



深 圳 市 科 源 信 科 技 有 限 公 司

Shenzhen KeYuanXin Technology CO., LTD

产 品 规 格 书

SPECIFICATION FOR APPROVAL

深圳市福田区振华路 118 号华丽装饰一栋西座 306A
306A Block West Building 1, Huali Decoration
NO.118 Zhenhua Road Futian District Shenzhen
电话 TEL: 4008-735-535 传真 FAX: 0755-23616323



KEYUANXIN TECHNOLOGY GO.,LTD

Product Name: Crystal

Product Type: SMD 2520

Nominal Freq: 16.0000MHz

ProvideBrand: KKST

P/N: KAD16000C01R

Customer P/N:

Approved By Customer

Signature:

Date:



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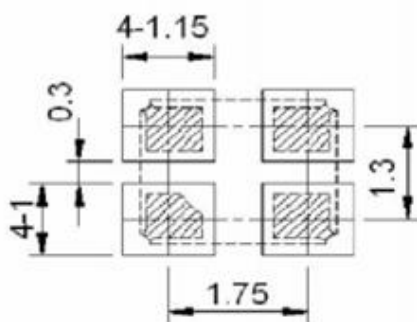
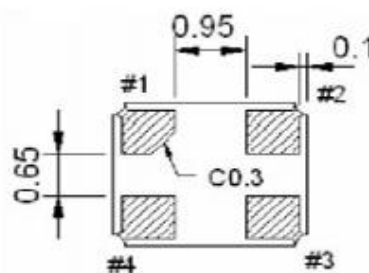
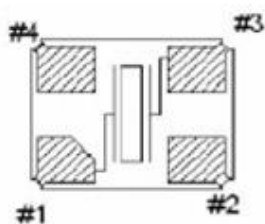
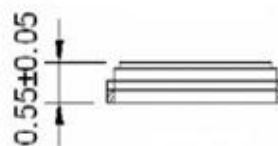
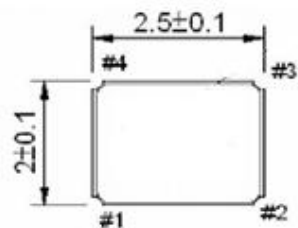


N0.1 Product specification and features

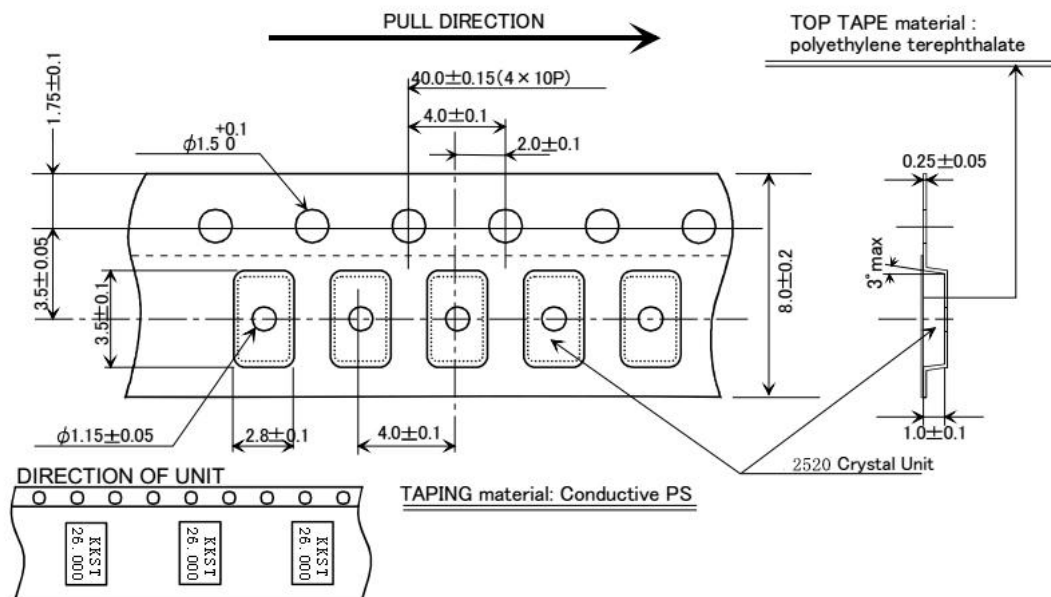
1.1 General characteristics	
Nominal frequency	16.000000 MHz
Overtone order	Fundamental
Type	SMD2520
Operating temperature	-20~70 °C
Storage temperature	-40~85 °C
1.2 Electric characteristics	
Adjustment tolerance: (at+25°C)	±10 ppm
Tolerance over the temperature:	±20 ppm
Load capacitance	12.0 pF
Drive level	10.0 μW
Equivalent resistance	40.0 Ω Max
Shut capacitance	7.0pF Max
Insulation resistance	500 M Ω Min 100VDC ± 15VDC
Aging	±3ppm/Year
1.3 Other characteristics	
SPDB	<-3 dB

