

Voltage Controlled Oscillator

SOS-1505-119+

5V Tuning for PLL IC's 1430 to 1520 MHz

Features

- Low current consumption, 10 mA typ.
- Linear tuning characteristics
- Low pushing
- Small size 0.3" x 0.3"
- Aqueous washable

Applications

- Navigation
- Wireless communication
- Satellite systems
- TDMA



CASE STYLE: FZ990

PRICE: \$ 20.60 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.

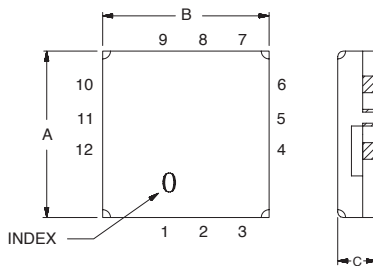
Electrical Specifications

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.	Vcc (volts)	Current (mA)
SOS-1505-119+	1430	1520	+3.5	-69	-94	-115	-136	0.3	3	69 - 75	23	160	-90	-30	-17	1.5	1	3	15				

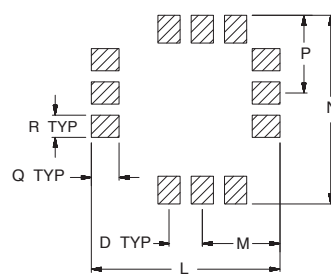
Pin Connections

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

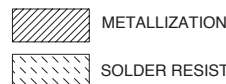
Outline Drawing



PCB Land Pattern



SUGGESTED LAYOUT, TOLERANCE TO BE WITHIN ±.002



Outline Dimensions (inch mm)

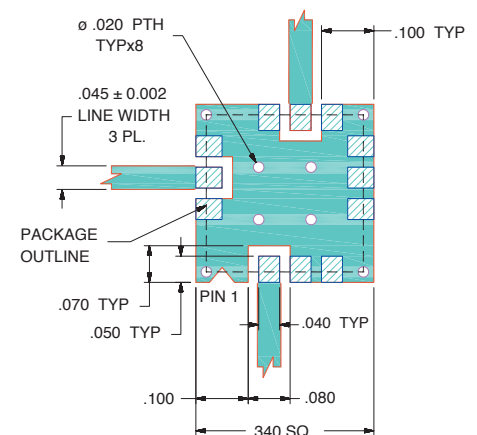
A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	wt. grams
.300	.300	.100	.060	.120	.039	.075	.120	.030	.050	.340	.140	.340	.140	.050	.040	0.25
7.62	7.62	2.54	1.52	3.05	0.99	1.91	3.05	0.76	1.27	8.64	3.56	8.64	3.56	1.27	1.02	

Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	5V
Absolute Max. Tuning Voltage (Vtune)	5V
All specifications	50 ohm system

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

Demo Board MCL P/N: TB-271
Suggested PCB Layout (PL-143)



