

Surface Mount

Voltage Controlled Oscillator

ROS-2150VW+

Low Noise 970 to 2150 MHz

Features

- wide bandwidth, 970 to 2150 MHz
- low phase noise, -142 dBc/Hz typ. @ 1 MHz offset
- low pushing
- low pulling
- 5V operation

Applications

- PCS
- cellular
- instrumentation



Generic photo used for illustration purposes only

CASE STYLE: CK605

+RoHS Compliant

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

Electrical Specifications

MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies, kHz				TUNING				NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER			
	Min.	Max.		Typ.	1	10	100	1000	VOLTAGE RANGE (V)	SENSITIVITY (MHz/V)	PORT CAP (pF)		3 dB MODULATION BANDWIDTH (MHz)	Typ.			Max.	Vcc (volts)	Current (mA)	
ROS-2150VW+	970	2150	+4	-74	-101	-122	-142	0.5	25	25	- 80	135	15	-90	-22	—	3	1	5	27

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

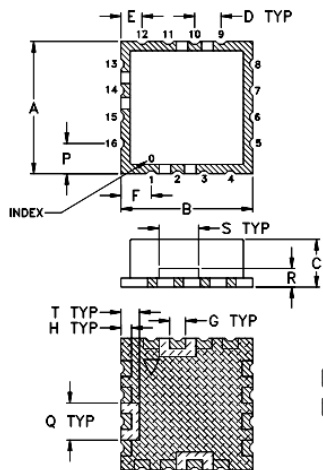
Permanent damage may occur if any of these limits are exceeded.

Tape & Reel: F37

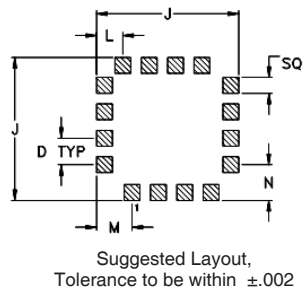
7" Reels with 10, 20, 50, 100 devices
13" Reels with 200, 500 devices

Environmental Ratings: ENV65

Outline Drawing

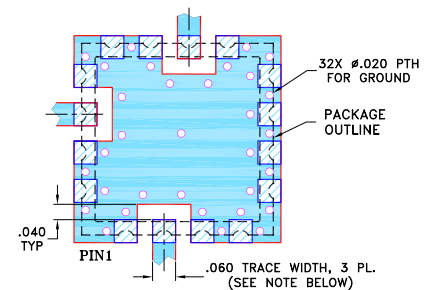


PCB Land Pattern



METALLIZATION
 SOLDER RESIST

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 BOTTOM 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

Notes

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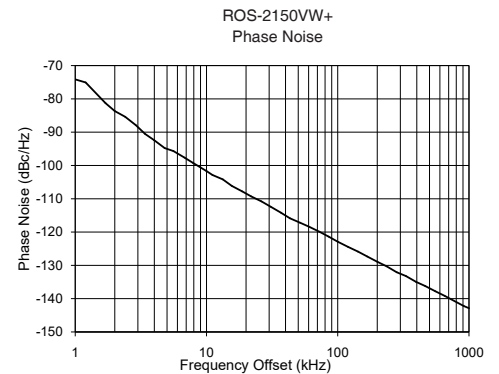
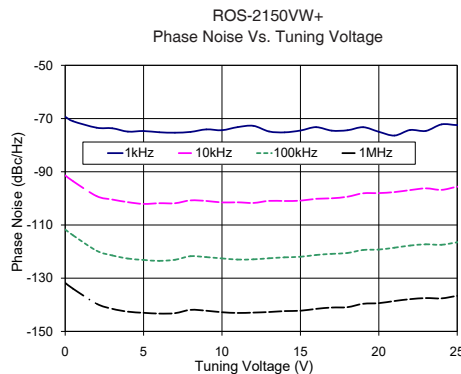
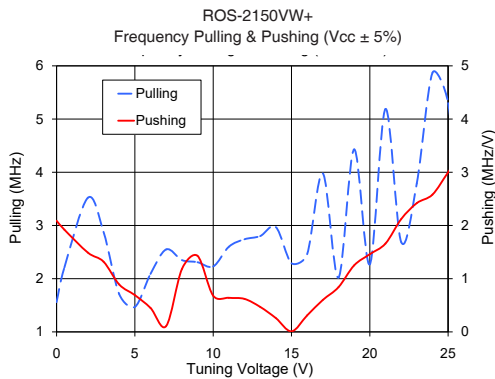
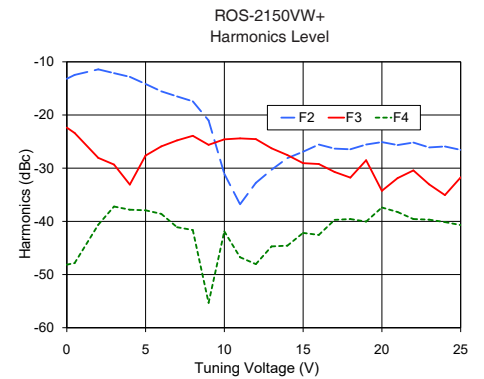
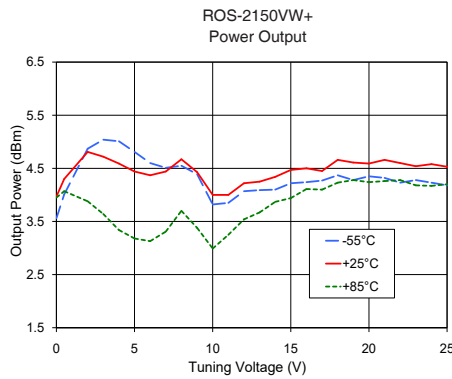
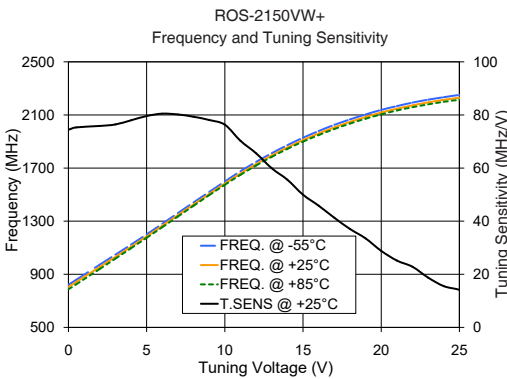
www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

