

CRYSTAL CONTROLLED OSCILLATORS

5.0V SURFACE MOUNT VCISO OSCILLATOR



ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-55	-	125	°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)	-	622.0800 644.5313 666.5143 690.5692 693.4830	-	MHz	
Frequency Stability		-150	-	150	ppm	1
Operating Temperature Range		-40	-	85	°C	
Supply Voltage	(Vcc)	4.75	5.0	5.25	Vdc	
Supply Current	(Icc)	-	-	80	mA	
Jitter (BW=10Hz to 20MHz)		-	-	3.0	ps rms	
Jitter (BW=12kHz to 80MHz)		-	-	0.5	ps rms	
SSB Phase Noise at 100Hz offset		-	-70	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-105	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-145	-	dBc/Hz	
SSB Phase Noise at 100KHz offset		-	-155	-	dBc/Hz	

INPUT CHARACTERISTICS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Control Voltage Range	(Vc)	0.5	2.5	4.5	Vdc	
Pull Slope		-	250	-	ppm / V	2
Absolute Pull Range (APR)		+/-100	-	-	ppm	3
Monotonic Linearity		-20	-	20	%	
Input Impedance		-	50K	-	Ohm	
Modulation Bandwidth (3dB)		10	-	-	KHz	
CMOS - Enable Input Voltage	(High)	(Vih)	2.0	-	Vdc	4
CMOS - Disable Input Voltage	(Low)	(Vil)	-	0.4	Vdc	4

LOW VOLTAGE PECL OUTPUT CHARACTERISTICS

TABLE 4.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	50	Ohms	5
Voltage (High)	(Voh)	3.96	-	-	Vdc	
Voltage (Low)	(Vol)	-	-	3.40	Vdc	
Duty Cycle at 50% Level		45	50	55	%	
Rise / Fall Time 20% to 80%		-	250	400	pS	

PACKAGE CHARACTERISTICS

TABLE 5.0

Package	Hermetically sealed, J leaded ceramic surface mount package.
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Notes

- 1.0 Frequency stability vs. temperature. Control voltage (Vc) = 2.50 Vdc.
- 2.0 Referenced to Fo @ 25°C, Positive Slope.
- 3.0 Absolute pull range (APR) is the minimum guaranteed pull range of the VCXO under all conditions for ten year lifetime operation. The APR is referenced to Fo.
- 4.0 With no connect on the enable / disable pin (pin 2) output is enabled. When oscillator is disabled the true output is in a low state (Vol) and the complementary output is in the high state (Voh)
- 5.0 50 ohm termination into Vcc-2V or Thevein equivalent.

VSPM634D

DESCRIPTION

The Connor-Winfield VSPM634D is a 5.0V Voltage Controlled SAW Oscillator (VCISO) with Differential PECL outputs and a CMOS Enable/Disable input. The VSPM634D is designed for use with PLL systems in SONET/SDH systems requiring low jitter and tight stability. No multiplication schemes are used in this oscillator design.

FEATURES

- J LEADED SURFACE MOUNT PACKAGE
- 5.0V OPERATION
- LOW JITTER <0.5pS RMS
- FREQUENCY STABILITY: ±150ppm
- TEMPERATURE RANGE: -40 to 85°C
- DIFFERENTIAL PECL OUTPUTS
- ENABLE / DISABLE FUNCTION
- TAPE AND REEL PACKAGING

