

# Voltage Controlled Oscillator

# ROS-1862-119+

Linear Tuning 1524 to 1862 MHz

## Features

- Linear tuning characteristics
- Low pushing
- Aqueous washable



CASE STYLE: CK605

PRICE: \$15.95 ea. QTY (5-49)

## Applications

- Cellular communications
- Frequency synthesizers
- Instrumentation

+ 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  Typ.				TUNING					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
								VOLTAGE RANGE (V)	SENSITIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)	Vcc						Current (mA)	
	Min.	Max.	Typ.	1	10	100	1000	Min.	Max.	Typ.	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Typ.	Max.	
	ROS-1862-1194	1524	1862	+7	-78	-104	-125	-146	1	24	25 - 37	30	12	-90	-18	-	4	0.5	8

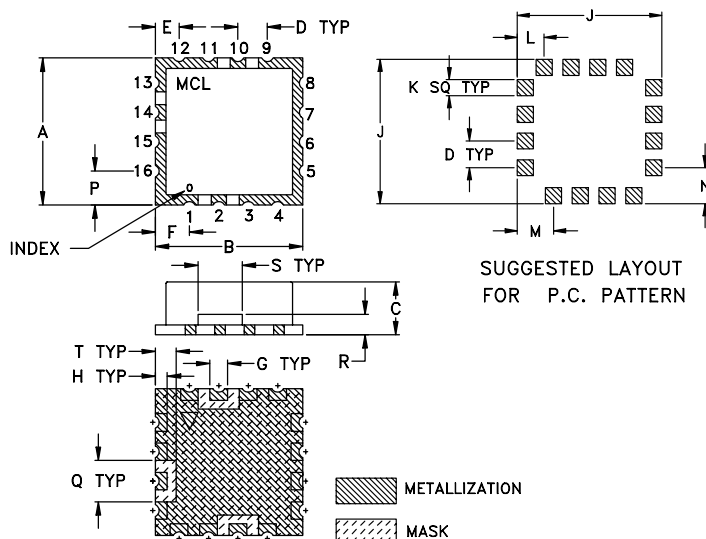
## Pin Connections

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

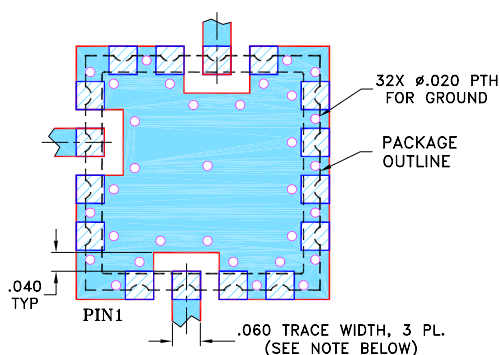
### Maximum Ratings



Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	10V
Absolute Max. Tuning Voltage (Vtune)	26V
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,  $030" \pm .002"$ ; 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 CUPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
-  DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### Outline Dimensions ( $\frac{\text{inch}}{\text{mm}}$ )

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



**Distribution Centers** NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 &amp; ISO 14001 Certified



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# Performance Data & Curves\*

