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

Product Name:	Crystal
Product Type:	SMD 2520
Nominal Freq:	32.0000MHz
ProvideBrand:	KKST
P/N:	KAD32000C01R
Customer P/N:	

Approved By Customer

Signature: **Date:**

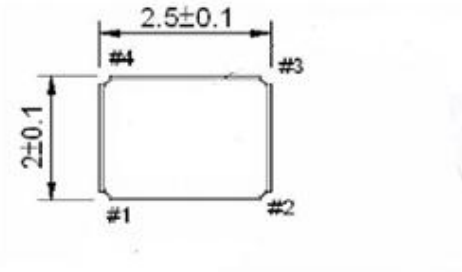
CONTENT

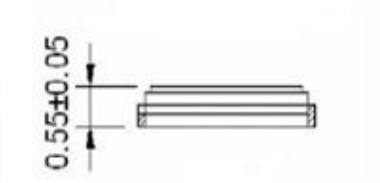
N0.1 Product specification and features

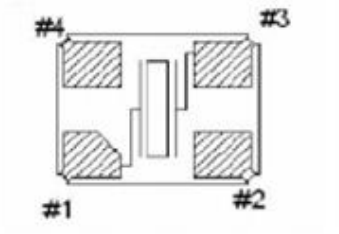
1.1 General characteristics	
Nominal frequency	32.000000 MHz
Overtone order	Fundamental
Type	SMD2520
Operating temperature	-20~70 ℃
Storage temperature	-40~85 ℃
1.2 Electric characteristics	
Adjustment tolerance: (at+25℃)	±10 ppm
Tolerance over the temperature:	±20 ppm
Load capacitance	12.0 pF
Drive level	10.0 μW
Equivalent resistance	40.0Ω Max
Shut capacitance	7.0pF Max
Insulation resistance	500 MΩ Min 100VDC ± 15VDC
Aging	±3ppm/Year
1.3 Other characteristics	
SPDB	<-3 dB

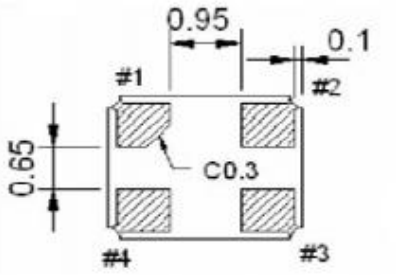
NO.2 Outline dimensions、Appearances

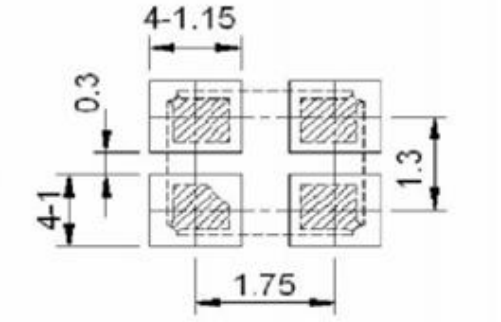
2.1 Product outline dimension(mm)



