

# VOLTAGE CONTROLLED TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR



5.0 X 3.2 X 1.5mm

ASTX-09/ASVTX-09



## FEATURES:

- Low height 1.5mm
- Low phase noise -135dBc typical / 1kHz
- Low current 1.5mA / ~20MHz
- Clipped sine wave output.
- Suitable for RoHS reflow

## APPLICATIONS:

- Cellular and cordless phones.
- GPS
- Mobile communication equipment.
- Portable radio equipment and music player.

## STANDARD SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	10		45	MHz	
Standard Frequencies	10, 12, 12.8, 13, 14.4, 16.368, 19.2, 19.8, 20, 24.5535, 26, 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	See options
	Temperature (ref. to +25°C)	-2.5	+2.5		See options (Table 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 options
Aging (first year @+25°C)	-1.0		+1.0	ppm	
Supply Current			1.5	mA	~20MHz
			2.0	mA	~32.00MHz
			2.5	mA	~45.00MHz
Voltage Control Function (for ASVTX-11)	Control Voltage (Vc)	+0.5	+1.5	+2.5	V
	Frequency Tuning Range	±8			ppm
	Frequency Tuning Transition	Positive			
	Input Impedance	500	600		kΩ
Output					
Voltage	0.8			Vp-p	
Load	10kΩ/10pF				
Waveform	Clipped Sine Wave				
Phase Noise (@20MHz)		-135		dBc	@1kHz offset

## OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

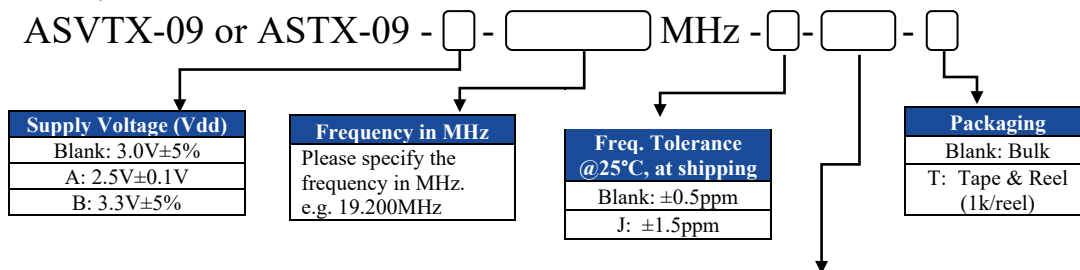


Table 1: Frequency Stability vs Operating Temperature

	±1.0ppm	±1.5ppm	±2ppm	±2.5ppm	±3ppm	±4ppm	±5ppm
0°C ~ +50°C	D10	D15	D20	D25	D30	D40	D50
-10°C ~ +60°C	E10	E15	E20	E25	E30	E40	E50
0°C ~ +70°C		F15	F20	F25	F30	F40	F50
-20°C ~ +75°C			G20	G25	G30	G40	G50
-30°C ~ +75°C			H20	Std.(Blank)	H30	H40	H50
-40°C ~ +85°C			I20	I25	I30	I40	I50

