# SMD VC/TCXO

## ASTX-11, ASVTX-11

ESD Sensitive

RoHS/RoHS II compliant

3.2 X 2.5 X 0.9mm

**Moisture Sensitivity Level (MSL) – This product is Hermetically Sealed and not Moisture Sensitive - MSL = N/A: Not Applicable**

### FEATURES:

- 3.2 x 2.5 x 0.9mm miniature package
- Low current consumption 1.5mA for 19.68MHz
- Vc function corresponds to PLL circuits
- Suitable for RoHS reflow profile

### APPLICATIONS:

- Cellular and cordless phones
- Standard OSC for exact equipment
- Mobile com munication equipment
- Portable radio equipment and music player.
- PLL

### STANDARD SPECIFICATIONS:

| Parameters | Minimum | Typical | Maximum | Units | Notes |
|---|---|---|---|---|---|
| Frequency Range | 10 | | 40 | MHz | |
| Standard Frequencies: | 10, 13, 14.4, 16.3676, 19.2, 19.8, 20, 24.5535, 26, 33.6, 38.4, 39, 40 | | | MHz | |
| Operating Temperature: | -30 | | +75 | °C | |
| Storage Temperature: | -40 | | +85 | °C | |
| Frequency Stability Δf/f0 vs Tolerance (@+25°C) at shipping: | -0.5 | | +0.5 | ppm | |
| Tolerance (@+25°C) after reflow: | -1.5 | | +1.5 | ppm | |
| Temperature (ref. to +25°C): | -2.5 | | +2.5 | | See option (Tabel 1) |
| Supply Voltage Change (Vdd±5%): | -0.2 | | +0.2 | | |
| Load Change (ZL±10%): | -0.2 | | +0.2 | | |
| Supply Voltage (Vdd): | +3.135 | +3.3 | +3.465 | V | See option |
| Aging (first year @+25°C): | -1.0 | | +1.0 | ppm | |
| Supply Current (Icc): | | | 1.5 | mA | ~19.68MHz |
| | | | 2.0 | mA | ~32.00MHz |
| | | | 2.5 | mA | ~40.00MHz |
| Voltage Control Function (for ASVTX-11)<br>Control Voltage (Vcc):<br>Frequency Tuning Range:<br>Frequency Tuning Transition:<br>Input Impedance: | <br>+0.5<br>±8<br>Positive<br>500 | <br>+1.5<br><br><br>650 | <br>+2.5 | <br>Vdc<br>ppm<br><br>kΩ | |
| Output | | | | | |
| Voltage: | 0.8 | | | Vp-p | |
| Load: | 10kΩ//10pF | | | | |
| Waveform: | Clipped Sine Wave | | | | |
| Phase Noise: | | -135 | | dBc | @1kHz |




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## OPTIONS & PART IDENTIFICATION:

ASVTX-11 or ASTX-11 - [ ] - [ ] MHz - [ ] - [ ]

| Vdd (V) |
|---|
| Blank: 3.3V±5% |
| A: 3.0V±5% |
| B: 2.8V±5% |
| C: 2.5V±5% |

| Frequency in MHz |
|---|
| Please specify the frequency in MHz. e.g. 19.200MHz |

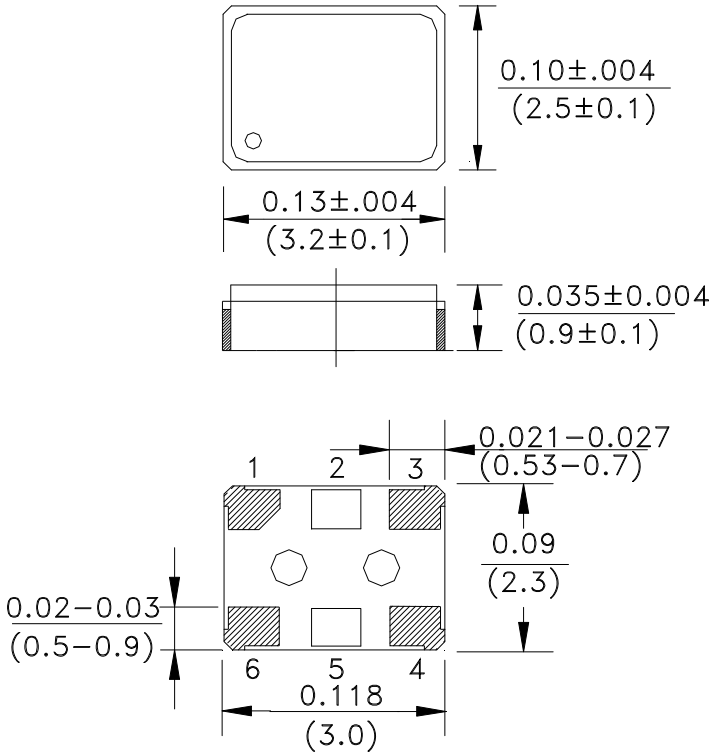
| Packaging |
|---|
| Blank: Bulk |
| T: 1000pcs/reel |
| T3: 3000pcs/reel |