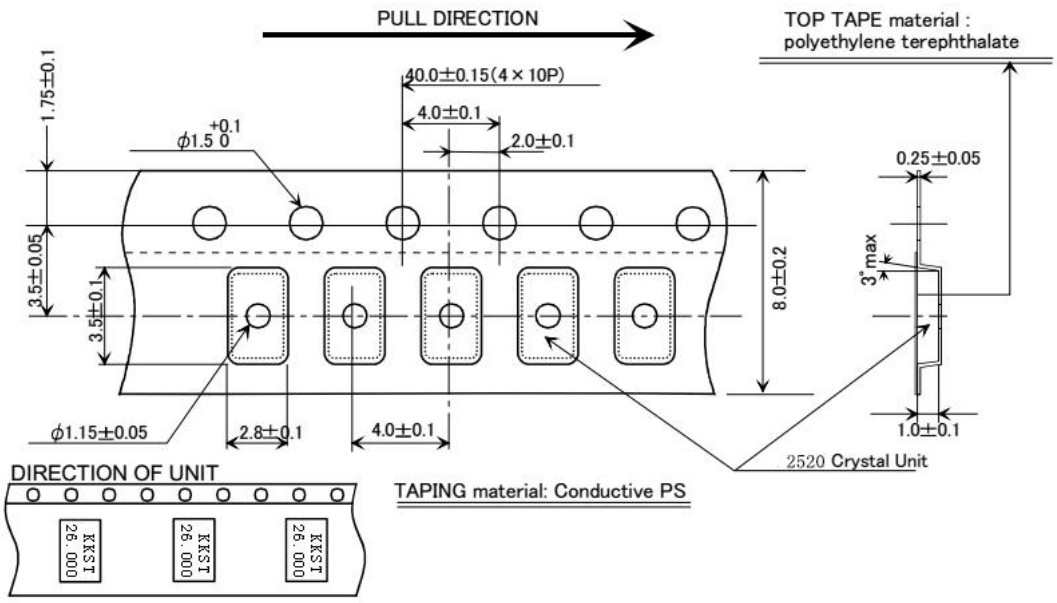




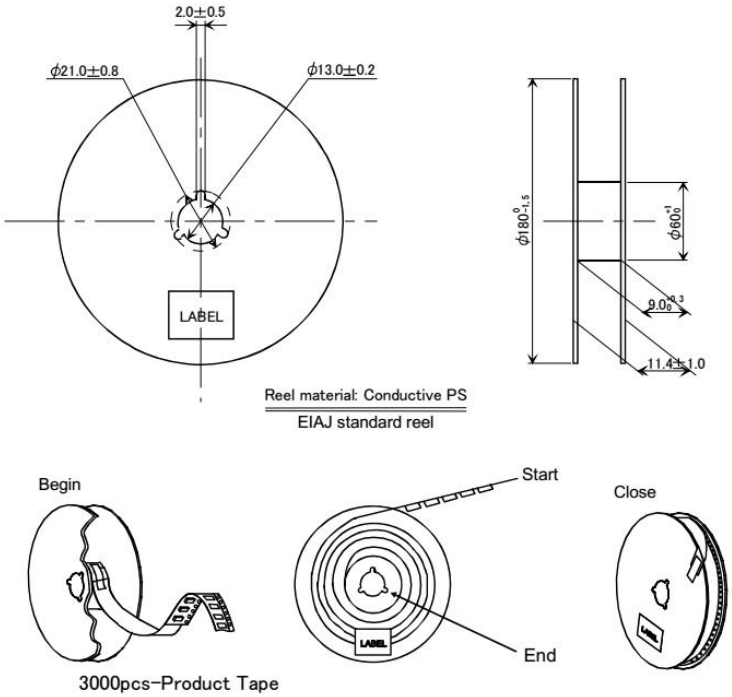




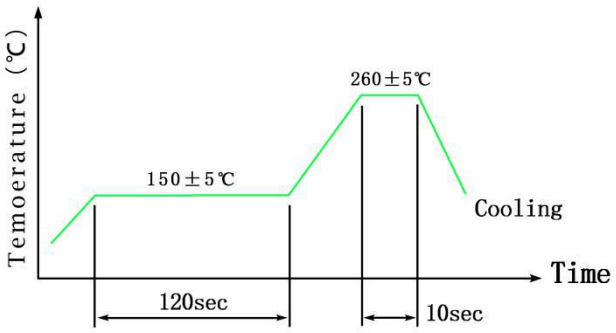
2.2 Carrier Dimensional Drawing (mm)



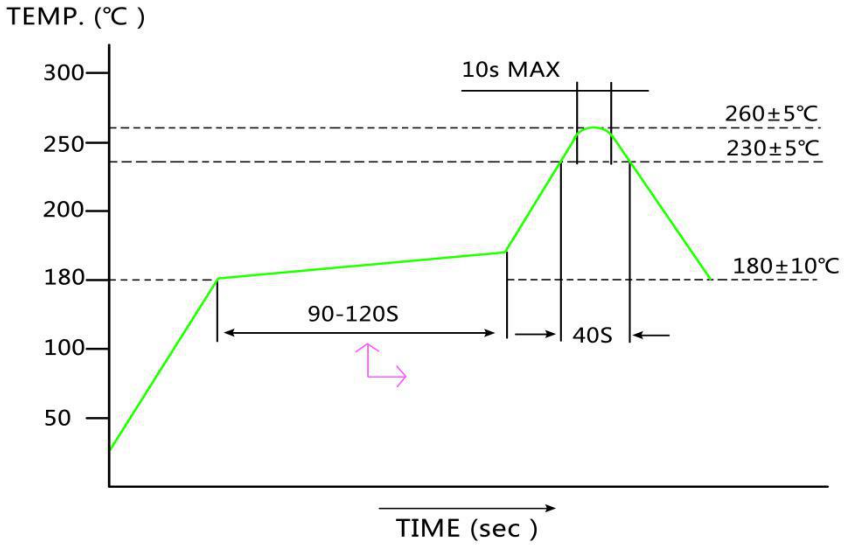
2.3 Reel Dimensional Drawing (mm)



