

SMD Voltage Controlled Oscillator

Frequency 107-138MHz

VT138M

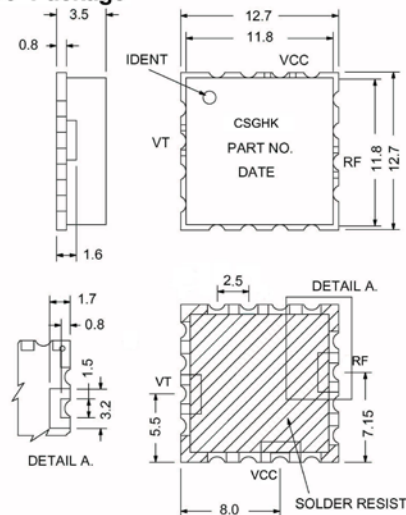
Features

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

Description

The VT138M 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	107		138
Tuning Voltage (V)		V	0.5		4.5
RF Output Power	107-138MHz	dBm	0.0		4.0
Supply Voltage (VCC)		V	4.75	5	5.25
Supply Current (Icc)		mA		15	18
Phase Noise :					
	@10kHz Offset:	dBc/Hz		-112	-108
	@100kHz Offset:	dBc/Hz		-132	-128
Average Tuning Sensitivity	107-138MHz	MHz/V		11.2	
Harmonic Outputs		dBc		-20	-15
OperatingTemperature Range		$^{\circ}\text{C}$	-55		+85
Tune Input Capacitance		PF		330	

Comments

All specifications apply with a 50 ohm load impedance.

SMD Voltage Controlled Oscillator**Frequency 107-138MHZ****VT138M**

Tuning Voltage (v)	Output Frequency (MHz)	Tuning Sensitivity (MHz/V)	Output Power (dBm)	Harmonic Suppression (dBc)
-55℃				
0.5	103.8	-	0.0	-24.0
1.0	109.1	-	0.3	-21.9
1.5	114.3	-	0.3	-21.8
2.0	119.7	-	0.4	-22.0
2.5	125.1	-	0.2	-21.9
3.0	130.9	-	-0.1	-21.2
3.5	136.9	-	-0.4	-20.6
4.0	143.0	-	-0.6	-21.3
4.5	149.1	-	-0.7	-21.8
+25℃				
0.5	100.9	-	1.0	-28.4
1.0	106.1	-	1.2	-24.7
1.5	111.4	-	1.3	-22.7
2.0	116.8	-	1.2	-22.0
2.5	122.3	-	1.1	-23.0
3.0	128.0	-	0.9	-22.9
3.5	133.9	-	0.6	-21.8
4.0	139.8	-	0.4	-23.2
4.5	146.0	-	0.2	-24.0
+85℃				
0.5	100.6	-	0.7	-31.5
1.0	105.9	-	1.1	-26.6
1.5	111.1	-	1.2	-24.7
2.0	116.3	-	1.2	-23.4
2.5	121.7	-	1.1	-23.9
3.0	127.4	-	0.9	-24.2
3.5	133.1	-	0.6	-23.3
4.0	138.8	-	0.4	-23.8
4.5	145.0	-	0.1	-25.4