



Accurate Kinetic Energy

No.11-3 Jianguo Rd., T.E.P.Z. 42760 Taiwan, ROC

All dimensions are millimeters.

CAD: TCR

Review: EG

Appr: JL

Page: 1/4 Date: April 24,2024

## Specification Title:

**Temperature Compensated**

**Crystal Oscillator**

**TCXO - Ceramic Package**

**2.0 x 1.6 millimeter Surface Mount**

**Part Number:**

**TX21 Series**

## Electrical Specifications:

|                                               |               |                  |             |
|-----------------------------------------------|---------------|------------------|-------------|
| Frequency Range                               |               | 10.000 to 52.000 | MHz         |
| Frequency Tolerance                           |               | ±2.0             | ppm Max.    |
| Frequency Stability vs. Operating Temperature |               | ±0.5 ~ ±2.0      |             |
| Frequency Stability vs. Supply Voltage Change |               | ±0.2             |             |
| Frequency Stability vs. 10% Load Change       |               | ±0.2             |             |
| Aging per Year                                |               | ±1.0             |             |
| Operating Temperature Range                   | Standard      | -30 to +85       | °C          |
|                                               | Extended      | -40 to +85       |             |
|                                               |               | -40 to +105      |             |
| Storage Temperature Range                     |               | -55 to +125      |             |
| Supply Voltage                                |               | 1.8 ± 5%         | VDC         |
|                                               |               | 2.5 ± 5%         |             |
|                                               |               | 3.3 ± 5%         |             |
|                                               |               | 1.68 ~ 3.63      |             |
| Input Current                                 |               | 2.5              | mA Max.     |
| Output Level                                  |               | 0.8              | Vp-p Min.   |
| Output Waveform                               |               | Clipped Sinewave |             |
| Output Load                                   |               | 10KΩ // 10pF     |             |
| Phase Noise                                   | @100Hz Offset | -114             | dBc/Hz Typ. |
|                                               | @1KHz Offset  | -131             |             |
|                                               | @10KHz Offset | -148             |             |
| Start Up Time                                 |               | 2                | ms Max.     |

