

SMD Voltage Controlled Oscillator

Frequency 490-540MHz

VT540M

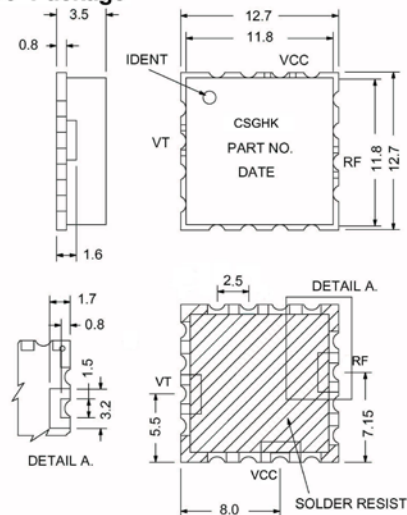
Features

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

Description

The VT540M 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, $T_A = +25^{\circ}\text{C}$, $V_{CC} = +5\text{V}$ (unless otherwise stated)

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Frequency Rangs		MHz	490		540
Tuning Voltage (V)		V	0.5		4.5
RF Output Power	490-540MHz	dBm	0.0		4.0
Supply Voltage (VCC)		V	4.75		5.25
Supply Current (Icc)		mA		15	20
Phase Noise :					
	@10kHz Offset:	dBc/Hz		-107	-104
	@100kHz Offset:	dBc/Hz		-128	-124
Average Tuning Sensitivity	490-540MHz	MHz/V		21	
Harmonic Outputs		dBc		-20	
OperatingTemperature Range		$^{\circ}\text{C}$	-45		+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)	Tuning Sensitivity (MHz/V)	Output Power (dBm)	Harmonic Suppression (dBc)
-55℃				
0.5	476.5		1.5	-23.4
1.0	487.4		1.7	-23.2
1.5	497.8		1.8	-22.9
2.0	507.9		2.0	-24.1
2.5	518.6		2.1	-25.3
3.0	529.5		2.3	-25.8
3.5	540.0		2.4	-25.8
4.0	550.5		2.4	-26.2
4.5	561.4		2.6	-26.1
+25℃				
0.5	473.3		1.0	-19.7
1.0	484.0		1.3	-20.8
1.5	494.2		1.5	-21.7
2.0	504.0		1.6	-21.6
2.5	514.4		1.8	-22.1
3.0	525.0		1.9	-23.5
3.5	535.3		2.0	-23.7
4.0	546.2		1.9	-23.4
4.5	557.1		1.9	-23.7
+85℃				
0.5	470.4		0.6	-15.8
1.0	481.2		0.7	-16.8
1.5	491.5		0.9	-17.9
2.0	501.3		1.0	-18.1
2.5	511.3		1.0	-18.4
3.0	522.1		1.0	-19.1
3.5	532.8		1.1	-19.5
4.0	543.5		1.0	-19.4
4.5	554.5		0.8	-19.8