

CRYSTAL CONTROLLED OSCILLATORS

SURFACE MOUNT 3.3V HCMOS VCTCXO



TVLD746

ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-40	-	85	°C	
Supply Voltage	(Vcc)	-0.5	-	6	Vdc	
Control Voltage	(Vc)	-0.5	-	6	Vdc	

OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	12.8	-	77.76	MHz	
Frequency Stability		-1.0	-	1.0	Ppm	1
Total Frequency Tolerance		-4.6	-	4.6	ppm	2
Operating Temperature Range		-40	-	70	°C	
Supply Voltage	(Vcc)	3.135	3.3	3.465	Vdc	
Supply Current	(Icc)	-	9	25	mA	
Jitter (BW=10Hz to 20MHz)		-	-	5	ps rms	
Jitter (BW=12kHz to 20MHz)		-	-	1	ps rms	
SSB Phase Noise at 10Hz offset		-	-65	-	dBc/Hz	
SSB Phase Noise at 100Hz offset		-	-95	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-125	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-135	-	dBc/Hz	
SSB Phase Noise at 100KHz offset		-	-145	-	dBc/Hz	

INPUT CHARACTERISTICS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Control Voltage	(Vc)	0.3	1.65	3.0	Vdc	
Frequency Pullability		±10	-	-	ppm	3
Frequency Adjust Linearity		-15	-	15	%	
Input Impedance		10k	-	-	Ohm	

HCMOS OUTPUT CHARACTERISTICS

TABLE 4.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	15	pF	
Voltage (High)	(Voh)	2.0	-	-	Vdc	
(Low)	(Vol)	-	-	0.4	Vdc	
Current (High)	(Ioh)	-8	-	-	mA	
(Low)	(Iol)	-	-	8	mA	
Duty Cycle at 50% of Vcc		45	50	55	%	
Rise / Fall Time 10% to 90%		-	3	5	nS	

PACKAGE CHARACTERISTICS

TABLE 5.0

Package	Non-hermetic package consisting of an FR4 subst rate with grounded metal cover.
---------	---

PROCESS RECOMMENDATIONS

TABLE 6.0

Solder Reflow	The component solder used internal to this device has a melting point of 221°C. The peak temperature inside the device should be less than or equal to 220°C for a maximum of 10 seconds
Wash	Ultrasonic cleaning is not recommended.

Note:

- 1) Frequency stability vs. change in temperature.
- 2) Inclusive of calibration, frequency vs. temperature stability, supply voltage change, load change, shock and vibration and aging for 10 years.
- 3) Positive Slope.

DESCRIPTION

The Connor-Winfield TVLD746 is a Surface Mount Voltage Controlled Temperature Compensated Crystal Oscillator (VCTCXO). The TVLD746 is designed for applications requiring very tight frequency stability vs. Temperature. The TVLD746 is offered in a surface mount package for automated assembly.

FEATURES

3.3V OPERATION

OVERALL FREQUENCY STABILITY:
±4.6ppm.

VOLTAGE CONTROLLED FREQUENCY
ADJUST

TEMPERATURE RANGE: -40 to 70°C

LOW JITTER <1pS RMS

SURFACE MOUNT PACKAGE

TAPE AND REEL PACKAGING

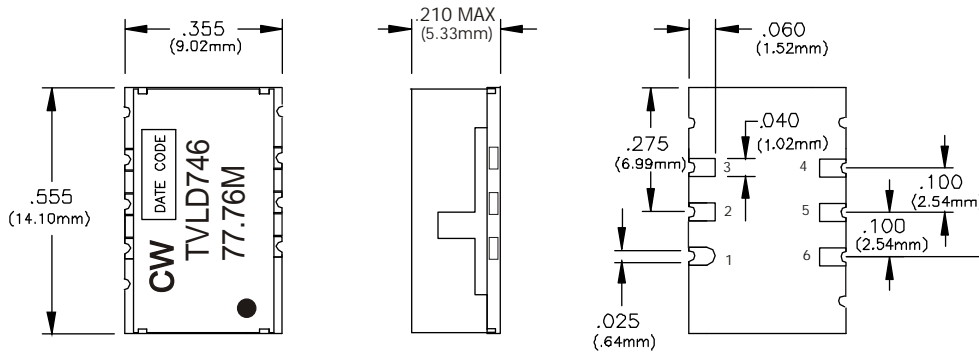
ORDERING INFORMATION

TVLD746 - 77.76MHz

TCXO SERIES CENTER FREQUENCY

Specifications subject to change without notice.