**RoHS Compliant**

**Pb - Lead Free**

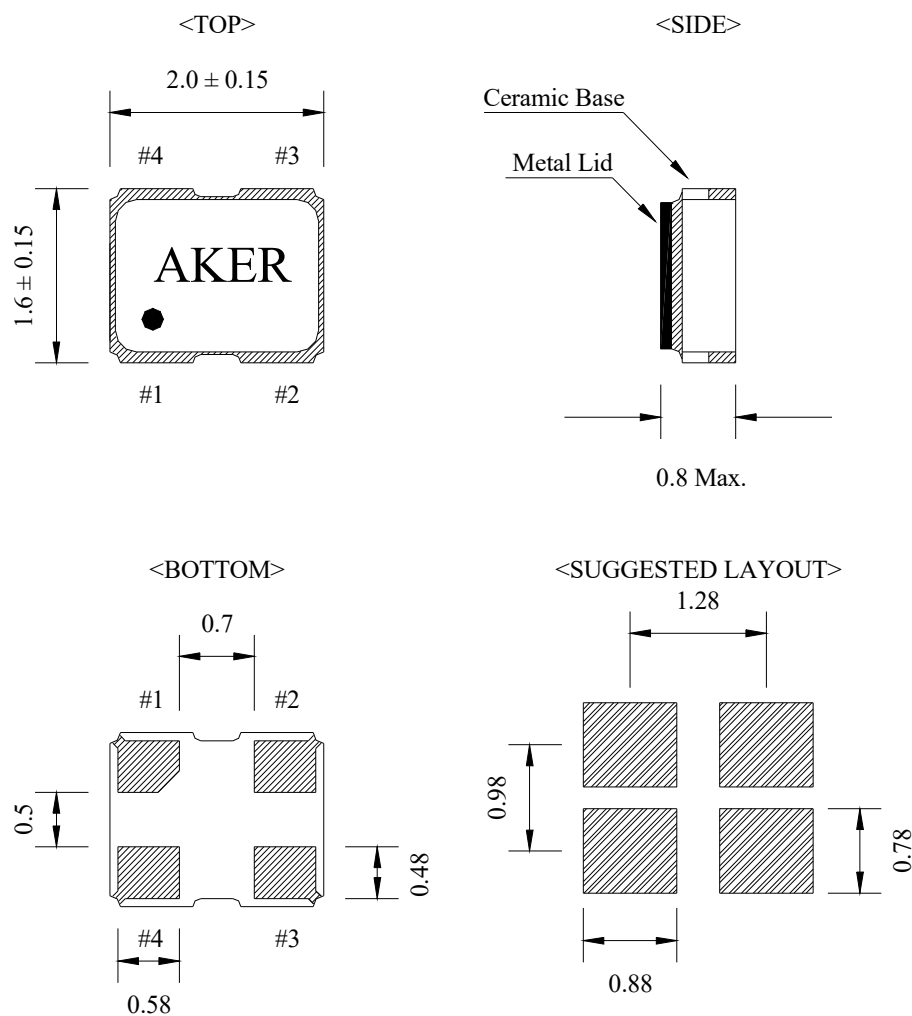
Ltr

Revisions

Date

Appr

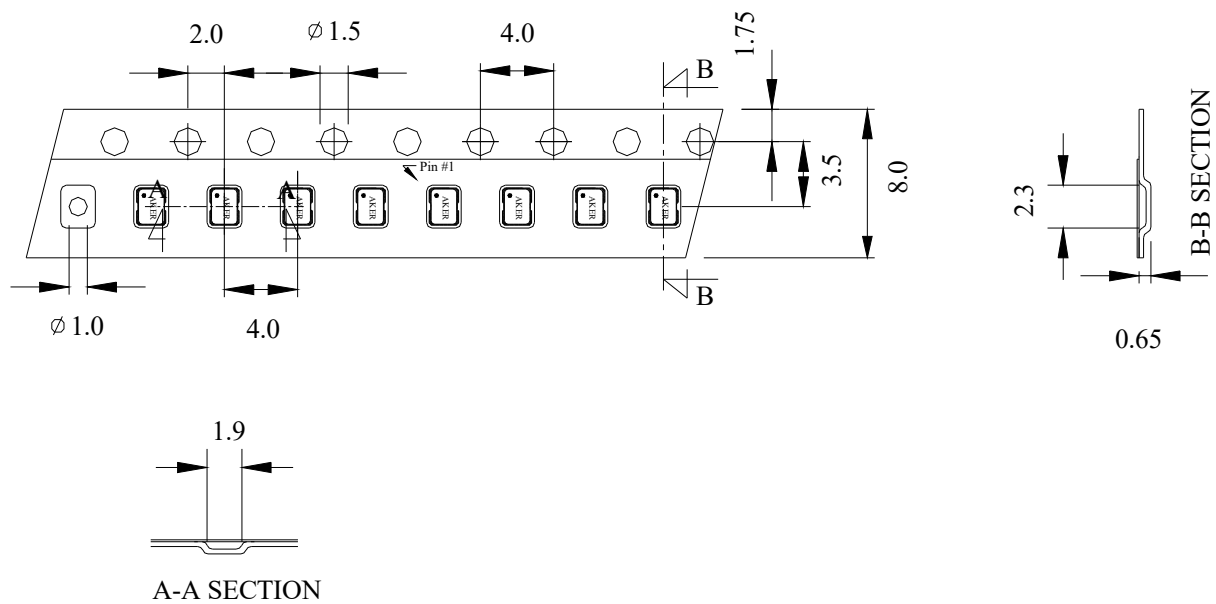
## Mechanical Outline and Solder Pad Layout:



| PIN No. | Connection |
|---------|------------|
| #1      | NC / GND   |
| #2      | GND        |
| #3      | Output     |
| #4      | VDC        |

