

SURFACE MOUNT MODEL VOLTAGE CONTROLLED OSCILLATOR

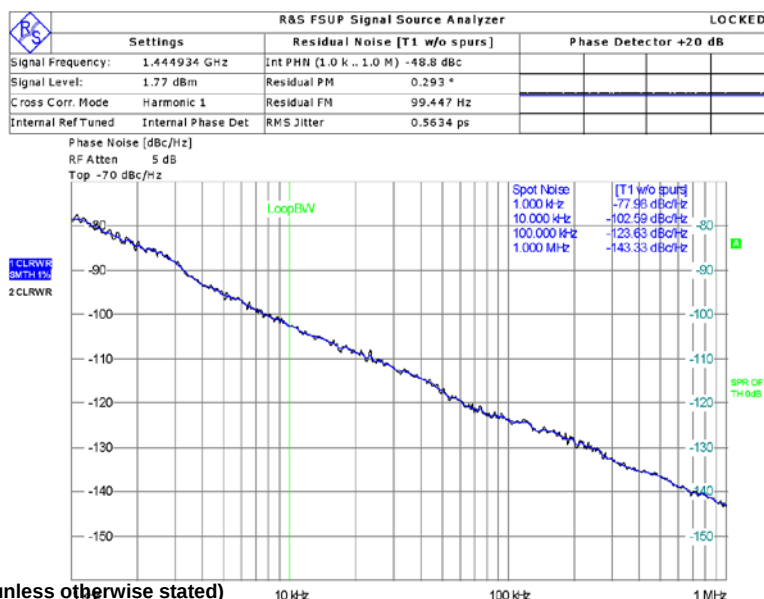
Frequency 1300-1590MHz

VL1590M



FEATURES

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



Electrical Specifications, $T_A = +25^\circ\text{C}$, $V_{CC} = +5.0\text{V}$ (unless otherwise stated)

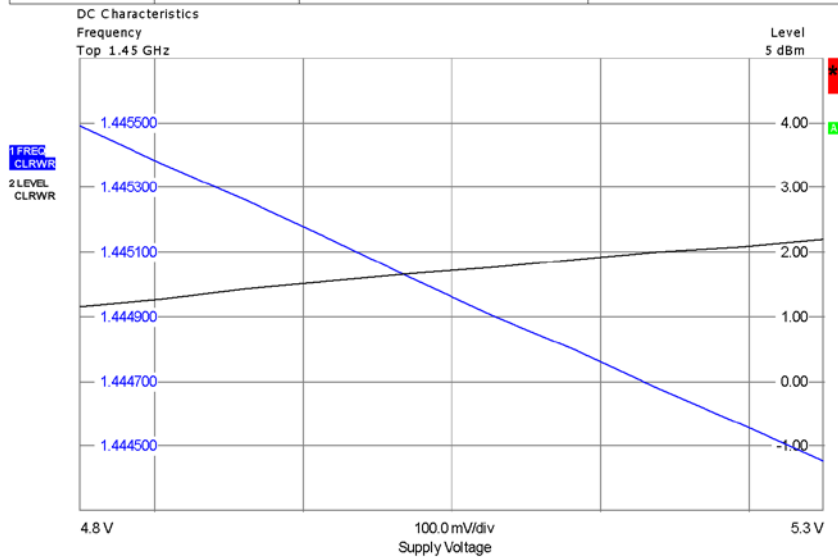
Parameter	Test Conditions	Min	Typ	Max	Units
Frequency Rangs		1300		1590	MHz
Tuning Voltage (V)		0.3		4.8	V
RF Output Power	1300-1590MHz	0.0		4.0	dBm
Supply Voltage (Vcc)		4.75	5	5.25	V
Supply Current (Icc)			20	23	mA
Phase Noise :					
	@10kHz Offset:		-102	-98	dBc/Hz
	@100kHz Offset:		-123	-119	dBc/Hz
Average Tuning Sensitivity	1300-1590MHz		4.5		MHz/V
Harmonic Outputs			87.1		dBc
OperatingTemperature Range		-40		+85	$^\circ\text{C}$
Tune Input Capacitance			22		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℃
0.3	92.8	1270.0	1250.4	1240.8	2.3	2.1	0.7	-11.7	-14.5	-17.8
0.5	91.7	1288.0	1269.5	1260.8	2.2	2.4	0.9	-11.9	-14.9	-18.6
1.0	85.8	1330.2	1314.4	1307.6	2.2	2.1	0.6	-12.1	-15.4	-19.0
1.5	83.7	1371.4	1355.8	1350.4	2.5	2.3	0.6	-12.8	-16.9	-20.4
2.0	86.9	1411.8	1398.6	1396.4	2.4	1.8	0.0	-13.3	-17.2	-20.0
2.5	89.2	1453.2	1442.4	1435.6	2.5	1.4	-0.1	-14.5	-17.6	-20.6
3.0	90.3	1499.4	1488.0	1480.0	1.5	0.8	-0.4	-15.1	-18.0	-20.8
3.5	90.9	1547.0	1532.8	1523.6	0.7	0.5	-0.5	-15.9	-19.0	-21.1
4.0	85.8	1591.6	1576.9	1566.0	0.3	0.4	-0.4	-20.1	-21.6	-22.1
4.5	80.5	1634.2	1617.9	1608.8	0.0	0.3	-0.4	-22.5	-24.2	-22.7
4.8	75.8	1658.0	1641.6	1632.0	0.0	0.4	-0.3	-26.5	-25.5	-22.3

