ULTRA MNIATURE SMD VC/TCXO



2.5 X 2.0 X 0.8mm

ASVTX-12/ASTX-12

ESD Sensitive

RoHS/RoHS II compliant

Moisture Sensitivity Level (MSL) –1

FEATURES:

- Ultra miniature and low height 0.8mm
- Low current consumption 2.5mA
- Vc function corresponds to PLL circuits
- Suitable for RoHS reflow profile
- Low phase noise

APPLICATIONS:

- Cellular and cordless phones
- Standard OSC for exact equipment
- Mobile communication equipment
- Portable radio equipment
- Personal Digital Assistants (PDAs)
- Portable music players

STANDARD SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	10		52	MHz	
Standard Frequencies	13, 16.368, 16.369, 19.2, 26, 38.4, 40, 52			MHz	
Operating Temperature	-30		+85	°C	See option (Table 1)
Storage Temperature	-40		+85	°C	
Frequency Stability Δf/f0 vs Tolerance (@+25°C)	-2.0		+2.0	ppm	+25°C, Vcon=1.4V After 2 time reflow
Temperature (ref. to +25°C)	-2.0		+2.0		See option (Table 1)
Supply Voltage Change (Vdd±5%)	-0.2		+0.2		
Load Change (Z_L±10%)	-0.2		+0.2		
Control Voltage (Vcon) (ASVTX-12 only)	+0.4		+2.4	V	Option A
	+0.4		+2.4		Option B
	+0.4		+2.4		Option C
	+0.3		+1.5		Option D
	+0.4		+2.4		Option E
Supply Voltage (Vcc)	+2.85	+3.0	+3.15	V	Option A
	+2.66	+2.8	+2.94		Option B
	+2.375	+2.5	+2.625		Option C
	+1.71	+1.8	+1.89		Option D
	+3.135	+3.3	+3.465		Option E
Aging (first year @+25±2°C)	-1.0		+1.0	ppm	
Supply Current (Icc)			2.0	mA	13MHz ≤ Fo < 26MHz
			2.5	mA	26MHz ≤ Fo ≤ 52MHz
Startup Time			2.0	ms	
Frequency Tuning Range (ASVTX-12 only)	±5.0		±9.5	ppm	
Vcon Input Impedance (ASVTX-12 only)	500			kΩ	
Frequency Tuning Transition	Positive				
Output Voltage	0.8			Vp-p	
Harmonics			-5.0	dBc	
Load	10kΩ//10pF				
Waveform	Clipped Sine Wave				
Phase Noise @ 19.2MHz					
100Hz offset from the carrier		-115	-100	dB/Hz	
1kHz offset from the carrier		-135	-125		
10kHz offset from the carrier		-150	-140		

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The Power of Linking Together

5101 Hidden Creek Lane Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
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2.5 X 2.0 X 0.8mm

OPTIONS & PART IDENTIFICATION: (left blank if standard)

ASVTX-12 or ASTX-12 - ☐ - ☐ MHz - ☐ - ☐

Vdd (V)
A: 3.0V±5%
B: 2.8V±5%
C: 2.5V±5%
D: 1.8V±5%
E: 3.3V±5%

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

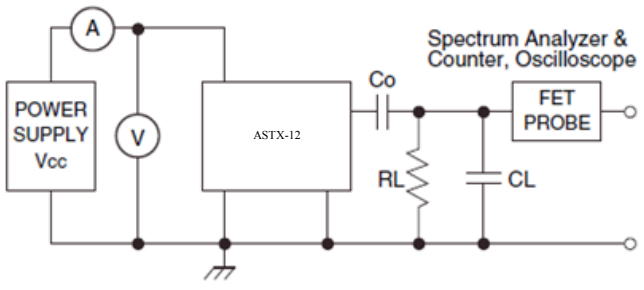
Packaging
T: 1,000pcs/reel

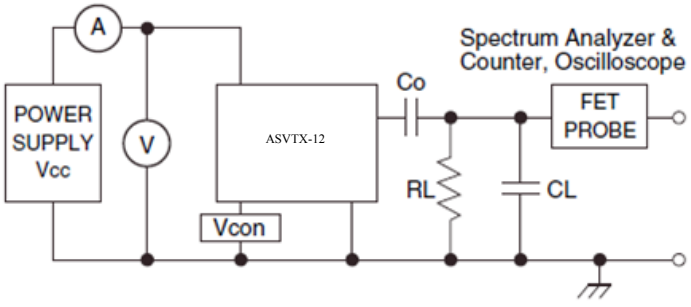
Table 1: Frequency Stability vs Operating Temperature