**Table 1: Frequency Stability vs Operating Temperature**

| | ±1.5ppm | ±2ppm | ±2.5ppm | ±3ppm | ±4ppm | ±5ppm |
|---|---|---|---|---|---|---|
| 0°C ~ +50°C | D15 | D20 | D25 | D30 | D40 | D50 |
| -10°C ~ +60°C | E15 | E20 | E25 | E30 | E40 | E50 |
| -20°C ~ +70°C | F15 | F20 | F25 | F30 | F40 | F50 |
| -30°C ~ +70°C | G15 | G20 | G25 | G30 | G40 | G50 |
| -30°C ~ +75°C | H15 | H20 | Std.(Blank) | H30 | H40 | H50 |
| -40°C ~ +85°C | I15 | I20 | I25 | I30 | I40 | I50 |

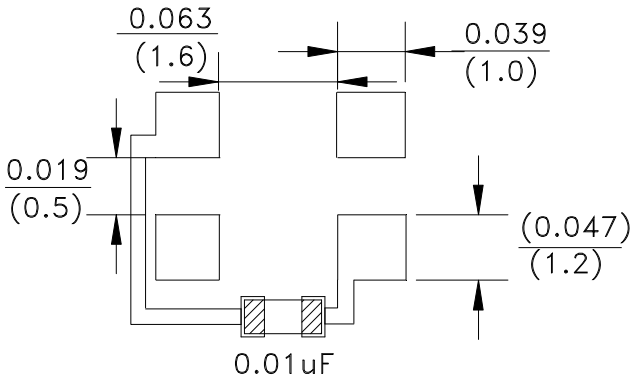
## OUTLINE DRAWING:

6-pad package (Date Code prior to March 2014):




Dimensions: Inches (mm)

Recommended land pattern




Note 1: It is not recommended that paths go underneath the oscillator. If needed, please use multi-layer PCB board or resist coating.

Note 2: Recommend using an approximately 0.01µF bypass capacitor between Pin 3 and 6.

| Pin | Function | |
|---|---|---|
| | ASVTX-11 | ASTX-11 |
| 1 | Vc | GND |
| 2 | N.C. | |
| 3 | GND | |
| 4 | Output | |
| 5 | N.C. | |
| 6 | Vdd | |

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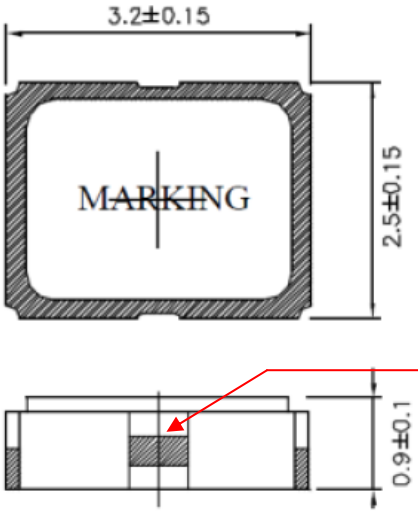
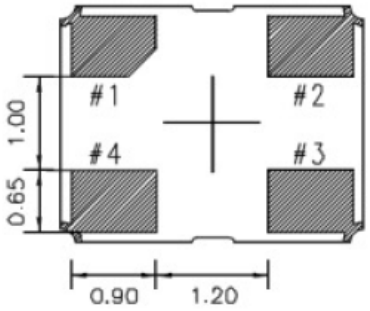
## OUTLINE DRAWING:

4-pad package (Date Code March 2014 and later):