NO.3 Product reliability

Item	Condition	Result
A1	**Cold resistance** Stored at -40±2℃ for 1000±2 hrs then 25±2℃ 1~2 hrs before testing	(I)
A2	**Heat resistance** Stored at 85±2℃ for 1000±2 hrs then 25±2℃ 1~2 hrs before testing	(I)
A3	**Salt Mist Test** Spray the 35℃±2℃ salt water (salt density 5%) to crystal for 48±2hrs,then clean by water	(I)
A4	**Humidity Resistance Result** Steady temperature: 60±2℃;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±3℃ for 720±12Hrs then 25±2℃ 1~2 Hrs before testing Stored at 25±2℃ for 1±0.03 year	(I)
A7	**Leakage** Fine leak: Helium leak test *JIS C 6701 10.6	(V)
A8	**Temperature Cycle** –40℃ ～ 85℃，Dewell 30Min， 100 cycles 	(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  	(I)

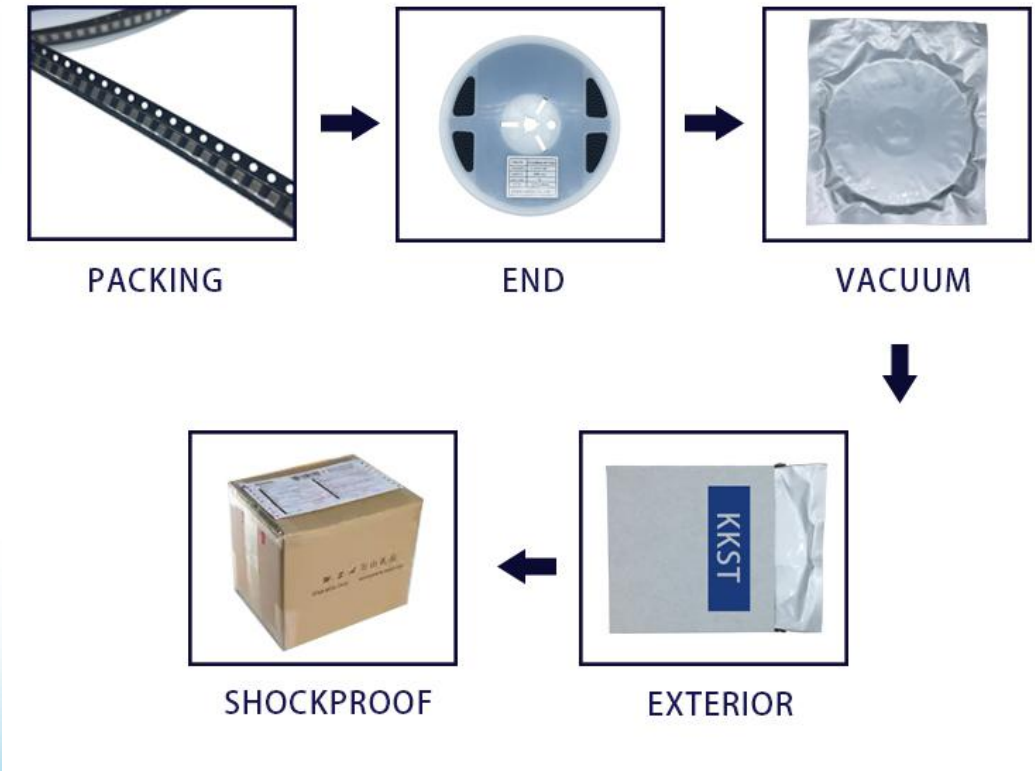
Item	Result NO.	Specification Requirements
1	（Ⅰ）	Frequency variation <±10ppm Resistance variation ＜5Ω or 15% of RR spec., select the bigger value
2	（Ⅱ）	The covering rate of Tin-plating is more than 95%
3	（Ⅲ）	There is no bubbles after the Crystal is dipped in the water Insulation Resistance: 500 MΩ Min 100VDC/±15VDC
4	（Ⅳ）	The Crystal is no crackle under the observation of 10 times Magnifier.
5	（Ⅴ）	1*10-9Pa.m³/s Max

NO.4 Package specification

4.1 Marking

4.2 Label

4.3 Package specification



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