



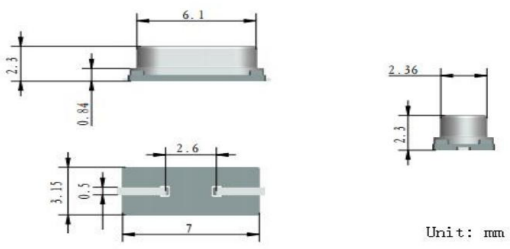

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## Victorlands Technical Specification

<b>Product name</b>	Quartz crystal unit
<b>Model</b>	M-49USSMD 16.000MHz
<b>Product code</b>	K2M16000H0H2A2
<b>Product parameters</b>	9PF/±10PPM
<b>Product reliability</b>	P. 3
<b>Packing form</b>	P. 4~8



## 1. Product parameters

1	Nominal Frequency	16.000 MHz
2	Mode of Oscillation	AT FUND
3	Frequency Tolerance	±10PPM
4	Temperature Tolerance	±20PPM
5	Operating Temperature Range	-20°C ~ +70°C
6	Storage Temperature	-40°C ~ +85°C
7	Equivalency Resistance	≤ 60Ω
8	Load Capacitance	9 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)	 Unit: 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 transverse 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)	<b>(1).FL: +/-10ppm</b> <b>(2).Rr: +/-10 Ω</b>
Drop	Form 70cm height 3 times on 3cm hard wooden floor	
Shock	Peak acceleration: 981m/s <sup>2</sup> duration of the pulse :6ms three successive shocks shall be applied in both direction of 3 mutually perpendicular axes (a total of 18 shocks)	
Damp heat, constant	The unit shall be stored at a temperature of 40°C ± 2°C with relative humidity of 90% to 95% 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°C ± 5°C 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°C ± 5°C 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°C ± 5°C 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.	

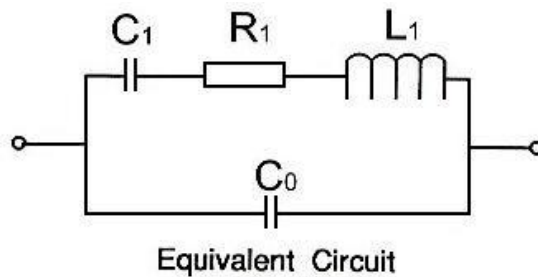


Temperature cycling	The unit shall be subjected to 5 successive change of temperature cycles, each as show in table below,then it shall be subjected to standard atmospheric conditions for 1~2h after which measurement shall be made		
		Temperature	Duration
	1	-40°C±3°C	30min
	2	Standard atmospheric conditions	Within 30s
	3	100°C±3°C	30min
4	Standard atmospheric conditions	Within 30s	

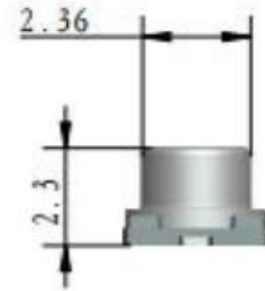
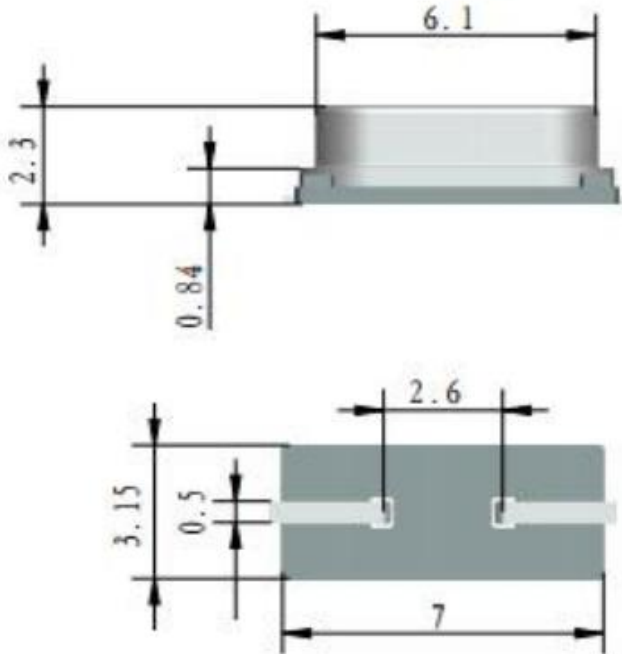
Resistance to soldering heat		
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EQUIVALENT CIRCUIT:



