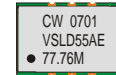


# CRYSTAL CONTROLLED OSCILLATORS

## 3.3V SURFACE MOUNT HCMOS VCXO



### VSLD55AE

**ABSOLUTE MAXIMUM RATINGS**

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-40	-	85	°C	
Supply Voltage	(Vcc)	-0.5	-	7.0	Vdc	
Control Voltage	(Vc)	-0.5	-	7.0	Vdc	

**OPERATING SPECIFICATIONS**

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	19.44	-	80	MHz	
Frequency Stability (Vc=1.65V)		-15	-	15	ppm	1
Aging (15 years)		-5	-	5		
Total Frequency Tolerance		-20	-	20	ppm	2
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vcc)	3.135	3.300	3.465	Vdc	
Supply Current	(Icc)	-	-	50	mA	
Jitter (BW=10Hz to 20MHz)		-	-	5	pS rms	
Jitter (BW=12kHz to 20MHz)		-	-	1	pS rms	
SSB Phase Noise at 10Hz offset		-	-60	-	dBc/Hz	
SSB Phase Noise at 100Hz offset		-	-90	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-100	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-135	-	dBc/Hz	
SSB Phase Noise at 100KHz offset		-	-140	-	dBc/Hz	

**INPUT CHARACTERISTICS**

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Control Voltage Range	(Vc)	0.3	1.65	3.0	Vdc	
Frequency Pullability		±50	-	±100	ppm	3
Absolute Pull Range		±30	-	-	ppm	4
Monotonic Linearity		-10	-	10	%	
Input Impedance		-	50K	-	Ohm	
Modulation Bandwidth (3dB)		15	-	-	KHz	
Enable Input Voltage	(High) (Vih)	2.0	-	-	Vdc	5
Disable Input Voltage	(Low) (Vil)	-	-	0.5	Vdc	5
Output Enable / Disable Time		-	-	100	nS	

**HCMOS OUTPUT CHARACTERISTICS**

TABLE 4.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	15	pF	
Voltage	(High) (Voh)	2.4	-	-	Vdc	
	(Low) (Vol)	-	-	0.4	Vdc	
Current	(High) (Ioh)	-8	-	-	mA	
	(Low) (Iol)	-	-	8	mA	
Duty Cycle measured at 1.5 Vdc		40	50	60	%	
Rise / Fall Time 10% to 90%		-	-	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

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.

Notes

- Inclusive of calibration and temperature.
- Inclusive of calibration, frequency vs. temperature stability, supply voltage change, load change, shock and vibration and aging over 15 years, Vc=1.65 Vdc.
- Referenced to Fo @ 25°C, Positive Slope.
- Absolute pull range (APR) is the minimum guaranteed pull range of the VCXO under all conditions over lifetime operation. The APR is referenced to Fo.
- Output is enabled with no connection on pin 2.

### DESCRIPTION

The Connor-Winfield VSLD55AE is a surface mount Voltage Controlled Crystal Oscillator (VCXO) with an HCMOS output. Based on a fundamental crystal design, the VSLD55AE is designed for phased lock loop applications requiring low jitter and tight stability.

### FEATURES

3.3V OPERATION

LOW JITTER <1pS RMS

OVERALL TOTAL TOLERANCE: ±20ppm

TEMPERATURE RANGE: 0 to 70°C

SURFACE MOUNT PACKAGE

TAPE AND REEL PACKAGING

### ORDERING INFORMATION

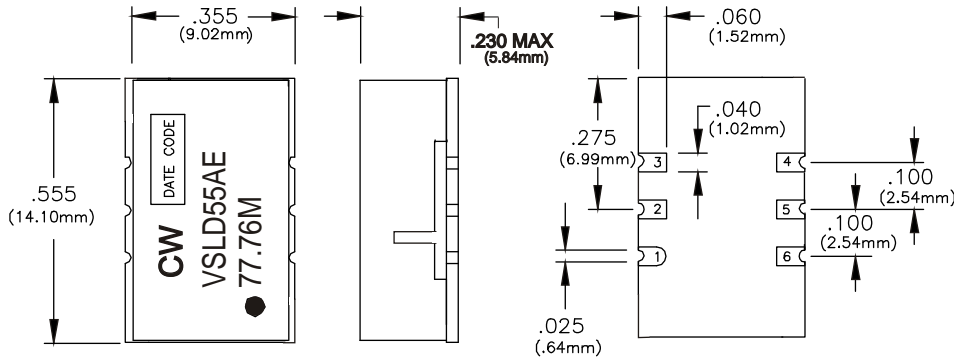
VSLD55AE - 77.76MHz

VCXO  
SERIES

CENTER  
FREQUENCY

Specifications subject to change without notice.

