

SMD Voltage Controlled Oscillator

Frequency 225-500MHz

VL500M

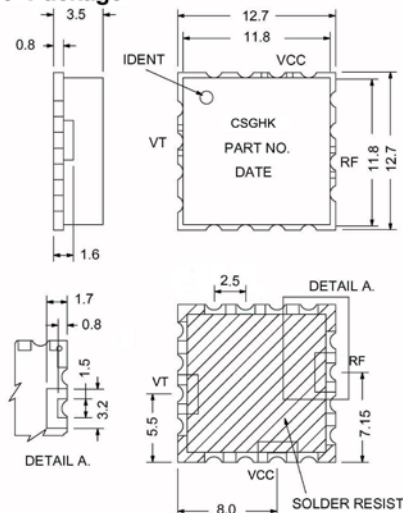
Features

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

Description

The VL500M is a fundamental single ended oscillator designed for use in cost sensitive wireless and telemetry applications. The device has been optimized by careful selection of the bipolar transistor and varactor diode for low phase noise and high linearity tuning characteristics.

SK605 Package



Electrical Specifications, $T_A = +25^{\circ}\text{C}$, $V_{CC} = +12\text{V}$ (unless otherwise stated)

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Frequency Rangs		MHz	225		500
Tuning Voltage (V)		V	0.5		16
RF Output Power	225-500MHz	dBm	+7.0		+10
Supply Voltage (VCC)		V	11.75		12.25
Supply Current (Icc)		mA		17	20
Phase Noise :					
	@10kHz Offset:	dBc/Hz		-102	-100
	@100kHz Offset:	dBc/Hz		-123	-120
Average Tuning Sensitivity	225-500MHz	MHz/V		30	
Harmonic Outputs		dBc		-10	
OperatingTemperature Range		$^{\circ}\text{C}$	-55		+85
Tune Input Capacitance		PF		100	

Comments

All specifications apply with a 50 ohm load impedance.

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Tuning Voltage (v)	Output Frequency (MHz)			Output Power (dBm)			Harmonic Suppression (dBc)		
	-55℃	+25℃	+85℃	-55℃	+25℃	+85℃	-55℃	+25℃	+85℃
0.5	210.5	207.9	205.0	9.2	9.2	8.8	-3.8	-4.1	-4.5
1.0	221.1	218.3	215.7	8.5	9.0	8.1	-3.0	-4.2	-4.6
2.0	238.8	235.9	233.1	8.2	8.5	7.2	-3.4	-3.9	-3.6
3.0	254.9	251.9	248.8	8.9	8.0	7.6	-4.6	-3.8	-4.9
4.0	270.8	267.5	264.1	9.3	7.8	8.4	-5.8	-4.2	-5.9
5.0	286.6	283.1	280.3	8.4	7.8	7.5	-5.0	-4.8	-6.0
6.0	304.0	300.1	296.5	8.2	7.8	6.8	-5.7	-5.5	-5.8
7.0	322.2	317.9	313.9	8.9	8.3	7.4	-7.6	-6.4	-7.0
8.0	341.7	337.1	333.1	8.8	8.6	7.8	-8.0	-7.7	-9.6
9.0	361.8	358.0	354.1	8.3	8.5	6.8	-7.8	-9.0	-8.5
10.0	383.4	379.5	375.3	9.0	8.3	7.0	-10.0	-9.7	-9.7
11.0	406.0	401.5	397.0	8.9	8.0	7.5	-11.1	-10.0	-11.1
12.0	428.1	423.4	418.7	8.5	8.0	6.8	-12.1	-11.1	-11.3
13.0	450.3	445.7	440.9	9.5	8.1	7.0	-12.4	-12.2	-12.7
14.0	474.4	469.0	463.9	9.1	8.2	7.4	-13.2	-13.5	-14.4
15.0	497.9	493.3	487.9	9.0	8.4	6.9	-14.7	-15.0	-15.3
16.0	522.4	517.6	511.7	9.4	8.5	7.3	-16.3	-16.7	-17.1