

Voltage Controlled Oscillator

ROS-480+

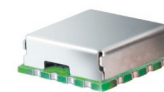
Linear Tuning 386 to 480 MHz

Features

- High power output, +9.5dBm typ.
- Linear tuning characteristics
- Low phase noise
- Low pushing
- Low pulling
- Aqueous washable

Applications

- Wireless communication
- Military communication
- Avionics



CASE STYLE: CK605

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 _r (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.	Max.	Typ.	Typ.	Max.
ROS-480+	386	480	+9.5	-90	-117	-137	-158	3	16	10	150	30	-90	-20	-13	0.1	0.3	12	31			

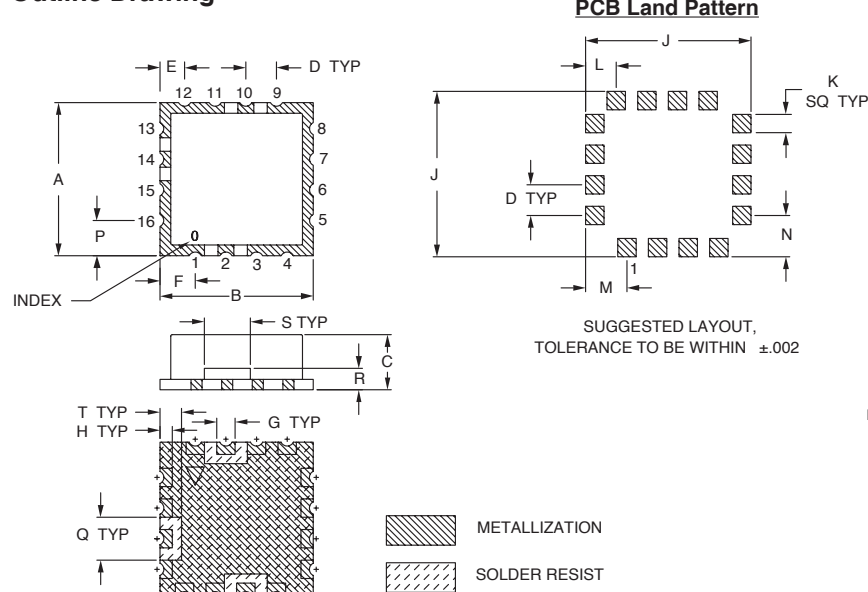
Pin Connections

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

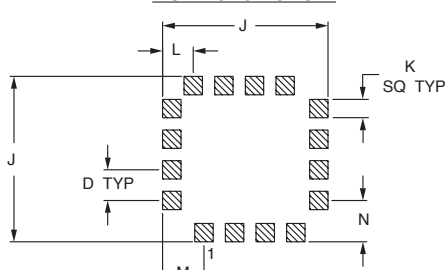
Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	12.5V
Absolute Max. Tuning Voltage (Vtune)	18.0V
All specifications	50 ohm system
Permanent damage may occur if any of these limits are exceeded.	

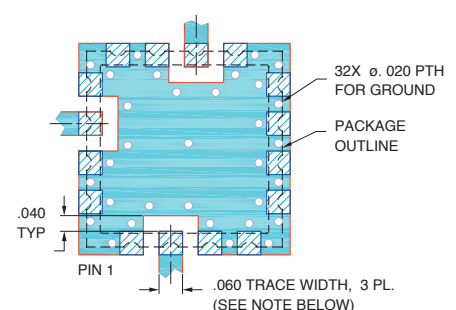
Outline Drawing



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	.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



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Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp.

