

ULTRA MINIATURE SMD VC/TCXO

ASVTX-13/ASTX-13

Moisture Sensitivity Level (MSL) -1



RoHS
Compliant



2.0 x 1.6 x 0.8mm

FEATURES:

- Industry smallest 2.0 x 1.6 x 0.8mm
- Low current consumption 1.5mA at 26MHz
- Vc function ideal for PLL application
- Suitable for RoHS complaint reflow

APPLICATIONS:

- Cellular and cordless phones
- Standard reference oscillator for test equipment
- Mobile communication equipment
- Portable radio equipment and music player
- Phase Locked Loop

STANDARD SPECIFICATIONS:

| Parameters | Minimum | Typical | Maximum | Units | Notes | |
|---------------------------------------|--------------------------------|---------|---------|-------|---------------------------------------|-------------------------|
| Frequency Range | 13 | ----- | 52 | MHz | | |
| Standard Frequencies | 13, 16.368, 19.2, 26, 38.4, 52 | | | MHz | 16.368MHz is available only as a TCXO | |
| Operating Temperature | -30 | ----- | +75 | °C | | |
| Storage Temperature | -40 | ----- | +85 | °C | | |
| Frequency Stability $\Delta f/f_0$ vs | | | | | +25°C, Vcon=1.4V After 2- reflow | |
| Tolerance (@+25°C) | -2.0 | ----- | +2.0 | ppm | See option (Table 1) | |
| Temperature (ref. to +25°C) | -1.5 | ----- | +1.5 | | | |
| Supply Voltage Change (Vdd±5%) | -0.2 | ----- | +0.2 | | | |
| Load Change (ZL±10%) | -0.2 | ----- | +0.2 | | | |
| Supply Voltage (Vdd) | +2.85 | +3.0 | +3.15 | V | Option A | |
| | +2.66 | +2.8 | +2.94 | | Option B | |
| | +1.71 | +1.8 | +1.89 | | Option C (ASTX only) | |
| Aging (first year @+25±2°C) | -1.0 | ----- | +1.0 | ppm | | |
| Supply Current (Icc) | Vdd=3.0V | ----- | ----- | 1.5 | mA | 16.368MHz, -30 to +85°C |
| | | ----- | ----- | 1.5 | | 19.200MHz, -30 to +85°C |
| | | ----- | ----- | 1.5 | | 26.000MHz, -30 to +85°C |
| | | ----- | ----- | 2.0 | | 38.400MHz, -30 to +85°C |
| | Vdd=2.8V | ----- | ----- | 1.5 | mA | 16.368MHz, -30 to +85°C |
| | | ----- | ----- | 1.5 | | 19.200MHz, -30 to +85°C |
| | | ----- | ----- | 1.5 | | 26.000MHz, -30 to +85°C |
| | | ----- | ----- | 1.5 | | 38.400MHz, -30 to +85°C |
| | Vdd=1.8V | ----- | ----- | 1.5 | mA | 16.368MHz, -30 to +85°C |
| | | ----- | ----- | 1.5 | | 19.200MHz, -30 to +85°C |
| | | ----- | ----- | 1.5 | | 26.000MHz, -30 to +85°C |
| | | ----- | ----- | 1.5 | | 38.400MHz, -30 to +85°C |
| Startup Time | ----- | ----- | 3.0 | ms | 90% Vp-p ±0.5ppm | |





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| Parameters | | Minimum | Typical | Maximum | Units | Notes |
|--|-------------|-------------------|---------|---------|--------|---|
| Voltage Control Function (for ASVTX-13) Control Voltage (Vcon) | Vdd=3.0V | +0.4 | +1.4 | +2.4 | Vdc | 19.2MHz 26.0MHz 38.4MHz |
| | Vdd=2.8V | +0.4 | +1.4 | +2.4 | | 19.2MHz |
| | | +0.5 | +1.5 | +2.5 | | 26.0MHz |
| | | +0.1 | +1.2 | +2.3 | | 38.4MHz |
| Frequency Tuning Range | | | | | | |
| | @Vcon (min) | -5.5 | | -9.5 | ppm | |
| | @Vcon (max) | +5.5 | | +9.5 | | |
| Frequency Tuning Transition | | Positive | | | | |
| Output Voltage | | 0.8 | ----- | ----- | Vp-p | |
| Harmonics | | ----- | ----- | -5.0 | dBc | |
| Load | | 10kΩ/10pF | | | | |
| Waveform | | Clipped Sine Wave | | | | |
| Phase Noise | | | | | | |
| 10Hz offset from the carrier | | ----- | ----- | -80 | dBc/Hz | Applicable to all standard available frequencies with Vdd = +1.8V, +2.8 & +3.3V |
| 100Hz offset from the carrier | | ----- | ----- | -105 | | |
| 1kHz offset from the carrier | | ----- | ----- | -130 | | |
| 10kHz offset from the carrier | | ----- | ----- | -144 | | |
| 100kHz offset from the carrier | | ----- | ----- | -144 | | |