NO.2 Outline dimensions、Appearances

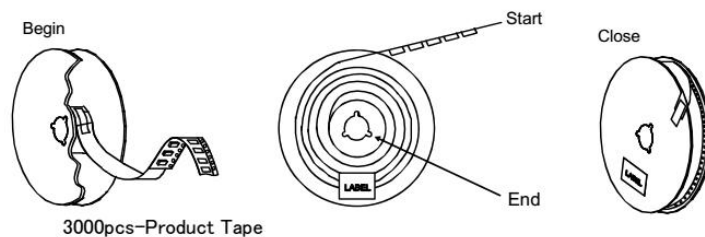
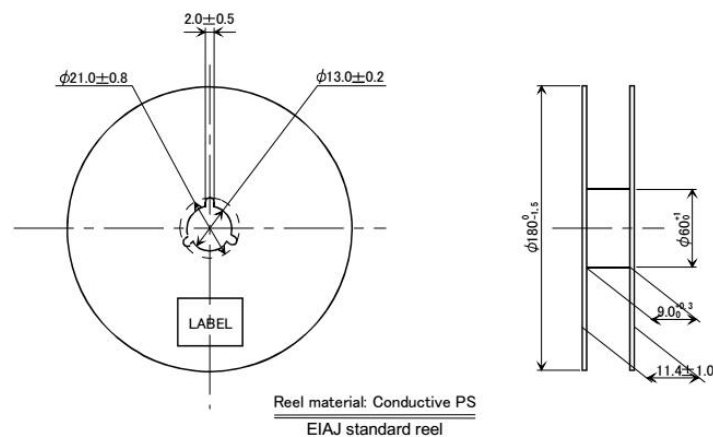
2.1 Product outline dimension(mm)



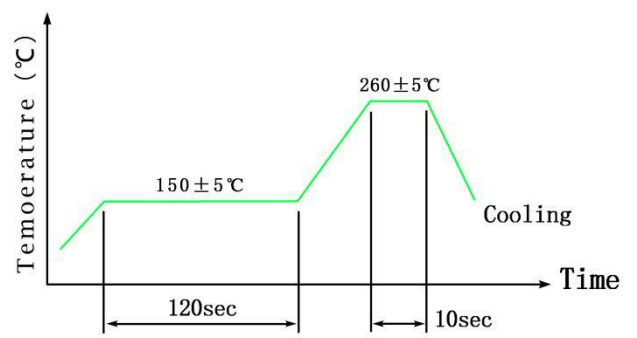
2.2 Carrier Dimensional Drawing (mm)