For detailed performance specs & shopping online see web site

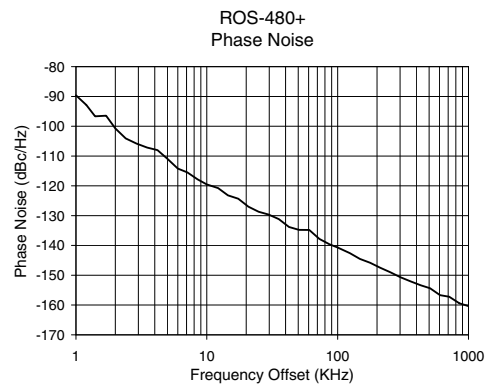
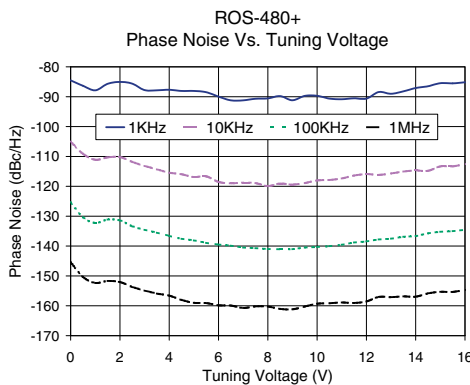
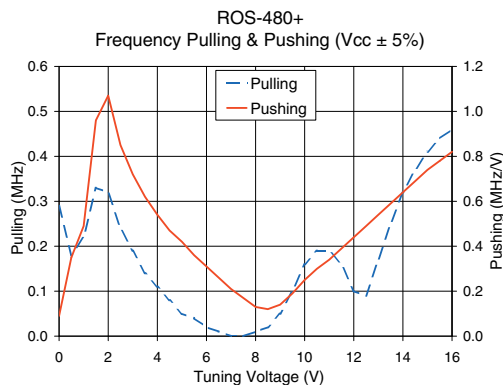
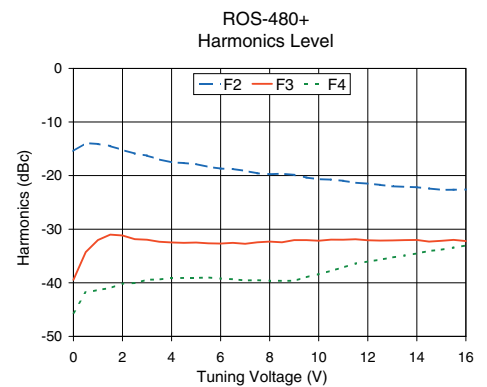
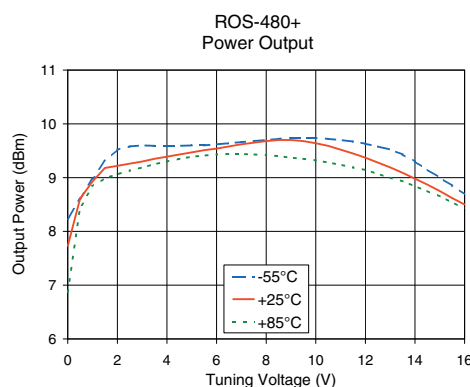
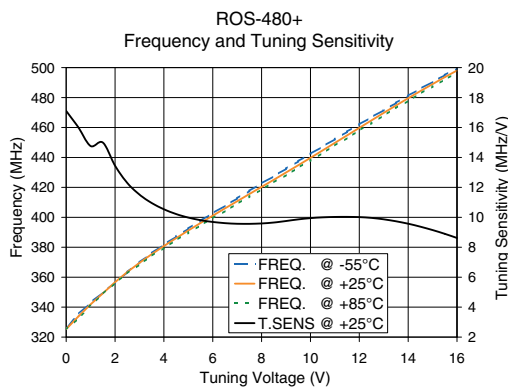
REV. OR
M106250
EDR-8038
ROS-480+
RAV
090824
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Performance Data & Curves*

