

Surface Mount

# Voltage Controlled Oscillator

# SOS-704PV-119+

5V Tuning for PLL IC's 677 to 707 MHz



## Features

- Linear tuning characteristics
- Low phase noise
- Low pushing
- Low pulling
- Small size 0.3" x 0.3"
- Aqueous washable

## Applications

- Wireless communications
- Wireless microphones

CASE STYLE: FZ802  
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 (MHz)	PUSHING (MHz/V)	DC OPERATING POWER		
	Min.	Max.		Typ.				VOLTAGE RANGE (V)	SENSI-TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)		Typ.	Max.			Vcc	Current	
				1	10	100	1000	Min.	Max.	Typ.	Typ.		Typ.	Typ.			Max.	(volts)	(mA)
SOS-704PV-119+	677	707	0	-89	-113	-133	-152	0.5	4.5	12 - 16	94	30	-90	-13	-	0.3	0.3	5	20

## Pin Connections

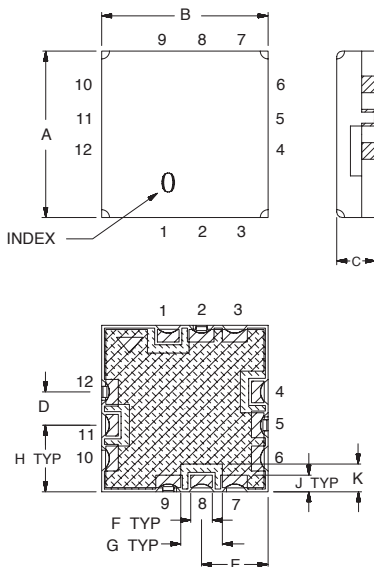
RF OUT	8
VCC	11
V-TUNE	1
GROUND	2,3,4,5,6,7,9,10,12

## Maximum Ratings

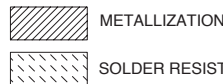
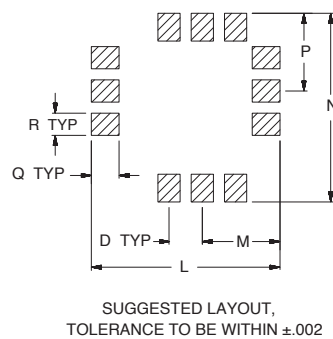
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	7V
Absolute Max. Tuning Voltage (Vtune)	7V
All specifications	50 ohm system

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

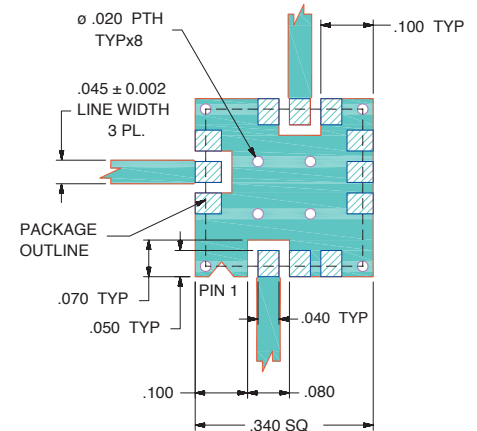
## Outline Drawing



## PCB Land Pattern



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



### NOTE:

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

## Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	wt.
.300	.300	.070	.060	.120	.039	.075	.120	.030	.050	.340	.140	.340	.140	.050	.040	grams
7.62	7.62	1.78	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	0.25



