

REFERENCE PHASE LOCKED TRANSLATOR

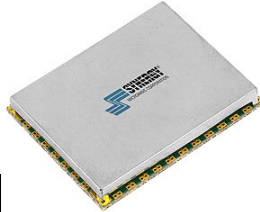
SURFACE MOUNT MODEL: FCTS2000-100-5

FIXED FREQUENCY

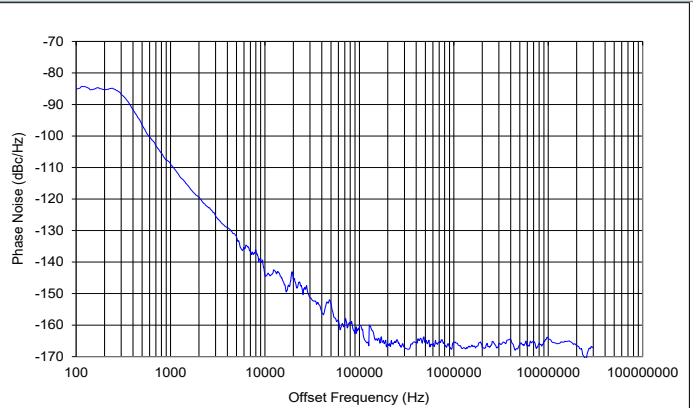
2000 MHz

FEATURES:

- ▶ Ultra-Low Phase Noise
- ▶ No Programming Required
- ▶ Lead Free - RoHs Compliant
- ▶ Patented REL-PRO Technology
- ▶ Small Size, Surface Mount



Phase Noise (Measured with Agilent E5052A or R&S FSUP-26/27)



SPECIFICATION (Rev. C 08/02/19)

Frequency	2000 MHz		
Reference Input Frequency	100 MHz ¹		
Reference Input Voltage	1.0 to 3.3 V p-p		
Bias Voltage	Vcc	V (Vdc)	I (mA Max.)
	Digital	+5	25
	Tune	+12	10
	VCO	+5	100
Output Power	+5 dBm (Min.)		
Spurious Suppression	80 dB (Typ.)		
Harmonic Suppression	20 dB (Typ.)		
Sub-Harmonic Suppression	20 dBc (typ.)		
Output Impedance	50 Ohms (Nom.)		
Lock Detect Indicator	CMOS 3.3 V		
Typical Phase Noise	Offset	Phase Noise	
	@ 100 Hz	-80 dBc/Hz	
	@ 1 kHz	-105 dBc/Hz	
	@ 10 kHz	-135 dBc/Hz	
	@ 1 MHz	-165 dBc/Hz	
Operating Temperature Range	-20 to +70 °C		

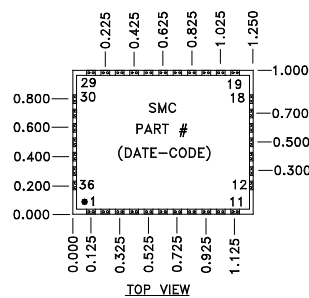
¹ External 100 MHz reference sources should have phase noise better than -138 dBc/Hz @ 50 Hz offset to achieve published specifications.

Absolute Maximum Ratings

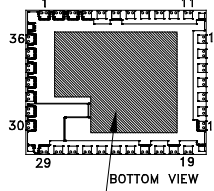
Storage Temp. Range	-40 to +85 °C
Bias Voltage (Digital)	+5.25 V
Bias Voltage (Tune)	+13.0 V
Bias Voltage (VCO)	+5.5 V

Patent : <http://www.synergymwave.com/patents>

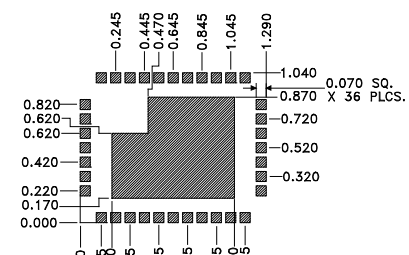
Package # 197LF



REL-PRO® PATENT NO. 7,612,296



RECOMMENDED PCB LAYOUT



OPTIONAL SOLDER AREA FOR HIGH VIBRATION ENVIRONMENT
 TOLERANCES ON THREE DECIMAL PLACES = ± 0.015
 PACKAGE MOUNTING: SEE APPLICATION NOTES AN7200 & AN7300

PORT CONFIGURATION

Pin 5 - RF Out	Pin 23 - Vcc 2 (Digital)
Pin 7 - Lock Detect *	Pin 27 - Vcc 3 (Vtune)
Pin 8-17,19,24,26,28 - NC	All Others - GND.
Pin 21 - Ref. Input	
Pin 25 - Vcc 1 (VCO)	NC - No Connection

* High when locked (source/sink 500 uA)

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 Patents : <http://www.synergymwave.com/patents>



