

Surface Mount 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)**

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Electrical Specifications

FREQUENCY (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.	Typ.	Min.	Max.	1 kHz	10 kHz	100 kHz	1 MHz	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Vcc (volts)	Current (mA) Max.
970	2150	4.0	0.5	25	-70	-96	-118	-138	7.0	2.5	30-70	-15	—	6	5	25

Pin Connections

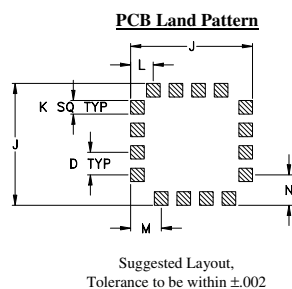
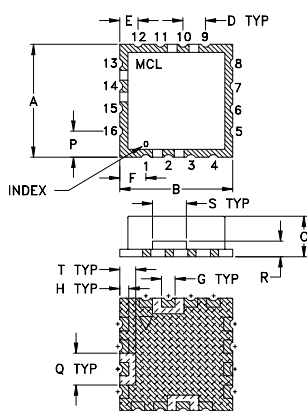
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

Maximum Ratings

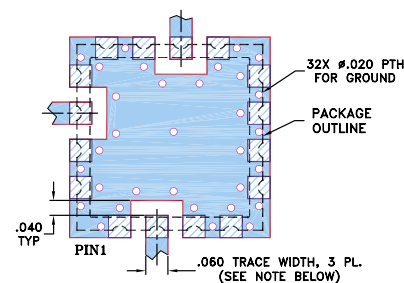
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+6V
Absolute Max. Tuning Voltage (Vtune)	+28V

all specifications: 50 ohm system

Outline Drawing



Demo Board MCL PIN: 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
.500	.500	.180	.100	.080	.115	.060	.040	.540	.060
12.70	12.70	4.57	2.54	2.03	2.92	1.52	1.02	13.72	1.52
L	M	N	P	Q	R	S	T	wt.	
.100	.135	.135	.115	.140	.070	.150	.070	grams	
2.54	3.43	3.43	2.92	3.56	1.78	3.81	1.78	1.0	



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



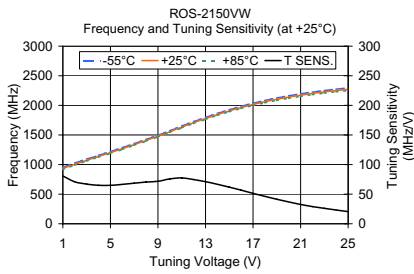
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RF/IF MICROWAVE COMPONENTS

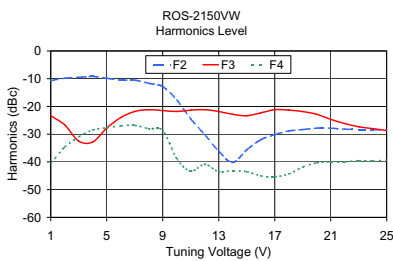
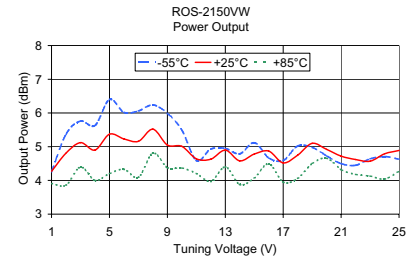
REV. D
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ROS-2150VW+ ROS-2150VW

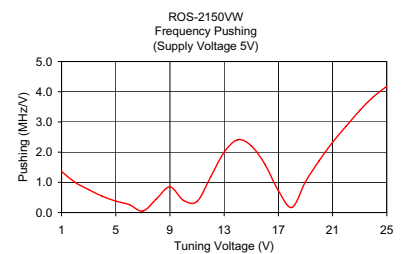
Performance Data & Curves



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



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