

# VOLTAGE CONTROLLED TEMPERATURE COMPENSATED SMD CRYSTAL OSCILLATOR

ASTX-11, ASVTX-11



RoHS  
Compliant



3.2 X 2.5 X 0.9mm

## 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 communication 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 $\Delta f/f_0$ 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 $\pm$ 5%):   | -0.2                                                                   | -----   | +0.2    |            |                      |
| Load Change (ZL $\pm$ 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) | +0.5                                                                   | +1.5    | +2.5    | Vdc        |                      |
| Control Voltage (Vcc):                  | $\pm 8$                                                                |         |         | ppm        |                      |
| Frequency Tuning Range:                 | Positive                                                               |         |         |            |                      |
| Frequency Tuning Transition:            | 500                                                                    | 650     |         | k $\Omega$ |                      |
| Input Impedance:                        |                                                                        |         |         |            |                      |
| Output                                  |                                                                        |         |         |            |                      |
| Voltage:                                | 0.8                                                                    |         |         | Vp-p       |                      |
| Load:                                   | 10k $\Omega$ /10pF                                                     |         |         |            |                      |
| Waveform:                               | Clipped Sine Wave                                                      |         |         |            |                      |
| Phase Noise:                            |                                                                        | -135    |         | dBc        | @1kHz                |

## OPTIONS & PART IDENTIFICATION: (Left blank if standard)

ASVTX-11 or ASTX-11 -  -  MHz -  -

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

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

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

Table 1: Frequency Stability vs Operating Temperature

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



# VOLTAGE CONTROLLED TEMPERATURE COMPENSATED SMD CRYSTAL OSCILLATOR

ASTX-11, ASVTX-11

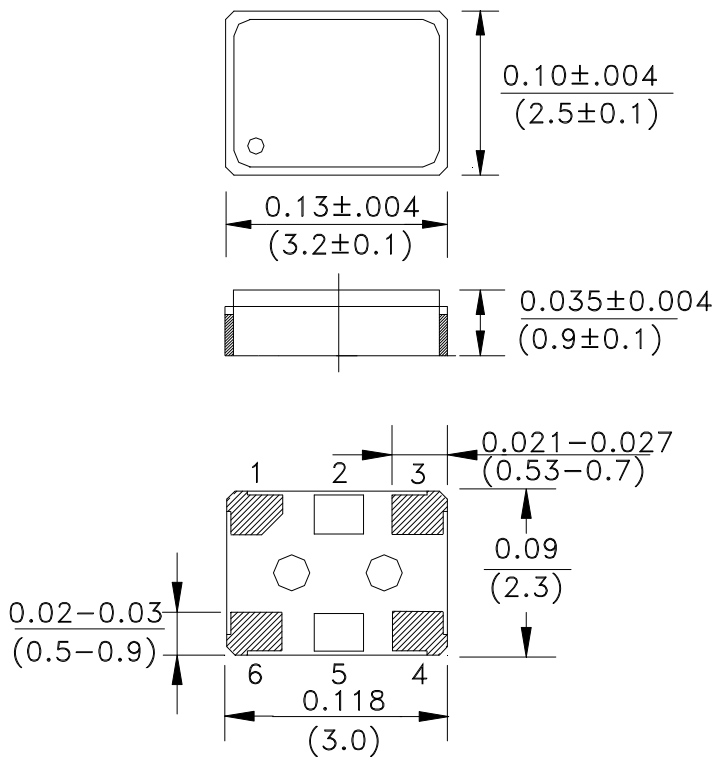


**RoHS**  
Compliant



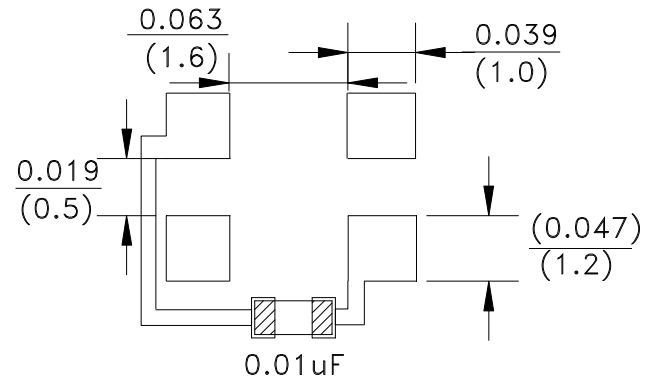
3.2 X 2.5 X 0.9mm

## OUTLINE DRAWING:



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.

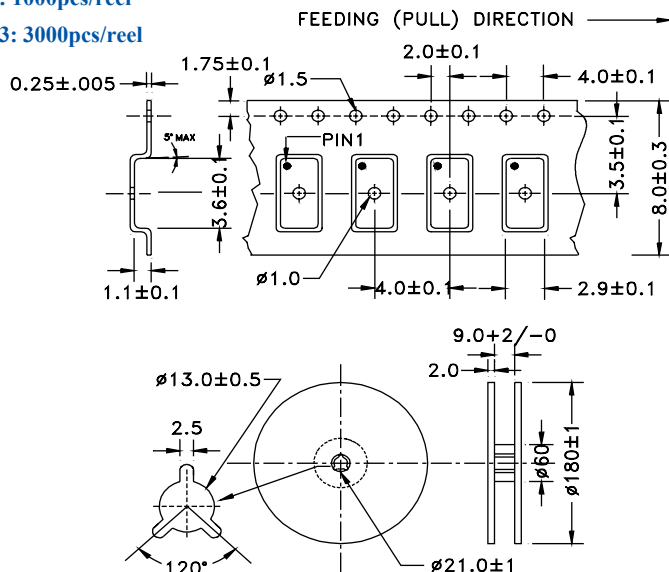
**Note 2:** Recommend using an approximately 0.01 μF bypass capacitor between Pin 3 and 6.

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

## TAPE & REEL:

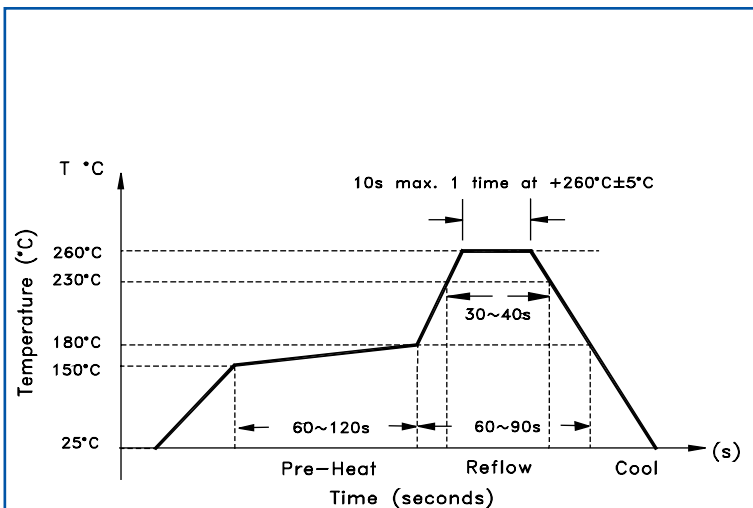
T: 1000pcs/reel

T3: 3000pcs/reel



Dimensions: mm

## REFLOW PROFILE:



**ATTENTION:** Abracon Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.

ABRACON IS  
ISO9001:2008  
CERTIFIED



Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale

30332 Esperanza, Rancho Santa Margarita, California 92688  
tel 949-546-8000 | fax 949-546-8001 | [www.abracon.com](http://www.abracon.com)

Revised: 07.27.11-K

## Данный компонент на территории Российской Федерации

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9