

REFERENCE PHASE LOCKED TRANSLATOR

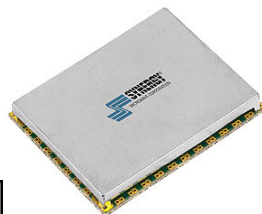
SURFACE MOUNT MODEL: FCTS2000-10-5

FIXED FREQUENCY

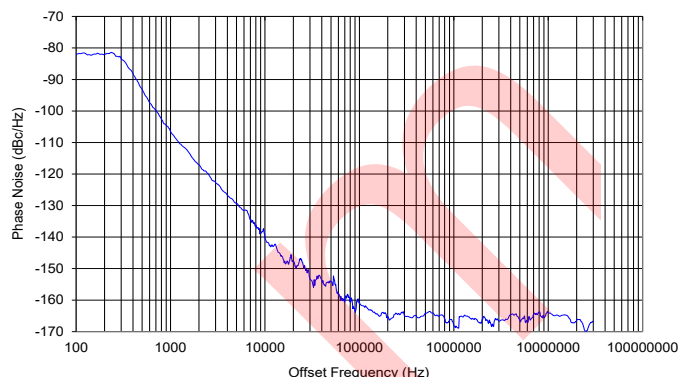
2000 MHz

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)



SPECIFICATIONS (Rev. F 08/02/19)

Frequency	2000 MHz														
Reference Input Frequency	10 MHz ¹														
Reference Input Voltage	1.0 to 3.3 V p-p														
Bias Voltage	<table><tr><th>Vcc</th><th>V (Vdc)</th><th>I (mA Max.)</th></tr><tr><td>Digital</td><td>+5</td><td>25</td></tr><tr><td>Tune</td><td>+12</td><td>10</td></tr><tr><td>VCO</td><td>+5</td><td>100</td></tr></table>	Vcc	V (Vdc)	I (mA Max.)	Digital	+5	25	Tune	+12	10	VCO	+5	100		
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	<table><tr><th>Offset</th><th>Phase Noise</th></tr><tr><td>@ 100 Hz</td><td>-80 dBc/Hz</td></tr><tr><td>@ 1 kHz</td><td>-105 dBc/Hz</td></tr><tr><td>@ 10 kHz</td><td>-135 dBc/Hz</td></tr><tr><td>@ 100 kHz</td><td>-158 dBc/Hz</td></tr><tr><td>@ 1 MHz</td><td>-165 dBc/Hz</td></tr></table>	Offset	Phase Noise	@ 100 Hz	-80 dBc/Hz	@ 1 kHz	-105 dBc/Hz	@ 10 kHz	-135 dBc/Hz	@ 100 kHz	-158 dBc/Hz	@ 1 MHz	-165 dBc/Hz		
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Operating Temperature Range	-20 to +70 °C														

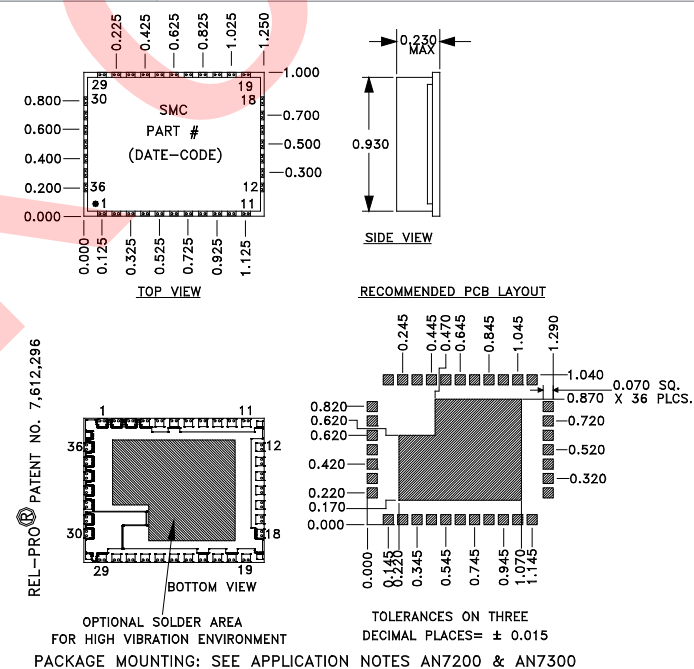
¹ External 10 MHz reference sources should have phase noise better than -138 dBc/Hz @ 50 Hz offset to achieve published specifications.

