

SURFACE MOUNT MODEL VOLTAGE CONTROLLED OSCILLATOR

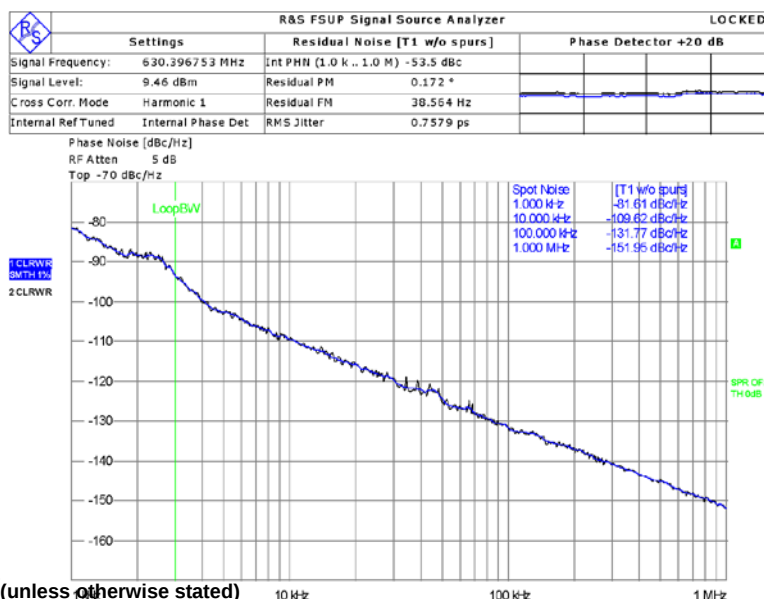
Frequency 450-810MHz

VL810N



FEATURES

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



Electrical Specifications, $T_A = +25^\circ\text{C}$, $V_{CC} = +12.0\text{V}$ (unless otherwise stated)

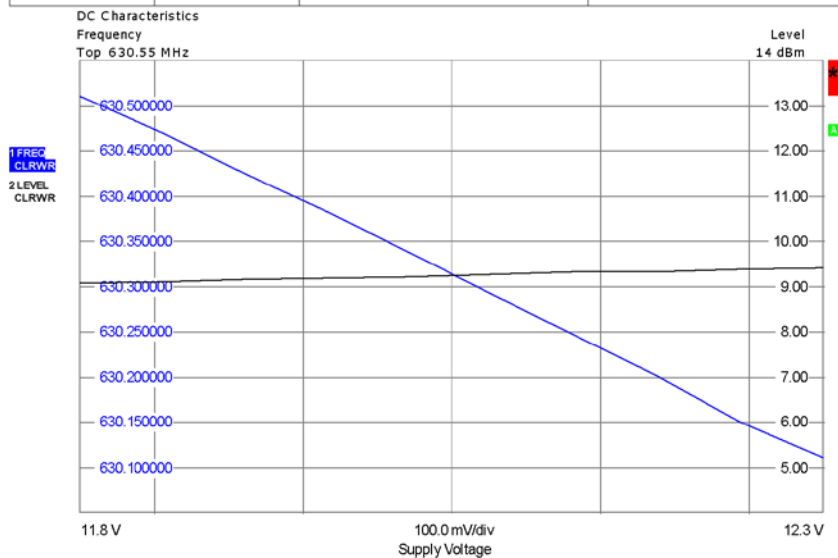
Parameter	Test Conditions	Min	Typ	Max	Units
Frequency Ranges		450		810	MHz
Tuning Voltage (V)		0.5		8.0	V
RF Output Power	450-810MHz	8.0		12.0	dBm
Supply Voltage (Vcc)		11.75	12	12.25	V
Supply Current (Icc)			23	27	mA
Phase Noise :					
	@10kHz Offset:		-108	-105	dBc/Hz
	@100kHz Offset:		-129	-126	dBc/Hz
Average Tuning Sensitivity	450-810MHz		58		MHz/V
Harmonic Outputs			-25		dBc
Operating Temperature Range		-40		+85	$^\circ\text{C}$
Tune Input Capacitance			82		PF
Output Impedance -			50		Ω
Package Type	SK605(12.7X12.7X4.3mm)				

