STANDARD SPECIFICATIONS	
PARAMETERS	**MAX (Unless otherwise noted)**
Frequency Range	**10 to 52.000 MHz**
Standard Frequencies	**10 MHz, 13.1072 MHz, 14.848 MHz, 15.6256 MHz, 16 MHz, 16.8 MHz, 18.432 MHz, 25 MHz, 25.78718 MHz, 26,27 MHz, 29.756 MHz, 32 MHz, 40 MHz, 44 MHz, 50 MHz**
Operating Temperature	**-40°C to +85°C, see options (Table 1)**
Storage Temperature	**-40°C to +85°C**
Frequency Stability Δf/fo vs:	
Tolerance	**± 1PPM, Reference to fo, at 25°C±2°C, Pre-reflow**
Tolerance	**± 2PPM, Reference to fo, at 25°C ±2°C, 24 hours after reflow, two times**
Temperature	**± 2.5PPM, See Options (Table 1) Reference to f_o at 25°C ±2°C**
Supply Voltage Change	**± 0.2PPM, Vdd ± 5%**
Load Change	**CL ± 1kΩ//±1pF**
Aging First year @25°C± 3°C	**±1.00PPM**
Supply Voltage (Vdd) Option E Option A Option B Option C Option D	 **+3.135V min, +3.3V typ., +3.465V max** **+2.85V min, +3.0V typ., +3.15V max** **+2.66V min, +2.8V typ., +2.94V max** **+2.375V min, +2.5V typ., +2.625V max** **+1.71V min, +1.8V typ., +1.89V max**
Supply Current (Idd) 10.00 MHz to 26.00MHz 26.01MHz to 52.00MHz	 **2.0 mA** **2.5 mA**
Start-up Time	**2.0 ms**
Output Voltage	**0.8 Vp-p min**
Output Load	**9 kΩ | 9pF min** **10 kΩ |10pF typ** **11 kΩ |11pF max**
Output Waveform (1000 pF recommended)	**Clipped Sine Wave, External DC-Cut Capacitor Required**
Pb Free / RoHS	**Yes**
MSL	**N/A**

***Note 1: Overall frequency stability includes initial frequency tolerance @25°C± 3°C and stability over the operating temperature range.**