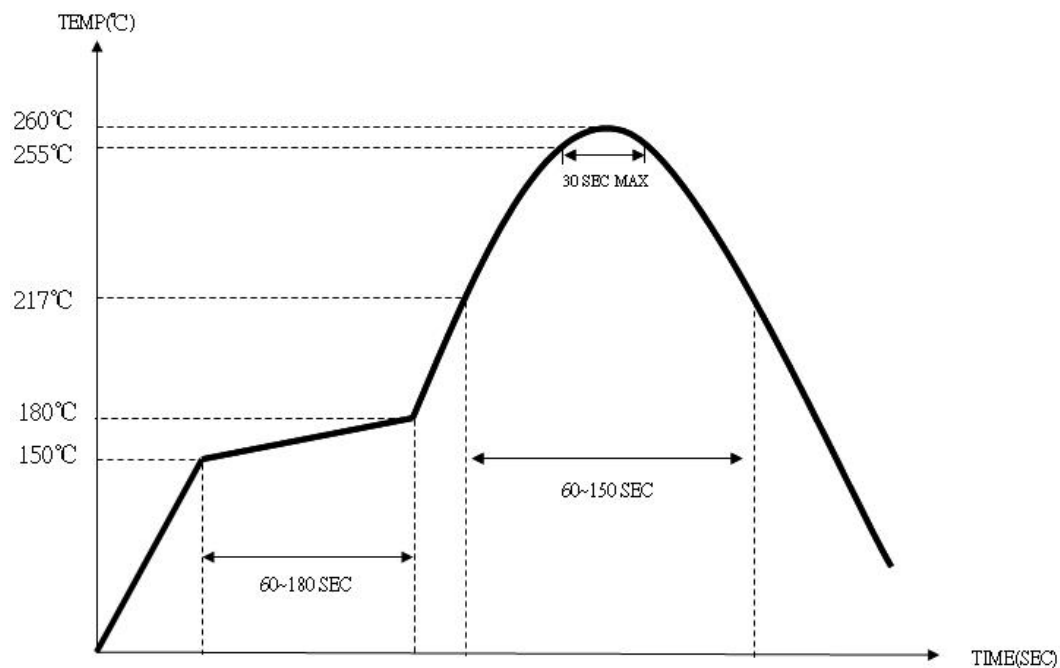
**Package is Seam Sealed Ceramic-Metal.**  
**Dimensions are millimeters.**

### Carrier Tape Dimensions:



Dimensions are millimeters.

### Solder Reflow Characteristics:



### How to build a Part Number:

|                       |               |                  |
|-----------------------|---------------|------------------|
| Series                | TX            | Parameter        |
| Package               | 21            | 2.0 x 1.6 mm     |
| -                     |               |                  |
| Supply Voltage        | 18            | 1.8 VDC $\pm$ 5% |
|                       | 25            | 2.5 VDC $\pm$ 5% |
|                       | 33            | 3.3 VDC $\pm$ 5% |
|                       | M             | 1.68 ~ 3.63 VDC  |
| -                     |               |                  |
| Temperature Stability | 005           | $\pm$ 0.5 ppm    |
|                       | 010           | $\pm$ 1.0 ppm    |
|                       | 020           | $\pm$ 2.0 ppm    |
| -                     |               |                  |
| Output Waveform       | S             | Clipped Sinewave |
| -                     |               |                  |
| Frequency             | 10.000~52.000 | MHz              |
| -                     |               |                  |
| Temperature Range     | See Notes     | -30 to +85 °C    |
|                       | X             | -40 to +85 °C    |
|                       | X2            | -40 to +105 °C   |
| -                     |               |                  |
| Packaging             | M             | 250pcs Reel      |
|                       | R             | 1000pcs Reel     |
|                       | R3            | 3000pcs Reel     |

### Part Number Example:

TX21-33020S-26.000-X-R

TX21: 2.0 x 1.6 mm SMD Package

33: +3.3 VDC Supply Voltage

020:  $\pm$ 2.0 ppm Temperature Stability

S: Clipped Sinewave Output

26.000 MHz Nominal Frequency

X: -40 to + 85°C Temperature Range

R: Tape and Reel Packaging

### Notes:

- 1- Standard Temperature Range do not need to be included in Part Number description.
- 2- Product is shipped in Tape and Reel configuration.
- 3- Quantities less than 1000 pieces are shipped bulk in ESD pouches.
- 4- Specification subject to change without notice.