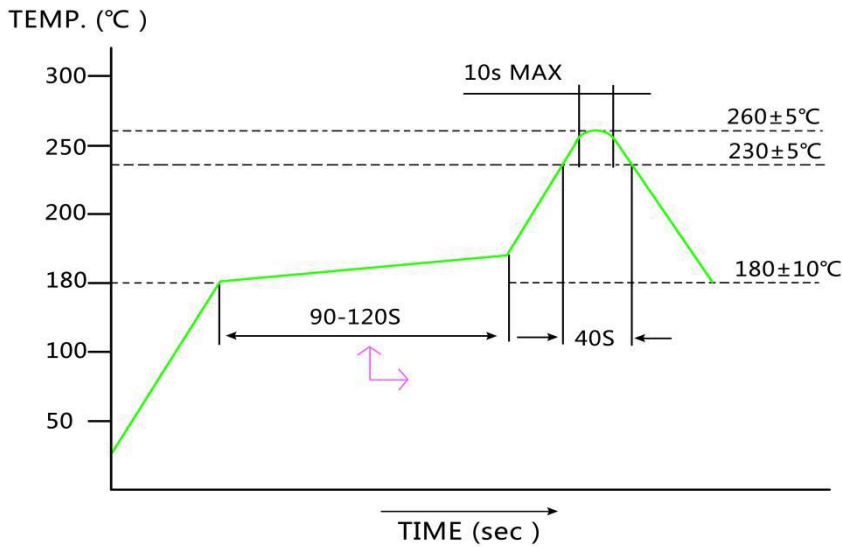
2.3 Reel Dimensional Drawing (mm)



NO.3 Product reliability

Item	Condition	Result
A1	Cold resistance Stored at $-40\pm 2^{\circ}\text{C}$ for 1000 ± 2 hrs then $25\pm 2^{\circ}\text{C}$ 1~2 hrs before testing	(I)
A2	Heat resistance Stored at $85\pm 2^{\circ}\text{C}$ for 1000 ± 2 hrs then $25\pm 2^{\circ}\text{C}$ 1~2 hrs before testing	(I)
A3	Salt Mist Test Spray the $35^{\circ}\text{C}\pm 2^{\circ}\text{C}$ salt water (salt density 5%) to crystal for 48 ± 2 hrs,then clean by water	(I)
A4	Humidity Resistance Result Steady temperature: $60\pm 2^{\circ}\text{C}$;humidity: 90 ~ 95 % RH; time:500h	(I)
A5	Mechanical Shock 14700m/S^2 0.5sec 5times in each of 6 direction	(I)
A6	Aging Stored at $85\pm 3^{\circ}\text{C}$ for 720 ± 12 Hrs then $25\pm 2^{\circ}\text{C}$ 1~2 Hrs before testing Stored at $25\pm 2^{\circ}\text{C}$ for 1 ± 0.03 year	(I)
A7	Leakage Fine leak: Helium leak test *JIS C 6701 10.6	(V)
A8	Temperature Cycle $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$, Dewell 30Min, 100 cycles  The graph shows a temperature cycle with two isothermal holds. The first hold is at $150\pm 5^{\circ}\text{C}$ for 120 seconds. The temperature then rises to a second hold at $260\pm 5^{\circ}\text{C}$ for 10 seconds. Finally, the temperature decreases during a cooling phase.	(I)

3.1 Mechanism characteristics

B.1	Drop Test Device are dropped from a height of 100 cm onto 20mm thickness stainless plate executing 3 times of random drops	(I)
B.2	Resistance of Vibration Frequency: 10~55Hz, amplitude(total excursion): 1.5mm±15%,3 direction (X,Y,Z) each 2 hr	(I)
B.3	Resistance to soldering heat (Hand soldering method) Temperature: 370~400℃; Time: 3~4sec; Frequency: 2 times; Soldering iron: 60W/Min	(I)
B.4	Solderability 240±2℃, 3±0.5sec	(II)
B.5	Reflow) Resistance to soldering heat (Reflow) 260± 5℃; 10S; 2Times Reflow  The graph shows a temperature profile for reflow soldering. The y-axis is labeled 'TEMP. (°C)' with values from 50 to 300. The x-axis is labeled 'TIME (sec)'. - The temperature starts at 50°C and rises to 180°C. - A horizontal segment at 180°C is labeled '90-120S' with a pink double-headed arrow below it. - The temperature then rises to a peak of 260±5°C. - A horizontal segment at the peak is labeled '10s MAX'. - The temperature then falls to 230±5°C. - A horizontal segment at 230±5°C is labeled '40S'. - The temperature finally falls to 180±10°C.	(I)