OPTIONS & PART IDENTIFICATION:

ASVTX-13 or ASTX-13 - - MHz - -

| Vdd (V) |
|--------------|
| A*: 3.0V±5% |
| B*: 2.8V±5% |
| C**: 1.8V±5% |

| Frequency in MHz |
|---|
| Please specify the frequency in MHz. e.g. 19.200MHz 26.000MHz |

| Packaging |
|------------------------|
| Blank: Bulk |
| T: 1000pcs/reel |
| T3: 3000pcs/reel |
| T4: 4000pcs/reel (STD) |

*16.368MHz is only for ASTX-13 (TCXO)

**1.8V is only for ASTX-13 (TCXO)

Table 1: Frequency Stability vs Operating Temperature

| | ±0.5ppm | ±1.0ppm | ±1.5ppm | ±2.0ppm |
|---------------|---------|---------|-------------|---------|
| -10°C ~ +75°C | A05 | A10 | A15 | A20 |
| -30°C ~ +75°C | B05 | B10 | Std.(Blank) | B20 |
| -30°C ~ +80°C | C05 | C10 | C15 | C20 |
| -30°C ~ +85°C | D05 | D10 | D15 | D20 |

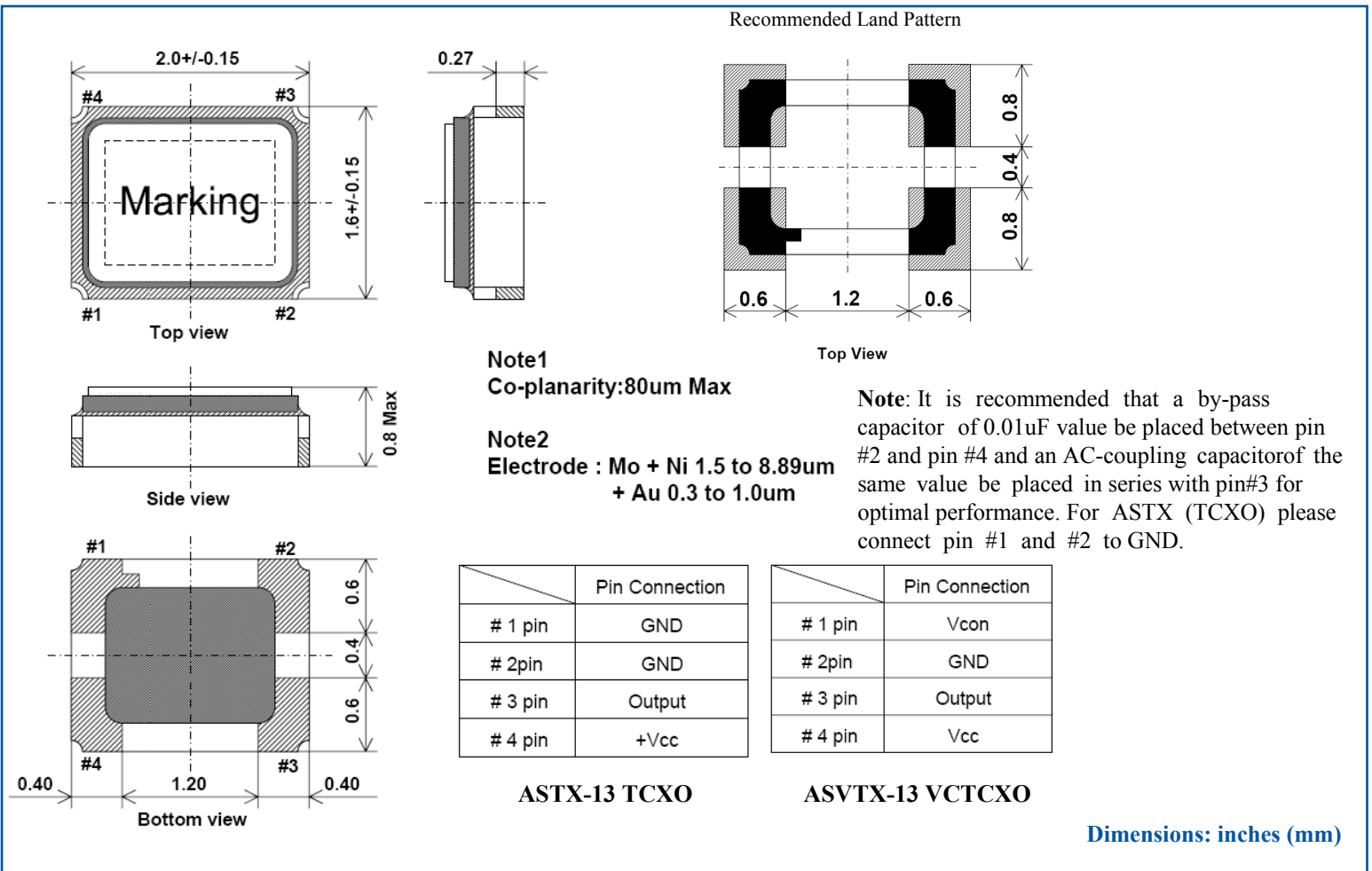


2.0 x 1.6 x 0.8mm

RECOMMENDED TEST CIRCUIT



OUTLINE DIMENSION:



