



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

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Product Type:

SMD 5032

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Nominal Freq:

40.0000MHz

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ProvideBrand:

TXC

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P/N:

7B40000314

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Customer P/N:

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Approved By Customer

**Signature:**

**Date:**

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**ELECTRICAL SPECIFICATIONS**

**Standard atmospheric conditions**

Unless otherwise specified, the standard range of atmospheric conditions for making measurement and tests are as follow:

- Ambient temperature : 25±5
- Relative humidity : 40%~70%

If there is any doubt about the results, measurement shall be made within the following limits:

- Ambient temperature : 25±3
- Relative humidity : 40%~70%

**Measure equipment**

Electrical characteristics measured by HP E5100A or equivalent.

**Crystal cutting type**

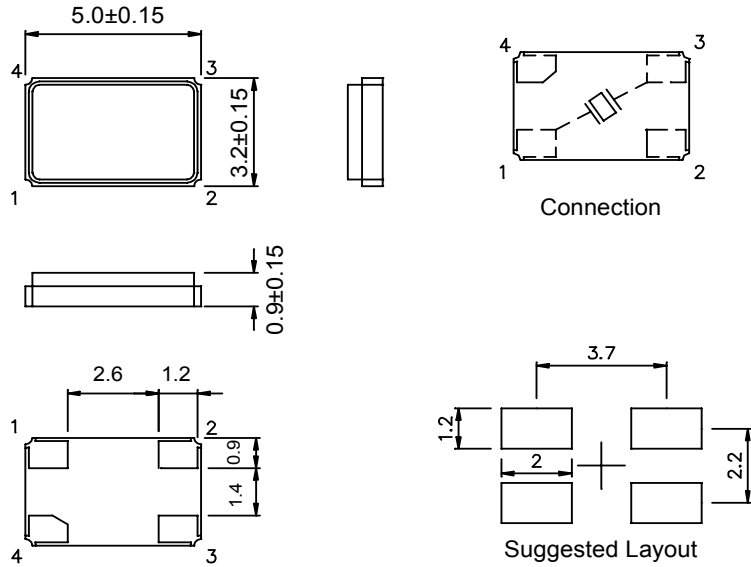
The crystal is using AT CUT (thickness shear mode).

**Unit Weight:**

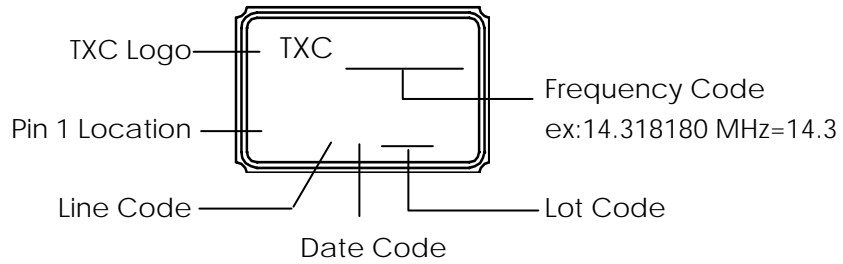
0.046±0.001 g/pcs

|    | Parameters                | SYM. | Electrical Spec. |      |     |       | Notes                                      |
|----|---------------------------|------|------------------|------|-----|-------|--|
|    |                           |      | MIN              | TYPE | MAX | UNITS |  |
| 1  | Nominal Frequency         | FL   | 40.000000        |      |     | MHz   | -  |
| 2  | Oscillation Mode          | -    | Fundamental      |      |     | -     | -  |
| 3  | Load Capacitance          | CL   | 16               |      |     | pF    | -  |
| 4  | Frequency Tolerance       | -    | ±9               |      |     | ppm   | at 25 ± 3                                  |
| 5  | Frequency Tolerance       | -    | ±9               |      |     | ppm   | Over Operating Temp. Range (Reference 25 ) |
| 6  | Operating Temperature     | -    | -0               | ~    | 85  |       | -  |
| 7  | Aging                     | -    | ±3               |      |     | ppm   | 1st Year                                   |
| 8  | Drive Level               | DL   | -                | 100  | 600 | uW    | -  |
| 9  | Effective Resistance Rr   | Rr   | -                | -    | 25  | Ω     | -  |
| 10 | Shunt Capacitance C0      | C0   | -                | -    | 2   | pF    | -  |
| 11 | Insulation Resistance     | -    | 500              | -    | -   | MΩ    | at DC 100V                                 |
| 12 | Storage Temperature Range | -    | -40              | ~    | 85  |       | -  |

