Surface Mount

Voltage Controlled Oscillator

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 has been added in order to identify 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 dBr (MHz)	PUSHING (MHz/V)	TUNING SENSITIVITY (MHz/V)	HARMONICS (dBc)		3 dB MODULATION BANDWIDTH (MHz)	DC OPERATING POWER	
					1 kHz	10 kHz	100 kHz	1 MHz							Vcc (volts)	Current (mA) Max.
Min.	Max.	Typ.	Min.	Max.					Typ.	Typ.	Typ.	Typ.	Max.	Typ.		
970	2150	4.0	0.5	25	-70	-96	-118	-138	7.0	2.5	30-70	-15	—	6	5	25

Pin Connections

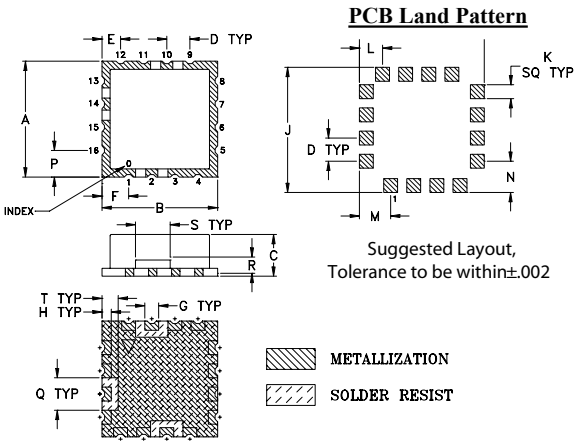
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

Maximum Ratings

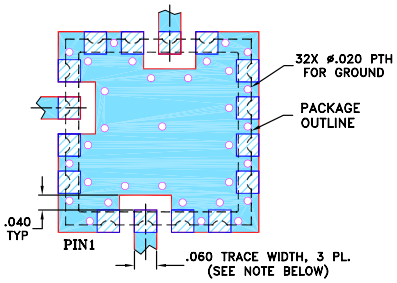
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+6V
Absolute Max. Tuning Voltage (Vtune)	+28V

all specifications: 50 ohm system
Permanent damage may occur if any of these limits are exceeded.

Outline Drawing



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

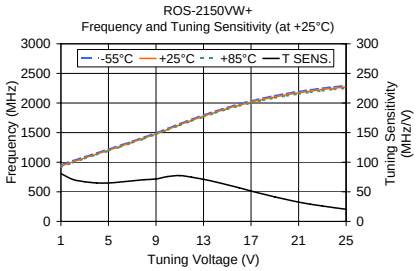
Outline Dimensions (inch / mm)

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

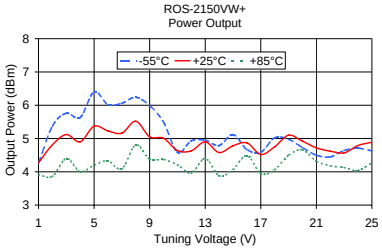
REV. D
M108294
ED-8176C/1
ROS-2150VW+
MM/TD/CP/AM
090826

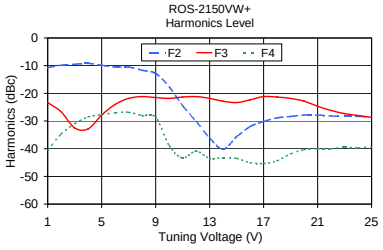
Performance Data & Curves

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