

SMD Voltage Controlled Oscillator

Frequency

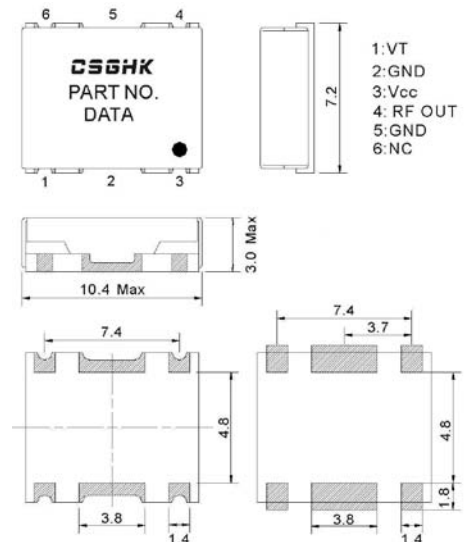
VP743M

Features

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

Description

The VP743M 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		743.5	
Tuning Voltage (V)		V	0.5		4.5
RF Output Power		dBm	0.0		4.0
Supply Voltage (VCC)		V	4.75		5.25
Supply Current (Icc)		mA		23	25
Phase Noise :					
	@10kHz Offset:	dBc/Hz		-113	-110
	@100kHz Offset:	dBc/Hz		-134	-130
Average Tuning Sensitivity		MHz/V		6.5	
Harmonic Outputs		dBc		-15	-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	735.4	-	1.0	-16.2
1.0	738.4	-	1.0	-16.0
1.5	741.4	-	1.1	-16.0
2.0	744.4	-	1.1	-15.9
2.5	747.4	-	1.1	-15.9
3.0	750.7	-	1.1	-16.2
3.5	754.1	-	1.1	-16.3
4.0	757.8	-	1.1	-16.3
4.5	761.8	-	1.1	-16.1
+25℃				
0.5	731.9	-	0.9	-16.0
1.0	734.9	-	1.0	-16.2
1.5	737.9	-	1.0	-16.3
2.0	740.8	-	1.1	-16.2
2.5	743.8	-	1.1	-16.1
3.0	746.9	-	1.0	-15.9
3.5	750.2	-	1.0	-16.1
4.0	753.9	-	1.0	-16.3
4.5	757.8	-	1.0	-16.4
+85℃				
0.5	729.5	-	0.4	-16.4
1.0	732.6	-	0.4	-16.5
1.5	735.5	-	0.5	-16.8
2.0	738.5	-	0.4	-16.8
2.5	741.3	-	0.4	-16.7
3.0	744.6	-	0.3	-16.7
3.5	747.9	-	0.3	-16.8
4.0	751.5	-	0.2	-17.1
4.5	755.6	-	0.2	-17.4