**DIMENSIONS**



**MARKING**



**Date Code:**

| YEAR |      | MONTH |      |     |     |     |     |     |     |     |     |     |     |   |   |
|------|------|-------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|---|
|      |      | JAN   | FEB  | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |   |   |
| 2005 | 2009 | 2013  | 2017 | A   | B   | C   | D   | E   | F   | G   | H   | J   | K   | L | M |
| 2006 | 2010 | 2014  | 2018 | N   | P   | Q   | R   | S   | T   | U   | V   | W   | X   | Y | Z |
| 2007 | 2011 | 2015  | 2019 | a   | b   | c   | d   | e   | f   | g   | h   | j   | k   | l | m |
| 2008 | 2012 | 2016  | 2020 | n   | p   | q   | r   | s   | t   | u   | v   | w   | x   | y | z |

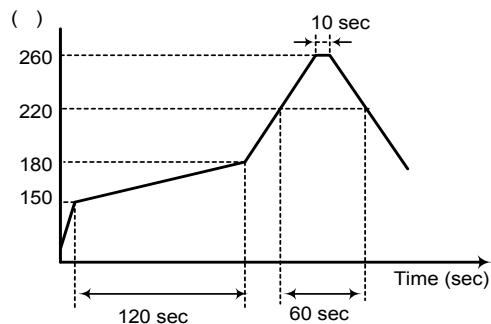
\*This date code will be cycled every four years

**Production location: China or Taiwan**

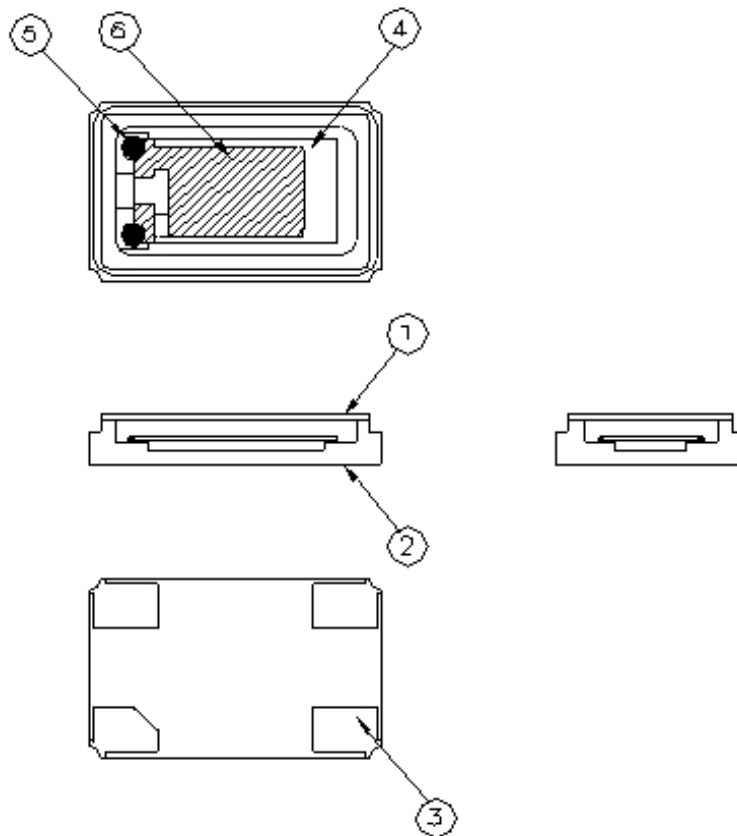
**SUGGESTED REFLOW PROFILE**

Total time : 200 sec. Max.