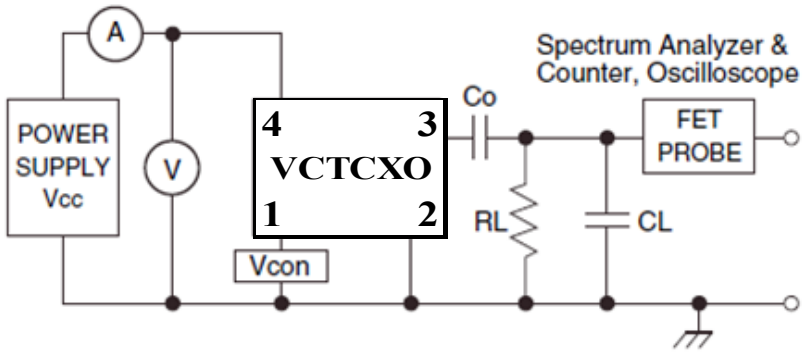
STANDARD SPECIFICATIONS			
PARAMETERS	**MAX (Unless otherwise noted)**		
Voltage Control Function (Vcon)			
Vdd = 3.3Vdc	**0.5 Vdc min**	**1.5 Vdc typ**	**2.5 Vdc max**
Vdd = 3.0Vdc	**0.5 Vdc min**	**1.5 Vdc typ**	**2.5 Vdc max**
Vdd = 2.8Vdc	**0.5 Vdc min**	**1.5 Vdc typ**	**2.5 Vdc max**
Vdd = 2.5Vdc	**0.4 Vdc min**	**1.4 Vdc typ**	**2.4 Vdc max**
Vdd = 1.8Vdc	**0.3 Vdc min**	**0.9 Vdc typ**	**1.5 Vdc max**
Frequency Tuning Range			
At Vcon(min), VDD=1.8Vdc	**-5.5 ppm max**		
At Vcon(max), VDD=1.8Vdc	**5.5ppm min**		
At Vcon(min), VDD>1.8Vdc	**-8.0 ppm max**		
At Vcon(max), VDD>1.8Vdc	**8.0 ppm min**		
Frequency Tuning Transition	**Positive Transfer Characteristics**		
Phase Noise (@ 10 MHz Carrier, @ 25°C ±2°C)			
Applicable to all standard available frequencies with Vdd = +1.8V, +2.5, +2.8, +3.0V, +3.3V			
@10Hz offset	**-100 dBc/Hz typ**	**-96 dBc/Hz max**	
@100Hz offset	**-125 dBc/Hz typ**	**-121 dBc/Hz max**	
@1kHz offset	**-138 dBc/Hz typ**	**-134 dBc/Hz max**	
@10kHz offset	**-149 dBc/Hz typ**	**-146 dBc/Hz max**	
@100kHz offset	**-158 dBc/Hz typ**	**-155 dBc/Hz max**	
@1MHz offset	**-159 dBc/Hz typ**	**-156 dBc/Hz max**	
@5MHz offset	**-159 dBc/Hz typ**	**-156 dBc/Hz max**	
Phase Noise (@ 52 MHz Carrier, @ 25°C ±2°C)			
Applicable to all standard available frequencies with Vdd = +1.8V, +2.5, +2.8, +3.0V, +3.3V			
@10Hz offset	**-83 dBc/Hz typ**	**-79 dBc/Hz max**	
@100Hz offset	**-110 dBc/Hz typ**	**-106 dBc/Hz max**	
@1kHz offset	**-132 dBc/Hz typ**	**-128 dBc/Hz max**	
@10kHz offset	**-149 dBc/Hz typ**	**-146 dBc/Hz max**	
@100kHz offset	**-156 dBc/Hz typ**	**-153 dBc/Hz max**	
@1MHz offset	**-157 dBc/Hz typ**	**-154 dBc/Hz max**	
@10MHz offset	**-157 dBc/Hz typ**	**-154 dBc/Hz max**	
@20MHz offset	**-158 dBc/Hz typ**	**-155 dBc/Hz max**	

Part Numbering Guide

Available Options & Part Identification for SMD VCTCXO ELVTX-11 Sample PN: ELVTX-11-A-26.000MHz-A10-T				
ELVTX-11	**-A**	**-26.000MHz**	**-A10**	**-T**
AEL Model	**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. 26.000MHz	**Frequency Stability vs. Operating Temperature**	**Values Added Options** Blank: Bulk **T: 1,000 pcs/reel** T3: 3,000 pcs/reel
*Contact Abracon for availability				

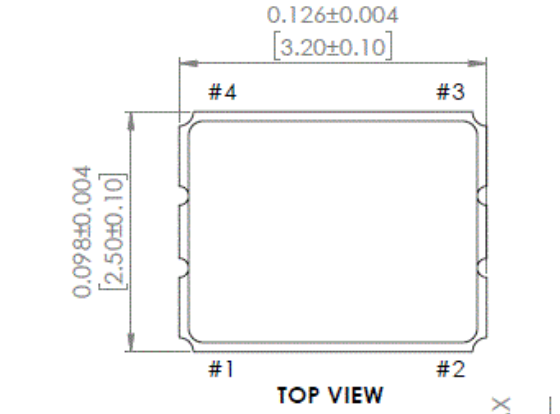
Table 1: Frequency Stability vs Operating Temperature					
	±0.5ppm	±1.0ppm	±1.5ppm	±2.0ppm	±2.5ppm
0°C ~ +70°C	A05	**A10**	A15	A20	A25
-10°C ~ +60°C	B05	B10	B15	B20	B25
-20°C ~ +70°C	C05	C10	C15	C20	C25
-30°C ~ +75°C	D05	D10	D15	D20	D25
-30°C ~ +85°C	E05	E10	E15	E20	E25
-40°C ~ +85°C	F05	F10	F15	F20	F25

