CONNOR WINFIELD

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PRODUCT DATA SHEET

CRYSTAL CONTROLLED OSCILLATORS

SURFACE MOUNT 3.3V HCMOS TCXO





TFLD546

ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-40	-	85	°C	
Supply Voltage	(Vcc)	-0.6	-	6	Vdc	

OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	12.80	-	155.52	MHz	
Frequency Calibration @ 25°C		-1.5	-	1.5	ppm	
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	

PHASE NOISE CHARACTERISTICS

TABLE 4.0

Typical Phase Noise Measurements @:		12.80	77.76	155.52	MHz	
SSB Phase Noise at 10Hz offset		-60	-60	-50	dBc/Hz	
SSB Phase Noise at 100Hz offset		-90	-90	-80	dBc/Hz	
SSB Phase Noise at 1KHz offset		-120	-120	-115	dBc/Hz	
SSB Phase Noise at 10KHz offset		-135	-135	-130	dBc/Hz	
SSB Phase Noise at 100KHz offset		-145	-145	-140	dBc/Hz	

HCMOS OUTPUT CHARACTERISTICS

TABLE 5.0

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)	(Ioh)	-	-	8	mA	
Duty Cycle at 50% of Vcc			45	50	55	%	
Rise / Fall Time 10% to 90%				3	5	nS	

PACKAGE CHARACTERISTICS

TABLE 6.0

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

PROCESS RECOMMENDATIONS

TABLE 7.0

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) Inclusive of calibration, frequency vs. temperature stability, supply voltage change, load change, shock and vibration, 20 years aging.

DESCRIPTION

The Connor-Winfield TFLD546 is a Surface Mount Temperature Compensated Crystal Oscillator (TCXO). Operating at 3.3Vdc, the TFLD546 will maintain ±4.6ppm frequency tolerance over 20 years. The TFLD546 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

ORDERING INFORMATION

TFLD546 - 20.00MHz

TCXO SERIES

CENTER FREQUENCY

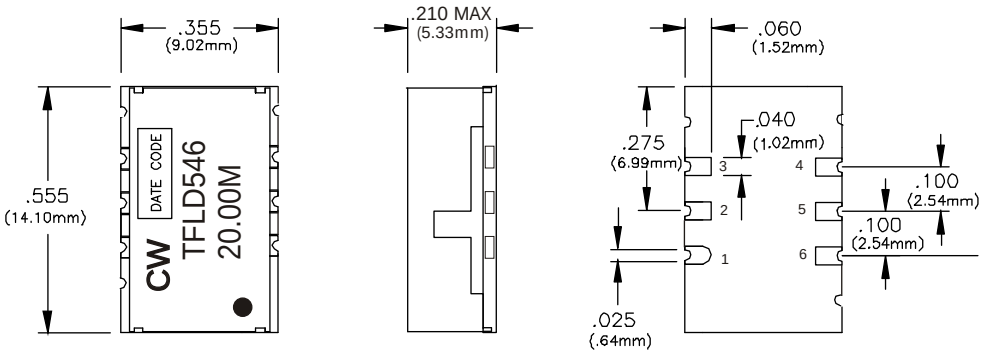
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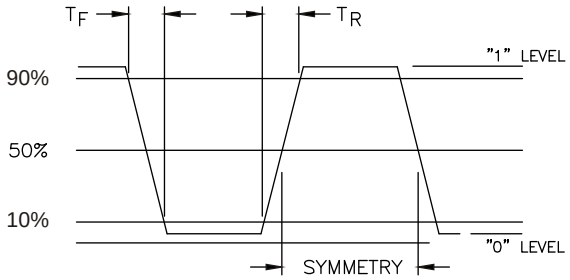


Dimensional Tolerance:
±.005 (.127mm)

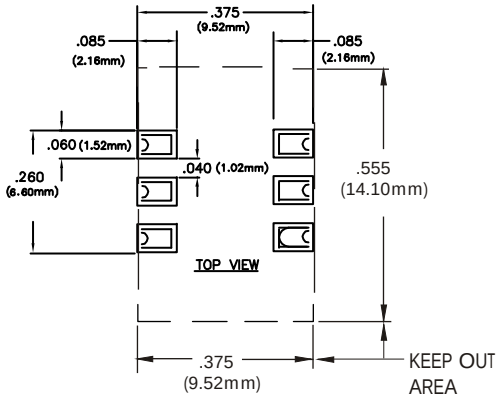
TABLE 8.0

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

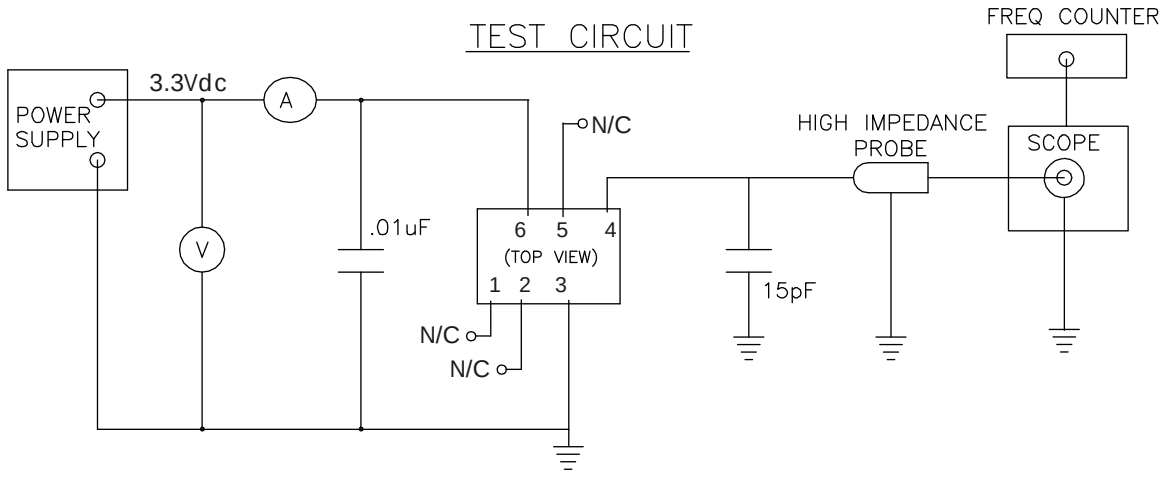
OUTPUT WAVEFORM



SUGGESTED PAD LAYOUT



TEST CIRCUIT



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