

# Voltage Controlled Oscillator

# MOS-975-119+

Linear Tuning 900 to 975 MHz

### Features

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



CASE STYLE: CZ682  
PRICE: \$ 15.95 ea. QTY (5-49)

### Applications

- wireless communications
- line for receiver
- land mobile
- defence systems
- GSM

**+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				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	Min.	Max.	Typ.	Typ.		3 dB MODULATION BANDWIDTH (MHz)	Typ.			Max.	Typ.	Typ.	Vcc	Current
MOS-975-119+	900	975	+0.8	-90	-114	-135	-154	0.5	14	8	35	70	-90	-25	-15	0.3	0.3	5	40			

### Pin Connections

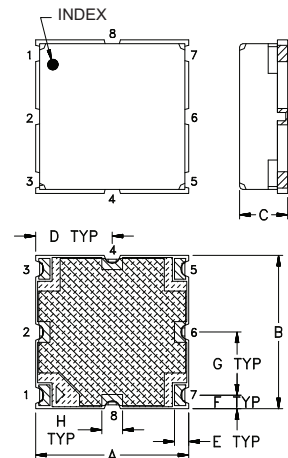
RF OUT	5
VCC	3
V-TUNE	1
GROUND	2,4,6,7,8

### Maximum Ratings

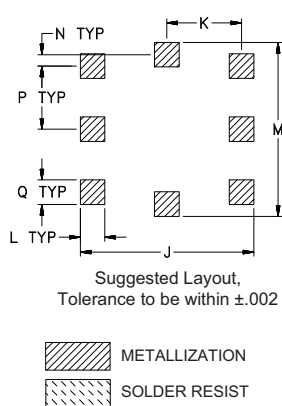
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	6V
Absolute Max. Tuning Voltage (Vtune)	16V
All specifications	50 ohm system

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

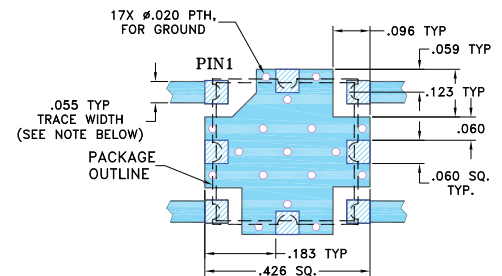
### Outline Drawing



### PCB Land Pattern



### Demo Board MCL P/N: TB-128 Suggested PCB Layout (PL-023)



- NOTE: 1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS  $0.030 \pm 0.002$ ; 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	wt.
.375	.375	.131	.188	.035	.033	.154	.050	.425	.183	.060	.425	.028	.154	.060	grams
9.52	9.52	3.33	4.77	0.89	0.84	3.91	1.27	10.80	4.65	1.52	10.80	0.71	3.91	1.52	.60



For detailed performance specs & shopping online see web site

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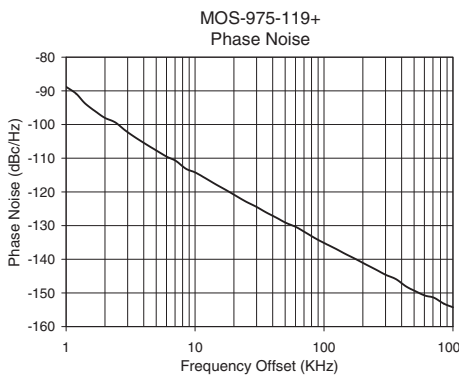
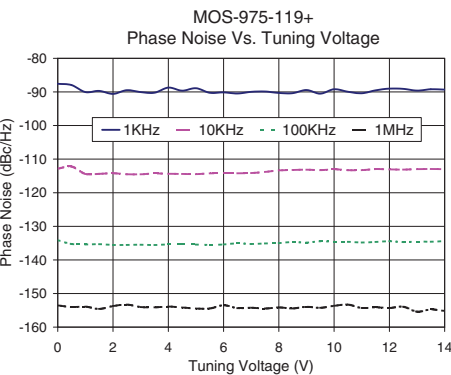
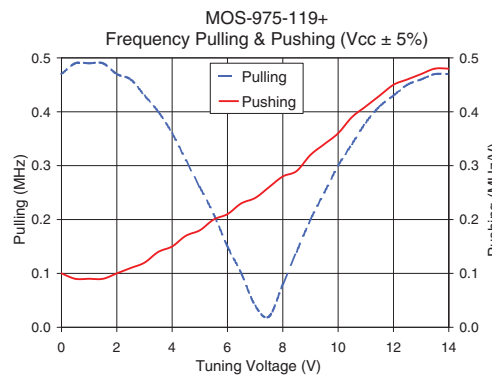
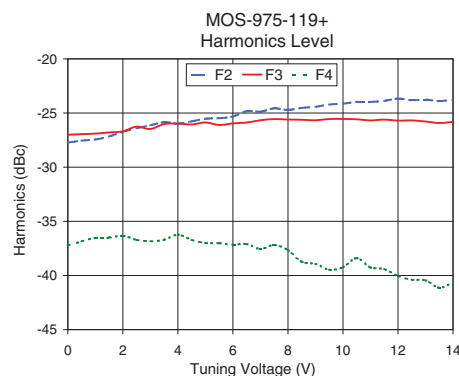
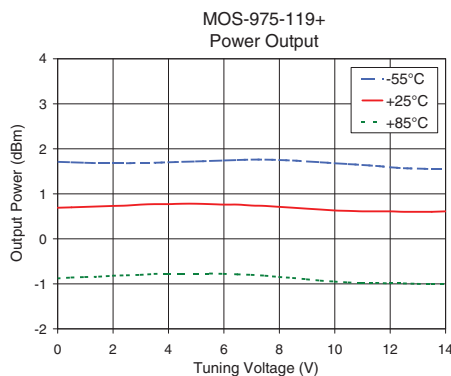
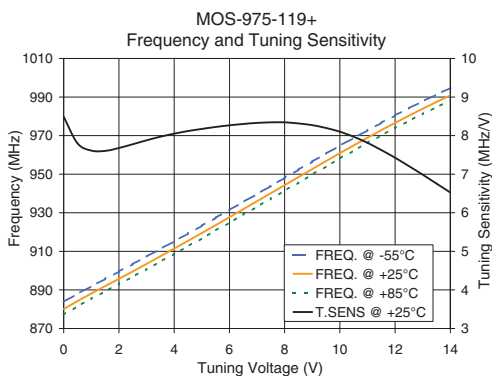
REV. OR  
M125166  
EDR-9992F1  
MOS-975-119+  
RAV  
121009  
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# Performance Data & Curves\*