Comments

X Indicates parameter to be tested 100% in production

V TUNE	TUNING SENS. (MHz/V)	FREQUENCY(MHz)			POWER OUTPUT(dBm)			HARMONIC(dBc)		
		-40℃	+25℃	+85℃	-40℃	+25℃	+85℃	-40℃	+25℃	+85℃
0.5	61.5	404.3	399.5	396.3	8.4	7.5	7.6	-20.3	-36.7	-18.3
1.0	58.9	433.0	429.8	425.0	9.9	9.7	9.3	-22.6	-47.1	-21.3
1.5	58.1	463.5	458.3	455.0	8.5	8.7	8.5	-20.9	-48.2	-22.0
2.0	56.4	490.8	486.5	481.5	9.2	8.9	8.4	-25.6	-39.7	-23.4
2.5	57.1	522.5	514.0	509.8	9.7	10.0	9.7	-28.5	-36.2	-25.7
3.0	59.6	550.0	543.8	539.0	8.7	8.7	8.6	-23.5	-31.6	-25.6
3.5	58.0	581.8	571.8	566.8	9.9	9.6	9.0	-32.0	-29.9	-26.2
4.0	60.4	610.0	602.5	598.3	9.4	9.6	9.3	-31.4	-29.4	-31.3
4.5	59.8	638.5	632.0	627.0	9.6	9.0	8.6	-27.2	-27.4	-27.5
5.0	58.5	671.0	662.0	656.3	10.3	10.4	9.8	-37.8	-41.2	-35.1
5.5	60.4	698.5	691.5	688.3	9.5	9.5	8.6	-29.7	-33.4	-31.0
6.0	61.9	724.0	720.0	716.8	10.8	9.6	8.8	-30.1	-29.4	-28.1
6.5	59.4	756.3	752.3	747.5	10.3	9.2	8.9	-39.2	-43.2	-32.1
7.0	55.8	783.0	779.3	774.8	9.5	8.8	8.1	-27.3	-30.1	-32.5
7.5	51.8	812.8	804.3	799.8	10.5	10.0	8.9	-30.5	-29.4	-29.5
8.0	52.1	840.0	832.8	829.8	9.5	9.2	8.0	-35.3	-44.7	-40.5

R&S FSUP Signal Source Analyzer				
Settings		Results		
Supply	Voltage	Frequency		Level
Vmin	11.75 V	630.510	MHz	9.07 dBm
Vcurrent	12.00 V	630.313	MHz	9.25 dBm
Vmax	12.25 V	630.110	MHz	9.41 dBm



Measurement Aborted

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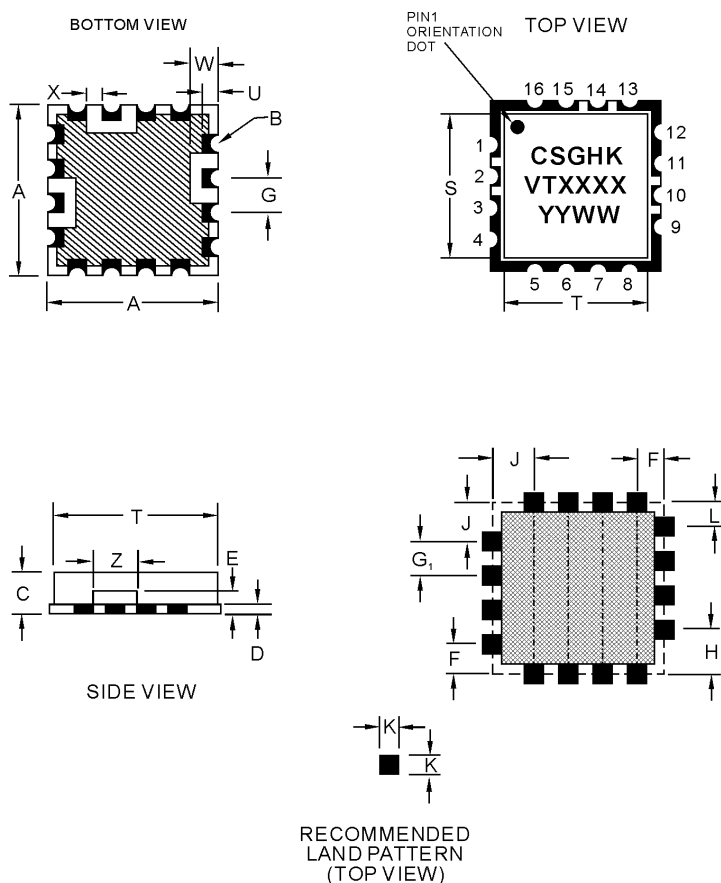
REVISIONS

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	4.3	0.169
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	 SK605 PACKAGE MECHANICAL PCB OUTLINE
DRAWN BY			
CHECKED BY			
PROCESS ENG			
QUALITY			