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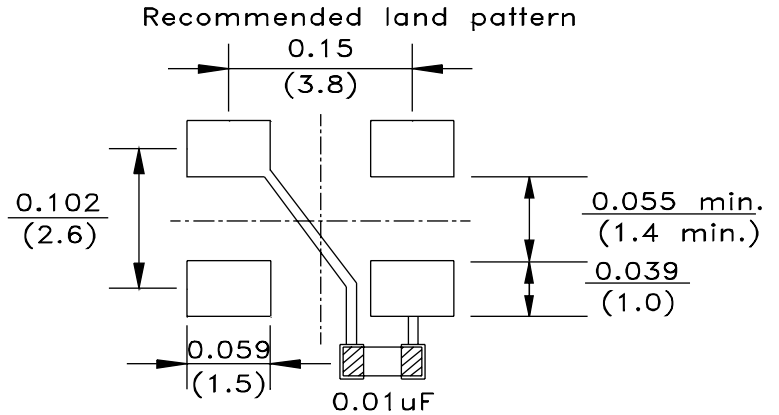
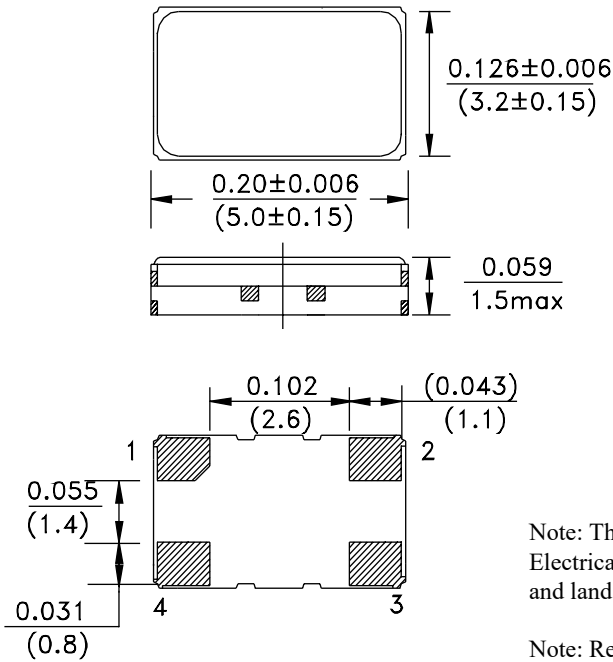


5.0 X 3.2 X 1.5mm

ASTX-09/ASVTX-09



## OUTLINE DIMENSIONS:



Note: The outline package may vary. Electrical properties, pin configuration, and land pattern are the same.

Note: Recommend using an approximately  $0.01 \mu F$  bypass capacitor between PIN 2 and 4.

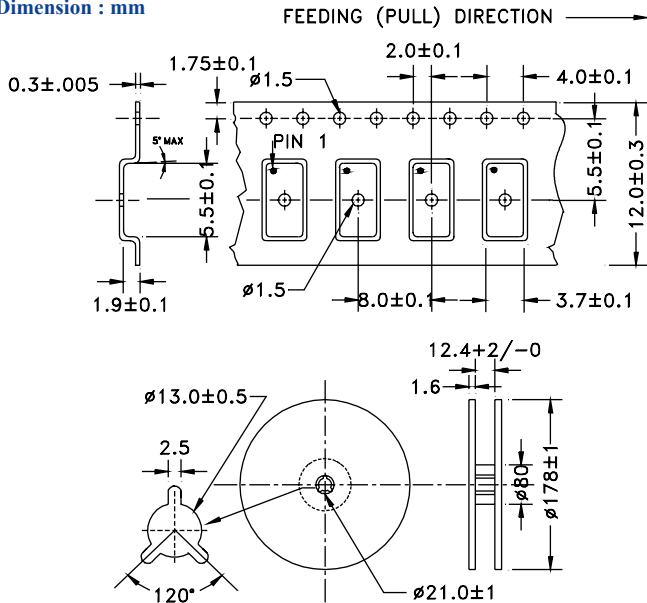
Pin	Function	
	ASVTX-09	ASTX-09
1	Vc	GND
2	GND	
3	Output	
4	Vdd	

Dimension : Inches (mm)

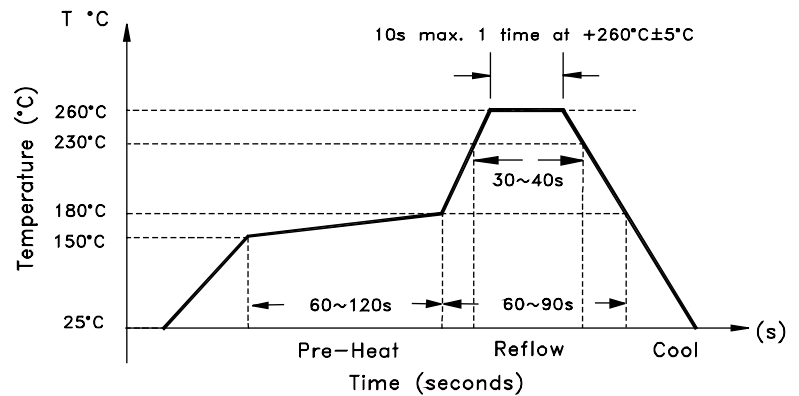
## TAPE & REEL:

T= tape and reel (1,000 pcs/reel)

Dimension : mm



## REFLOW PROFILE:



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