

# REFERENCE PHASE LOCKED TRANSLATOR

## SURFACE MOUNT MODEL: VFCTS105-10

**FIXED FREQUENCY**

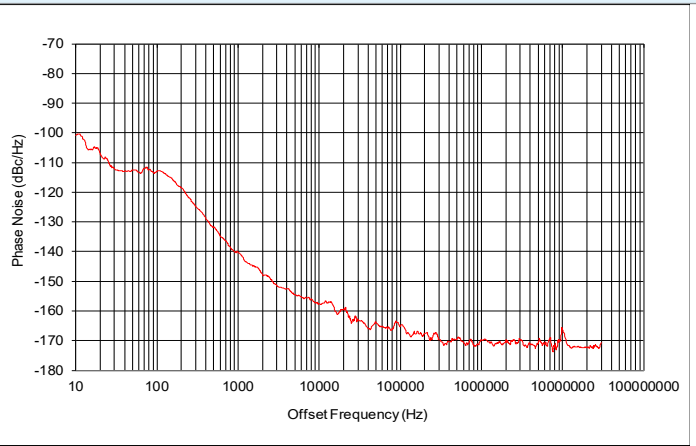
**105 MHz**

**FEATURES:**

- ▶ Ultra-Low Phase Noise
- ▶ No Programming Required
- ▶ Small Size, Surface Mount



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



**SPECIFICATIONS**

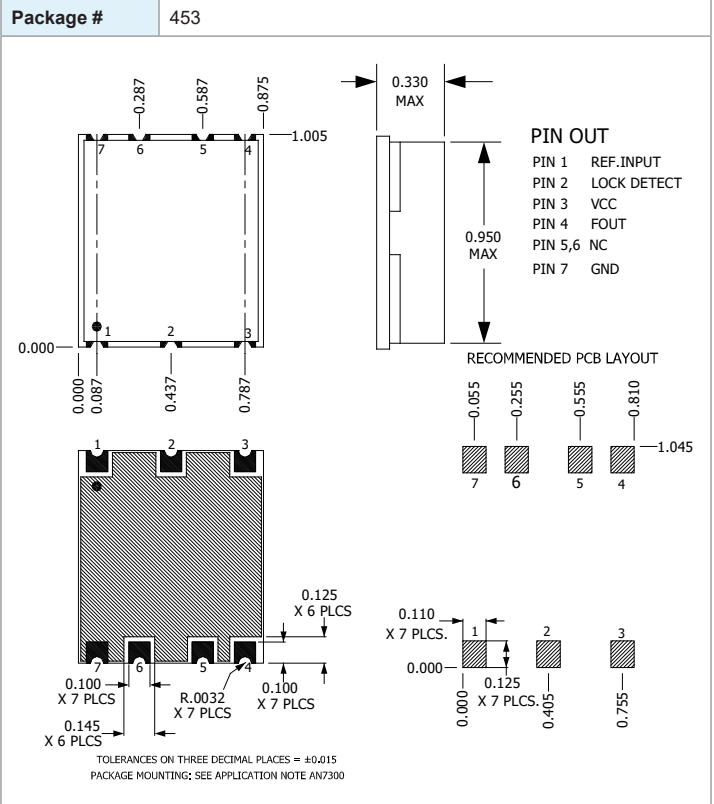
Frequency	105 MHz										
Reference Input Frequency	10 MHz <sup>1</sup>										
Reference Input Voltage	1.0 to 3.3 V p-p										
Bias Voltage (Vcc)	+5 Vdc @ 85 mA (max.)										
Output Power	7 dBm (Min.)										
Modulation Bandwidth	30 Hz (Typ.)										
Harmonic Suppression	32 dB (Typ.)										
Output Impedance	50 Ohms (Nom.)										
Lock Detect Indicator	LVC MOS 3.3 V (logic: 1 = lock, 0 = unlock)										
Typical Phase Noise	<table border="1"> <thead> <tr> <th>Offset</th> <th>Phase Noise</th> </tr> </thead> <tbody> <tr> <td>@ 100 Hz</td> <td>-110 dBc/Hz</td> </tr> <tr> <td>@ 1 kHz</td> <td>-140 dBc/Hz</td> </tr> <tr> <td>@ 10 kHz</td> <td>-156 dBc/Hz</td> </tr> <tr> <td>@ 100 kHz</td> <td>-165 dBc/Hz</td> </tr> </tbody> </table>	Offset	Phase Noise	@ 100 Hz	-110 dBc/Hz	@ 1 kHz	-140 dBc/Hz	@ 10 kHz	-156 dBc/Hz	@ 100 kHz	-165 dBc/Hz
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	@ 100 Hz	-110 dBc/Hz									
	@ 1 kHz	-140 dBc/Hz									
@ 10 kHz	-156 dBc/Hz										
@ 100 kHz	-165 dBc/Hz										
Operating Temperature Range	-40 to +85 °C										