Performance Data & Curves*

ROS-2150VW+

V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			Icc (mA)	HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ. PULL (MHz)	PHASE NOISE (dBc/Hz) at offsets				FREQ OFFSET (kHz)	PHASE NOISE at 1560 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	74.41	820.8	804.3	786.8	3.56	3.97	3.95	22.20	-13.2	-22.4	-48.1	2.09	1.56	-69.33	-91.3	-111.7	-131.7	1.0	-74.15
0.50	75.30	858.5	841.5	824.1	4.01	4.30	4.07	22.34	-12.5	-23.4	-47.9	1.92	2.21	-71.01	-93.5	-113.9	-134.0	2.4	-85.39
2.00	75.85	972.1	954.9	939.6	4.87	4.81	3.88	22.58	-11.4	-28.1	-40.6	1.49	3.52	-73.44	-99.1	-119.7	-139.6	4.0	-92.44
3.00	76.41	1047.1	1030.8	1017.5	5.04	4.72	3.64	22.54	-12.1	-29.3	-37.2	1.32	2.88	-73.65	-100.4	-121.4	-141.5	6.8	-97.65
5.00	79.59	1200.5	1185.2	1174.5	4.81	4.44	3.18	22.38	-14.2	-27.6	-37.9	0.69	1.47	-74.68	-102.1	-123.1	-143.0	10.0	-101.67
7.00	80.17	1360.8	1345.2	1335.1	4.51	4.44	3.31	22.27	-16.5	-24.8	-41.1	0.11	2.55	-75.30	-101.8	-123.1	-143.2	11.1	-102.87
8.00	79.30	1441.2	1425.4	1415.8	4.55	4.67	3.70	22.23	-17.4	-23.9	-41.6	1.18	2.35	-75.00	-100.8	-121.7	-141.9	21.9	-109.30
10.00	76.31	1598.4	1582.8	1573.7	3.82	4.00	2.99	22.10	-31.1	-24.6	-41.9	0.68	2.23	-74.38	-101.5	-122.6	-142.8	36.8	-114.15
11.00	70.26	1675.8	1659.1	1649.1	3.85	4.00	3.25	22.15	-36.8	-24.4	-46.8	0.64	2.60	-73.22	-101.5	-123.0	-143.1	60.7	-118.43
12.00	65.57	1745.9	1729.3	1719.1	4.07	4.22	3.54	22.25	-32.8	-24.5	-48.1	0.62	2.74	-72.73	-101.7	-122.9	-142.9	85.2	-121.36
14.00	55.60	1872.2	1854.8	1843.8	4.10	4.34	3.87	22.31	-28.1	-27.5	-44.6	0.26	2.97	-75.18	-101.0	-122.2	-142.4	100.0	-122.89
15.00	49.95	1928.1	1910.4	1898.8	4.22	4.47	3.94	22.35	-26.9	-29.1	-42.2	0.01	2.29	-74.50	-100.9	-122.0	-142.2	142.9	-125.88
17.00	41.26	2025.0	2006.2	1993.7	4.27	4.45	4.10	22.35	-26.3	-30.7	-39.7	0.60	3.98	-74.54	-100.0	-120.8	-141.0	167.8	-127.34
18.00	37.06	2066.0	2047.5	2034.9	4.37	4.66	4.23	22.38	-26.5	-31.8	-39.6	0.84	2.02	-74.40	-99.4	-120.5	-140.9	200.6	-128.93
19.00	33.49	2103.8	2084.5	2071.2	4.28	4.61	4.28	22.33	-25.6	-28.5	-40.0	1.25	4.43	-73.24	-98.1	-119.4	-139.6	281.6	-132.06
20.00	28.81	2137.5	2118.0	2104.2	4.35	4.59	4.24	22.32	-25.1	-34.3	-37.4	1.46	2.27	-74.96	-98.0	-119.2	-139.4	330.7	-133.21
21.00	25.15	2166.2	2146.8	2133.3	4.32	4.66	4.26	22.29	-25.7	-31.9	-38.3	1.66	5.19	-76.38	-97.6	-118.5	-138.6	464.2	-136.20
23.00	18.74	2214.9	2194.8	2179.6	4.28	4.54	4.18	22.22	-26.1	-33.1	-39.7	2.42	3.79	-74.64	-96.2	-117.3	-137.5	554.9	-137.79
24.00	15.53	2233.6	2213.5	2198.7	4.23	4.58	4.17	22.21	-25.9	-35.1	-40.1	2.58	5.87	-72.18	-96.8	-117.4	-137.6	914.6	-142.22
25.00	14.13	2250.6	2229.1	2214.3	4.18	4.53	4.20	22.16	-26.6	-31.7	-40.7	3.00	5.30	-72.46	-95.6	-116.5	-136.7	1000.0	-142.86

*at 25°C unless mentioned otherwise



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