Solder melting point :220

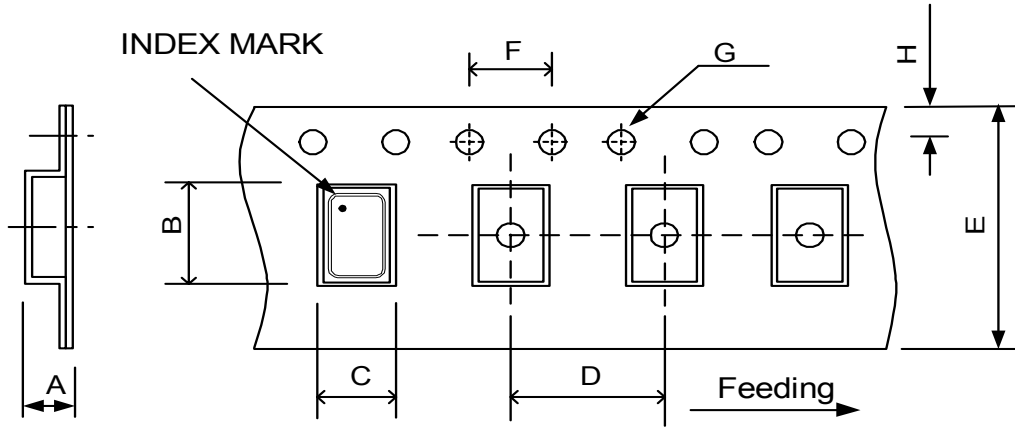


**STRUCTURE ILLUSTRATION**



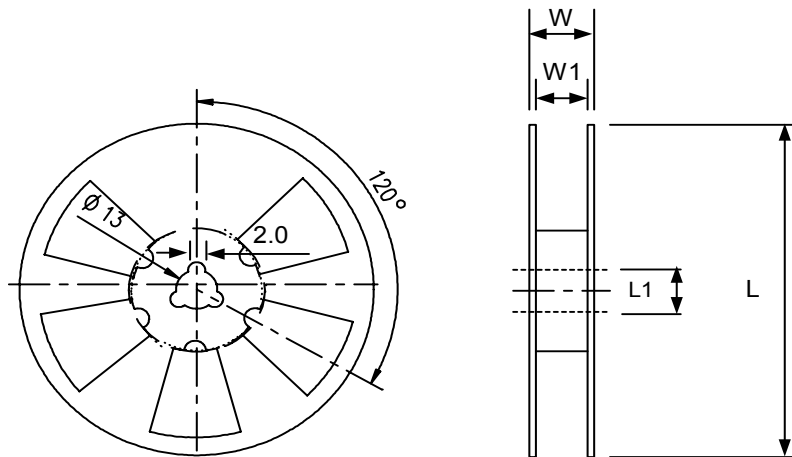
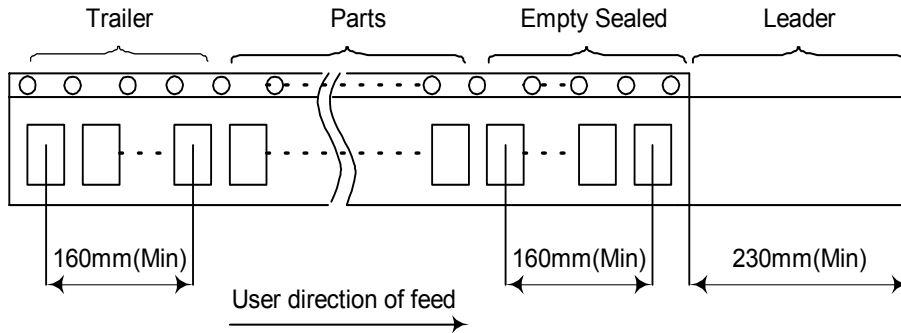
| NO | COMPONENTS          | MATERIALS   | QTY | FINISH/SPECIFICATIONS                             |
|----|---------------------|---|-----|---|
| 1  | Lid                 | Kovar (Fe/Co/Ni)  | 1   | -   |
| 2  | Base(Package)       | Ceramic (Al <sub>2</sub> O <sub>3</sub> ) + Kovar (Fe/Co/Ni)+ Ag/Cu | 1   | Color black                                       |
| 3  | PAD                 | Au  | 4   | Tungsten metalize<br>+ Ni plating<br>+ Au plating |
| 4  | Crystal blank       | SiO <sub>2</sub>  | 1   | -   |
| 5  | Conductive adhesive | Ag  | 4   | Silicon resin                                     |
| 6  | Electrode           | Ag + Cr   | 2   | -   |

