

SMD Voltage Controlled Oscillator

Frequency 780-830MHz

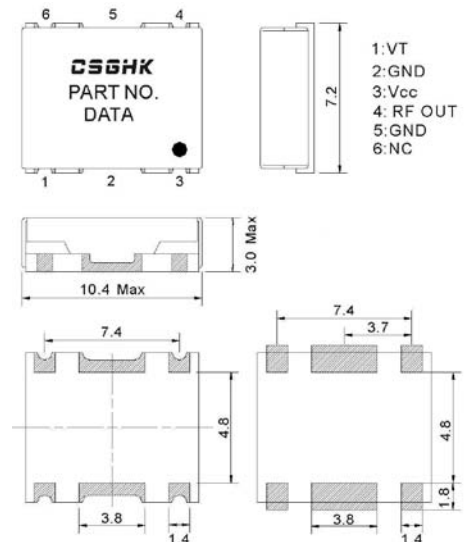
VP830M

Features

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

Description

The VP830M 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	780		830
Tuning Voltage (V)		V	0.5		4.5
RF Output Power	780-830MHz	dBm	1.0		5.0
Supply Voltage (VCC)		V	4.75		5.25
Supply Current (Icc)		mA		15	20
Phase Noise :					
	@10kHz Offset:	dBc/Hz		-112	-108
	@100kHz Offset:	dBc/Hz		-133	-130
Average Tuning Sensitivity	780-830MHz	MHz/V		20	
Harmonic Outputs		dBc		-13	-10
OperatingTemperature Range		$^{\circ}\text{C}$	-40		+85
Tune Input Capacitance		PF		47	

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℃				
0.5	769.6	-	2.3	-12.8
1.0	779.9	-	2.7	-13.2
1.5	789.7	-	2.9	-12.9
2.0	799.1	-	3.1	-13.3
2.5	808.6	-	3.4	-13.2
3.0	818.3	-	3.3	-13.6
3.5	828.6	-	3.0	-13.5
4.0	838.9	-	2.9	-14.2
4.5	849.3	-	2.7	-14.4
+25℃				
0.5	766.1	-	1.7	-12.7
1.0	776.5	-	2.0	-13.1
1.5	786.2	-	2.3	-12.9
2.0	795.6	-	2.6	-13.6
2.5	804.9	-	2.7	-13.5
3.0	815.0	-	2.7	-13.9
3.5	825.2	-	2.6	-14.0
4.0	835.5	-	2.4	-14.6
4.5	845.9	-	2.3	-14.8
+85℃				
0.5	763.0	-	1.2	-13.2
1.0	773.3	-	1.4	-13.4
1.5	783.2	-	1.7	-13.7
2.0	792.7	-	1.8	-13.9
2.5	802.4	-	1.9	-14.4
3.0	812.2	-	1.9	-14.7
3.5	822.5	-	1.8	-14.9
4.0	832.8	-	1.6	-15.4
4.5	843.2	-	1.5	-15.6