

# Voltage Controlled Oscillator

## ROS-1700W+

Wide Band 770 to 1700 MHz



CASE STYLE: CK605

### Features

- Very wide bandwidth 770 to 1700 MHz
- High power output, +9dBm typ.
- Low phase noise, -141dBc/Hz typ. at 1MHz
- Aqueous washable

### Applications

- Test equipment
- Cellular
- Instrumentation

**+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)	SENSI- TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)		Typ.	Typ.			Typ.	Typ.	Vcc (volts)	Current (mA)
ROS-1700W+	770	1700	+9	-72	-99	-120	-141	1	24	26-65	70	50	-90	-25	-9	7	0.7	12	35		

### Pin Connections

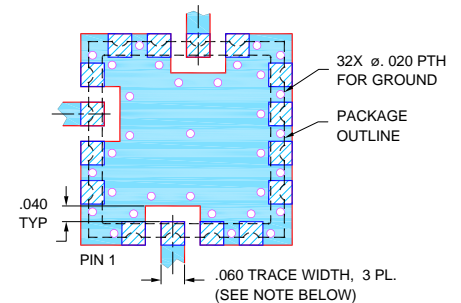
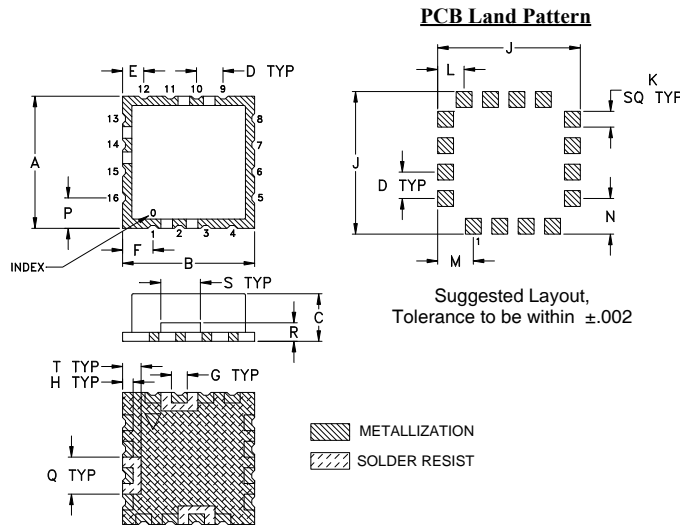
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

### Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	14.5V
Absolute Max. Tuning Voltage (Vtune)	30.0V
All specifications	50 ohm system

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

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



- NOTES:**
1. TRACE WIDTH IS SHOWN FOR RF4 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

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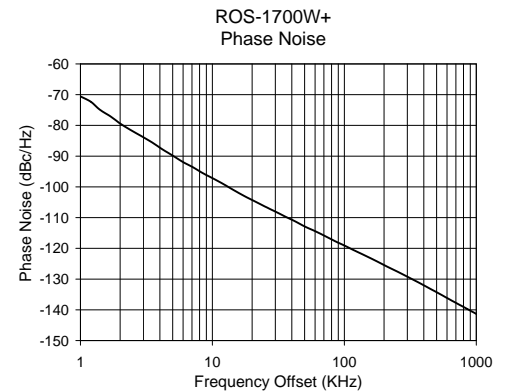
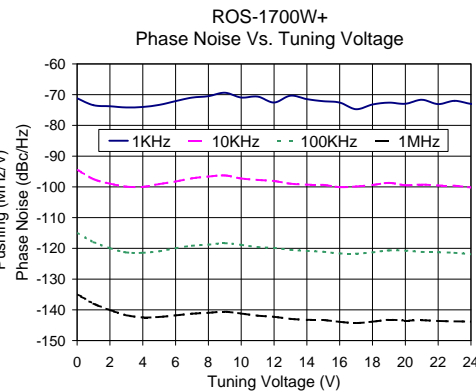
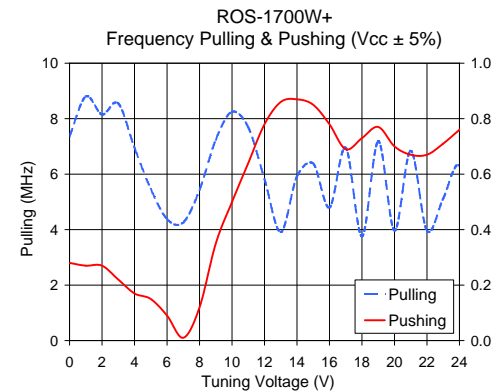
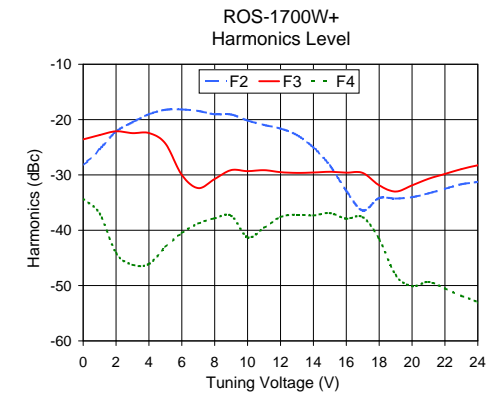
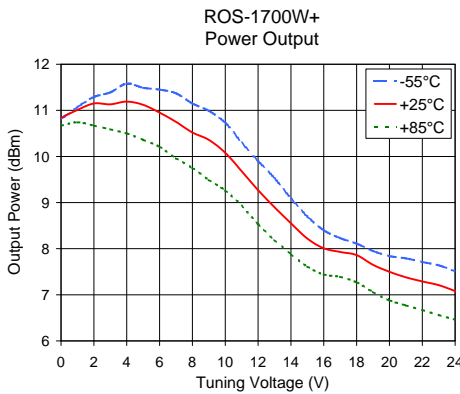
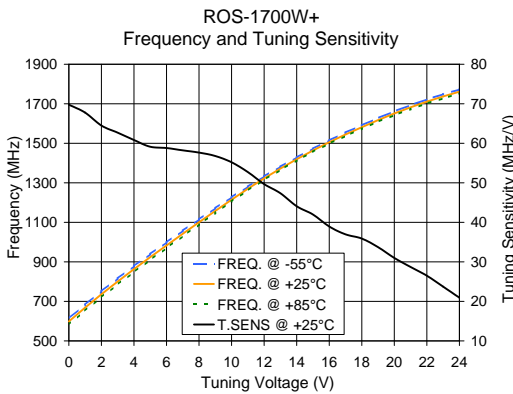


