

# Voltage Controlled Oscillator

## ROS-1707-119+

### Wide Band 1033 to 1707 MHz

#### Features

- Linear tuning characteristics
- 0.5-22V tuning voltage range
- Aqueous washable

#### Applications

- Digital TV
- Frequency synthesizers
- Cellular



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

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 <sub>r</sub> (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.			Max.	Typ.	Max.	V <sub>cc</sub> (volts)	Current (mA)
	Min.	Max.	Typ.	1	10	100	1000	Min.	Max.	Typ.	Typ.	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Typ.	Max.			
ROS-1707-119+	1033	1707	+8	-74	-100	-121	-142	0.5	22	32	- 59	60	100	-90	-15	-	10.5	2	10	35		

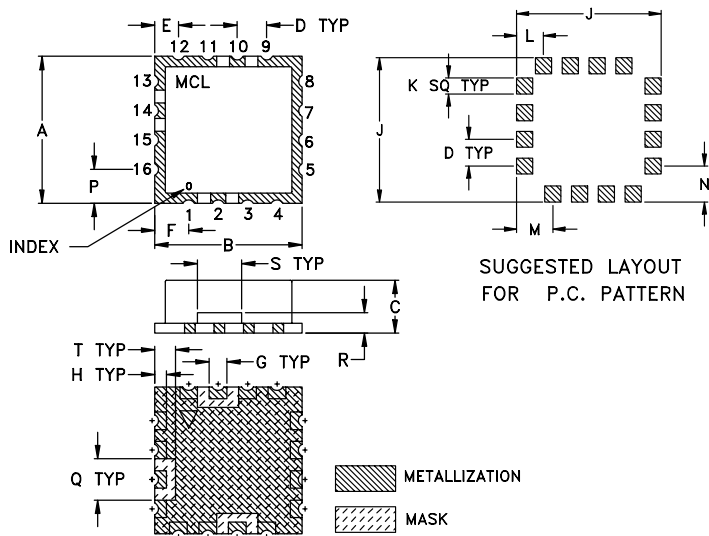
#### Pin Connections

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

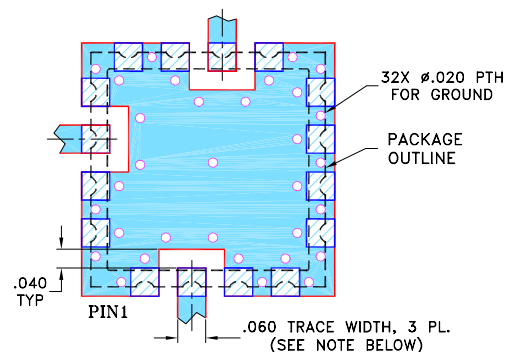
#### Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	12V
Absolute Max. Tuning Voltage (Vtune)	24V
All specifications	50 ohm system

#### 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

# Performance Data & Curves\*

# ROS-1707-119+

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 1370 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	33.54	921.3	908.9	895.5	8.58	8.70	9.96	26.06	-13.1	-21.6	-48.3	1.78	10.23	-71.3	-92.4	-112.6	-132.3	1.0	-73.98
0.50	32.77	937.2	925.7	911.2	8.58	8.68	9.90	26.06	-13.0	-22.0	-47.4	1.76	12.36	-72.3	-92.6	-113.6	-133.3	2.0	-84.49
2.00	36.74	986.8	974.5	961.2	8.51	8.72	9.77	26.08	-12.8	-23.4	-45.4	2.04	6.27	-71.1	-94.0	-114.8	-134.6	3.5	-89.44
3.00	39.30	1023.6	1011.2	997.5	8.49	8.74	9.71	26.11	-12.8	-25.2	-43.9	1.79	12.36	-73.1	-96.0	-116.4	-136.0	6.0	-95.71
4.00	44.24	1063.4	1050.5	1037.7	8.47	8.87	9.63	26.15	-12.8	-27.2	-42.2	1.54	6.04	-71.3	-96.8	-117.8	-137.3	8.5	-99.23
5.00	47.36	1107.2	1094.8	1080.9	8.40	8.62	9.45	26.18	-12.4	-29.4	-41.9	1.72	10.44	-72.7	-98.2	-118.8	-138.3	10.0	-101.61
6.00	50.35	1154.8	1142.1	1128.0	8.39	8.48	9.43	26.22	-12.1	-31.5	-41.1	1.45	8.69	-76.4	-98.4	-119.4	-139.2	20.8	-108.68
7.00	53.50	1205.4	1192.5	1179.0	8.42	8.41	9.35	26.25	-12.2	-33.6	-40.8	1.43	7.80	-74.3	-100.9	-120.7	-140.3	35.5	-113.48
8.00	57.60	1259.7	1246.0	1233.0	8.36	8.35	9.31	26.28	-12.6	-33.9	-40.3	1.45	8.32	-75.3	-100.2	-121.4	-141.0	60.7	-118.40
10.00	58.69	1373.8	1361.6	1348.8	8.25	8.34	9.25	26.42	-13.7	-31.8	-40.6	1.35	5.56	-74.0	-100.9	-122.6	-142.8	86.7	-121.52
12.00	52.19	1488.4	1476.8	1464.6	8.00	8.00	8.96	26.53	-15.0	-33.1	-40.9	0.99	4.63	-76.0	-100.1	-122.9	-143.7	100.0	-122.74
14.00	43.92	1588.7	1577.5	1566.6	7.78	7.93	8.91	26.59	-18.0	-33.2	-43.1	0.72	4.83	-74.6	-100.6	-121.8	-144.2	148.1	-126.28
15.00	39.33	1632.3	1621.5	1610.8	7.67	7.73	8.80	26.57	-19.1	-33.5	-43.5	0.72	4.42	-73.1	-99.9	-122.5	-143.9	177.0	-128.06
16.00	35.41	1671.7	1660.8	1650.0	7.53	7.69	8.81	26.59	-20.1	-34.1	-44.2	0.67	5.65	-73.2	-99.5	-121.8	-144.6	211.6	-129.12
17.00	32.47	1707.0	1696.2	1686.4	7.49	7.62	8.77	26.55	-21.4	-34.0	-45.3	0.66	4.45	-73.9	-100.0	-121.8	-143.8	302.4	-132.94
18.00	30.10	1739.6	1728.7	1718.7	7.39	7.59	8.70	26.53	-22.1	-34.5	-46.2	0.63	4.34	-72.2	-99.2	-121.9	-143.9	361.5	-134.08
19.00	28.45	1769.4	1758.8	1749.2	7.40	7.62	8.64	26.52	-23.2	-35.3	-48.1	0.60	5.90	-73.0	-99.4	-121.3	-143.9	507.5	-136.96
20.00	25.53	1797.3	1787.2	1776.6	7.37	7.47	8.54	26.51	-23.5	-35.7	-48.3	0.61	2.43	-72.7	-99.4	-121.0	-144.0	606.7	-138.84
21.00	24.48	1823.7	1812.7	1802.1	7.36	7.52	8.63	26.48	-25.2	-35.8	-49.7	0.66	4.35	-73.1	-98.1	-120.5	-143.6	851.6	-141.63
22.00	22.96	1848.1	1837.2	1826.7	7.37	7.51	8.61	26.49	-26.3	-36.2	-49.8	0.67	5.86	-73.4	-99.3	-120.6	-144.1	1000.0	-142.71

\*at 25°C unless mentioned otherwise