# ROS-1862-119+

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 1693 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	35.84	1371.5	1361.0	1351.6	7.67	7.05	6.26	22.66	-16.4	-23.0	-35.1	0.19	3.35	-79.5	-106.4	-126.2	-146.6	1.0	-78.56
1.00	34.05	1406.8	1396.9	1387.9	7.33	6.90	6.24	22.67	-17.5	-22.2	-37.1	0.38	1.98	-81.0	-106.9	-126.9	-147.1	2.0	-86.61
2.00	36.42	1441.1	1430.9	1421.7	7.12	6.80	6.18	22.68	-18.6	-20.6	-38.4	0.45	3.76	-79.8	-106.3	-127.0	-146.9	3.5	-92.75
3.00	38.53	1478.1	1467.3	1457.7	6.80	6.63	6.11	22.69	-20.3	-19.4	-35.9	0.45	1.52	-79.8	-105.8	-126.4	-146.5	6.0	-97.31
4.00	38.85	1517.1	1505.9	1495.9	6.59	6.49	6.01	22.71	-22.8	-18.7	-32.0	0.45	3.88	-79.3	-105.5	-125.9	-146.1	8.5	-100.92
5.00	37.38	1556.3	1544.7	1534.3	6.44	6.41	5.98	22.72	-22.2	-17.8	-29.7	0.32	2.82	-78.1	-104.8	-125.7	-145.9	10.0	-103.02
6.00	35.65	1593.9	1582.1	1571.6	6.43	6.43	5.99	22.75	-19.8	-17.4	-27.7	0.26	4.06	-78.4	-104.8	-125.5	-145.7	20.8	-110.94
7.00	33.92	1629.8	1617.7	1607.0	6.51	6.48	6.03	22.78	-17.9	-17.4	-26.8	0.32	2.35	-78.1	-104.0	-125.2	-145.5	35.5	-116.51
9.00	30.14	1696.1	1683.6	1672.4	6.97	6.84	6.33	22.82	-13.4	-17.4	-25.3	0.26	2.13	-76.8	-103.3	-124.6	-144.8	60.7	-119.26
11.00	27.46	1754.5	1742.5	1731.5	7.33	7.23	6.76	22.83	-14.0	-19.1	-24.9	0.13	3.90	-77.8	-103.4	-125.0	-145.2	86.7	-123.61
13.00	26.18	1808.9	1797.0	1786.2	7.16	7.12	6.69	22.86	-19.4	-20.9	-28.4	0.26	4.40	-79.7	-104.6	-125.8	-146.0	100.0	-124.65
15.00	24.51	1860.6	1848.6	1837.6	6.91	6.91	6.51	22.89	-23.8	-21.9	-28.9	0.38	4.04	-79.1	-104.4	-125.8	-146.0	148.1	-128.01
17.00	22.40	1909.1	1896.8	1885.4	6.88	6.85	6.51	22.91	-21.4	-23.2	-28.5	0.45	2.99	-79.5	-104.5	-125.6	-145.7	177.0	-129.82
18.00	21.38	1931.6	1919.2	1907.7	6.88	6.87	6.51	22.91	-21.6	-24.4	-28.3	0.45	4.40	-78.4	-104.1	-125.4	-145.7	211.6	-131.94
19.00	20.16	1953.2	1940.5	1929.0	6.85	6.88	6.53	22.92	-23.2	-25.1	-29.3	0.38	5.21	-78.3	-103.7	-125.1	-145.4	302.4	-134.89
20.00	18.69	1973.4	1960.7	1949.0	6.82	6.85	6.53	22.93	-23.9	-25.1	-31.9	0.38	4.11	-78.7	-103.8	-125.3	-145.4	361.5	-136.22
21.00	17.02	1992.3	1979.4	1967.5	6.76	6.83	6.52	22.95	-23.5	-24.0	-31.1	0.26	4.68	-78.6	-103.5	-125.0	-145.3	507.5	-139.32
22.00	15.10	2009.4	1996.4	1984.4	6.72	6.79	6.50	22.96	-22.8	-22.8	-31.5	0.19	4.67	-78.4	-103.2	-125.1	-145.2	606.7	-140.72
23.00	13.44	2025.0	2011.5	1999.4	6.74	6.75	6.49	22.96	-21.8	-22.2	-31.4	0.26	4.90	-77.9	-103.4	-125.1	-145.3	851.6	-143.38
24.00	11.39	2038.6	2025.0	2012.3	6.73	6.78	6.44	22.96	-20.9	-21.8	-30.0	0.19	5.84	-78.0	-103.2	-125.1	-145.3	1000.0	-144.85

\*at 25°C unless mentioned otherwise