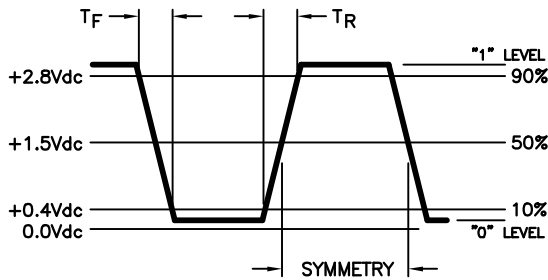
CRYSTAL CONTROLLED OSCILLATORS



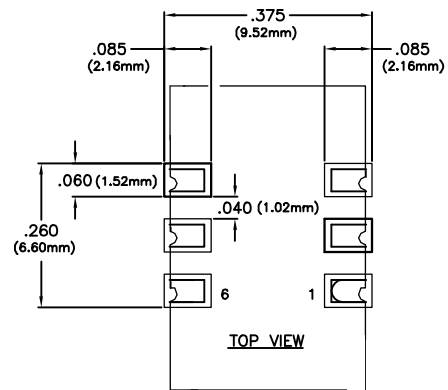
PIN	CONNECTION
1	CONTROL VOLTAGE
2	TRI-STATE
3	GROUND
4	OUTPUT
5	N/C
6	Vcc

Dimensional Tolerance:  
±.005 (.127mm)

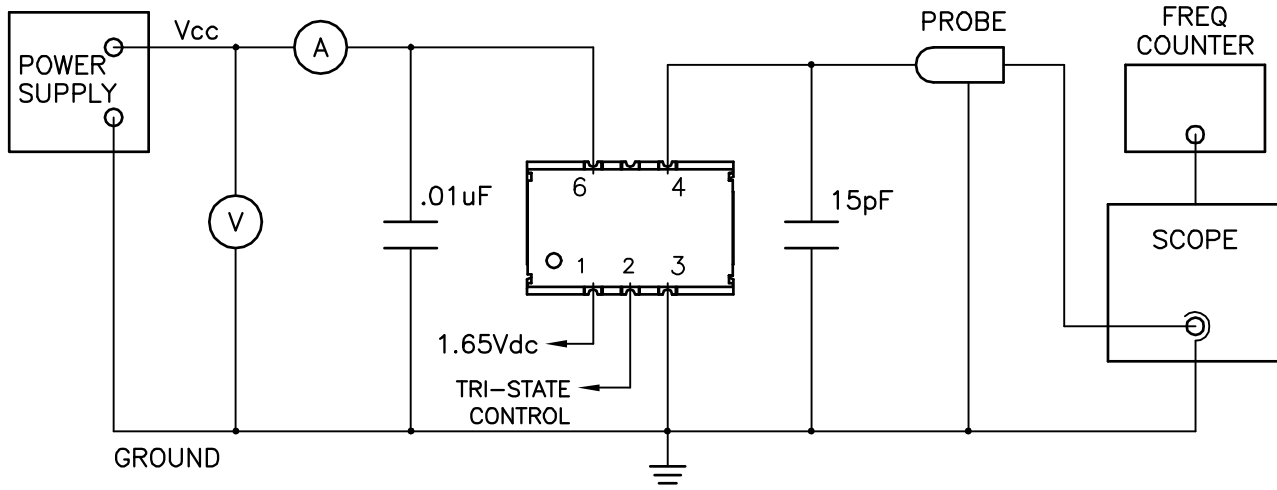
OUTPUT WAVEFORM



SUGGESTED PAD LAYOUT



TEST CIRCUIT



Specifications subject to change without notice.