<sup>1</sup> 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 (Vcc)	+5.25 V

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



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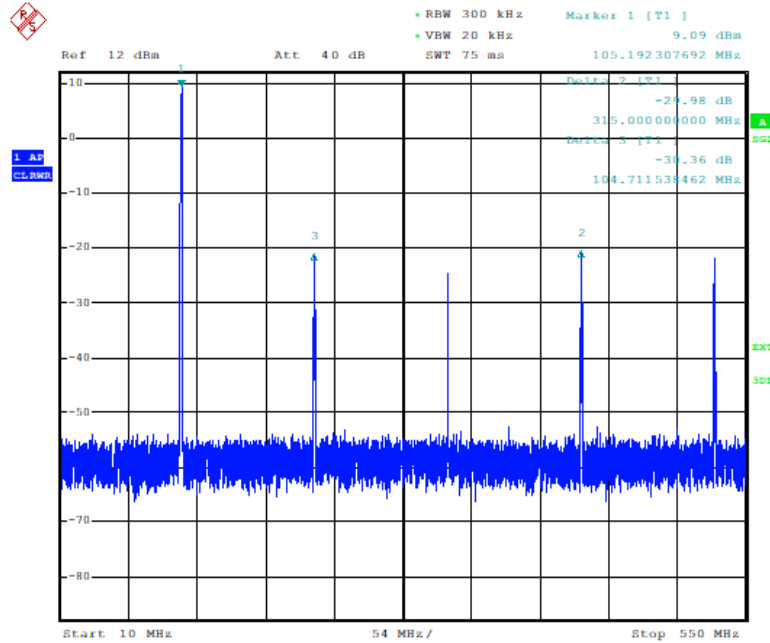
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105 MHz

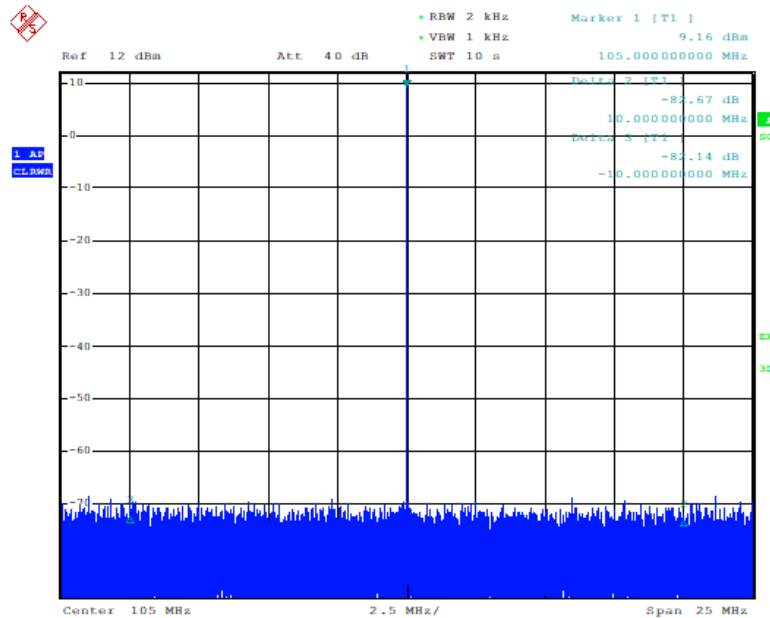
@ 25 °C

PERFORMANCE PLOTS

HARMONIC SUPPRESSION



REFERENCE SIDEBAND SUPPRESSION



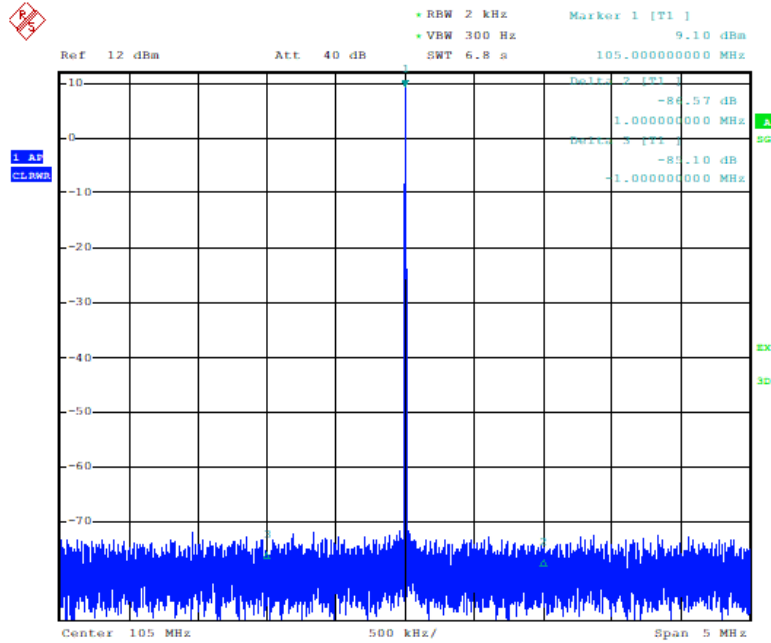
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