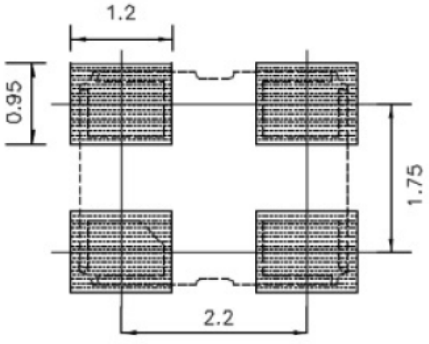



Due to material availability, 1 or 2 side pads may appear on the side of the package The variation in no way affects the electrical performance of the product.




| Pin | Function | |
|---|---|---|
| | ASVTX-11 | ASTX-11 |
| 1 | Vc | GND |
| 2 | GND | |
| 3 | Output | |
| 4 | Vdd | |

Recommended Land Pattern




Note 1: It is not recommended that paths go underneath the oscillator. If needed, please use multi-layer PCB board or resist coating.

Note 2: Recommend using an approximately 0.01µF bypass capacitor between Pin 2 and 4.

**Dimensions: mm**

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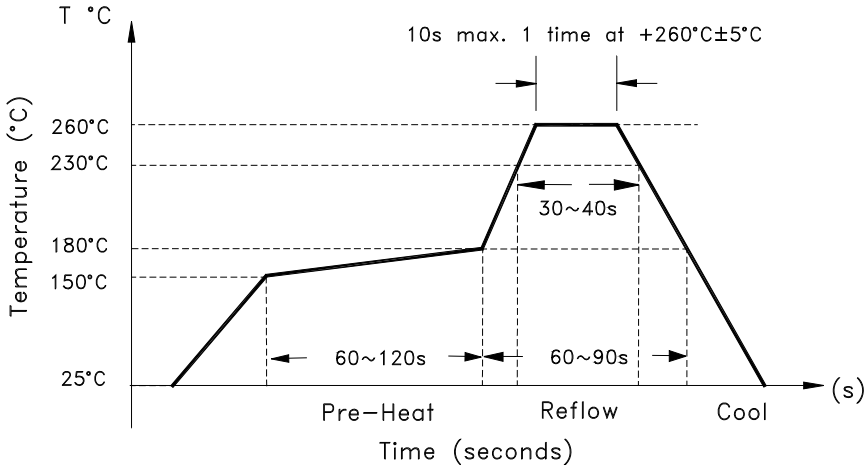
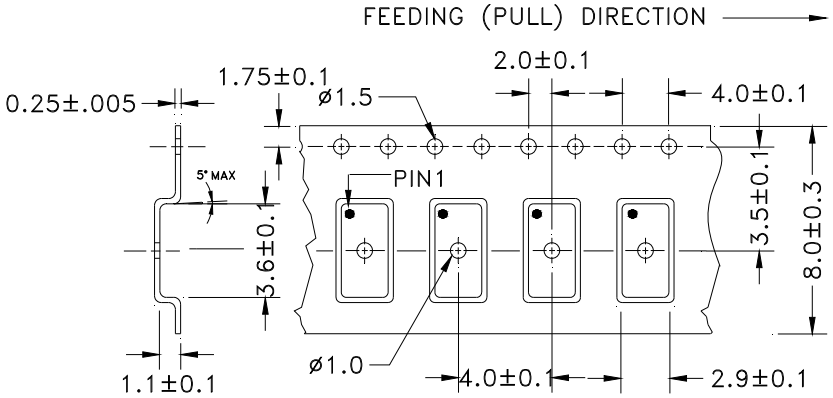
## REFLOW PROFILE:

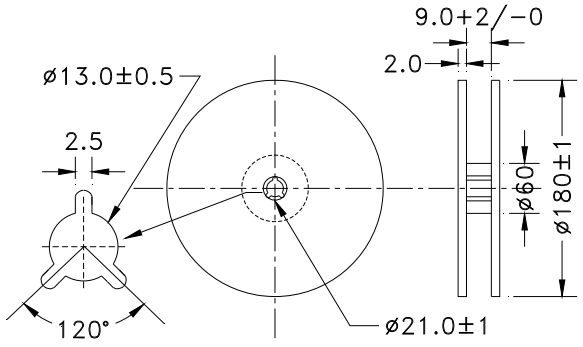



## TAPE & REEL:

**T: 1000pcs/reel**

**T3: 3000pcs/reel**




**Dimensions: mm**

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