Surface Mount

Voltage Controlled Oscillator

ROS-2490C+

Linear Tuning 2020 to 2490 MHz

CASE STYLE: CK1113

Features

- linear tuning characteristics
- low phase noise
- low pushing
- low pulling
- aqueous washable

Applications

- wireless communications
- wire-line broadband access

+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 Typ.				TUNING VOLTAGE RANGE (V)		SENSI-TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)	NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @12 dBr (MHz)	PUSHING (MHz/V)	DC OPERATING POWER Vcc (volts)	DC OPERATING POWER Current (mA)
	Min.	Max.	Typ.	1	10	100	1000	Min.	Max.	Typ.	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Typ.		Max.
ROS-2490C+	2020	2490	+7.5	-79	-107	-129	-149	0.25	16	25-45	42	45	-90	-22	-15	3.5	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

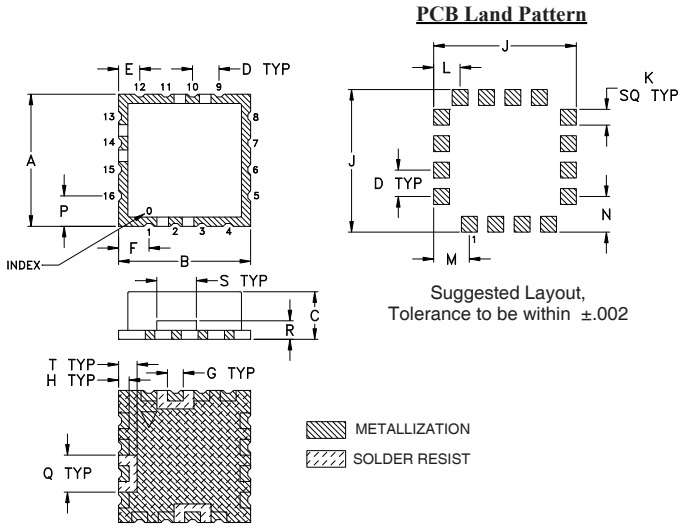
Permanent damage may occur if any of these limits are exceeded.

Tape & Reel: F37

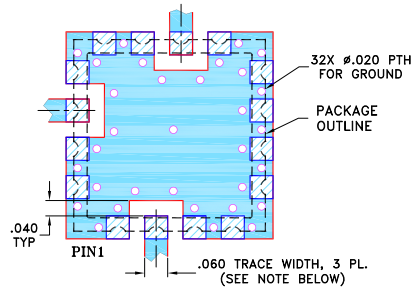
13" Reels with 20, 50, 100, 200, 500 devices

Environmental Ratings: ENV65

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 BOTTOM 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	.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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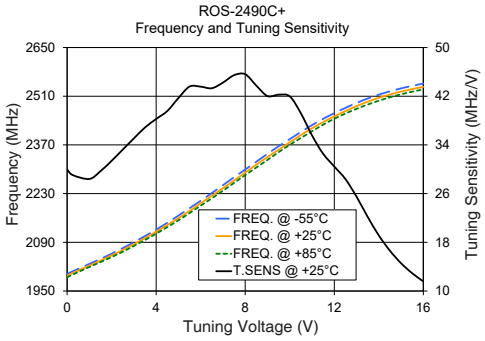
REV. C
M163428
EDR-11466
ROS-2490C+
RAV
170816

