

Voltage Controlled Oscillator

ROS-5150-319+

Frequency Doubling 5020 to 5145 MHz



CASE STYLE: CK1113
PRICE: \$ 29.95 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.

Features

- Frequency based on multiplication of carrier frequency
- Linear tuning characteristics
- Low phase noise
- Low pushing
- Low pulling
- 5V tuning voltage range
- Aqueous washable

Applications

- Wireless communications
- Point-to-point radio

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		
	F 2X(1/2F)			Typ.				VOLTAGE RANGE (V)	SENSITIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)		Max.	F0.5	F1.5			F2	Vcc (volts)	Current (mA)
	Min.	Max.		1	10	100	1000													
ROS-5150-319+	5020	5145	+3.5	-73	-104	-126	-146	0.5	5	75 - 90	14	120	-90	-25	-15	-15	0.7	2.5	5	32

Pin Connections

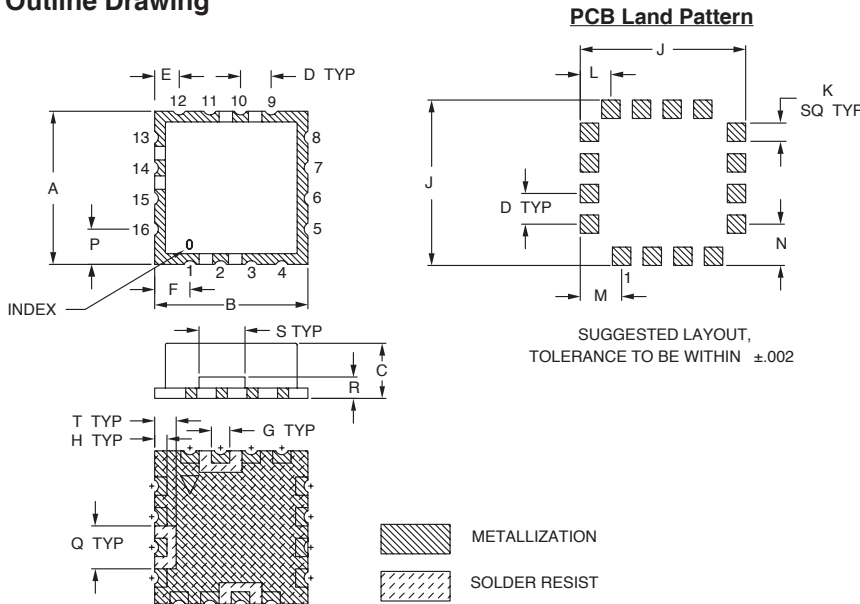
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

Maximum Ratings

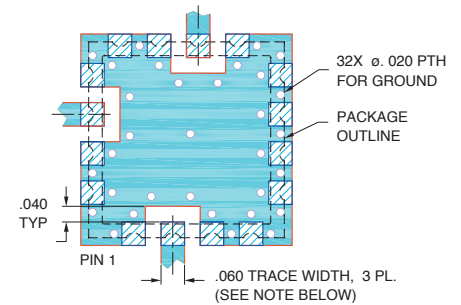
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	7V
Absolute Max. Tuning Voltage (Vtune)	7V
All specifications	50 ohm system

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

Outline Drawing



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.
- 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