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



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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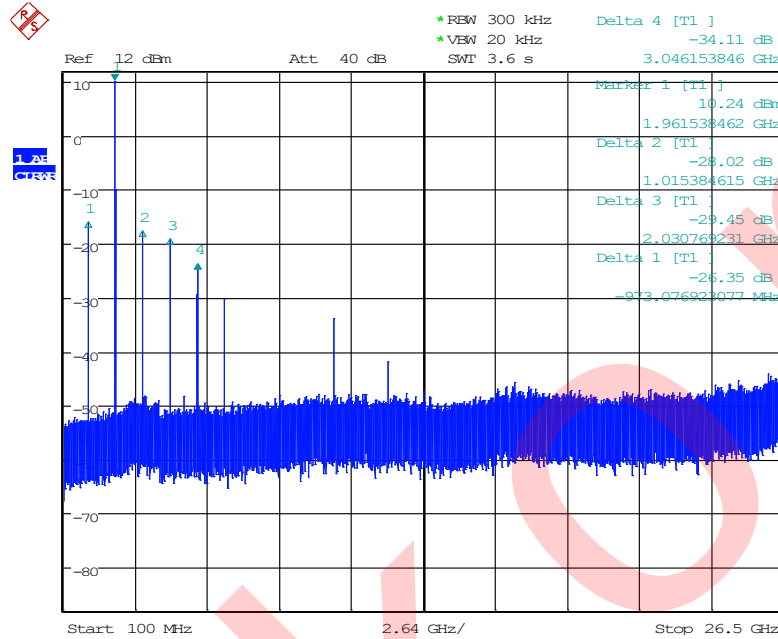
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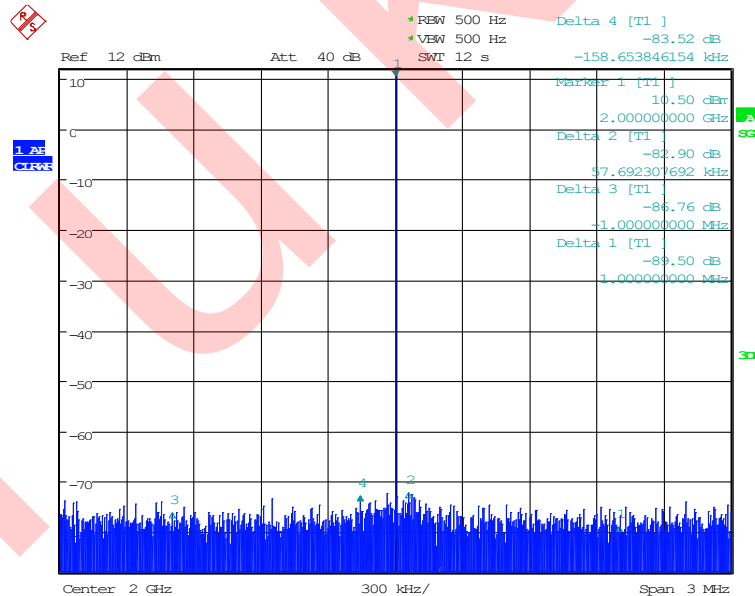
2000 MHz

HARMONIC SUPPRESSION

@ +25 °C



REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

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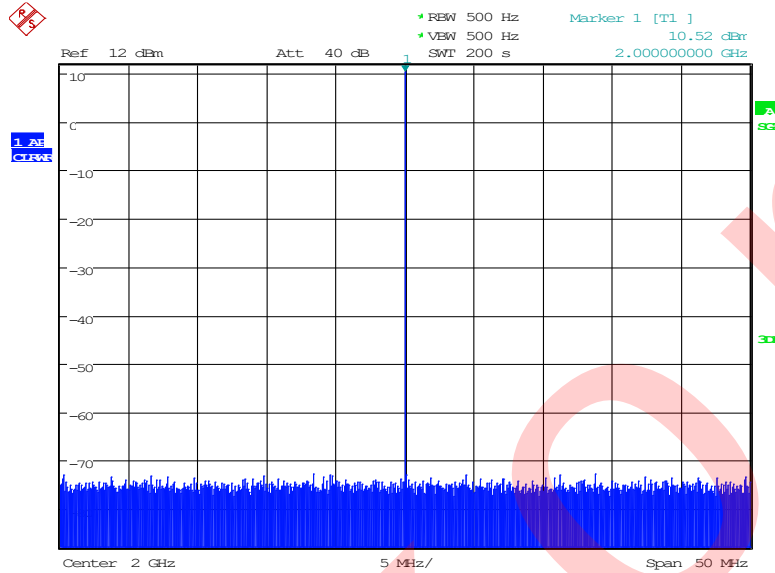
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2000 MHz

REFERENCE SIDEBAND SUPPRESSION

@ +25 °C



PERFORMANCE PLOTS