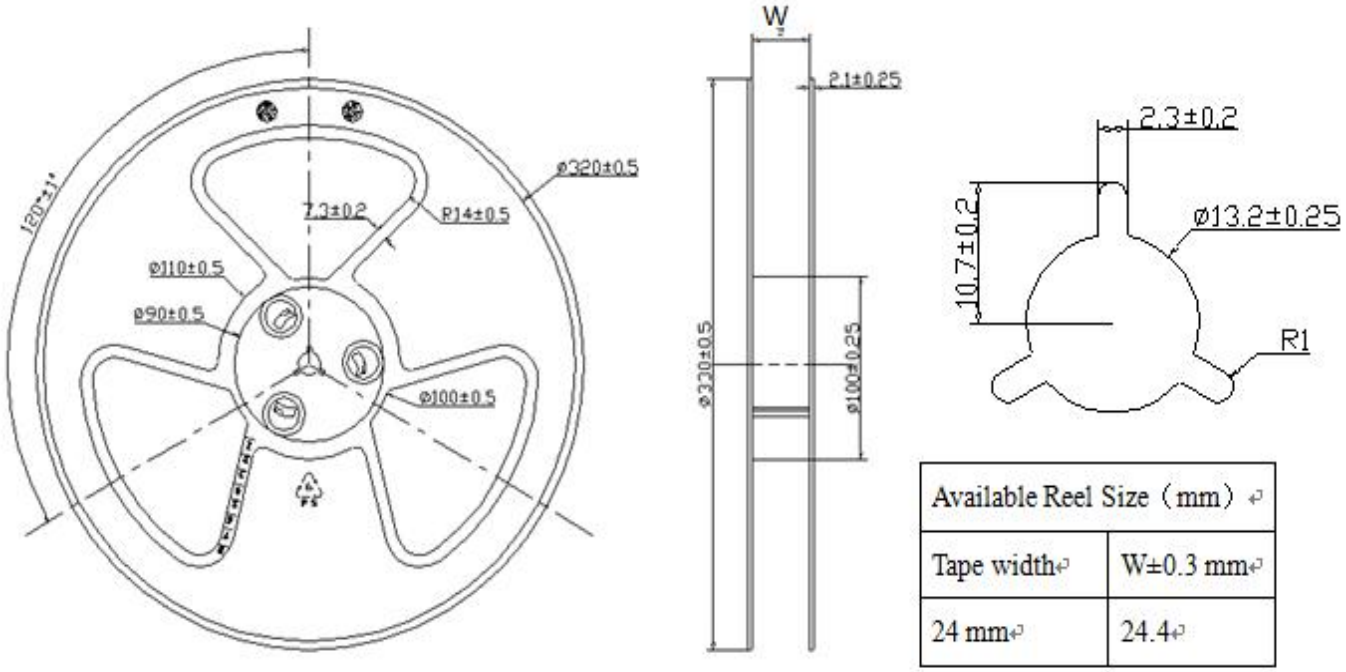


Equivalent Circuit

3.Dimensional drawing

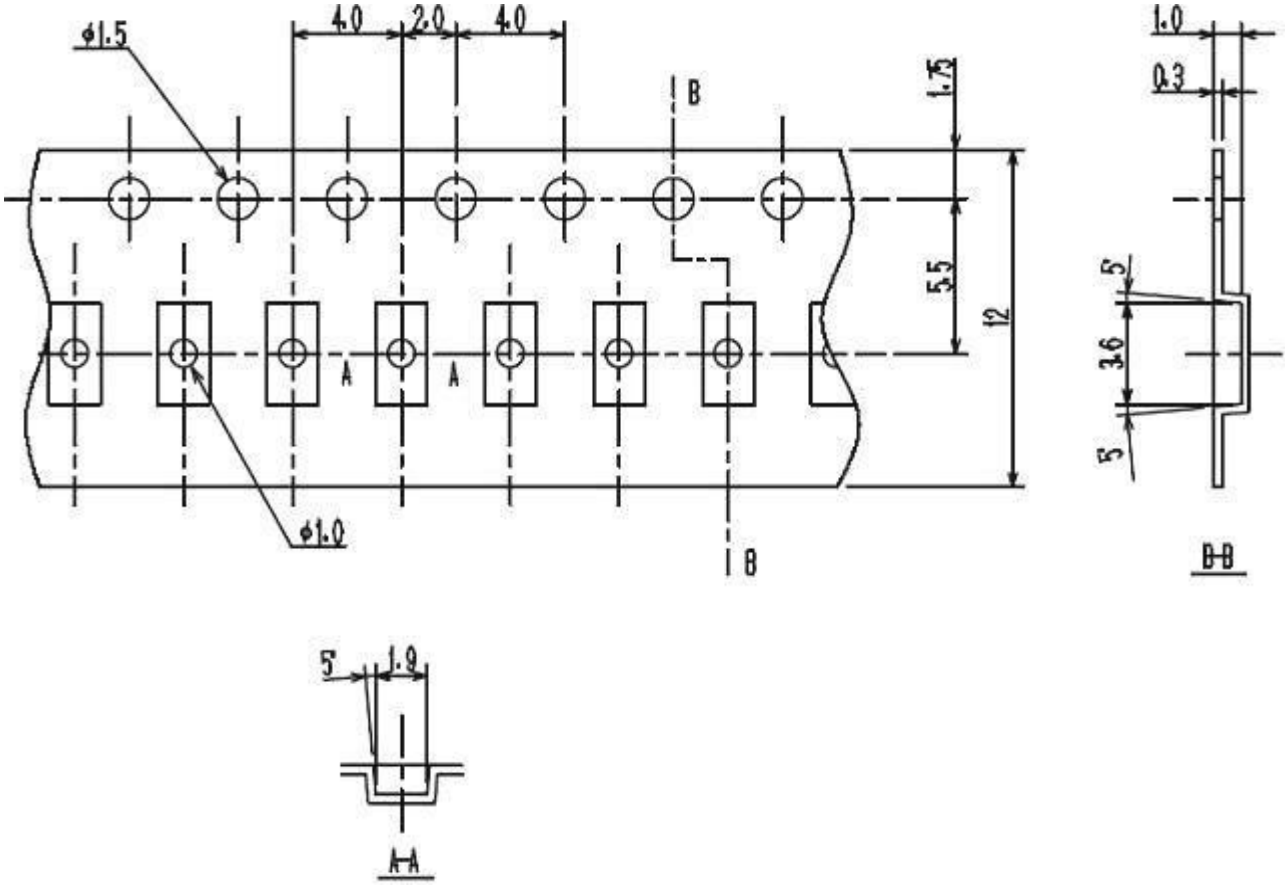


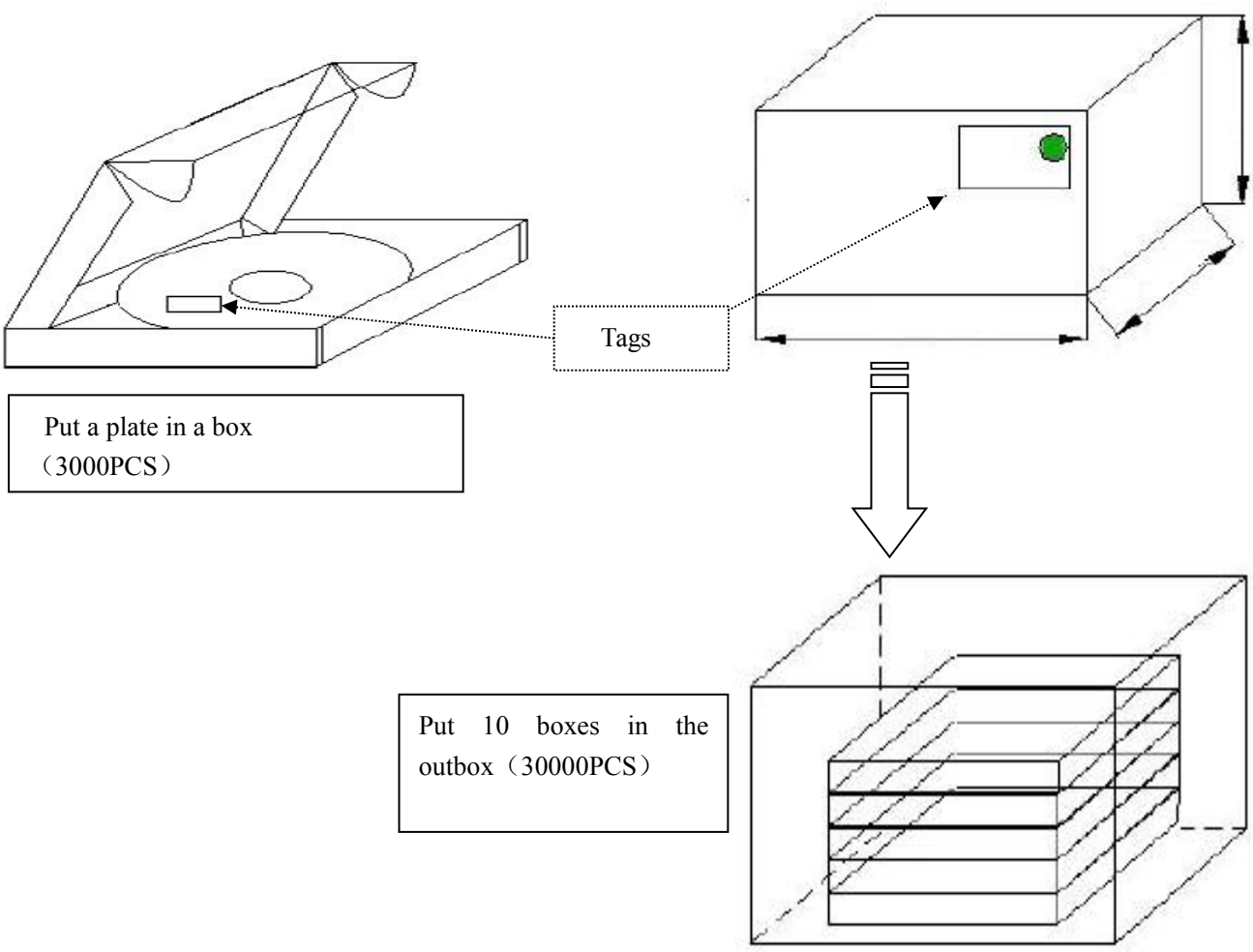
4.Packing form



Available Reel Size（mm）	
Tape width	W±0.3 mm
24 mm	24.4

5.Reel specification




Tags
Put a plate in a box
（3000PCS）
Put 10 boxes in the outbox（30000PCS）