1. TRACE WIDTH IS SHOWN FOR RF4 WITH DIELECTRIC THICKNESS .025" ± .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

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IF/RF MICROWAVE COMPONENTS

For detailed performance specs & shopping online see web site

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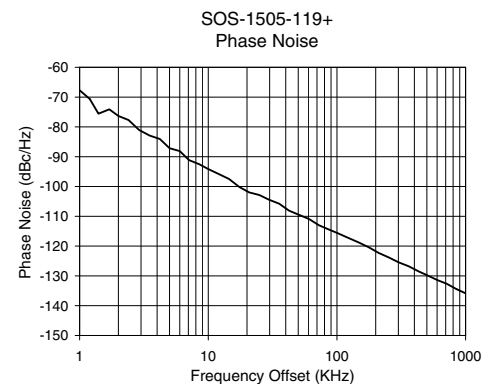
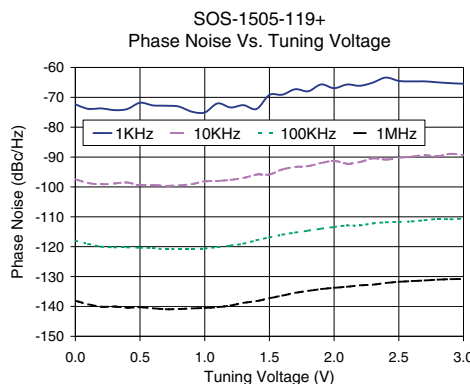
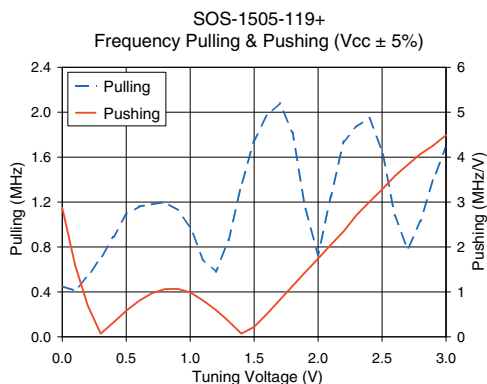
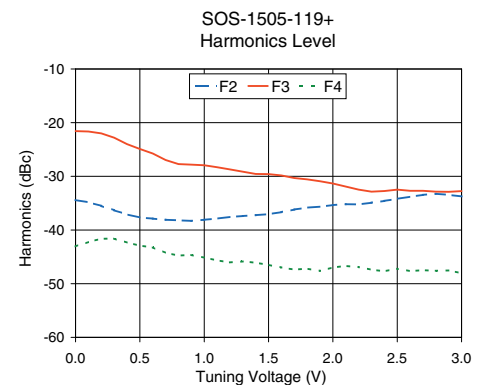
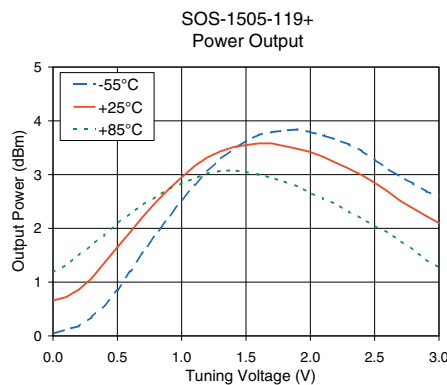
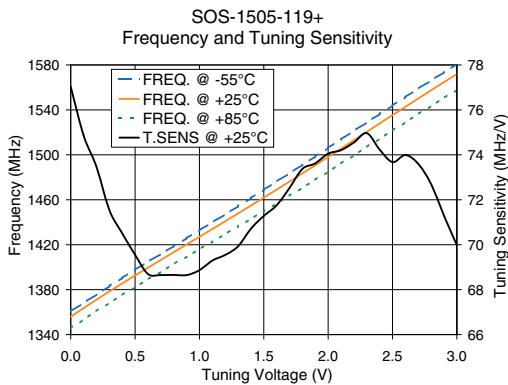
REV. OR
M106250
EDR-8179
SOS-1505-119+
RAV
090908
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Performance Data & Curves*

