

# Surface Mount Voltage Controlled Oscillator

# ROS-2490C+

Linear Tuning 2020 to 2490 MHz



## Features

- Linear tuning characteristics
- Low phase noise
- Low pushing
- Low pulling
- Aqueous washable

## Applications

- Wireless communications
- Wire-line broadband access

CASE STYLE: CK1113  
PRICE: \$ 15.95 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 (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.	Max.
ROS-2490C+	2020	2490	+7.2	-79	-107	-128	-149	0.25	16	30 - 40	30	45	-90	-32	-15	2.5	0.4	8	40

## Pin Connections

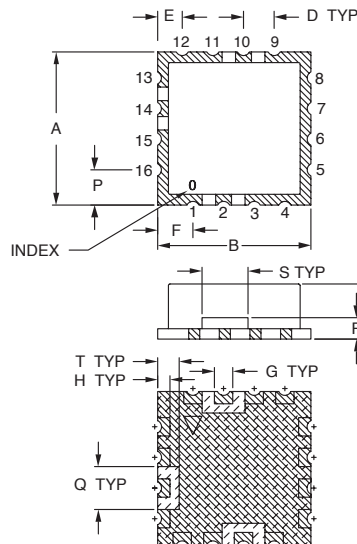
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

## Maximum Ratings

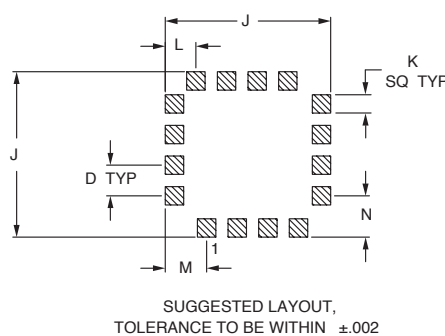
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	10V
Absolute Max. Tuning Voltage (Vtune)	18V
All specifications	50 ohm system

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

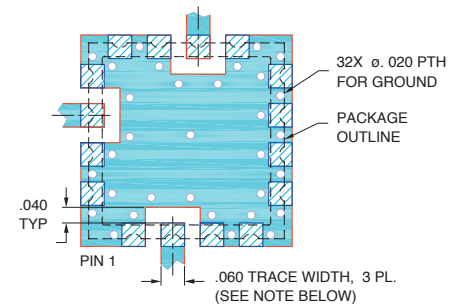
## Outline Drawing



## PCB Land Pattern



## 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.
- 

## 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	.220	.100	.080	.115	.060	.040	.540	.060	.100	.135	.135	.115	.140	.070	.150	.070	grams
12.70	12.70	5.59	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	1.2



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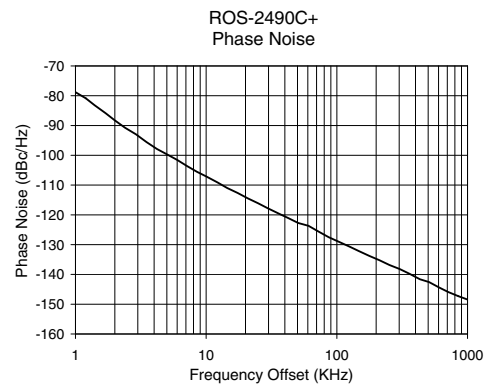
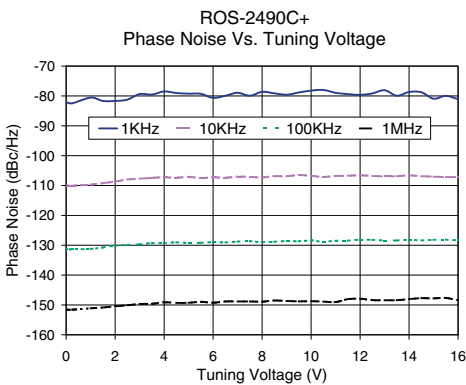
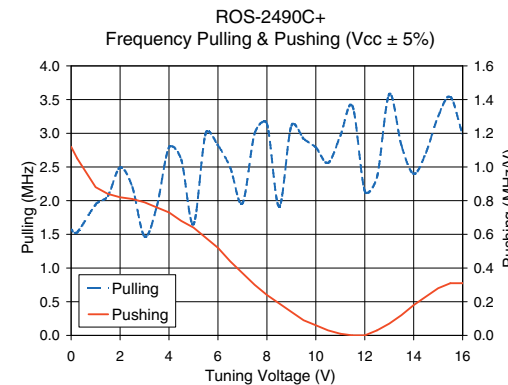
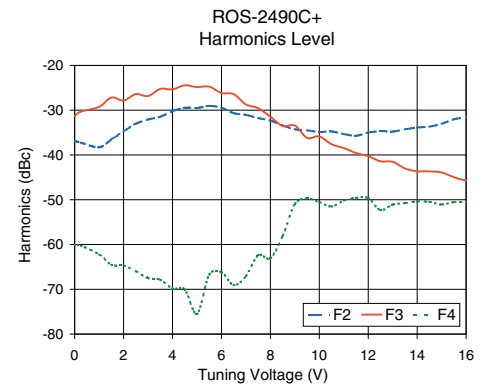
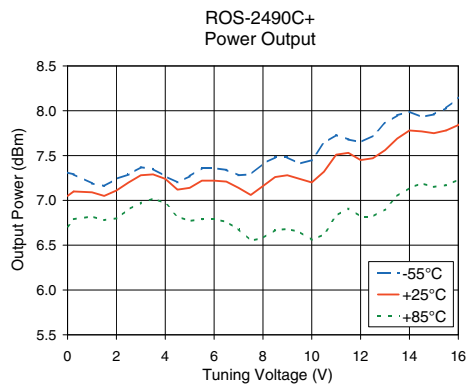
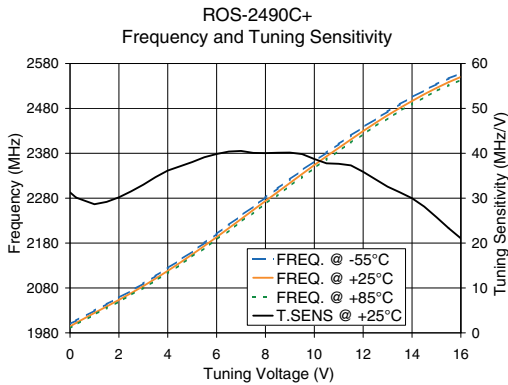
REV. OR  
M120336  
EDR-8270/7F1  
ROS-2490C+  
RAV  
090816  
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# Performance Data & Curves\*

