

CRYSTAL CONTROLLED OSCILLATORS

3.3V 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)	-	622.08	-	MHz	
Frequency Stability		-	+/-150	-	ppm	1
Operating Temperature Range		-40	-	85	°C	
Supply Voltage	(Vcc)	3.135	3.3	3.465	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)	0.3	1.65	3.0	Vdc	
Absolute Pull Range (APR)		+/-50	-	-	ppm	2
Gain Transfer (Kv)		-	175	-	ppm/volt	
Monotonic Linearity		-15	-	15	%	
Input Impedance		-	50K	-	Ohm	
Modulation Bandwidth (3dB)		10	-	-	KHz	
Enable Input Voltage (Low)	(Vil)	-	-	1.68	Vdc	3
Disable Input Voltage (High)	(Vih)	2.275	-	-	Vdc	3

LOW VOLTAGE PECL OUTPUT CHARACTERISTICS

TABLE 4.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	50	Ohms	4
Voltage (High)	(Voh)	2.275	-	-	Vdc	
(Low)	(Vol)	-	-	1.68	Vdc	
Duty Cycle at 50% Level		45	50	55	%	
Rise and fall times (Measured 20% to 80%)		-	250	400	ps	

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	See solder profile page 2.
Wash	Ultrasonic cleaning is not recommended.

Notes

- 1.0 I Frequency stability vs. change in temperature, control voltage (Vc) = 1.65 Vdc.
- 2.0 Control voltage for (Fo) = 1.65 Vdc Typical. Positive Transfer Function.
- 3.0 When oscillator is disabled the pin 4 output is in a low state (Vol) and the pin 5 output is in the high state (Voh)
- 4.0 50 ohm termination into Vcc-2V or Thevein equivalent.

VSPLD63TE

DESCRIPTION

The Connor-Winfield VSPLD63TE is a 3.3V Voltage Controlled SAW Oscillator (VCISO) with Differential LVPECL outputs and Enable/Disable function. The VSPLD63TE is designed for use with PLL systems in SONET/SDH systems requiring low jitter and wide pull range over the industrial temperature range. No multiplication schemes are used in this oscillator design.

FEATURES

VOLTAGE CONTROLLED SAW OSCILLATOR

LOW PROFILE, SURFACE MOUNT PACKAGE

3.3V OPERATION

LOW JITTER <0.5ps RMS

ABSOLUTE PULL RANGE (APR): ±50ppm

TEMPERATURE RANGE: -40 to 85°C

DIFFERENTIAL LVPECL OUTPUTS

ENABLE / DISABLE FUNCTION

TAPE AND REEL PACKAGING

RoHS 5/6 COMPLIANT

ORDERING INFORMATION

VSPLD63TE - 622.08MHz

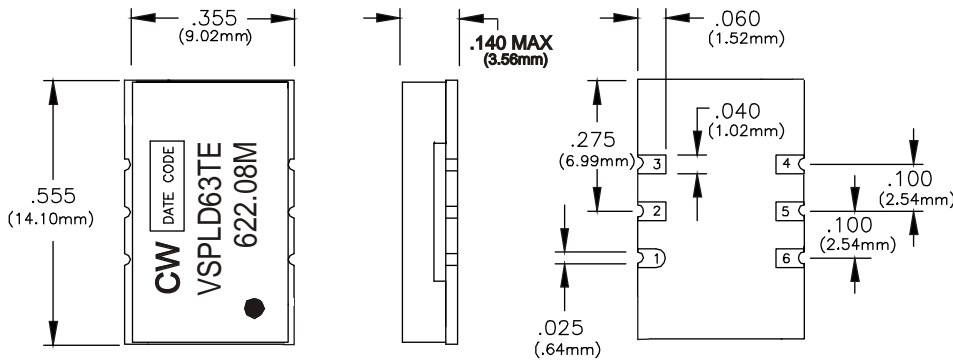
VCISO
SERIES

CENTER
FREQUENCY

Specifications subject to change without notice.

CRYSTAL CONTROLLED OSCILLATORS

Package Outline



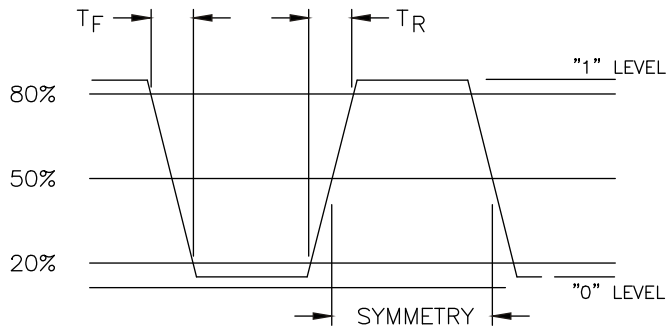
Pin Connections

TABLE 7.0

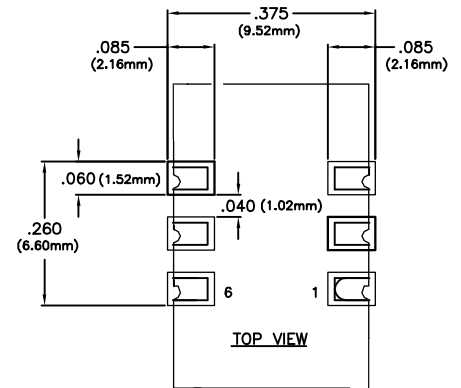
Pin	Function
1	Control Voltage
2	Enable / Disable
3	Ground (Case)
4	Output Q
5	Output \bar{Q}
6	Vcc

Dimensional Tolerance:
 $\pm .005$ (.127mm)

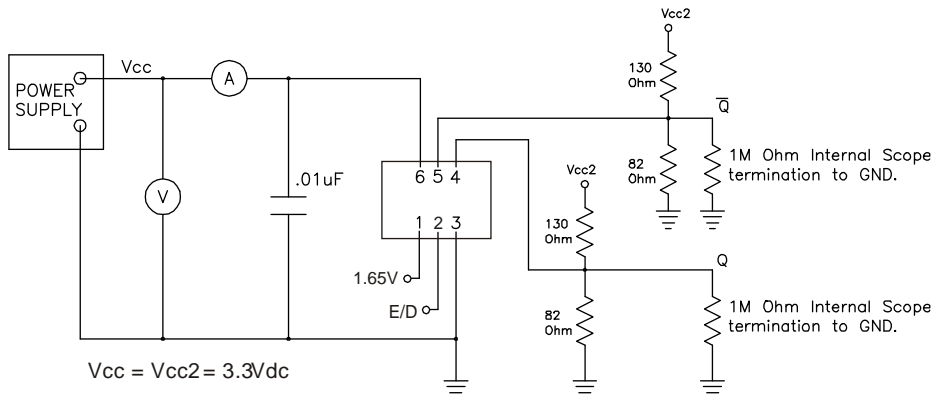
Output Waveform



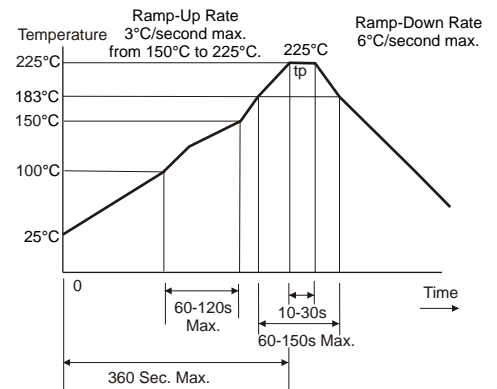
Suggested Pad Layout



Test Circuit



Solder Profile



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