

# Surface Mount Voltage Controlled Oscillator

## ROS-1700W+

### Wide Band 770 to 1700 MHz

#### Features

- very wide band, 770 to 1700 MHz
- linear tuning sensitivity, 26-60 MHz/V typ.
- low phase noise, -140 dBc/Hz at 1 MHz offset, typ.
- aqueous washable

#### Applications

- test equipment
- cellular
- instrumentation



CASE STYLE: CK605  
PRICE: \$24.95 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 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.
770	1700	8.0	1.0	24	-73	-100	-121	-140	9.0	0.4	26-60	-25	-13	11.0	12	40

#### Pin Connections

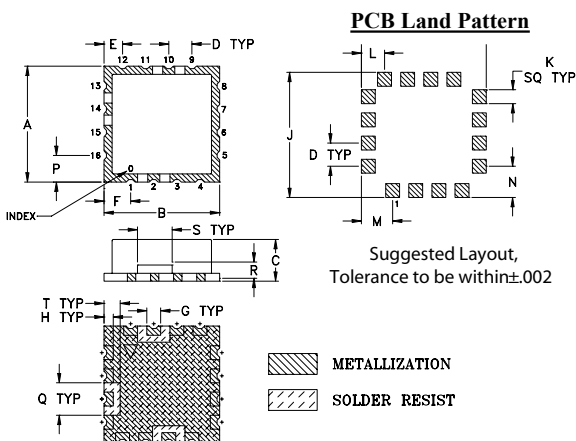
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

#### Maximum Ratings

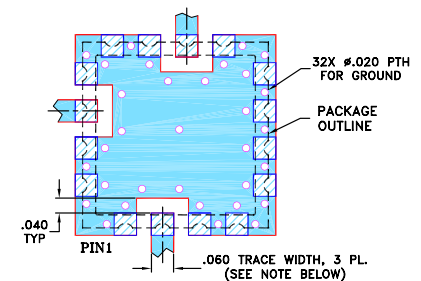
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+15V
Absolute Max. Tuning Voltage (Vtune)	+30V

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

#### 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	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

**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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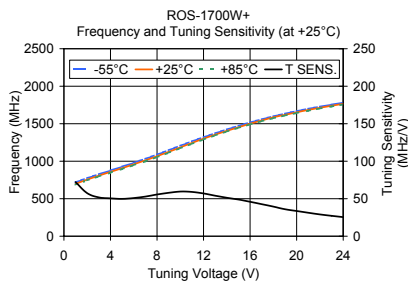
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For detailed performance specs & shipping online see web site

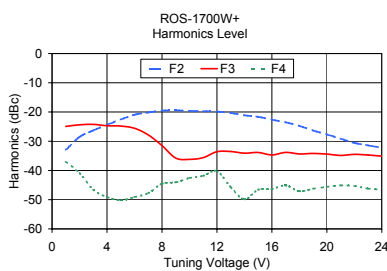
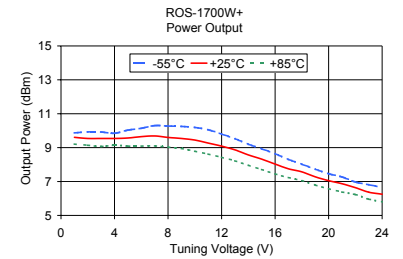
REV. D  
M121747  
ED-4628  
ROS-1700W+  
MM/TD/CP/AM  
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# Performance Data & Curves

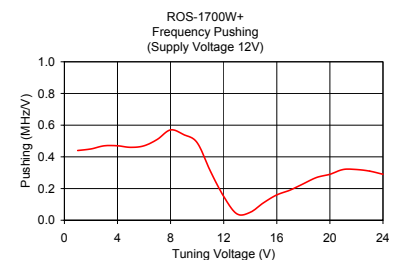
# ROS-1700W+



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	72.21	717.99	698.31	686.70	9.87	9.61	9.21
2.00	57.41	774.24	755.73	744.68	9.93	9.54	9.14
3.00	51.80	825.68	807.53	796.55	9.92	9.54	9.07
4.00	50.48	876.46	858.01	846.82	9.85	9.54	9.14
5.00	49.81	926.86	907.82	896.43	10.03	9.57	9.09
6.00	50.92	978.23	958.74	946.84	10.14	9.65	9.09
7.00	52.81	1031.26	1011.54	999.24	10.30	9.69	9.10
8.00	55.62	1087.44	1067.16	1054.55	10.27	9.60	9.03
9.00	57.92	1146.06	1125.08	1112.31	10.25	9.54	8.95
10.00	59.59	1205.42	1184.67	1172.03	10.19	9.45	8.79
11.00	59.04	1263.98	1243.71	1231.35	10.05	9.27	8.62
12.00	56.99	1319.63	1300.70	1289.01	9.80	9.09	8.43
13.00	53.96	1372.27	1354.66	1343.65	9.53	8.87	8.22
14.00	51.27	1422.56	1405.93	1395.45	9.20	8.57	7.96
15.00	48.93	1471.01	1451.86	1444.45	8.93	8.32	7.71
16.00	45.89	1516.40	1500.75	1490.55	8.64	8.03	7.45
17.00	42.66	1558.84	1543.41	1533.21	8.30	7.75	7.24
18.00	39.47	1597.98	1585.88	1572.71	8.02	7.57	7.05
19.00	36.01	1633.81	1618.89	1608.74	7.73	7.28	6.79
20.00	33.62	1667.41	1652.51	1642.26	7.46	7.05	6.58
21.00	31.30	1698.53	1683.81	1673.57	7.27	6.87	6.38
22.00	29.01	1727.54	1712.82	1702.64	6.97	6.64	6.23
23.00	27.20	1754.81	1740.02	1729.73	6.81	6.37	5.96
24.00	25.41	1780.22	1765.43	1755.05	6.66	6.25	5.80



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
1.00	-32.97	-24.94	-37.01	0.44
2.00	-28.53	-24.38	-40.92	0.45
3.00	-26.31	-24.24	-46.58	0.47
4.00	-24.39	-24.70	-49.09	0.47
5.00	-22.59	-24.80	-50.20	0.46
6.00	-20.94	-25.58	-49.09	0.47
7.00	-20.15	-27.83	-47.77	0.51
8.00	-19.53	-31.49	-44.55	0.57
9.00	-19.44	-35.77	-44.03	0.54
10.00	-19.61	-36.21	-42.59	0.49
11.00	-19.74	-35.63	-41.85	0.31
12.00	-19.84	-33.60	-40.22	0.15
13.00	-20.33	-33.52	-45.70	0.04
14.00	-21.14	-34.10	-49.94	0.05
15.00	-21.65	-33.86	-46.61	0.11
16.00	-22.64	-34.68	-46.33	0.16
17.00	-23.53	-33.82	-45.14	0.19
18.00	-24.77	-34.36	-47.10	0.23
19.00	-26.34	-34.18	-46.26	0.27
20.00	-27.68	-34.39	-45.61	0.29
21.00	-29.10	-34.85	-45.12	0.32
22.00	-30.55	-34.50	-45.32	0.32
23.00	-31.41	-34.70	-46.21	0.31
24.00	-32.25	-35.12	-46.58	0.29



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