# ROS-2490C+

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 2255 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	31.29	1999.8	1994.3	1990.3	7.31	7.05	6.71	32.93	-36.9	-31.3	-60.1	1.12	1.57	-82.1	-110.0	-131.2	-151.6	1.0	-78.81
0.25	30.12	2007.4	2002.2	1998.3	7.29	7.10	6.79	32.90	-37.2	-30.3	-60.3	1.05	1.53	-82.5	-110.0	-131.4	-151.6	2.0	-88.29
1.00	28.65	2029.5	2024.5	2020.7	7.19	7.09	6.82	32.75	-38.3	-29.3	-62.2	0.88	1.94	-80.6	-109.7	-131.2	-151.1	3.5	-95.57
2.00	30.19	2058.5	2053.4	2049.5	7.24	7.11	6.80	32.53	-34.8	-27.9	-64.7	0.82	2.49	-81.7	-108.7	-130.1	-150.5	6.0	-101.55
3.00	33.01	2089.8	2084.2	2080.1	7.37	7.28	6.97	32.30	-32.1	-26.8	-67.5	0.79	1.47	-79.4	-107.7	-129.7	-149.7	8.5	-105.54
4.00	36.15	2124.2	2118.1	2113.5	7.27	7.24	6.97	32.07	-30.2	-25.4	-69.8	0.73	2.79	-78.5	-107.2	-129.3	-149.1	10.0	-107.09
5.00	38.04	2161.1	2154.7	2149.8	7.27	7.14	6.77	31.91	-29.5	-24.8	-75.5	0.64	1.65	-79.2	-107.1	-129.2	-149.3	20.8	-114.46
6.00	39.84	2200.3	2193.3	2187.9	7.36	7.22	6.79	31.78	-29.4	-26.2	-66.2	0.52	2.82	-80.6	-107.2	-129.0	-149.3	35.5	-119.46
7.00	40.53	2240.9	2233.4	2227.6	7.28	7.14	6.68	31.67	-31.1	-28.7	-67.0	0.37	1.96	-79.0	-107.0	-128.8	-148.8	60.7	-123.68
7.50	40.09	2261.3	2253.7	2247.7	7.29	7.06	6.55	31.65	-31.8	-29.6	-62.4	0.30	3.00	-79.9	-107.1	-128.7	-148.8	86.7	-127.52
8.00	40.03	2281.5	2273.7	2267.6	7.41	7.16	6.58	31.63	-32.3	-31.5	-63.1	0.24	3.14	-78.6	-107.3	-129.0	-148.9	100.0	-128.74
9.00	40.15	2322.0	2313.8	2307.3	7.48	7.28	6.68	31.59	-34.3	-33.5	-51.0	0.14	3.11	-79.6	-106.9	-128.6	-148.7	148.1	-132.19
10.00	38.72	2362.2	2353.8	2347.1	7.45	7.20	6.56	31.58	-34.9	-35.9	-50.5	0.06	2.79	-78.2	-106.7	-128.4	-148.8	177.0	-133.78
11.00	37.66	2400.6	2392.0	2385.3	7.73	7.51	6.83	31.58	-35.3	-38.5	-50.2	0.01	2.96	-78.9	-106.8	-128.5	-149.0	211.6	-135.22
12.00	35.88	2438.2	2429.5	2422.4	7.65	7.45	6.82	31.57	-35.0	-40.3	-49.7	0.00	2.14	-79.6	-106.6	-128.1	-147.9	302.4	-138.17
13.00	32.57	2473.0	2464.5	2457.7	7.86	7.56	6.90	31.61	-34.8	-41.5	-51.1	0.07	3.58	-78.1	-106.9	-128.4	-148.4	361.5	-139.84
13.50	31.31	2489.3	2480.8	2474.0	7.95	7.69	7.05	31.61	-34.3	-43.0	-50.8	0.12	2.82	-79.9	-106.9	-128.4	-148.4	507.5	-142.57
14.00	29.98	2505.1	2496.5	2489.5	7.99	7.78	7.14	31.60	-33.9	-43.6	-50.4	0.18	2.40	-78.7	-106.6	-128.2	-148.1	606.7	-144.40
15.00	25.77	2534.0	2525.5	2518.6	7.96	7.75	7.15	31.61	-33.0	-43.9	-51.1	0.28	3.25	-80.9	-107.0	-128.2	-147.8	851.6	-147.31
16.00	21.04	2558.2	2550.1	2543.3	8.14	7.84	7.23	31.63	-31.6	-45.7	-50.5	0.31	2.99	-81.0	-107.2	-128.4	-148.4	1000.0	-148.44

\*at 25°C unless mentioned otherwise



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