	±0.5ppm	±1.0ppm	±1.5ppm	±2.0ppm	±2.5ppm
0°C ~ +55°C	D05	D10	D15	D20	D25
-10°C ~ +60°C	E05	E10	E15	E20	E25
0°C ~ +70°C	F05	F10	F15	F20	F25
-20°C ~ +70°C	G05	G10	G15	G20	G25
-30°C ~ +85°C	H05*	H10	H15	STD (Blank)	H25
-40°C ~ +85°C	I05*	I10*	I15	I20	I25

*Please contact Abracon for availability

RECOMMENDED TEST CIRCUIT





RL=10kΩ±10% CL=10pF±10%
- CL include Probe Capacitance
Co: DC Cut Capacitance

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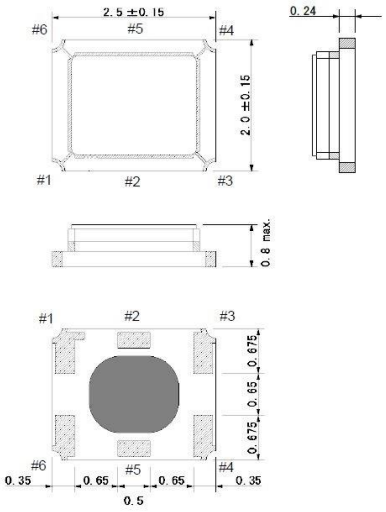
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RoHS/RoHS II compliant

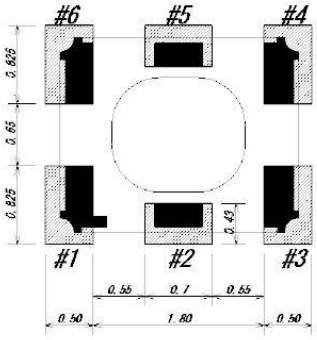


2.5 X 2.0 X 0.8mm

MECHANICAL DIMESIONS:



Recommended Land Pattern



Note1:
It is recommended that a by-pass capacitor of 0.01uF value be placed between pin #6 and pin #3 and an AC-coupling capacitor of the same value be placed in series with pin#4 for optimal performance.
For ASTX, please connect pin #1 and #3 to GND.

Note2:
Pin#2 and Pin#5 should be left floating (No Connect = N.C.)

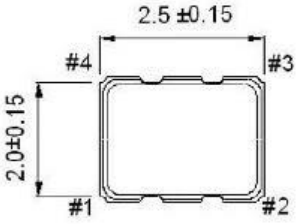
	Pin Configuration
#1pin	GND
#3pin	GND
#4pin	OUTPUT
#6pin	Vcc
#2/5pin	N.C.

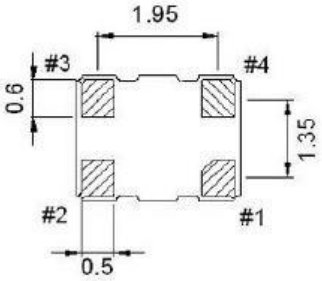
ASTX-12 TCXO

	Pin Configuration
#1pin	Vcon
#3pin	GND
#4pin	OUTPUT
#6pin	Vcc
#2/5pin	N.C.

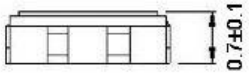
ASVTX-12 VCTCXO

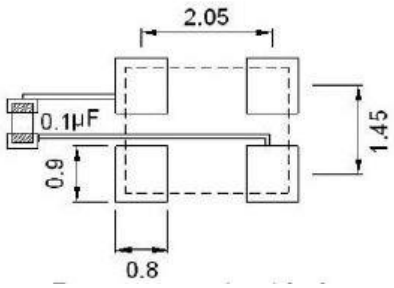
Dimensions: mm





Recommended Land Pattern





PIN	FUNCTION	
	ASVTX	ASTX
1	Vcon	GND
2	GND	
3	OUTPUT	
4	Vcc	

Note:
It is recommended that a by-pass capacitor of 0.1uF value be placed between pin #2 and pin #4 and an AC-coupling capacitor of the same value be placed in series with pin#3 for optimal performance.