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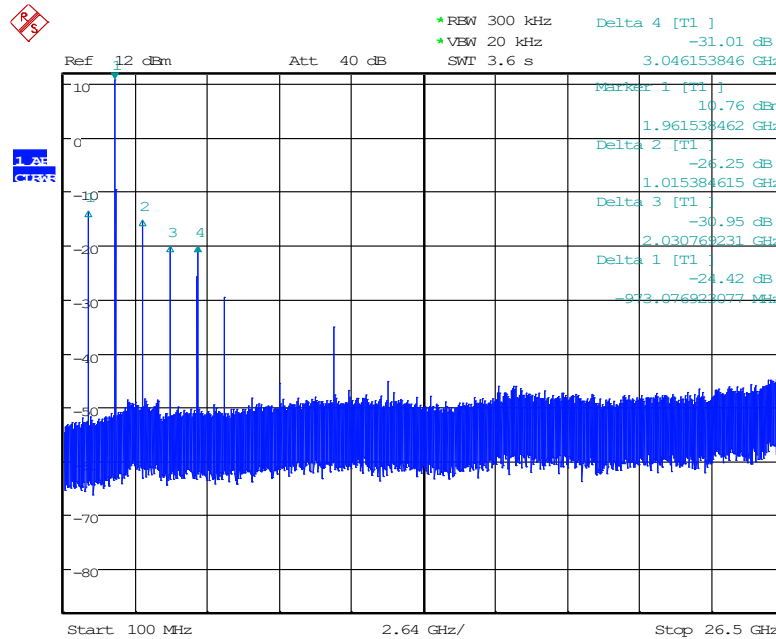
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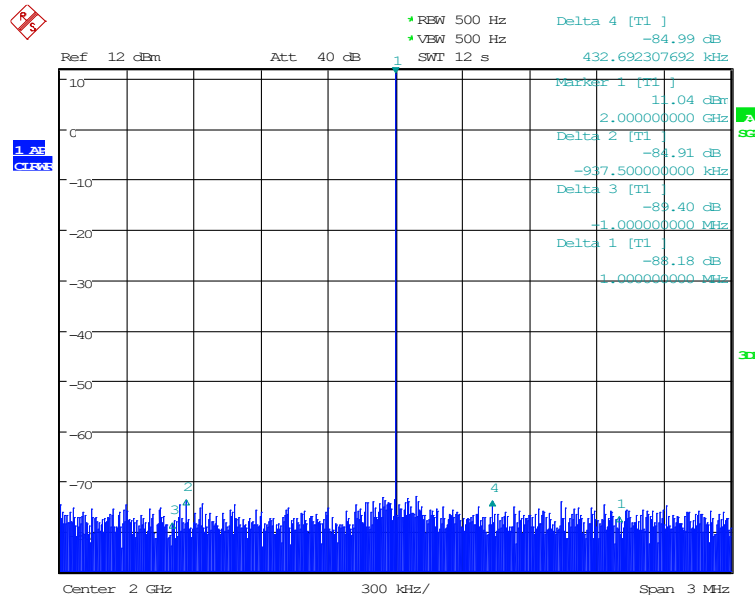
2000 MHz

@ +25 °C

HARMONIC SUPPRESSION



REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

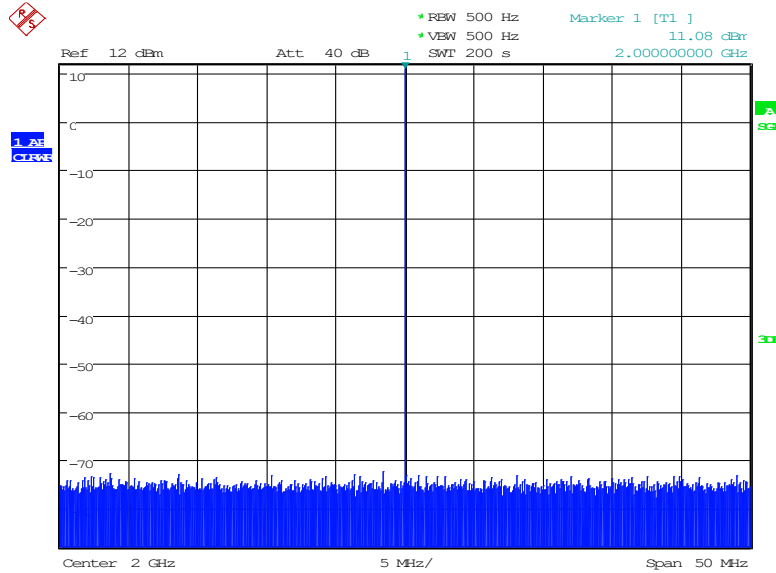
REFERENCE PHASE LOCKED TRANSLATOR SURFACE MOUNT MODEL: FCTS2000-100-5

FIXED FREQUENCY

2000 MHz

REFERENCE SIDEBAND SUPPRESSION

@ +25 °C



PERFORMANCE PLOTS