For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at minicircuits.com

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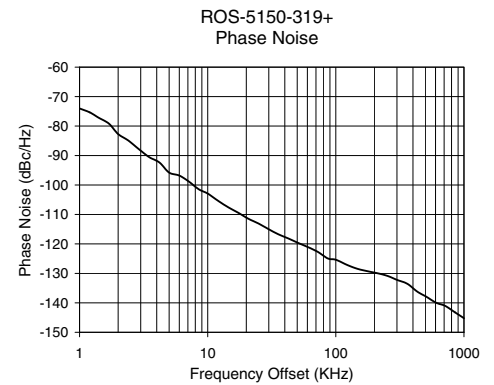
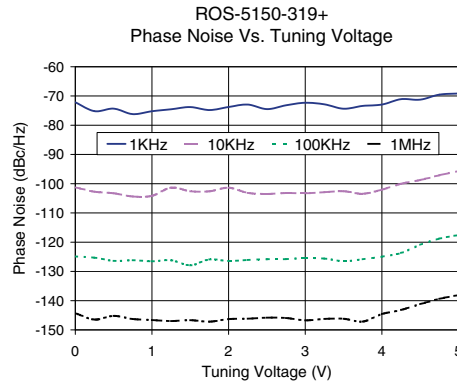
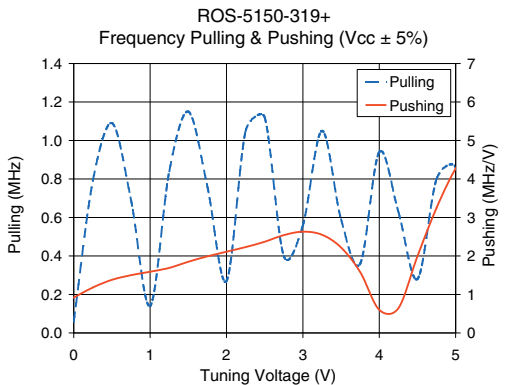
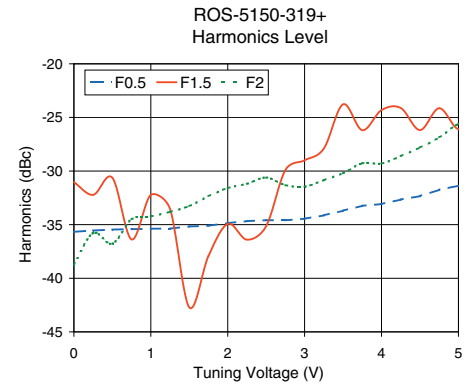
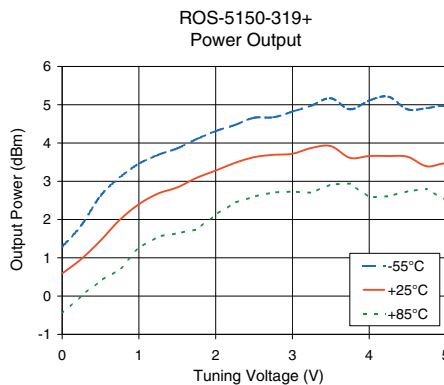
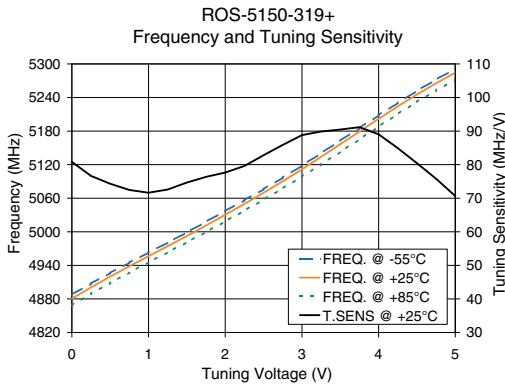
REV. OR
M111053
EDR-8208/1F1
ROS-5150-319+
RAV
090818
Page 1 of 2

