

CRYSTAL CONTROLLED OSCILLATORS

SURFACE MOUNT 3.3V LVCMOS VCTCXO



TVLD546

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	-	156.25	MHz	
Total Frequency Tolerance		-4.6	-	4.6	ppm	1
Operating Temperature Range		0	-	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	2
Frequency Adjust Linearity		-15	-	15	%	
Input Impedance		10k	-	-	Ohm	

LVCMOS 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)	-4	-	-	mA	
(Low)	(Ioh)	-	-	4	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 substrate with grounded metal cover.
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PROCESS RECOMMENDATIONS

TABLE 6.0

Soldering Process	RoHS compliant, lead free. See solder profile on page 2.
Wash	Ultrasonic cleaning is not recommended.

Note:

- 1) Inclusive of calibration, frequency vs. temperature stability, supply voltage change, load change, shock and vibration and aging for 10 years. Control Voltage = 1.65V.
- 2) Positive Slope.

DESCRIPTION

The Connor-Winfield TVLD546 is a Surface Mount Voltage Controlled Temperature Compensated Crystal Oscillator (VCTCXO). Operating at 3.3Vdc, the TVLD546 will maintain ±4.6ppm frequency tolerance over 20 years. The TVLD546 is offered in a surface mount package for automated assembly.

FEATURES

3.3V OPERATION

OVERALL FREQUENCY TOLERANCE:
±4.6ppm OVER 20 YEARS.

TEMPERATURE RANGE: 0 to 70°C

LOW JITTER <1ps RMS

SURFACE MOUNT PACKAGE

TAPE AND REEL PACKAGING

RoHS COMPLIANT / LEAD FREE

ORDERING INFORMATION

TVLD546 - 077.76M

TCXO
SERIES

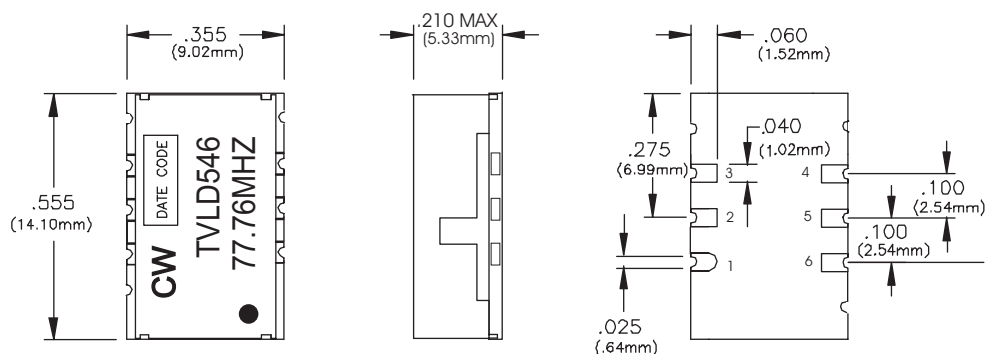
CENTER
FREQUENCY

Specifications subject to change without notice.

PRODUCT DATA SHEET

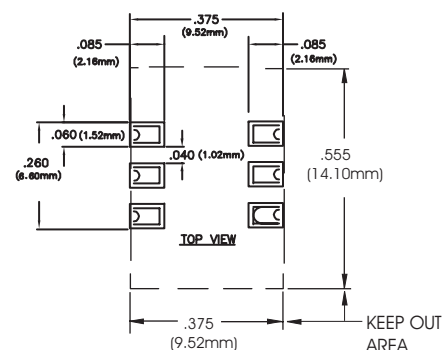
CRYSTAL CONTROLLED OSCILLATORS

Package Layout

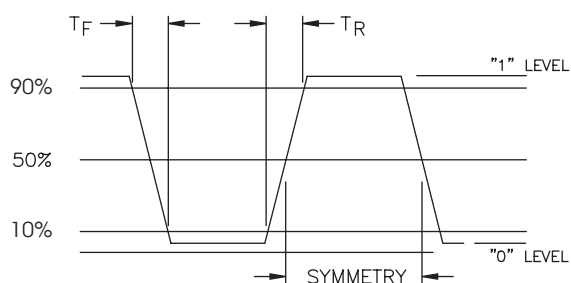


Dimensional Tolerance:
±.005 (.127mm)

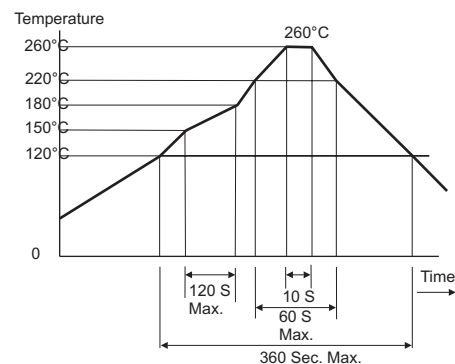
Suggested Pad Layout



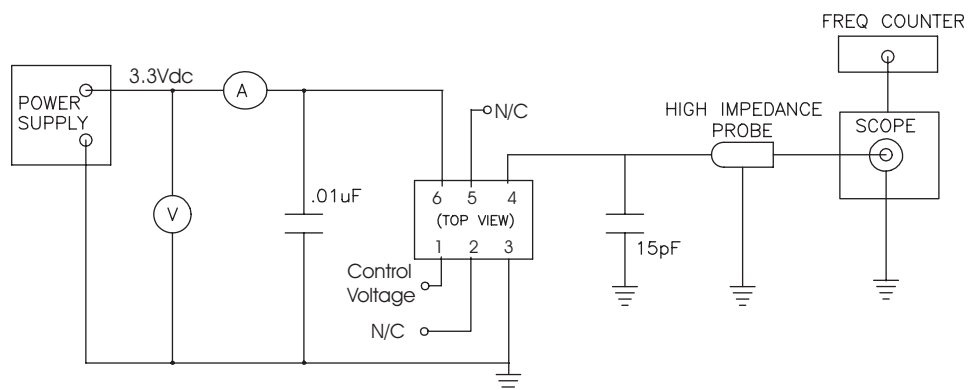
Output Waveform



Solder Profile



Test Circuit



Pad Connections

TABLE 7.0

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

Specifications subject to change without notice.