SOS-1505-119+

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 1478 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	77.03	1360.7	1355.9	1345.7	0.04	0.66	1.18	8.89	-34.4	-21.6	-43.1	2.87	0.45	-72.4	-97.4	-117.9	-138.1	1.0	-67.71
0.10	74.86	1368.2	1363.6	1353.5	0.12	0.72	1.32	8.91	-34.8	-21.6	-42.2	1.60	0.41	-73.9	-98.7	-119.1	-139.3	2.0	-76.34
0.20	73.47	1375.8	1371.1	1361.0	0.18	0.86	1.50	8.94	-35.5	-22.0	-41.6	0.69	0.54	-73.7	-99.1	-120.0	-140.1	3.5	-82.90
0.30	71.55	1383.2	1378.4	1368.3	0.35	1.07	1.69	8.96	-36.3	-22.8	-41.6	0.07	0.70	-74.3	-98.9	-120.2	-140.0	6.0	-88.13
0.40	70.51	1390.5	1385.6	1375.3	0.57	1.36	1.88	8.99	-37.1	-24.0	-42.4	0.32	0.89	-73.9	-98.5	-120.2	-140.4	8.5	-92.53
0.60	68.69	1404.8	1399.6	1389.2	1.20	1.93	2.28	9.11	-37.9	-25.8	-43.2	0.80	1.16	-72.7	-99.3	-120.5	-140.6	10.0	-94.15
0.80	68.66	1418.8	1413.3	1402.7	1.89	2.49	2.59	9.27	-38.2	-27.7	-44.8	1.06	1.20	-73.1	-99.5	-120.7	-140.9	20.8	-101.98
1.00	68.87	1432.9	1427.0	1416.0	2.53	2.95	2.84	9.48	-38.1	-27.9	-45.2	0.99	0.98	-75.1	-98.1	-120.6	-140.5	35.5	-105.77
1.20	69.54	1447.1	1440.9	1429.5	3.06	3.32	3.02	9.70	-37.6	-28.7	-46.0	0.60	0.58	-73.4	-97.6	-119.7	-139.7	60.7	-110.93
1.40	70.71	1461.6	1454.8	1443.0	3.47	3.51	3.08	9.91	-37.2	-29.6	-46.1	0.07	1.35	-73.9	-95.9	-117.9	-138.2	86.7	-114.47
1.60	71.76	1476.2	1469.0	1456.7	3.74	3.58	3.00	10.08	-36.7	-29.8	-47.0	0.51	1.97	-69.1	-94.2	-116.0	-136.4	100.0	-115.56
1.80	73.37	1491.2	1483.4	1470.7	3.82	3.53	2.87	10.21	-35.8	-30.6	-47.2	1.13	1.82	-68.0	-93.0	-114.6	-134.8	148.1	-118.81
2.00	74.05	1506.2	1498.1	1485.0	3.79	3.42	2.66	10.31	-35.4	-31.3	-47.0	1.74	0.73	-66.9	-91.3	-113.4	-133.8	177.0	-120.42
2.20	74.55	1521.3	1513.0	1499.6	3.65	3.22	2.45	10.37	-35.2	-32.5	-46.9	2.35	1.74	-66.1	-91.7	-112.9	-132.9	211.6	-122.33
2.40	74.23	1536.4	1527.9	1514.3	3.44	2.99	2.18	10.41	-34.6	-32.7	-47.7	3.00	1.95	-63.4	-90.9	-111.8	-132.1	302.4	-125.46
2.60	73.99	1551.4	1542.7	1529.0	3.11	2.69	1.92	10.44	-33.8	-32.7	-47.7	3.58	1.08	-64.7	-89.9	-111.6	-131.5	361.5	-126.77
2.70	73.60	1558.9	1550.1	1536.3	2.96	2.51	1.77	10.44	-33.5	-32.7	-47.5	3.83	0.78	-64.7	-89.4	-111.1	-131.3	507.5	-129.88
2.80	72.69	1566.2	1557.5	1543.5	2.83	2.37	1.60	10.45	-33.3	-32.9	-47.6	4.07	1.03	-65.0	-89.8	-110.7	-131.1	606.7	-131.44
2.90	71.29	1573.6	1564.7	1550.7	2.69	2.23	1.42	10.46	-33.5	-32.9	-47.5	4.26	1.40	-65.3	-88.9	-110.8	-130.9	851.6	-134.46
3.00	69.98	1580.7	1571.9	1557.8	2.60	2.10	1.27	10.47	-33.8	-32.8	-48.1	4.49	1.69	-65.4	-89.4	-110.6	-130.8	1000.0	-135.84

*at 25°C unless mentioned otherwise



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