Performance Data & Curves*

ROS-5150-319+

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 5083 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F0.5	F1.5	F2			1kHz	10kHz	100kHz	1MHz		
0.00	80.82	4887.6	4880.5	4868.5	1.29	0.59	-0.46	22.77	-35.7	-31.0	-38.7	0.92	0.06	-72.2	-101.2	-124.9	-144.3	1.0	-74.02
0.25	76.64	4907.4	4900.7	4889.3	1.85	0.97	0.01	23.09	-35.6	-32.2	-35.8	1.18	0.79	-75.2	-102.7	-125.3	-146.5	2.0	-82.72
0.50	74.30	4926.4	4919.8	4908.6	2.62	1.45	0.40	23.33	-35.5	-30.6	-36.8	1.38	1.09	-74.3	-103.3	-126.4	-145.2	3.5	-90.57
0.75	72.46	4944.8	4938.4	4927.2	3.10	1.99	0.70	23.57	-35.4	-36.4	-34.5	1.50	0.69	-76.2	-104.4	-126.2	-146.3	6.0	-96.80
1.00	71.64	4962.9	4956.5	4945.5	3.46	2.40	1.26	23.80	-35.4	-32.2	-34.2	1.59	0.14	-75.2	-104.2	-126.5	-146.6	8.5	-101.44
1.25	72.58	4980.8	4974.4	4963.4	3.69	2.68	1.56	24.02	-35.4	-33.5	-33.8	1.69	0.84	-74.5	-101.3	-126.2	-147.0	10.0	-102.91
1.50	74.67	4999.0	4992.6	4981.2	3.86	2.84	1.64	24.17	-35.2	-42.7	-33.3	1.85	1.15	-73.8	-102.6	-127.9	-146.7	20.8	-111.48
1.75	76.36	5017.9	5011.3	4999.7	4.10	3.09	1.74	24.29	-35.1	-37.9	-32.4	1.99	0.76	-74.8	-102.6	-125.9	-147.2	35.5	-116.70
2.00	77.64	5037.0	5030.3	5018.6	4.31	3.28	2.13	24.43	-34.9	-34.9	-31.6	2.11	0.27	-73.8	-101.4	-126.4	-146.3	60.7	-121.11
2.25	79.61	5056.3	5049.8	5037.9	4.47	3.48	2.44	24.59	-34.7	-36.4	-31.2	2.23	1.05	-72.9	-103.1	-126.1	-146.2	86.7	-124.96
2.50	82.82	5076.2	5069.7	5057.4	4.66	3.63	2.60	24.71	-34.6	-35.1	-30.6	2.37	1.12	-74.5	-103.5	-125.8	-145.8	100.0	-125.38
2.75	85.86	5096.8	5090.4	5077.7	4.67	3.69	2.71	24.79	-34.6	-29.9	-31.3	2.54	0.40	-73.2	-103.2	-125.8	-145.9	148.1	-128.48
3.00	88.79	5118.3	5111.8	5098.7	4.82	3.72	2.73	24.88	-34.5	-29.0	-31.5	2.63	0.56	-72.3	-103.3	-125.4	-146.7	177.0	-129.26
3.25	89.86	5140.5	5134.0	5120.6	4.98	3.87	2.70	24.98	-34.1	-27.9	-30.9	2.55	1.05	-72.9	-102.9	-125.6	-146.2	211.6	-129.97
3.50	90.47	5162.8	5156.5	5142.9	5.17	3.92	2.92	25.11	-33.7	-23.8	-30.2	2.22	0.59	-74.4	-102.6	-126.5	-146.2	302.4	-132.26
3.75	91.17	5185.4	5179.1	5165.5	4.88	3.61	2.94	25.19	-33.2	-26.2	-29.3	1.58	0.36	-73.4	-103.4	-125.8	-147.2	361.5	-133.53
4.00	89.03	5208.3	5201.9	5188.0	5.11	3.66	2.58	25.25	-33.1	-24.3	-29.3	0.60	0.94	-72.9	-102.0	-125.0	-144.6	507.5	-137.92
4.25	84.92	5230.6	5224.2	5210.6	5.21	3.66	2.61	25.34	-32.7	-24.1	-28.6	0.64	0.63	-71.1	-100.0	-123.7	-143.2	606.7	-139.97
4.50	80.43	5251.8	5245.4	5232.3	4.88	3.64	2.74	25.44	-32.3	-26.2	-27.8	1.99	0.28	-71.2	-98.8	-120.9	-141.2	851.6	-143.23
5.00	70.63	5291.1	5284.4	5271.7	4.97	3.46	2.50	25.49	-31.4	-26.1	-25.6	4.27	0.86	-69.1	-95.7	-117.6	-138.1	1000.0	-145.23

*at 25°C unless mentioned otherwise



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