

SURFACE MOUNT MODEL VOLTAGE CONTROLLED OSCILLATOR

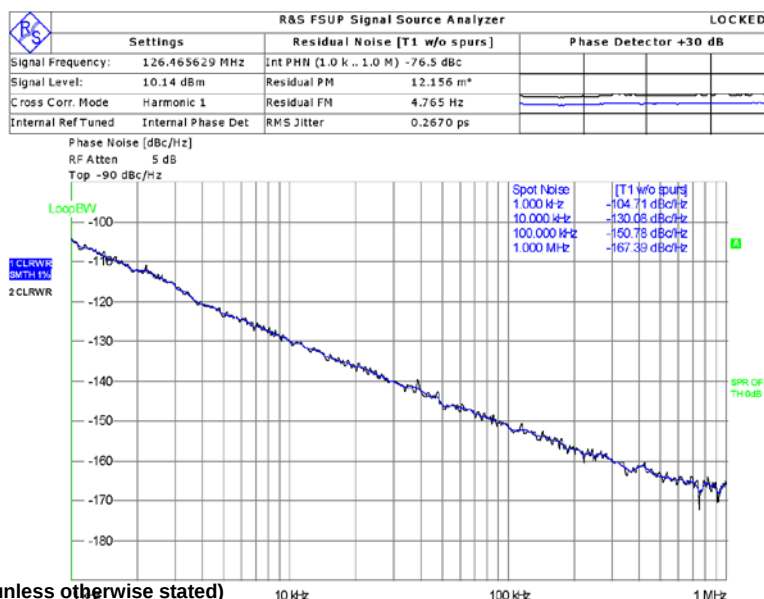
Frequency 111-142MHz

VLN142M



FEATURES

- ▶ Miniature Size
- ▶ Surface Mount Package
- ▶ Low Phase Noise Performance
- ▶ Electrically Shielded
- ▶ Highly Linear Tuning



Electrical Specifications, $T_A = +25^\circ\text{C}$, $V_{CC} = +8.0\text{V}$ (unless otherwise stated)

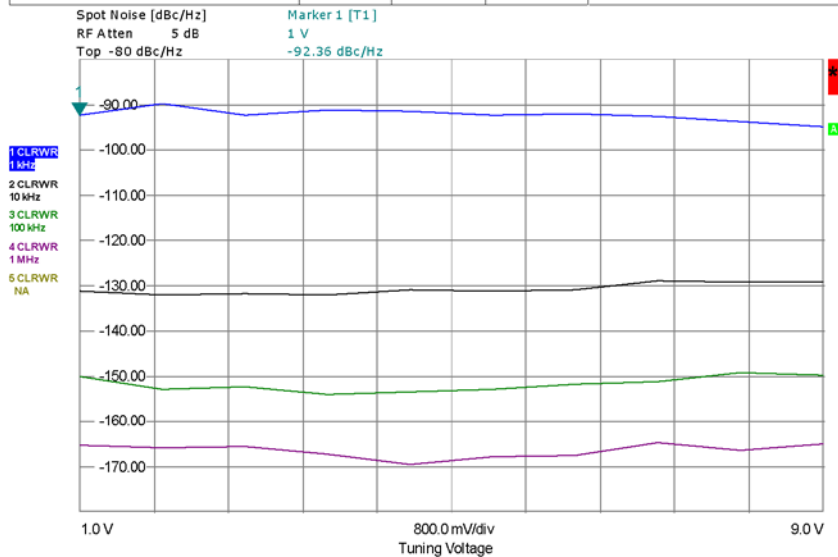
Parameter	Test Conditions	Min	Typ	Max	Units
Frequency Rangs		111		142	MHz
Tuning Voltage (V)		1.0		9.0	V
RF Output Power	111-142MHz	8.0		11.0	dBm
Supply Voltage (Vcc)		7.75	8	8.25	V
Supply Current (Icc)			24	27	mA
Phase Noise :					
	@10kHz Offset:		-129	-126	dBc/Hz
	@100kHz Offset:		-149	-146	dBc/Hz
Average Tuning Sensitivity	111-142MHz		4.8		MHz/V
Harmonic Outputs			-25		dBc
OperatingTemperature Range		-55		+85	$^\circ\text{C}$
Tune Input Capacitance			1000		PF
Output Impedance -			50		Ω
Package Type	SK605G(12.7X12.7X5.8mm)				

Comments

X Indicates parameter to be tested 100% in production

V TUNE	TUNING SENS. (MHz/V)	FREQUENCY(MHz)			POWER OUTPUT(dBm)			HARMONIC(dBc)		
		-55℃	+25℃	+85℃	-55℃	+25℃	+85℃	-55℃	+25℃	+85℃
1.0	5.2	107.8	107.3	106.9	10.1	9.4	8.9	-16.1	-19.3	-24.8
1.5	4.9	110.5	109.9	109.4	10.3	9.7	8.9	-17.0	-20.3	-25.7
2.0	4.9	113.1	112.4	111.8	10.3	9.8	9.0	-17.8	-21.1	-28.1
2.5	4.9	115.6	114.8	114.2	10.6	9.8	9.0	-19.0	-21.2	-29.4
3.0	4.9	118.1	117.3	116.6	10.6	10.0	9.2	-19.8	-23.2	-30.2
3.5	4.9	120.6	119.7	119.0	10.8	10.1	9.2	-20.9	-24.4	-31.9
4.0	4.9	123.1	122.2	121.5	10.8	10.1	9.2	-22.0	-25.9	-34.8
4.5	4.9	125.5	124.7	124.0	11.0	10.1	9.2	-23.2	-27.7	-39.7
5.0	4.9	127.9	127.1	126.4	11.1	10.2	9.2	-24.3	-29.7	-46.5
5.5	4.9	130.4	129.6	128.9	11.0	10.0	9.2	-25.5	-31.8	-53.1
6.0	4.8	132.8	132.0	131.3	10.9	10.0	9.1	-26.3	-33.9	-41.7
6.5	4.8	135.2	134.4	133.7	11.0	9.9	9.0	-26.7	-35.9	-37.9
7.0	4.6	137.6	136.8	136.0	10.9	9.8	8.8	-26.9	-35.9	-35.9
7.5	4.6	139.9	139.1	138.3	10.7	9.6	8.7	-16.9	-35.0	-34.7
8.0	4.4	142.1	141.3	140.6	10.6	9.3	8.4	-27.0	-34.8	-33.6
8.5	4.4	144.4	143.6	142.8	10.4	9.1	8.2	-26.8	-32.9	-33.1
9.0	4.1	146.6	145.7	144.9	10.3	9.0	8.1	-26.6	-32.1	-32.7