# MOS-975-119+

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 939 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	8.49	883.8	880.0	877.2	1.71	0.69	-0.88	33.24	-27.7	-27.0	-37.2	0.10	0.47	-87.6	-112.9	-134.1	-153.5	1.0	-88.80
0.50	7.80	888.0	884.3	881.5	1.70	0.70	-0.86	33.23	-27.6	-27.0	-36.9	0.09	0.49	-88.0	-112.2	-135.3	-154.0	2.0	-98.04
1.00	7.61	891.9	888.2	885.4	1.69	0.71	-0.85	33.23	-27.4	-26.9	-36.5	0.09	0.49	-90.1	-114.4	-135.4	-153.9	3.5	-104.02
2.50	7.78	903.4	899.6	896.9	1.68	0.74	-0.81	33.22	-26.4	-26.3	-36.7	0.11	0.46	-89.5	-114.5	-135.5	-153.3	6.0	-109.50
3.00	7.88	907.3	903.5	900.7	1.69	0.76	-0.80	33.22	-26.1	-26.5	-36.8	0.12	0.43	-90.1	-114.5	-135.5	-154.0	8.5	-113.14
3.50	7.97	911.2	907.4	904.7	1.69	0.77	-0.78	33.22	-25.9	-26.0	-36.7	0.14	0.40	-90.2	-114.3	-135.6	-154.1	10.0	-114.21
4.00	8.05	915.2	911.4	908.6	1.70	0.77	-0.77	33.22	-26.0	-26.0	-36.2	0.15	0.36	-88.7	-114.4	-135.4	-153.9	20.8	-121.19
4.50	8.12	919.2	915.4	912.7	1.71	0.78	-0.77	33.22	-25.8	-26.1	-36.7	0.17	0.31	-89.6	-114.4	-135.4	-154.2	35.5	-126.07
5.50	8.22	927.3	923.6	920.8	1.73	0.77	-0.77	33.22	-25.5	-26.1	-37.0	0.20	0.21	-90.3	-114.3	-135.5	-154.5	60.7	-130.43
6.00	8.27	931.5	927.7	924.9	1.74	0.76	-0.78	33.22	-25.3	-26.0	-37.2	0.21	0.15	-90.1	-114.2	-135.4	-153.5	86.7	-133.90
6.50	8.30	935.6	931.8	929.0	1.75	0.76	-0.79	33.22	-24.8	-25.9	-37.1	0.23	0.10	-90.5	-114.2	-135.1	-154.4	100.0	-135.17
7.00	8.33	939.7	936.0	933.1	1.76	0.74	-0.80	33.22	-24.9	-25.7	-37.6	0.24	0.04	-90.0	-114.2	-135.3	-154.2	148.1	-138.51
7.50	8.34	943.9	940.1	937.3	1.76	0.73	-0.82	33.22	-24.6	-25.6	-37.2	0.26	0.02	-89.9	-113.8	-135.1	-154.5	177.0	-139.99
8.50	8.32	952.3	948.5	945.6	1.74	0.69	-0.87	33.22	-24.5	-25.6	-38.7	0.29	0.14	-90.4	-113.2	-134.7	-154.4	211.6	-141.57
9.50	8.20	960.6	956.8	954.0	1.70	0.65	-0.93	33.23	-24.2	-25.6	-39.5	0.34	0.25	-90.5	-113.3	-134.5	-154.3	302.4	-144.66
10.00	8.10	964.7	960.9	958.1	1.68	0.63	-0.95	33.22	-24.1	-25.5	-39.2	0.36	0.30	-89.2	-113.0	-134.6	-153.7	361.5	-145.90
11.00	7.81	972.7	968.9	966.2	1.64	0.61	-0.98	33.23	-24.0	-25.7	-39.3	0.41	0.38	-90.4	-113.3	-134.8	-154.3	507.5	-149.41
12.00	7.43	980.4	976.6	973.9	1.59	0.61	-0.99	33.23	-23.7	-25.7	-40.0	0.45	0.43	-89.0	-113.0	-134.4	-154.3	606.7	-150.78
13.50	6.76	991.3	987.4	984.7	1.55	0.60	-1.01	33.24	-23.9	-25.9	-41.1	0.48	0.47	-89.2	-112.9	-134.6	-154.7	851.6	-153.20
14.00	6.53	994.7	990.8	988.1	1.55	0.61	-1.01	33.24	-23.8	-25.8	-40.7	0.48	0.47	-89.3	-113.0	-134.4	-155.2	1000.0	-154.27

\*at 25°C unless mentioned otherwise



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