For detailed performance specs & shopping online see web site

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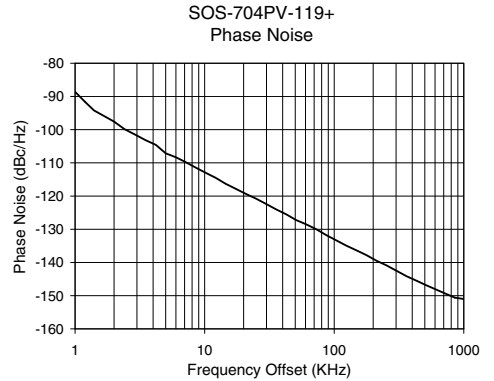
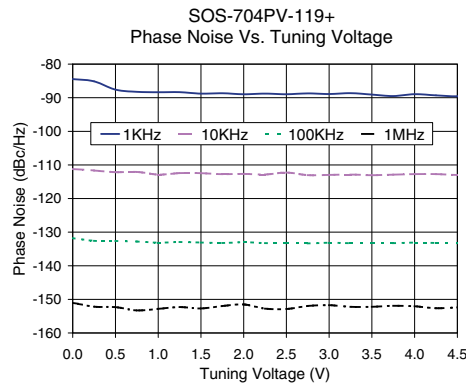
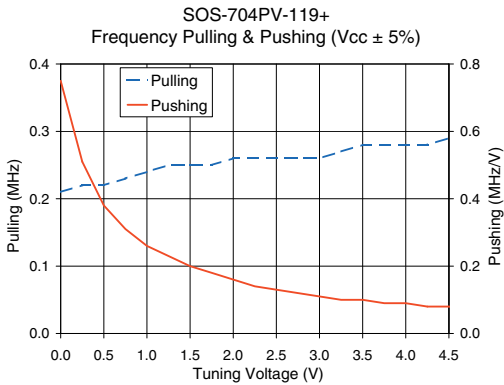
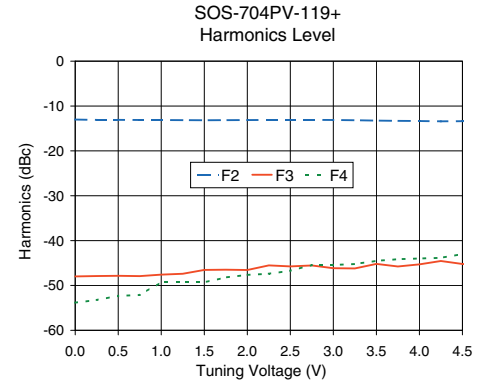
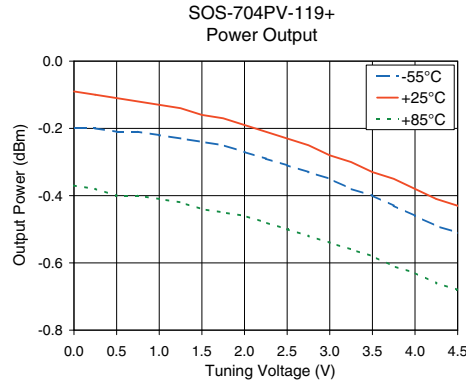
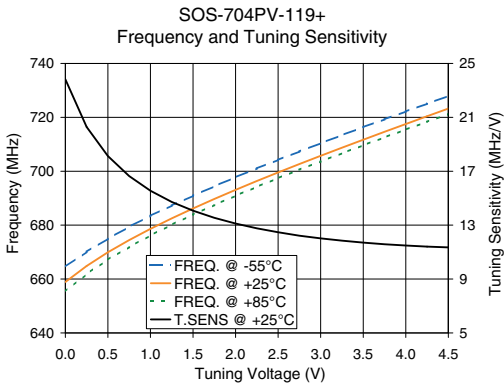
REV. OR  
M113462  
EDR-7896/3F1  
ROS-704PV-119+  
RAV  
090908  
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# Performance Data & Curves\*