ROS-480+

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 433 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	17.10	326.2	325.3	325.0	8.24	7.73	6.87	25.01	-15.4	-39.5	-45.6	0.09	0.29	-84.5	-105.1	-125.4	-145.4	1.0	-89.62
0.50	16.00	335.3	333.8	332.7	8.61	8.61	8.44	25.29	-13.9	-34.3	-41.8	0.35	0.18	-86.3	-109.1	-130.3	-150.3	2.0	-100.72
1.00	14.76	343.0	341.8	340.9	8.98	8.93	8.84	25.54	-14.1	-32.0	-41.3	0.49	0.22	-87.9	-111.1	-132.3	-152.3	3.5	-107.14
2.00	13.45	356.4	356.7	356.1	9.52	9.22	9.06	25.77	-15.2	-31.2	-40.2	1.07	0.32	-85.1	-110.2	-131.4	-152.0	6.0	-114.21
3.00	11.52	370.0	369.6	368.6	9.60	9.30	9.19	25.83	-16.3	-32.0	-39.4	0.72	0.19	-87.8	-113.2	-134.5	-154.9	8.5	-117.82
4.00	10.54	381.7	380.8	379.5	9.59	9.39	9.30	25.87	-17.5	-32.5	-39.1	0.54	0.11	-87.7	-115.4	-136.6	-156.6	10.0	-119.53
5.00	9.98	392.5	391.2	389.7	9.60	9.47	9.39	25.91	-17.9	-32.5	-39.1	0.42	0.05	-88.1	-116.9	-138.1	-159.0	20.8	-126.98
6.00	9.69	402.7	401.1	399.5	9.62	9.54	9.43	25.94	-18.7	-32.7	-39.2	0.31	0.02	-90.0	-118.5	-139.5	-159.8	35.5	-131.17
7.00	9.57	412.7	410.8	409.0	9.66	9.62	9.44	25.96	-19.1	-32.7	-39.6	0.21	0.00	-91.2	-118.8	-140.5	-160.7	60.7	-134.79
8.00	9.59	422.6	420.3	418.6	9.70	9.68	9.42	25.96	-19.7	-32.3	-39.6	0.13	0.01	-90.6	-119.9	-141.0	-160.3	86.7	-139.62
9.00	9.75	432.5	429.9	428.2	9.74	9.70	9.37	25.95	-19.9	-32.0	-39.6	0.14	0.05	-91.2	-119.4	-141.0	-161.2	100.0	-140.71
10.00	9.95	442.4	439.7	438.0	9.74	9.64	9.32	25.95	-20.7	-32.2	-38.4	0.25	0.16	-89.7	-118.0	-140.3	-159.3	148.1	-144.52
11.00	10.03	452.3	449.7	448.0	9.70	9.52	9.24	25.97	-21.0	-32.0	-37.1	0.34	0.19	-90.9	-117.4	-139.6	-158.9	177.0	-145.80
12.00	10.02	462.0	459.7	458.0	9.63	9.37	9.14	25.99	-21.5	-32.1	-36.0	0.44	0.10	-90.6	-115.9	-138.5	-158.5	211.6	-147.49
13.00	9.87	471.6	469.7	468.0	9.52	9.19	9.00	26.02	-22.0	-32.1	-35.3	0.54	0.17	-89.0	-115.7	-137.5	-157.1	302.4	-150.69
14.00	9.57	481.2	479.5	477.8	9.30	8.98	8.84	26.05	-22.2	-32.0	-34.5	0.64	0.32	-87.1	-114.7	-136.6	-156.9	361.5	-152.08
14.50	9.37	485.9	484.3	482.7	9.15	8.87	8.75	26.07	-22.4	-32.3	-34.1	0.69	0.37	-86.5	-114.8	-135.7	-155.8	507.5	-154.36
15.00	9.15	490.5	489.0	487.4	9.00	8.75	8.65	26.09	-22.7	-32.2	-33.8	0.74	0.41	-85.5	-113.3	-135.2	-155.3	606.7	-156.68
15.50	8.90	495.0	493.6	492.0	8.85	8.62	8.54	26.11	-22.6	-32.0	-33.4	0.78	0.44	-85.5	-113.3	-135.0	-155.4	851.6	-159.42
16.00	8.62	499.4	498.0	496.4	8.69	8.50	8.43	26.13	-22.6	-32.2	-33.0	0.82	0.46	-85.2	-112.5	-134.6	-154.7	1000.0	-160.36

*at 25°C unless mentioned otherwise



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