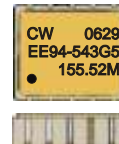


CRYSTAL CONTROLLED OSCILLATORS

SURFACE MOUNT 3.3V LVPECL CLOCK



EE94-51xG5-Series
EE94-52xG5-Series
EE94-53xG5-Series
EE94-54xG5-Series

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	

MODEL SPECIFICATIONS:

TABLE 2.0

MODEL EE94-51*G5 * Added pin connection option number. See table 8

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	13	-	167	MHz	
Total Frequency Tolerance		-25		25	ppm	1

MODEL EE94-52*G5 * Added pin connection option number. See table 8

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	13	-	200	MHz	
Total Frequency Tolerance		-50		50	ppm	1

MODEL EE94-53*G5 * Added pin connection option number. See table 8

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	13	-	200	MHz	
Total Frequency Tolerance		-100		100	ppm	1

MODEL EE94-54*G5 * Added pin connection option number. See table 8

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	13	-	167	MHz	
Total Frequency Tolerance		-20		20	ppm	1

OPERATING SPECIFICATIONS

TABLE 3.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vcc)	3.135	3.3	3.465	Vdc	
Supply Current	(Icc)	-	-	60	mA	
Jitter (BW=10Hz to 20MHz)		-	-	5	pS RMS	
Jitter (BW=12kHz to 20MHz)		-	-	1	pS RMS	
SSB Phase Noise at 100Hz offset		-	-60	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-100	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-130	-	dBc/Hz	
SSB Phase Noise at 100KHz offset		-	-140	-	dBc/Hz	

ENABLE / DISABLE INPUT CHARACTERISTICS

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Disable Input Voltage (High)	(Vih)	2.275	-	-	Vdc	2
Enable Input Voltage (Low)	(Vil)	-	-	1.68	Vdc	2

LVPECL OUTPUT CHARACTERISTICS

TABLE 4.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	50	Ohms	3
Voltage (High)	(Voh)	2.275	-	-	Vdc	
(Low)	(Vol)	-	-	1.68	Vdc	
Duty Cycle		45	50	55	%	4
Rise / Fall Time 20% to 80%		-	-	1	ns	

PACKAGE CHARACTERISTICS

TABLE 5.0

Package	Hermetically sealed, leadless ceramic package.
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PROCESS RECOMMENDATIONS

TABLE 6.0

Soldering Process	See solder profile page 2.
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DESCRIPTION

The Connor Winfield EE94-5xxG5-series is a fixed frequency 10 pad surface mount Crystal Controlled Oscillator (XO) designed for applications requiring low jitter and tight frequency stability. Operating at 3.3V supply voltage, the EE94-5xxG5-series provides option for LVPECL differential outputs and/or an enable / disable function.

FEATURES

- 3.3V OPERATION
- OVERALL FREQUENCY TOLERANCE:
 - EE94-51xG5 - ±25PPM
 - EE94-52xG5 - ±50PPM
 - EE94-53xG5 - ±100PPM
 - EE94-54xG5 - ±20PPM
- TEMPERATURE RANGE: 0 to 70°C
- LVPECL DIFFERENTIAL OUTPUTS
- ENABLE/DISABLE FUNCTION
- LOW JITTER <1pS RMS
- SURFACE MOUNT PACKAGE
- TAPE AND REEL PACKAGING
- RoHS 5/6 COMPLIANT

ORDERING INFORMATION

EE94-543G5 - 155.52MHz

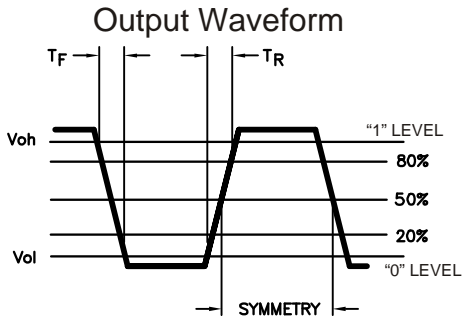


Specifications subject to change without notice.

