

SPECIFICATION FOR APPROVAL

CUSTOMER : _____

PRODUCT TYPE : SMD SEAM SEALING XTAL 5.0 × 3.2

NOMINAL FREQ. : 9.843750MHz

TXC P/N : AB09800007

REVISION : S1

CUSTOMER P/N : _____

PM / SALES : _____

DATE : _____

CUSTOMER SIGNATURE & Date

- (1) TXC requires one copy returned with signature and title of authorized individual that signifies acceptance of the attached specifications.
- (2) Orders received and accepted by TXC after return of signed copy of specification will be produced per these specifications.
- (3) Any changes to these specifications must be agreed upon by both parties and new revision of the Product Specification Sheet will be issued.
- (4) Any issuance of purchase order prior to consigning back the Approval page of "Specification Sheets" from customers will be regarded as the agreement on the contents of these specifications.

Attachment: Product Specification Sheet

- 1
- 2
- 3
- 4
- 5

RoHS Compliant

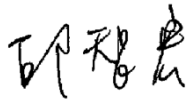
PRODUCT SPECIFICATION SHEET

PRODUCT TYPE : SMD SEAM SEALING XTAL 5.0 × 3.2

NOMINAL FREQ. : 9.843750MHz

TXC P/N : AB09800007

REVISION : S1

| PE/RD | QA | MFG |
|---|----|-----|
|  | | |
| 27-Dec-11 | | |

NOTE:

- (1)Lead Free Products are "Directive 2002/95/EC of The European Parliament of 27 January 2003 on the restriction of the use of certain hazardous substances (RoHS) in electrical and electronic equipment" Compliant (Attachment: SGS Test Report).
- (2)Revision "Sx" is for engineering samples only. PE/RD's approval required.
- (3)Revision "Ax" is production ready. PE, QA and MFG's approval required

RoHS Compliant



| <u>Rev</u> | <u>Revise page</u> | <u>Revise contents</u> | <u>Date</u> | <u>Ref.No.</u> | <u>Reviser</u> |
|------------|--------------------|------------------------|-------------|----------------|----------------|
| S1 | N/A | Initial released | 27-Dec-11 | N/A | Jane Lee |
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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 : $25\pm 5^{\circ}\text{C}$
 Relative humidity : 40%~70%

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

Ambient temperature : $25\pm 3^{\circ}\text{C}$
 Relative humidity : 40%~70%

Measure equipment

Electrical characteristics measured by HP E5100A or equivalent.

Crystal cutting type

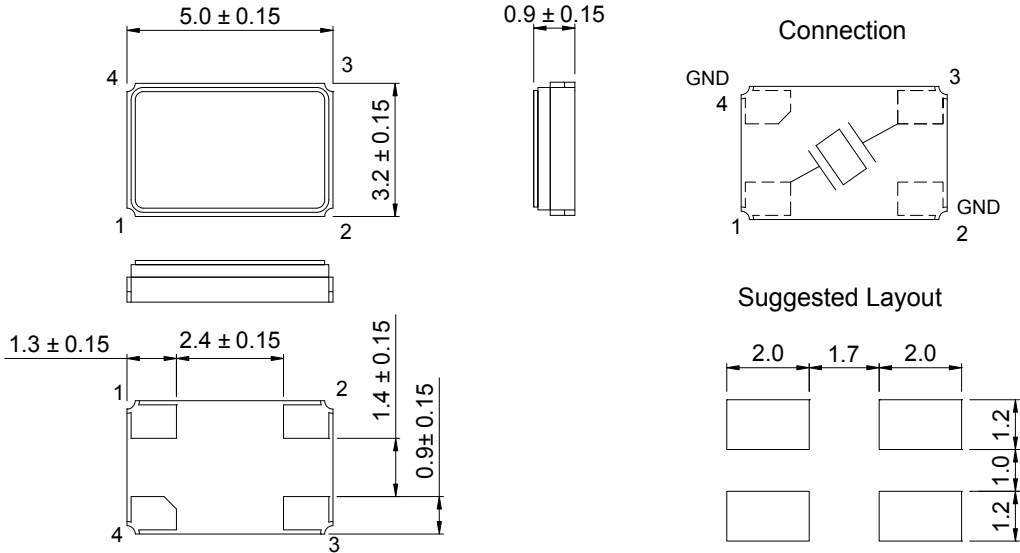
The crystal is using AT CUT (thickness shear mode).

