

SMD Voltage Controlled Oscillator

Frequency 515-545MHz

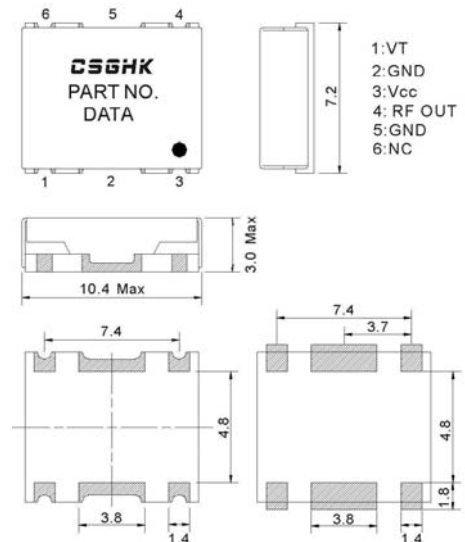
VP530M

Features

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

Description

The VP530M 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.



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	515		545
Tuning Voltage (V)		V	0.5		4.5
RF Output Power	515-545MHz	dBm	1.0		5.0
Supply Voltage (VCC)		V	4.75		5.25
Supply Current (Icc)		mA		24	27
Phase Noise :					
	@10kHz Offset:	dBc/Hz		-110	-107
	@100kHz Offset:	dBc/Hz		-131	-127
Average Tuning Sensitivity	515-545MHz	MHz/V		13.3	
Harmonic Outputs		dBc		-15	
OperatingTemperature Range		$^\circ\text{C}$	-40		+85
Tune Input Capacitance		PF		82	

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)
-40°C				
0.5	505.4	-	3.0	-14.7
1.0	512.0	-	3.0	-15.0
1.5	518.3	-	3.0	-15.2
2.0	524.6	-	2.9	-15.4
2.5	531.0	-	3.0	-15.7
3.0	537.6	-	3.1	-16.0
3.5	544.6	-	3.2	-16.3
4.0	552.0	-	3.2	-16.0
4.5	560.0	-	3.1	-16.0
+25°C				
0.5	503.8	-	2.1	-14.8
1.0	510.3	-	2.3	-15.3
1.5	516.3	-	2.3	-15.4
2.0	522.3	-	2.3	-15.6
2.5	528.4	-	2.3	-15.7
3.0	534.8	-	2.4	-16.0
3.5	541.4	-	2.6	-16.4
4.0	548.7	-	2.7	-16.6
4.5	556.5	-	2.6	-16.5
+85°C				
0.5	501.8	-	1.6	-15.0
1.0	508.3	-	1.8	-15.4
1.5	514.3	-	1.8	-15.6
2.0	520.1	-	1.9	-15.8
2.5	526.1	-	1.8	-16.0
3.0	532.4	-	1.9	-16.4
3.5	539.1	-	2.0	-16.8
4.0	546.4	-	2.0	-17.3
4.5	554.4	-	1.9	-17.3