CRYSTAL CONTROLLED OSCILLATORS

Notes

- 1) Inclusive of calibration tolerance @ 25°C, frequency vs. temperature, frequency vs. change in supply voltage, frequency vs. load variations, shock and vibration and 10 years aging.
- 2) When the oscillator is disabled, the true output is in a low state (Vol) and the complementary output is in the high state (VoH).
- 3) Output must be terminated into 50 ohms to Vcc – 2V or Thevenin equivalent.
- 4) Duty Cycle measured at 1.977V



Pin Connections

TABLE 7.0

Pin	Connection
1	N/C
2	Option Pin
3	N/C
4	Ground (Vee)
5	N/C
6	Option Pin
7	Q Output
8	N/C
9	+ Supply (Vcc)
10	N/C

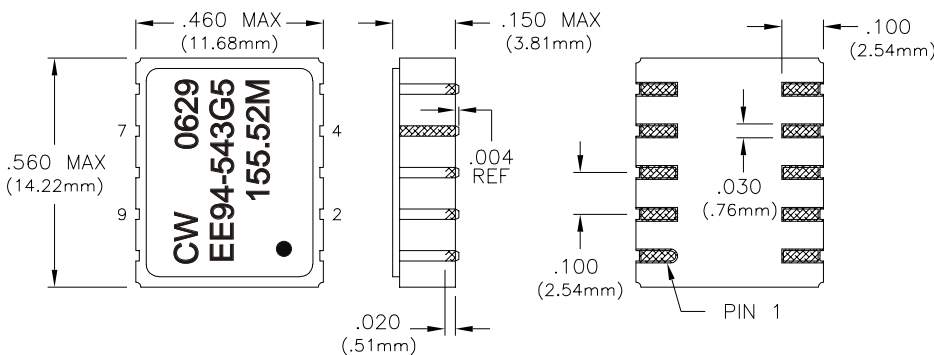
Options Chart
(Replace the x with an option number)

TABLE 8.0

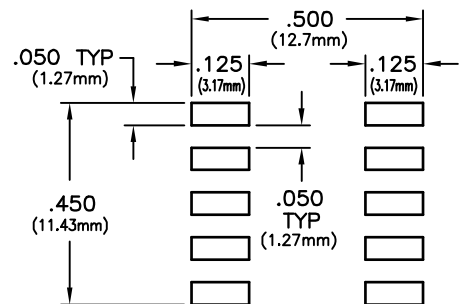
Option Number	Option Description:
0	Pin 2 and Pin 6: No Connection
1	Pin 6 Complementary Output, Pin 2 No Connection
2	Pin 2 Enable / Disable Function, Pin 6 No Connection (Note: When oscillator is disabled the output, pin 7 is in a high state (Voh).)
3	Pin 2 Complementary Output, Pin 6 No Connection
4	Pin 2 Enable / Disable Function, Pin 6 Complementary Output (Note: When oscillator is disabled the output pin 7 is in a high state (Voh) and pin 6 is in a low state (Vol).)

Dimensional Tolerance:
±.005" (.127mm)

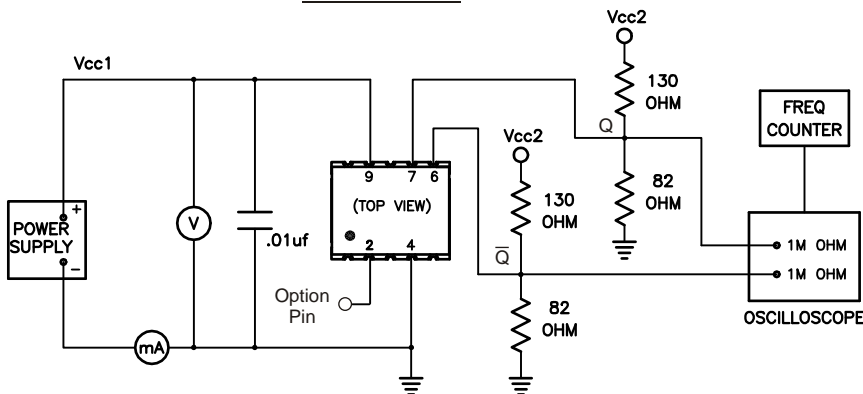
Package Outline



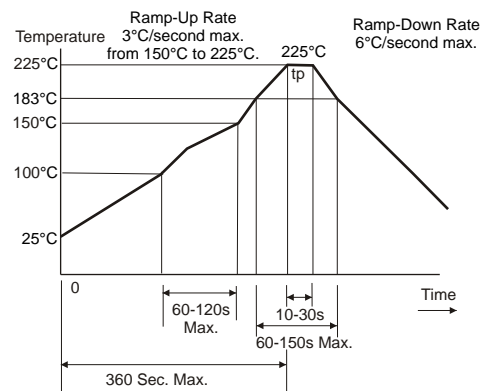
Suggested Pad Layout



Test Circuit



Solder Profile



Specifications subject to change without notice.