Unit Weight:

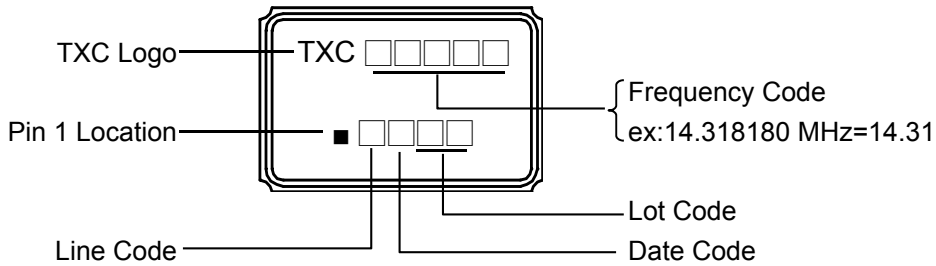
0.046±0.001 g/pcs

| | Parameters | SYM. | Electrical Spec. | | | | Notes |
|----|---------------------------|------|------------------|------|-----|-------|---|
| | | | MIN | TYPE | MAX | UNITS | |
| 1 | Nominal Frequency | FL | 9.843750 | | | MHz | - |
| 2 | Oscillation Mode | - | Fundamental | | | - | - |
| 3 | Load Capacitance | CL | 12 | | | pF | - |
| 4 | Frequency Tolerance | - | ±10 | | | ppm | at 25 °C ± 3 °C |
| 5 | Frequency Stability | - | ±50 | | | ppm | Over Operating Temp. Range (Reference 25°C) |
| 6 | Operating Temperature | - | -40 | ~ | 125 | °C | - |
| 7 | Aging | - | ±3 | | | ppm | 1st Year |
| 8 | Drive Level | DL | - | 10 | - | μW | - |
| 9 | Effective Resistance | Rr | - | - | 50 | Ω | - |
| 10 | Insulation Resistance | - | 500 | - | - | MΩ | at DC 100V |
| 11 | Storage Temperature Range | - | -40 | ~ | 125 | °C | - |

■ DIMENSIONS



■ MARKING



Date Code:

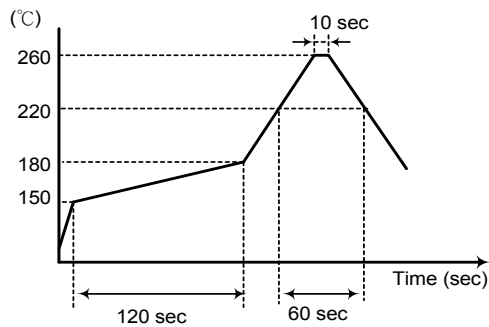
| YEAR | | MONTH | | | | | | | | | | | | | |
|------|------|-------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|---|
| | | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | | |
| 2005 | 2009 | 2013 | 2017 | A | B | C | D | E | F | G | H | J | K | L | M |
| 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