**PACKING : (EIA-481-2)**



|            |      |      |      |      |       |      |      |      |             |
|------------|------|------|------|------|-------|------|------|------|-------------|
| DIMENSIONS | A    | B    | C    | D    | E     | F    | G    | H    | (UNIT : mm) |
|            | 1.40 | 5.40 | 3.60 | 8.00 | 12.00 | 4.00 | 1.55 | 1.75 |             |

REMARK :



|            |     |    |      |    |  |
|------------|-----|----|------|----|--|
| DIMENSIONS | L   | L1 | W    | W1 | pcs / Reel (UNIT : mm)                       |
|            | 180 | 13 | 16.5 | 12 | Standard Reel Quantity is 1,000 pcs per reel |

**RELIABILITY SPECIFICATIONS**

1.Mechanical Endurance

| No. | Test Item        | Test Methods   | REF.DOC      |
|-----|------------------|--|--------------|
| 1.1 | Drop Test        | 75 cm height,3 times on concrete floor .   | JIS C6701    |
| 1.2 | Mechanical Shock | Device are shocked to half sine wave ( 1000 G ) three mutually perpendicular axes each 3 times. 0.5m sec. duration time                                  | MIL-STD-202F |
| 1.3 | Vibration        | Frequency range 10 ~ 2000 Hz<br>Amplitude 1.52 mm/20G<br>Sweep time 20 minute<br>Perpendicular axes each test time 4 hours<br>(Total test time 12 hours) | MIL-STD-883E |
| 1.4 | Gross Leak       | Standard Sample For Automatic Gross Leak Detector, Test Pressure: 2Kg / cm <sup>2</sup>  | MIL-STD-883E |
| 1.5 | Fine Leak        | Helium Bombing 4.5 Kgf / cm <sup>2</sup> for 2 hr  |              |
| 1.6 | Solderability    | Temperature 245 ± 5<br>Immersing depth 0.5 mm minimum<br>Immersion time 5 ± 1 seconds<br>Flux Rosin resin methyl alcohol solvent ( 1 : 4 )               | MIL-STD-883E |

2.Environmental Endurance

| No. | Test Item                    | Test Methods   | REF. DOC     |
|-----|------------------------------|--|--------------|
| 2.1 | Resistance To Soldering Heat | Pre-heat temperature 125<br>Pre-heat time 60 ~ 120 sec.<br>Test temperature 260 ± 5<br>Test time 10 ± 1 sec. | MIL-STD-202F |
| 2.2 | High Temp. Storage           | + 125 ± 3 for 1000 ± 12 hours  | MIL-STD-883E |
| 2.3 | Low Temp. Storage            | - 40 ± 3 for 1000 ± 12 hours   |              |
| 2.4 | Thermal Shock                | Total 100 cycles of the following temperature cycle<br>  | MIL-STD-883E |
| 2.5 | High Temp & Humidity         | 85 ± 3 , RH 85% , 1000Hrs  | JIS C5023    |
| 2.6 | Pressure Cooker Storage      | 121 ± 3 , RH100% , 2 bar , 240Hrs  | JIS C6701    |





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