ORDERING INFORMATION

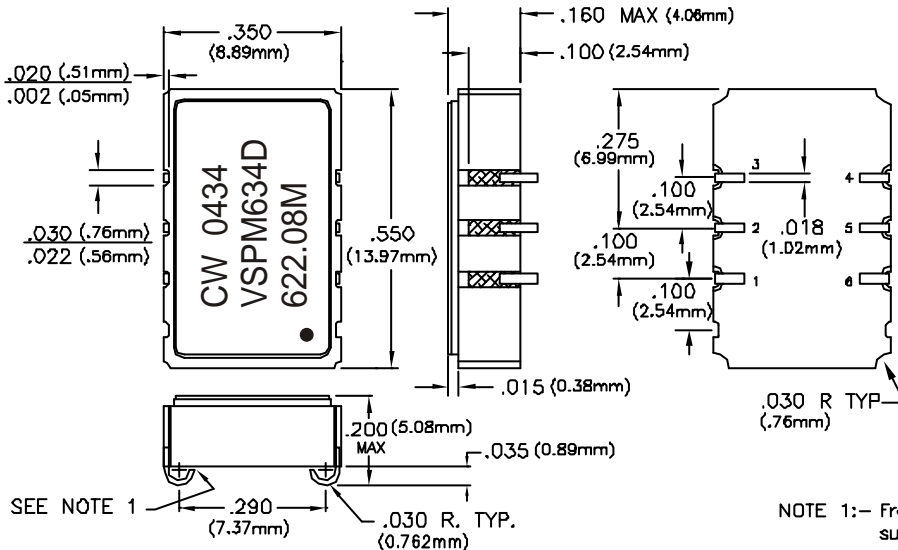
VSPM634D - 622.08MHz

VCISO
SERIES

CENTER
FREQUENCY

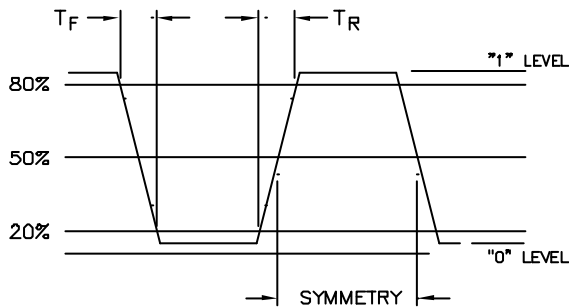
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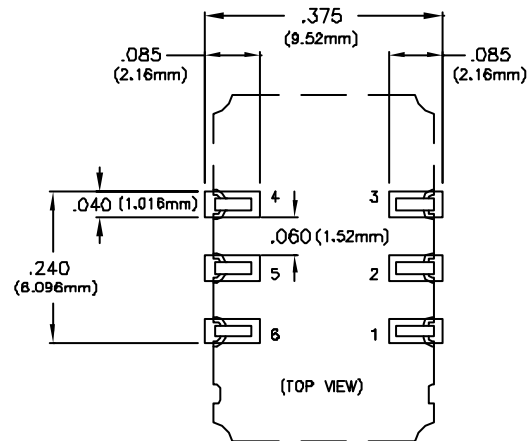


PIN	CONNECTION
1	CONTROL VOLTAGE
2	ENABLE/DISABLE
3	GROUND
4	Q OUTPUT
5	\bar{Q} OUTPUT
6	Vcc

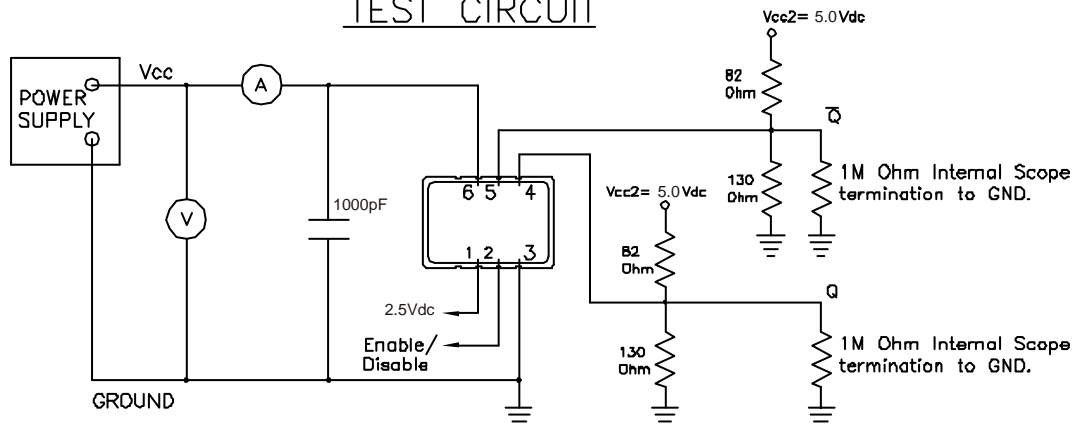
OUTPUT WAVEFORM



SUGGESTED PAD LAYOUT



TEST CIRCUIT



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