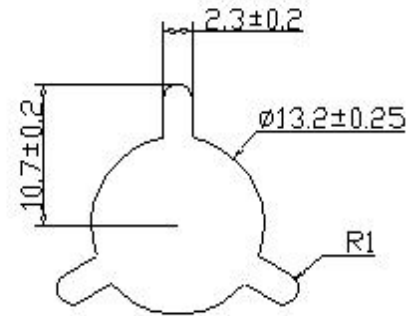
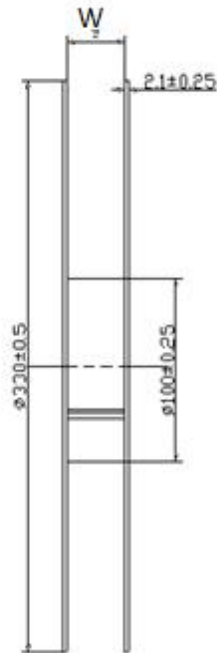
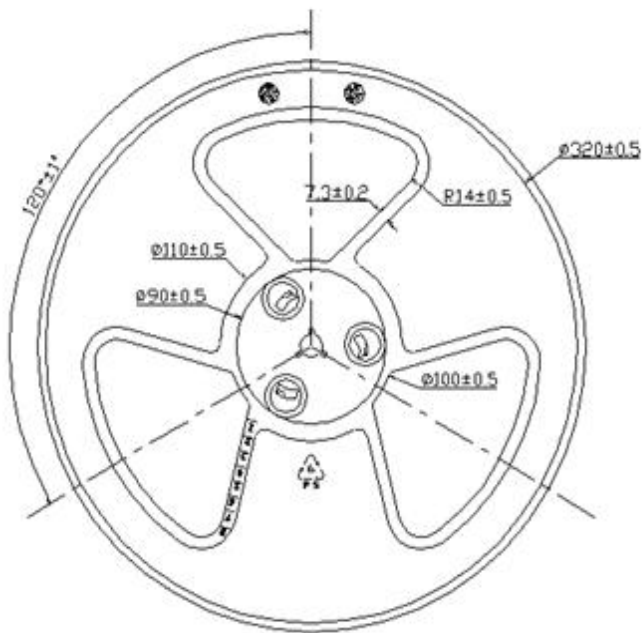