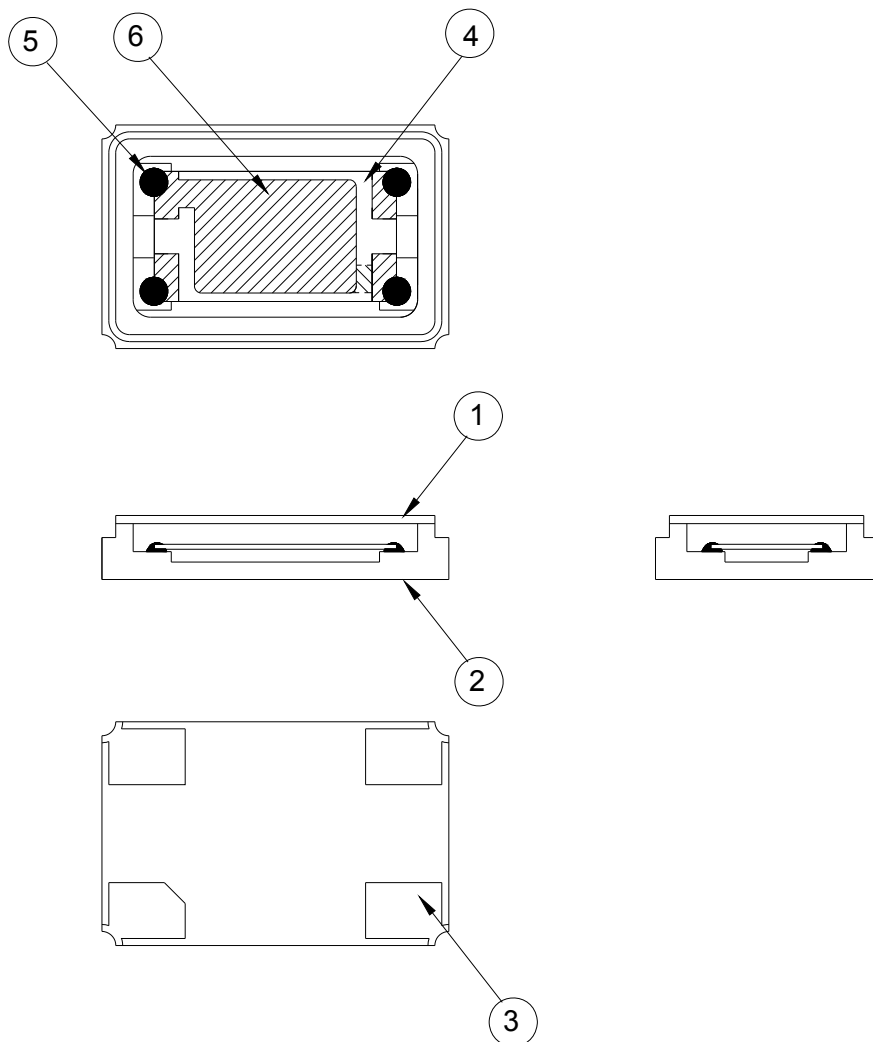
Production location: China or Taiwan

■ SUGGESTED REFLOW PROFILE

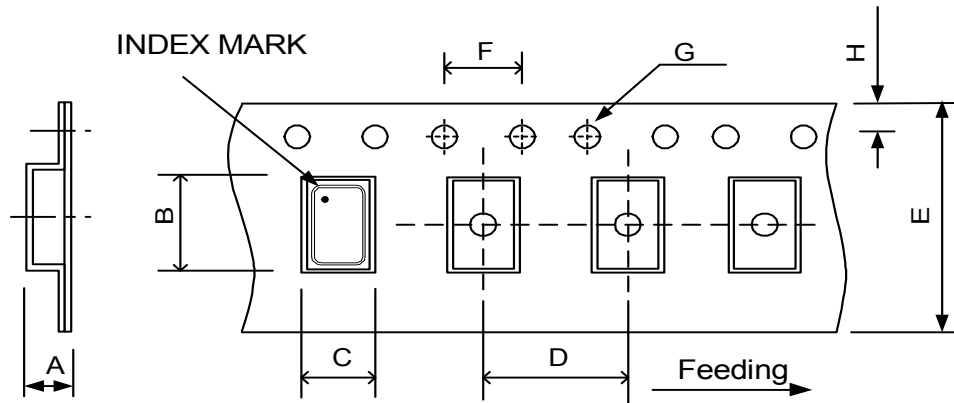
Total time : 200 sec. Max.
Solder melting point :220 °C



■ STRUCTURE ILLUSTRATION

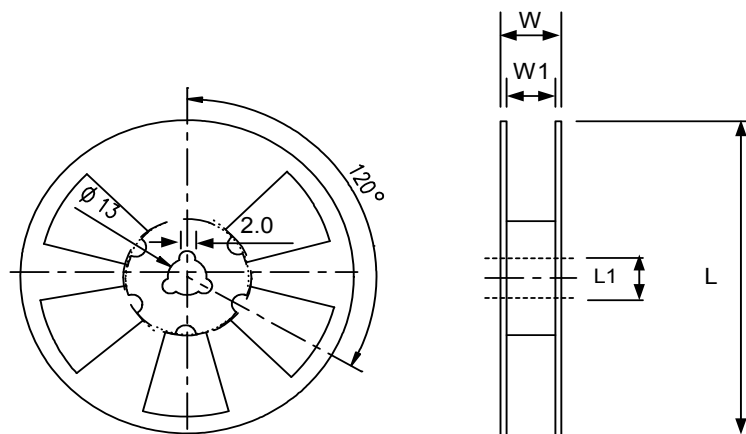
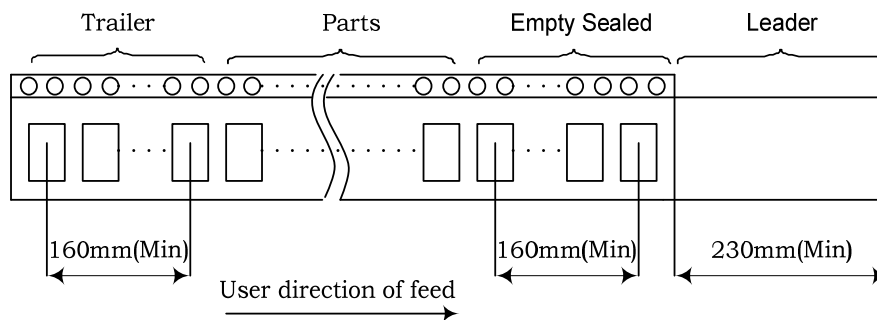