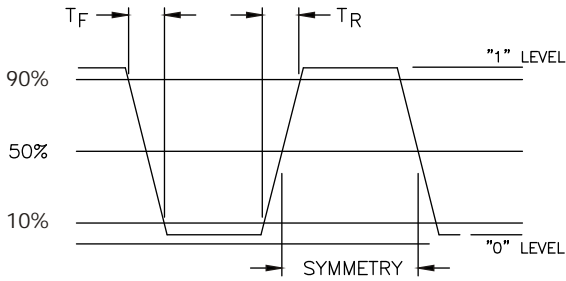
CRYSTAL CONTROLLED OSCILLATORS



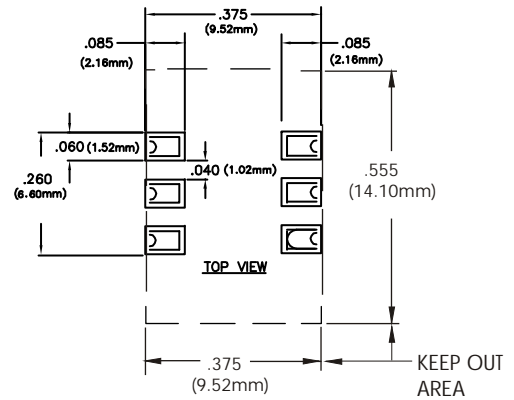
Pin	Connection
1	Control Voltage
2	N/C
3	Ground
4	Output
5	N/C
6	Vcc

Dimensional Tolerance:
±.005 (.127mm)

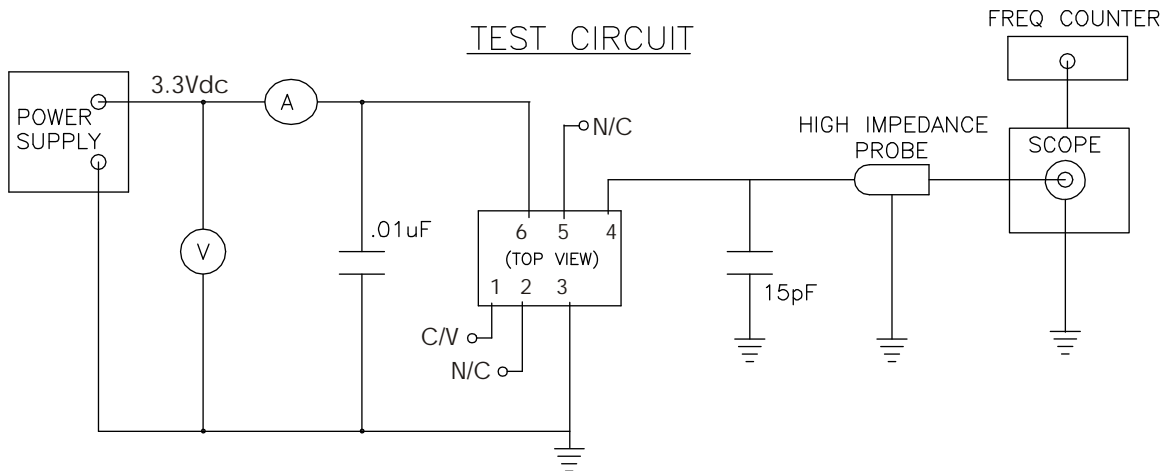
OUTPUT WAVEFORM



SUGGESTED PAD LAYOUT



TEST CIRCUIT



Specifications subject to change without notice.