# SOS-704PV-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 692 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	23.83	664.6	658.9	655.4	-0.20	-0.09	-0.37	15.28	-13.0	-48.0	-53.8	0.75	0.21	-84.4	-111.2	-131.8	-151.0	1.0	-88.62
0.25	20.29	670.1	664.9	661.9	-0.20	-0.10	-0.38	15.29	-13.1	-47.9	-53.3	0.51	0.22	-85.1	-111.7	-132.6	-152.2	2.0	-97.56
0.50	18.13	675.0	669.9	667.2	-0.21	-0.11	-0.40	15.30	-13.1	-47.9	-52.3	0.38	0.22	-87.6	-112.2	-132.6	-152.3	3.5	-103.16
0.75	16.64	679.4	674.5	671.9	-0.21	-0.12	-0.40	15.31	-13.1	-47.9	-52.1	0.31	0.23	-88.2	-112.1	-132.8	-153.3	6.0	-108.33
1.00	15.55	683.4	678.6	676.2	-0.22	-0.13	-0.41	15.32	-13.1	-47.6	-49.2	0.26	0.24	-88.4	-112.9	-133.1	-152.8	8.5	-111.40
1.25	14.72	687.3	682.5	680.1	-0.23	-0.14	-0.42	15.33	-13.2	-47.4	-49.2	0.23	0.25	-88.4	-112.4	-132.9	-152.3	10.0	-112.84
1.50	14.08	690.9	686.2	683.9	-0.24	-0.16	-0.44	15.33	-13.2	-46.5	-49.3	0.20	0.25	-88.8	-112.5	-133.1	-152.7	20.8	-119.36
1.75	13.55	694.4	689.7	687.5	-0.25	-0.17	-0.45	15.34	-13.2	-46.5	-48.2	0.18	0.25	-88.7	-112.8	-133.2	-152.0	35.5	-123.99
2.00	13.12	697.8	693.1	690.9	-0.27	-0.19	-0.46	15.34	-13.1	-46.6	-47.6	0.16	0.26	-89.0	-112.7	-133.0	-151.5	60.7	-128.51
2.25	12.76	701.0	696.4	694.2	-0.29	-0.21	-0.48	15.35	-13.1	-45.5	-47.4	0.14	0.26	-88.8	-112.9	-133.3	-152.8	86.7	-131.76
2.50	12.47	704.2	699.6	697.4	-0.31	-0.23	-0.50	15.35	-13.1	-45.8	-46.7	0.13	0.26	-89.0	-112.3	-133.3	-152.9	100.0	-133.03
2.75	12.22	707.3	702.7	700.6	-0.33	-0.25	-0.52	15.36	-13.1	-45.6	-45.4	0.12	0.26	-88.7	-113.0	-133.4	-152.0	177.0	-137.77
3.00	12.02	710.4	705.7	703.6	-0.35	-0.28	-0.54	15.36	-13.1	-46.2	-45.4	0.11	0.26	-88.9	-113.0	-133.2	-151.7	211.6	-139.46
3.25	11.85	713.4	708.7	706.7	-0.38	-0.30	-0.56	15.37	-13.2	-46.2	-45.2	0.10	0.27	-88.7	-112.9	-133.3	-152.2	302.4	-142.49
3.50	11.70	716.3	711.7	709.6	-0.40	-0.33	-0.58	15.38	-13.3	-45.2	-44.5	0.10	0.28	-89.1	-113.1	-133.3	-152.2	361.5	-144.14
3.75	11.58	719.3	714.6	712.6	-0.43	-0.35	-0.61	15.37	-13.3	-45.8	-44.2	0.09	0.28	-89.5	-112.9	-133.3	-151.9	507.5	-146.79
4.00	11.49	722.2	717.5	715.5	-0.46	-0.38	-0.63	15.38	-13.3	-45.3	-44.0	0.09	0.28	-88.9	-112.7	-133.1	-152.1	606.7	-148.10
4.25	11.41	725.1	720.4	718.3	-0.49	-0.41	-0.66	15.39	-13.4	-44.5	-43.8	0.08	0.28	-89.3	-112.7	-133.2	-152.6	851.6	-150.58
4.50	11.35	727.9	723.2	721.2	-0.51	-0.43	-0.68	15.39	-13.4	-45.2	-43.0	0.08	0.29	-89.6	-113.0	-133.3	-152.4	1000.0	-151.02

\*at 25°C unless mentioned otherwise



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