Dimensions: mm

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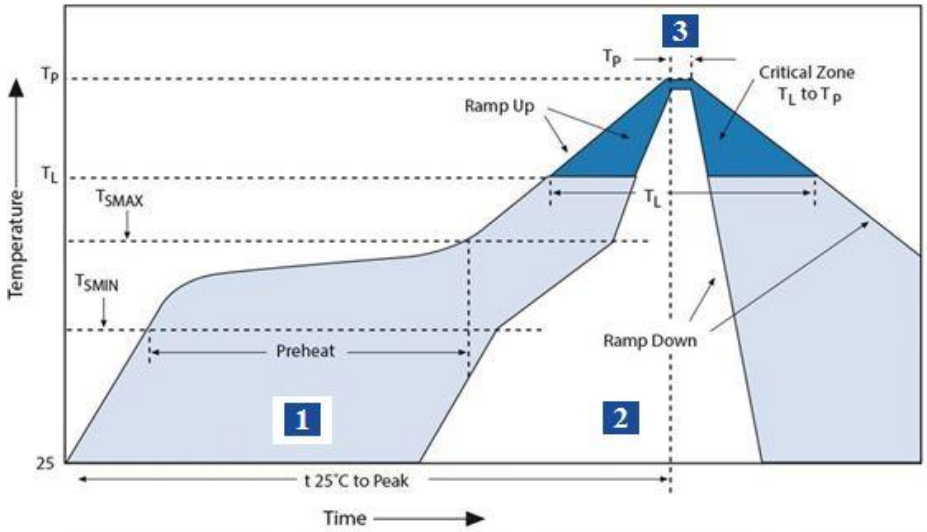
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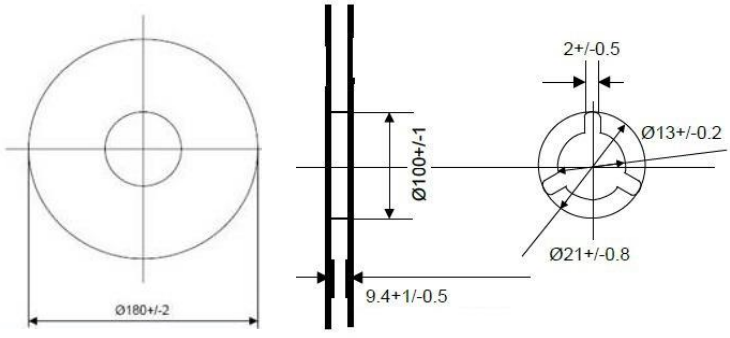
REFLOW PROFILE

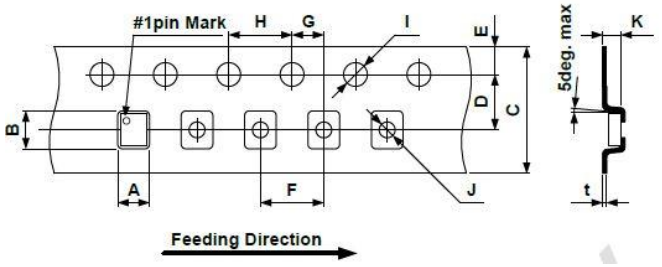


Zone	Description	Temperature	Times
1	Preheat	T_{SMIN} ~ T_{SMAX} 180°C ± 10°C	120 sec. MAX
2	Reflow	T_L 230°C	40 sec. MAX
3	Peak heat	T_P 260°C	10 sec. MAX

TAPE & REEL:

T: 1,000pcs/Reel





A	B	C	D	E
2.4±/-0.1	2.9±/-0.1	8.0+0.3/-0.2	3.5±/-0.05	1.75±/-0.1
F	**G**	**H**	**I**	**J**
4.0±/-0.1	2.0±/-0.05	4.0±/-0.1	ϕ1.5+0.1/-0	ϕ1.1+0.1/-0
K	**t**			
1.15±/-0.05	0.25±/-0.05			

Dimensions: mm

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