

# Voltage Controlled Oscillator

# ROS-2150VW+ ROS-2150VW

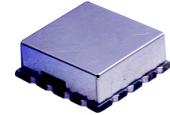
Wide Band 970 to 2150 MHz

### Features

- wide bandwidth, 970 to 2150 MHz
- low phase noise, -138 dBc/Hz at 1 MHz, typ.
- linear tuning, 30-70 MHz
- 5V operation

### Applications

- PCS
- cellular
- instrumentation



CASE STYLE: CK605  
PRICE: \$29.95 ea. QTY (5-49)

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

See our web site for RoHS Compliance methodologies and qualifications.

### Electrical Specifications

MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	TUNING VOLTAGE (V)		PHASE NOISE dBc/Hz SSB at offset frequencies: Typ.				PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	TUNING SENSITIVITY (MHz/V)	HARMONICS (dBc)		3 dB MODULATION BANDWIDTH (MHz)	DC OPERATING POWER	
	Min.	Max.		Min.	Max.	1 kHz	10 kHz	100 kHz	1 MHz				Typ.	Max.		Vcc (volts)	Current (mA) Max.
ROS2150VW(+)	970	2150	4.0	0.5	25	-70	-96	-118	-138	7.0	2.5	30-70	-15	—	6	5	25

### Pin Connections

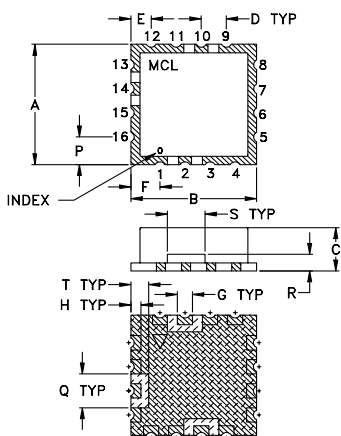
RFOUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

### Maximum Ratings

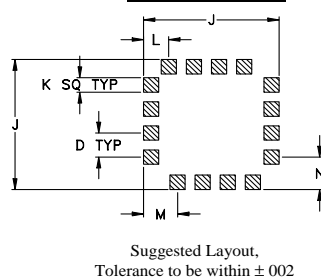
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+6V
Absolute Max. Tuning Voltage (Vtune)	+28V

all specifications: 50 ohm system

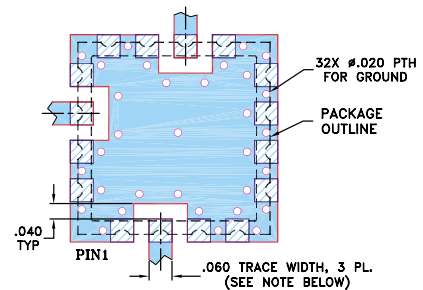
### Outline Drawing



### PCB Land Pattern



### Demo Board MCL P/N: TB-10 Suggested PCB Layout (PL-012)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

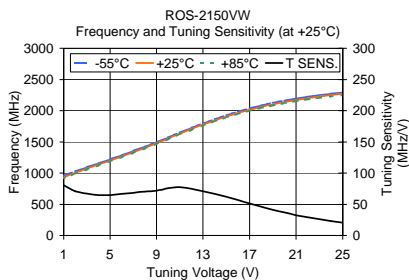
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### Outline Dimensions (inch/mm)

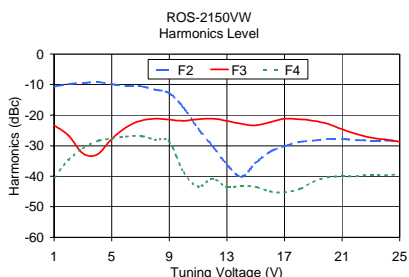
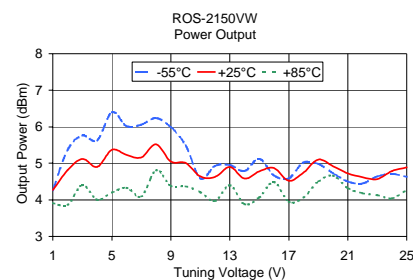
A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	wt.
.500	.500	.180	.100	.080	.115	.060	.040	.540	.060	.100	.135	.135	.115	.140	.070	.150	.070	grams
12.70	12.70	4.57	2.54	2.03	2.92	1.52	1.02	13.72	1.52	2.54	3.43	3.43	2.92	3.56	1.78	3.81	1.78	1.0