R&S FSUP Signal Source Analyzer					
Settings			Results		
Supply	Voltage		Frequency		Level
Vmin	4.75	V	1.445	GHz	1.15 dBm
Vcurrent	5.00	V	1.445	GHz	1.70 dBm
Vmax	5.25	V	1.444	GHz	2.20 dBm



Measurement Aborted

Date: 18.DEC.2010 08:26:22

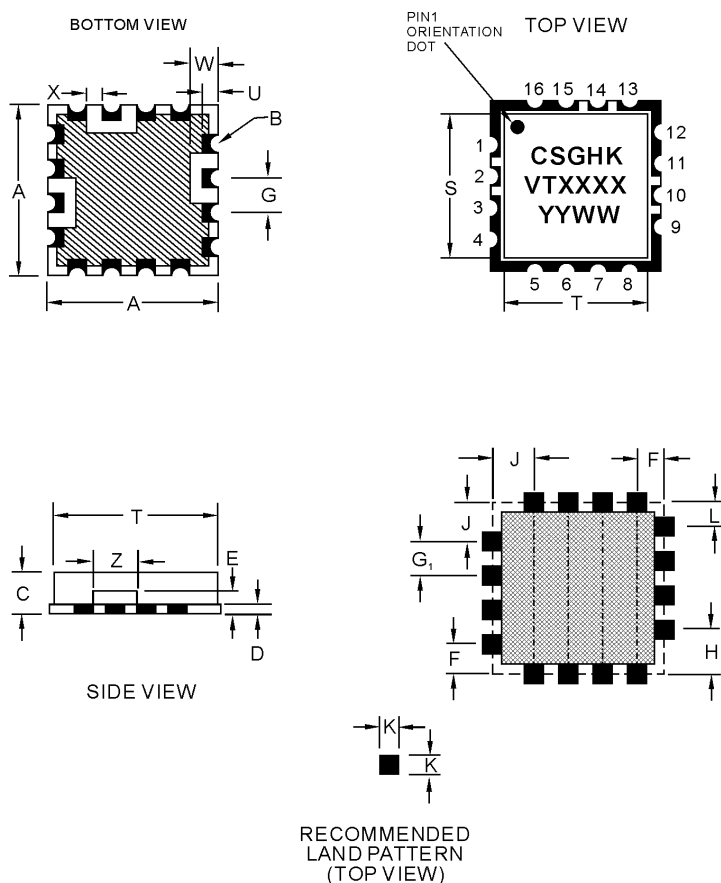
REVISIONS

NOTE. UNLESS OTHERWISE SPECIFIED:

1. THE METAL CASE IS GROUND
2. ALL HALF VIA CONTACTS ARE PLATED THRU FROM 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			