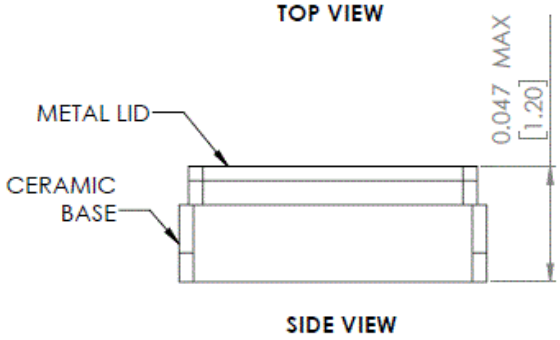
Recommended Test Circuit

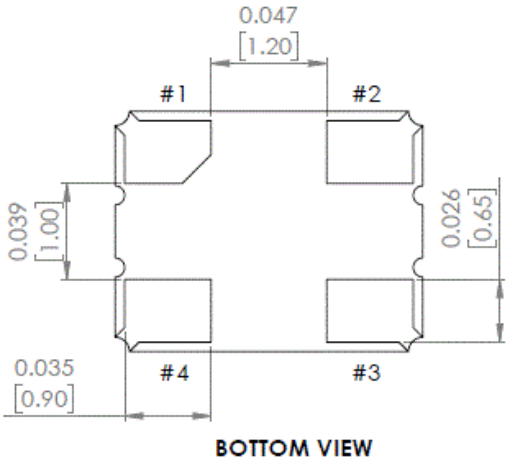


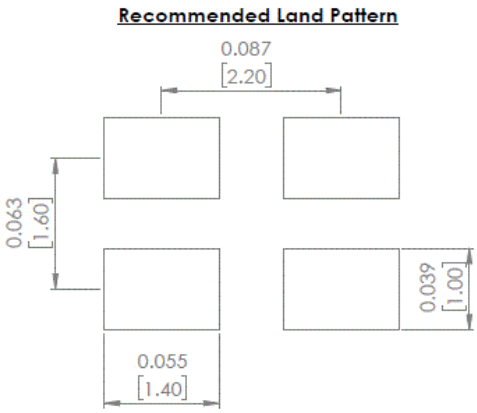
RL=10kΩ±10% CL=10pF±10%
• CL include Probe Capacitance
Co: DC Cut Capacitance

DIMENSIONS / MECHANICALSPECIFICATIONS









Pin #	Function
1	Vcon
2	GND
3	Output
4	Vdd

Dimensions: inches (mm)

Reflow Profile [JDEC J-STD-020]