# Performance Curves

# ROS-2150VW+ ROS-2150VW



V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
1.00	80.73	955.42	934.09	916.09	4.26	4.27	3.91
2.00	70.90	1025.58	1004.99	989.25	5.37	4.81	3.86
3.00	67.06	1091.78	1072.04	1057.71	5.76	5.12	4.40
4.00	64.88	1156.07	1136.93	1123.57	5.63	4.90	4.00
5.00	64.91	1220.32	1201.83	1189.14	6.40	5.37	4.20
6.00	66.54	1286.42	1268.38	1255.89	6.02	5.23	4.33
7.00	68.49	1354.82	1336.87	1324.51	6.06	5.16	4.09
8.00	70.51	1424.80	1407.38	1395.27	6.24	5.52	4.81
9.00	71.72	1495.25	1479.10	1467.63	5.99	5.05	4.38
10.00	75.82	1571.08	1554.92	1542.78	5.49	5.01	4.37
11.00	77.42	1650.56	1632.35	1618.68	4.59	4.64	4.21
12.00	74.70	1725.84	1707.04	1692.78	4.93	4.63	3.97
13.00	71.07	1797.08	1778.12	1763.58	4.95	4.90	4.40
14.00	66.67	1864.07	1844.78	1829.93	4.79	4.58	3.88
15.00	61.89	1926.53	1906.68	1891.24	5.12	4.78	4.07
16.00	56.77	1984.03	1963.44	1947.21	4.67	4.87	4.49
17.00	51.35	2036.01	2014.80	1997.77	4.59	4.52	3.95
18.00	46.32	2082.83	2061.12	2043.30	5.02	4.75	4.06
19.00	41.30	2124.64	2102.42	2083.86	4.98	5.10	4.50
20.00	36.90	2161.79	2139.32	2120.07	4.73	4.92	4.66
21.00	32.63	2194.67	2171.95	2152.28	4.50	4.72	4.32
22.00	29.07	2224.07	2201.02	2180.90	4.45	4.62	4.18
23.00	26.05	2250.28	2227.06	2206.43	4.64	4.57	4.13
24.00	23.24	2273.51	2250.30	2229.32	4.71	4.79	4.04
25.00	20.51	2294.13	2270.81	2249.59	4.63	4.89	4.27



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
1.00	-10.67	-23.34	-40.50	1.36
2.00	-9.84	-26.67	-34.67	1.00
3.00	-9.50	-32.50	-31.00	0.76
4.00	-9.17	-32.84	-28.50	0.54
5.00	-9.83	-27.83	-27.67	0.38
6.00	-10.50	-24.00	-27.00	0.26
7.00	-10.50	-21.83	-26.83	0.05
8.00	-11.66	-21.16	-28.00	0.45
9.00	-12.83	-21.50	-28.67	0.85
10.00	-17.67	-21.83	-38.83	0.40
11.00	-24.50	-21.34	-43.34	0.37
12.00	-30.17	-21.17	-40.84	1.18
13.00	-36.16	-21.83	-43.50	2.00
14.00	-40.17	-22.84	-43.17	2.41
15.00	-35.67	-23.34	-43.50	2.21
16.00	-32.00	-22.33	-45.00	1.60
17.00	-30.17	-21.17	-45.33	0.72
18.00	-28.84	-21.34	-44.34	0.17
19.00	-28.34	-21.84	-41.84	1.02
20.00	-27.83	-22.83	-40.33	1.71
21.00	-27.83	-24.67	-40.00	2.33
22.00	-28.17	-26.17	-40.00	2.86
23.00	-28.33	-27.33	-39.50	3.38
24.00	-28.34	-28.00	-39.67	3.83
25.00	-28.50	-28.67	-39.33	4.18