R&S FSUP Signal Source Analyzer						
Settings			Results		Spot Noise [Vtune 3.7 V]	
Signal Frequency:	124.809974 MHz	Tuning	Voltage	Frequency	1.000 kHz	-91.38 dBc/Hz
Signal Level:	9.92 dBm	Vmin	1.00 V	107.574 MHz	10.000 kHz	-132.04 dBc/Hz
Spot Noise Tuning	Harmonic 1	Vcurrent	3.67 V	120.385 MHz	100.000 kHz	-153.97 dBc/Hz
Internal Phase Det		Vmax	9.00 V	145.536 MHz	1.000 MHz	-167.21 dBc/Hz



Measurement Aborted

Date: 22.APR.2010 09:53:32

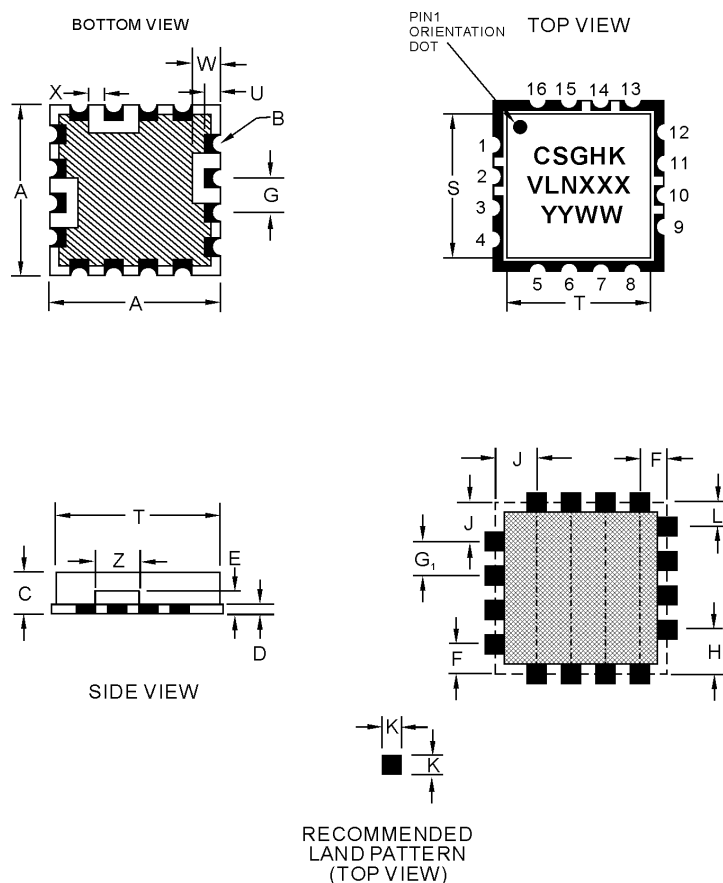
REVISIONS

NOTE. UNLESS OTHERWISE SPECIFIED:

1. THE METAL CASE IS GROUND
2. ALL HALF VIA CONTACTS ARE PLATED THRU FORM THE PAD ON THE TOP SIDE TO THE PAD ON THE BOTTOM SIDE OF THE BOARD.
3. HATCHED AREAS GROUND AND ARE COVERED WITH LPI SOLDER MASK OVER BARE COPPER. ALL CONTACT AREAS ARE PLATED. SIGNAL VIAS MAY BE LOCATED WITHIN GROUND PLANE.
4. SUBSTRATE MATERIAL: FR-4
5. XXXX REPRESENTS THE MODEL NUMBER.
6. YYWW IS THE DATA CODE.

PIN OUT FOR PLL	
PIN	APPLICATION
2	VT
10	RF OUT
14	VCC

ALL OTHER PINS ARE GROUND



SYMBOL	DIMENSION	
	MILLIMETERS	INCHES
A	12.7±0.25	0.50±0.010
B	R=0.50	R=0.019
C	5.80	0.228
D	0.99MAX	0.039MAX
E	1.75MAX	0.069MAX
F	2.16	0.085
G	2.54±0.08	0.100±0.003
G ₁	2.54	0.100
H	3.07	0.121
J	2.92	0.115
K	1.52	0.060
L	2.00	0.079
S	11.68	0.460
T	11.81	0.465
U	1.10	0.043
W	1.78	0.188
X	1.02	0.040
Z	3.49	0.137

	APPROVALS	DATA	 SK605G PACKAGE MECHANICAL PCB OUTLINE
DRAWN BY			
CHECKED BY			
PROCESS ENG			
QUALITY			