### 3. Dimensional drawing



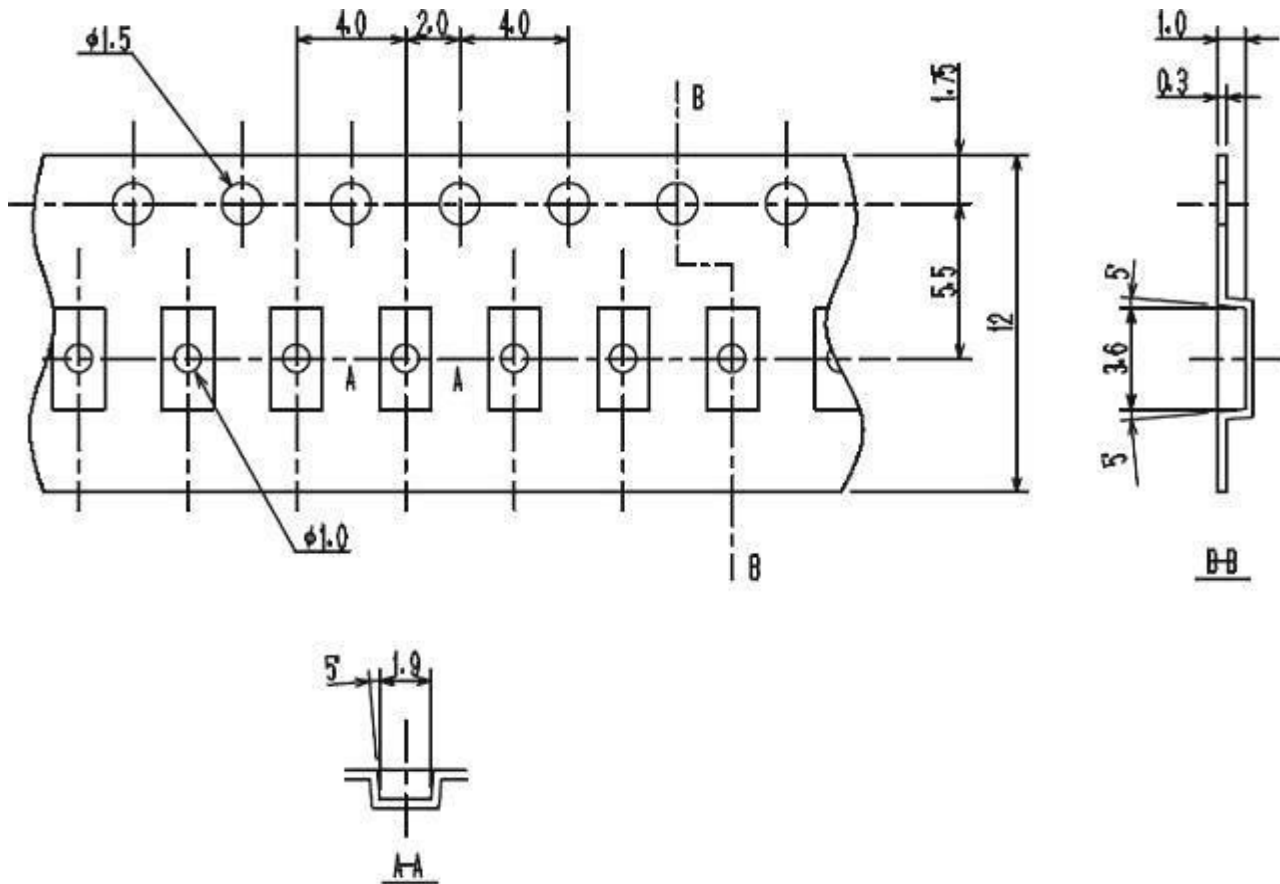
Unit: mm

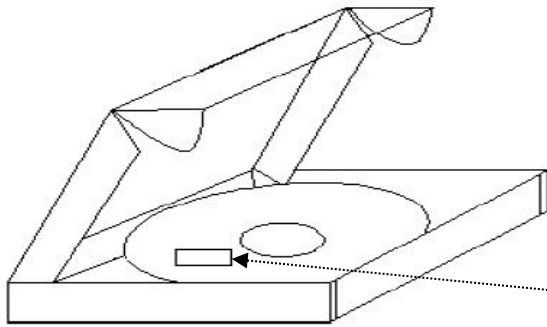
## 4.Packing form



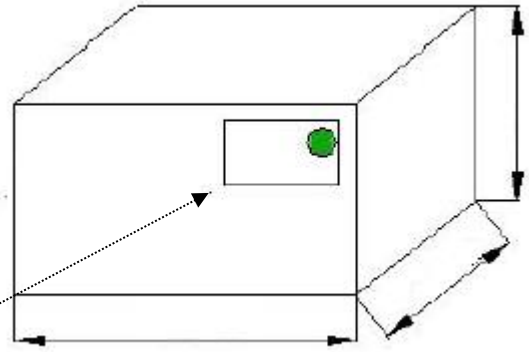
Available Reel Size (mm) ↕	
Tape width ↕	$W \pm 0.3 \text{ mm} \leftarrow$
24 mm ↕	24.4 ↕

### 5.Reel specification

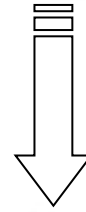




Tags



Put a plate in a box  
(3000PCS)



Put 10 boxes in the  
outbox (30000PCS)