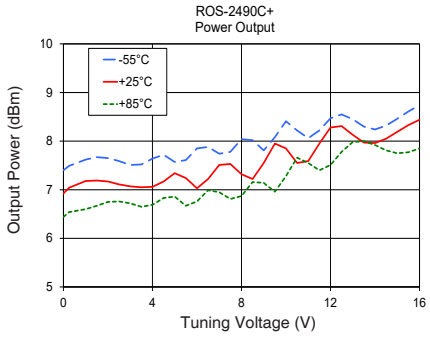
Performance Data & Curves*

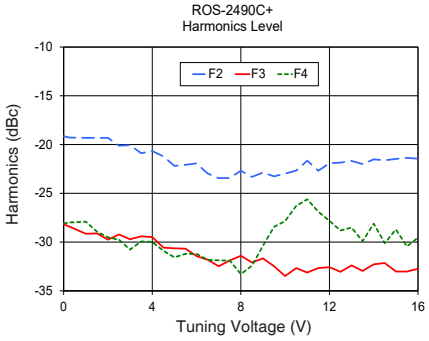
ROS-2490C+

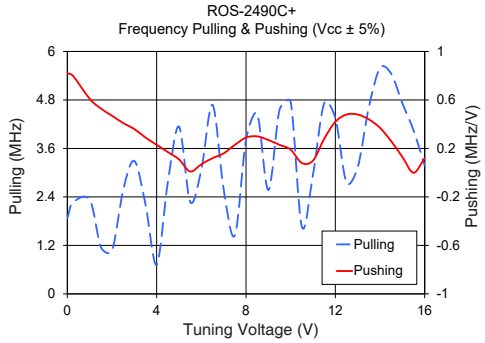
V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			Icc (mA)	HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ. PULL (MHz)	PHASE NOISE (dBc/Hz) at offsets				FREQ OFFSET (kHz)	PHASE NOISE at 2255 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	29.97	1999.1	1994.1	1989.5	7.40	6.92	6.44	30.01	-19.2	-28.2	-28.1	0.82	1.87	-83.75	-110.2	-132.0	-151.9	1.0	-76.41
1.00	28.42	2027.9	2023.2	2019.1	7.62	7.18	6.60	29.89	-19.3	-29.2	-27.9	0.61	2.33	-83.70	-110.9	-132.7	-152.7	2.5	-90.11
2.00	31.40	2057.3	2052.2	2047.7	7.65	7.17	6.75	29.65	-19.3	-29.8	-29.5	0.47	1.07	-80.58	-110.0	-132.0	-152.0	5.1	-100.31
3.00	35.09	2090.3	2084.5	2079.5	7.51	7.07	6.72	29.44	-20.1	-29.7	-30.8	0.36	3.29	-80.49	-109.5	-131.0	-151.3	10.2	-105.64
4.00	38.27	2126.6	2120.5	2114.9	7.64	7.06	6.69	29.28	-20.7	-29.5	-30.0	0.23	0.72	-80.93	-108.6	-130.7	-150.9	16.2	-112.46
5.00	41.71	2166.9	2159.4	2153.3	7.57	7.34	6.86	29.16	-22.2	-30.6	-31.6	0.11	4.14	-78.57	-107.9	-130.3	-150.2	20.4	-114.31
5.50	43.59	2188.1	2180.3	2174.1	7.61	7.24	6.67	29.09	-22.1	-30.7	-31.2	0.01	2.28	-79.43	-106.5	-129.6	-150.1	51.7	-122.74
6.00	43.57	2209.5	2202.1	2195.3	7.85	7.03	6.76	29.05	-21.9	-31.4	-31.2	0.07	3.08	-78.38	-106.8	-129.2	-149.4	103.6	-129.23
7.00	44.24	2254.3	2245.5	2238.4	7.74	7.51	6.95	29.03	-23.5	-32.5	-31.9	0.16	2.58	-77.94	-106.8	-129.2	-149.6	211.6	-134.53
8.00	45.61	2299.3	2290.4	2283.2	8.04	7.32	6.87	28.98	-22.7	-31.4	-33.3	0.29	3.81	-77.37	-106.4	-128.4	-148.9	342.7	-136.90
9.00	42.03	2344.4	2335.1	2326.9	7.81	7.55	7.14	29.03	-22.9	-31.7	-30.4	0.27	2.57	-77.46	-106.4	-128.8	-149.7	440.0	-140.12
10.00	41.98	2386.6	2377.2	2370.2	8.41	7.85	7.28	29.02	-23.0	-33.5	-27.9	0.19	4.75	-76.97	-105.4	-128.2	-148.8	712.4	-145.83
10.50	39.20	2407.2	2398.2	2389.9	8.22	7.55	7.66	29.04	-22.7	-32.7	-26.3	0.08	1.66	-78.78	-106.3	-128.1	-148.4	898.4	-148.38
11.00	35.57	2426.9	2417.8	2409.3	8.06	7.59	7.55	29.10	-21.7	-33.1	-25.6	0.10	2.96	-78.10	-106.7	-128.5	-148.8	1153.5	-150.09
12.00	30.46	2461.3	2451.9	2445.1	8.47	8.28	7.51	29.17	-21.9	-32.6	-27.8	0.42	4.35	-77.76	-107.1	-129.0	-148.7	1867.7	-154.49
13.00	25.51	2490.6	2481.3	2473.7	8.45	8.13	7.98	29.17	-21.7	-32.4	-28.5	0.48	3.13	-79.89	-106.4	-128.3	-148.8	2355.6	-155.61
14.00	19.14	2514.5	2505.1	2497.0	8.24	7.96	7.92	29.25	-21.5	-32.3	-28.1	0.37	5.59	-78.16	-106.1	-127.6	-148.0	3814.1	-159.06
14.50	16.63	2524.1	2514.7	2506.8	8.32	8.05	7.81	29.29	-21.6	-32.2	-30.1	0.26	5.45	-80.23	-106.0	-128.6	-149.2	4896.9	-161.25
15.00	14.57	2532.5	2523.0	2515.4	8.46	8.19	7.75	29.32	-21.5	-33.0	-28.7	0.13	4.72	-78.60	-105.9	-128.7	-148.9	7929.1	-162.94
16.00	11.58	2546.3	2536.8	2529.5	8.74	8.44	7.85	29.35	-21.5	-32.7	-29.5	0.12	3.17	-80.48	-106.1	-128.5	-148.3	10000.0	-164.19

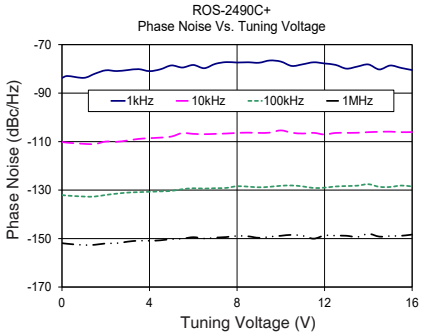
*at 25°C unless mentioned otherwise

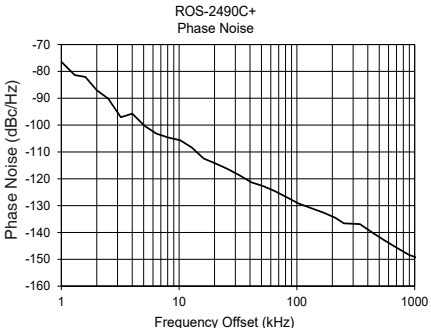












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