| NO | COMPONENTS | MATERIALS | FINISH/SPECIFICATIONS |
|----|---------------------|---|---|
| 1 | Lid | Kovar (Fe/Co/Ni) | - |
| 2 | Base(Package) | Ceramic (Al ₂ O ₃) + Kovar (Fe/Co/Ni)+ Ag/Cu | Color black |
| 3 | PAD | Au | Tungsten metalize + Ni plating + Au plating |
| 4 | Crystal blank | SiO ₂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

PACKING


| DIMENSIONS | A | B | C | D | E | F | G | H | (UNIT : mm) |
|------------|-----|-----|-----|---|----|---|------|------|-------------|
| | 1.7 | 5.4 | 3.6 | 8 | 12 | 4 | 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 | 120 cm height, 20 times on Stainless Plate . | JIS C 6701 |
| 1.2 | Mechanical Shock | Device are shocked to half sine wave (5000 G) three mutually perpendicular axes each 3 times. 0.3m sec. duration time | MIL-STD-202 Method 213 |
| 1.3 | Vibration | Frequency range 10 ~ 2000 Hz~10 Hz Amplitude 1.52 mm/20G Sweep time 20 minute Perpendicular axes each test time 4 Hrs (Total test time 12 Hrs) | MIL-STD-202 Method 204 |
| 1.4 | Solderability | Temperature 245 °C ± 5°C Immersing depth 1.25 mm Immersion time 5 ± 1 seconds Flux Rosin resin methyl alcohol solvent (1 : 4) | J-STD-002 |
| 1.5 | Terminal Strength | Mount on PCB board and shear strength 1.8kg for 60 sec. | AEC-Q200-006 |
| 1.6 | Board Flex | Duration Time: 60 sec, Deviation: 3mm | AEC-Q200-005 |

2. Environmental Endurance

| No. | Test Item | Test Methods | REF. DOC |
|-----|------------------------------|--|------------------------|
| 2.1 | Resistance To Soldering Heat | Pre-heat temperature 125 °C Pre-heat time 60 ~ 120 sec. Test temperature 260 ± 5 °C Test time 10 ± 1 sec. | MIL-STD 202 Method 210 |
| 2.2 | High Temp. Storage | + 125 °C ± 3 °C for all 1000 Hrs. | MIL-STD-202 Method 108 |
| 2.3 | Low Temp. Storage | - 40 °C ± 3 °C for all 1000 Hrs. | JIS C 6701 |
| 2.4 | Thermal Shock | Total 1000 cycles of the following Thermal Shock : | MIL-STD-202 Method 107 |
| 2.5 | Temperature Cycle | Total 1000 cycles of the following temperature cycle : - 40°C ± 3 to 125°C ± 3 , Dwell time:15min. | JESD 22 Method JA-104 |
| 2.6 | Biased Humidity | + 85°C ± 3°C , RH 85% , 1000 Hrs. | MIL-STD-202 Method 103 |
| 2.7 | Moisture Resistance | 20 cycles (+25°C~65°C , 80%~100% RH) , 24hrs/cycle. | MIL-STD 202 Method 106 |
| 2.8 | Operational Life | + 125 °C ± 3 °C for 1000 Hrs. | MIL-STD-202 Method 108 |

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[WX26-32.768K-6PF](#) [9B-14.31818MBBK-B](#) [CD1AM](#) [7B-25.000MAAE-T](#) [7A-14.31818MBBK-T](#) [6504-202-1501](#) [6526-202-1501](#) [FA-118T](#)
[27.1200MB50P-K0](#) [FC-135R 32.7680KA-A3](#) [ABM12-104-37.400MHZT](#) [ABLS-10.000MHZ-D3W-T](#) [BTJ112E01E-513](#) [BTJ722K01C-7067](#)
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