# Performance Data & Curves\*

# ROS-1700W+

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 1235 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	69.78	613.4	598.5	582.7	10.81	10.84	10.67	27.24	-28.3	-23.6	-34.3	0.28	7.36	-71.2	-94.4	-114.9	-134.9	1.0	-70.57
1.00	67.78	683.1	668.3	653.1	11.07	11.01	10.74	27.31	-25.3	-22.8	-37.0	0.27	8.80	-73.4	-97.5	-118.0	-138.0	2.0	-79.38
2.00	64.49	750.9	736.1	720.9	11.29	11.15	10.67	27.39	-22.2	-22.1	-44.1	0.27	8.15	-73.8	-98.9	-120.0	-140.1	3.5	-85.57
3.00	62.68	815.7	800.6	785.8	11.39	11.13	10.59	27.47	-20.5	-22.5	-46.2	0.22	8.55	-74.2	-99.9	-121.3	-141.7	6.0	-91.93
4.00	60.83	878.6	863.2	848.8	11.58	11.19	10.50	27.57	-19.0	-22.4	-46.1	0.17	6.95	-74.0	-100.0	-121.5	-142.5	8.5	-95.59
6.00	58.80	998.8	983.2	970.1	11.45	10.95	10.21	27.75	-18.2	-30.0	-40.5	0.09	4.38	-72.1	-98.3	-120.0	-141.8	10.0	-97.15
8.00	57.65	1115.0	1100.2	1088.9	11.15	10.52	9.75	27.82	-19.0	-30.7	-37.8	0.12	5.43	-70.5	-96.6	-118.8	-141.0	20.8	-104.64
9.00	56.77	1171.7	1157.9	1147.8	10.99	10.36	9.49	27.80	-19.1	-29.1	-37.4	0.35	7.24	-69.4	-96.3	-118.3	-140.6	35.5	-109.63
10.00	55.20	1226.7	1214.6	1205.9	10.73	10.08	9.26	27.80	-20.2	-29.3	-41.3	0.50	8.25	-70.9	-97.3	-118.9	-141.2	60.7	-114.51
11.00	52.71	1280.7	1269.8	1262.0	10.30	9.68	8.93	27.77	-21.0	-29.1	-39.6	0.64	7.69	-70.6	-97.7	-119.6	-141.9	86.7	-117.83
12.00	49.67	1332.6	1322.6	1315.3	9.90	9.27	8.53	27.72	-21.6	-29.5	-37.6	0.78	5.82	-72.5	-98.1	-119.9	-142.3	100.0	-119.08
13.00	47.37	1381.4	1372.2	1365.4	9.53	8.90	8.19	27.68	-22.8	-29.6	-37.2	0.86	3.91	-70.3	-99.0	-120.5	-142.9	148.1	-122.62
14.00	44.06	1428.4	1419.6	1412.8	9.09	8.55	7.88	27.64	-25.0	-29.6	-37.3	0.87	5.92	-71.5	-99.3	-120.8	-143.2	177.0	-124.27
15.00	41.98	1472.5	1463.7	1456.7	8.70	8.22	7.61	27.62	-28.3	-29.4	-36.9	0.85	6.38	-72.1	-99.3	-121.1	-143.3	211.6	-125.97
16.00	38.94	1514.7	1505.6	1498.2	8.40	8.01	7.44	27.61	-32.9	-29.6	-37.9	0.78	4.80	-72.6	-100.1	-121.7	-143.9	302.4	-129.29
18.00	35.89	1591.0	1581.5	1573.7	8.11	7.86	7.27	27.61	-34.2	-31.9	-41.6	0.73	3.76	-73.2	-99.4	-121.3	-143.9	361.5	-131.00
20.00	30.98	1661.7	1651.1	1642.4	7.84	7.50	6.88	27.58	-34.0	-31.9	-50.1	0.70	3.97	-73.0	-99.5	-120.7	-143.5	507.5	-134.41
21.00	28.70	1693.0	1682.1	1673.0	7.79	7.38	6.77	27.57	-33.3	-30.7	-49.3	0.67	6.84	-71.7	-99.2	-121.2	-143.4	606.7	-136.26
22.00	26.49	1721.9	1710.8	1701.5	7.71	7.29	6.67	27.57	-32.5	-29.8	-50.5	0.67	3.96	-73.1	-99.5	-121.3	-143.6	851.6	-139.70
24.00	20.96	1772.2	1761.0	1751.4	7.51	7.08	6.46	27.56	-31.3	-28.3	-53.1	0.76	6.31	-73.0	-100.2	-121.9	-143.8	1000.0	-141.33

\*at 25°C unless mentioned otherwise



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