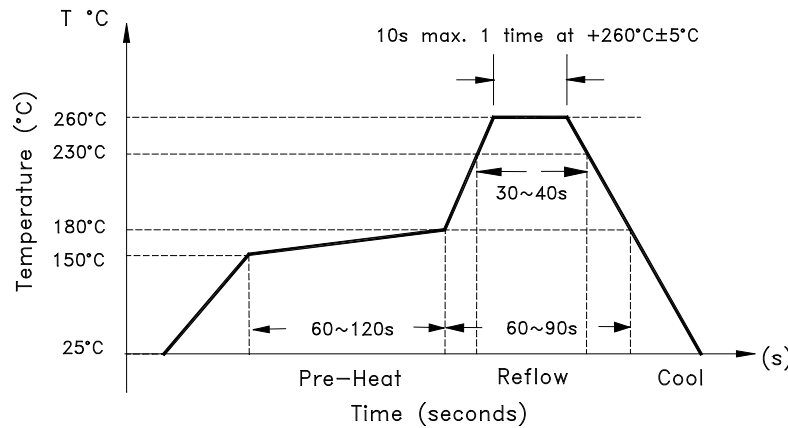


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REFLOW PROFILE:



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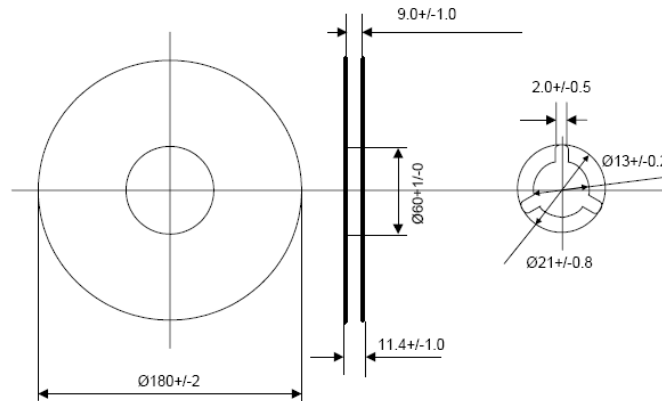
T: 1000pcs/reel
T3: 3000pcs/reel
T4: 4000pcs/reel (STD)

1. TAPE DIMENSIONS



| | | | | | |
|-----------|------------|-------------|-----------|-------------|-------------|
| Symbol | A | B | C | D | E |
| Dimension | 2.0+/-0.05 | 2.4+/-0.05 | 8.0+/-0.2 | 3.5+/-0.05 | 1.75+/-0.1 |
| Symbol | F | G | H | I | J |
| Dimension | 4.0+/-0.1 | 2.0+/-0.05 | 4.0+/-0.1 | Φ1.5+0.1/-0 | Φ1.0+0.1/-0 |
| Symbol | K | t | | | |
| Dimension | 0.9+/-0.05 | 0.25+/-0.05 | | | |

2. REELS DIMENSIONS



Dimensions: mm

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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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