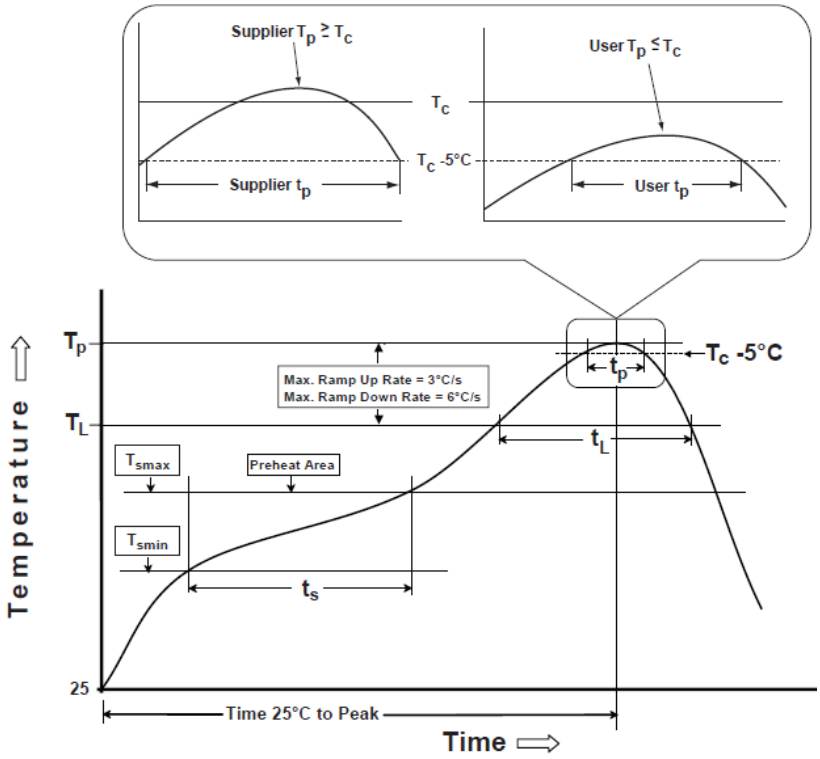


Table 1

SnPb Eutectic Process Classification Temperatures (T_c)		
Package Thickness	**Volume mm³ <350**	**Volume mm³ ≥350**
<2.5 mm	235 °C	220 °C
≥2.5 mm	220 °C	220 °C

Table 2

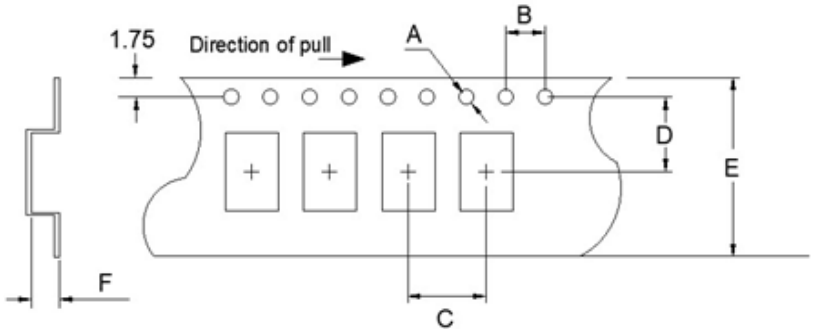
Pb-Free Process Classification Temperatures (T_c)			
Package Thickness	**Volume mm³ <350**	**Volume mm³ 350-2000**	**Volume mm³ >2000**
<1.6 mm	260 °C	260 °C	260 °C
1.6 mm - 2.5 mm	260 °C	250 °C	245 °C
>2.5 mm	250 °C	245 °C	245 °C

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat / soak		
Temperature minimum (T_{smin})	100°C	150°C
Temperature maximum (T_{smax})	150°C	200°C
Time (T_{smin} to T_{smax}) (t_s)	60 - 120 sec.	60 - 120 sec.
Average ramp-up rate (T_{smax} to T_P)	3°C/sec. max	3°C/sec. max
Liquidous temperature (T_L)	183°C	217°C
Time at liquidous (t_L)	60 - 150 sec.	60 - 150 sec.
Peak package body temperature (T_P)*	***see Table 1***	***see Table 2***
Time (t_p)** within 5°C of the specified classification temperature (T_C)	20 sec.	30 sec.
Ramp-down rate (T_p to T_{smax})	6°C/sec. max	6°C/sec. max
Time 25°C to peak temperature	6 min. max	8 min. max

*Tolerance for peak profile temperature (T_P) is defined as a supplier minimum and a user maximum.

**Tolerance for time at peak profile temperature (t_p) is defined as supplier minimum and a user maximum.

TAPE SPECIFICATIONS (mm)						
A	B	C	D	E	F	REEL QTY
Ø1.5	4.0	4.0	3.5	8.0	1.4	T=1,000 pcs/reel T3=3,000 pcs/reel



REEL SPECIFICATIONS (mm)						
G	H	I	J	K	L	M
2.5	Ø13.2	Ø21	Ø60.2	Ø178	9.0	2.0