Item	Result NO.	Specification Requirements
1	(I)	Frequency variation $\leq \pm 10\text{ppm}$ Resistance variation $< 5\Omega$ or 15% of RR spec., select the bigger value
2	(II)	The covering rate of Tin-plating is more than 95%
3	(III)	There is no bubbles after the Crystal is dipped in the water Insulation Resistance: 500 $M\Omega$ Min 100VDC/ $\pm 15\text{VDC}$
4	(IV)	The Crystal is no crackle under the observation of 10 times Magnifier.
5	(V)	$1 \times 10^{-9} \text{Pa} \cdot \text{m}^3/\text{s}$ Max



NO.4 Package specification

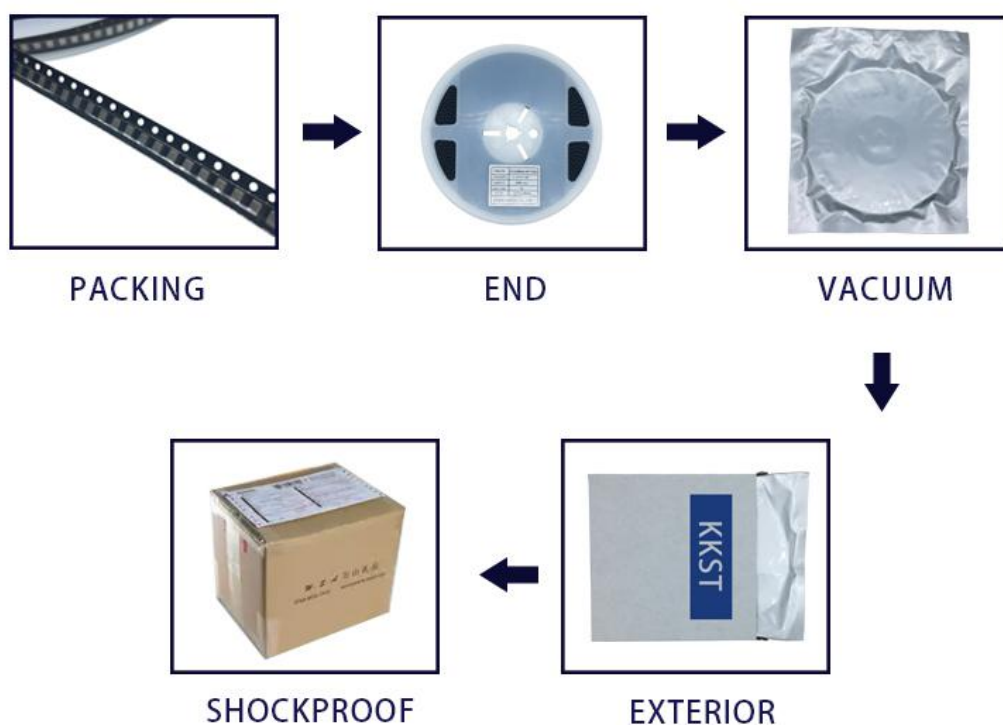
4.1 Marking



4.2 Label

KKST KEYUANXIN TECHNOLOGY GO.,LTD		
Item	Crystal	QTY:
P/N	KAD16000C01R	3000PCS
FREQUENCY	16.000MHz	DATE:
		2017-09-12

4.3 Package specification





KEYUANXIN TECHNOLOGY GO.,LTD

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