

Surface Mount Voltage Controlled Oscillator

MOS-114+

Wide Band 57 to 114 MHz

Features

- Low phase noise
- Low pushing
- Low pulling
- Aqueous washable

Applications

- Television
- Radio FM
- Mobile radio services
- Safety warning systems



CASE STYLE: CZ682
PRICE: \$ 24.95 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 (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.
MOS-114+	57	114	+7	-85	-110	-131	-152	0.5	14	6	-	2	-90	-12	-	0.3	0.1	15	22

Pin Connections

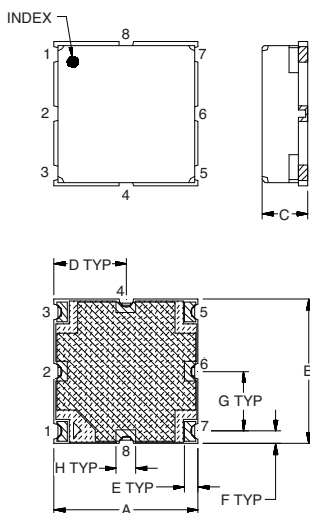
RF OUT	5
VCC	3
V-TUNE	1
GROUND	2,4,6,7,8

Maximum Ratings

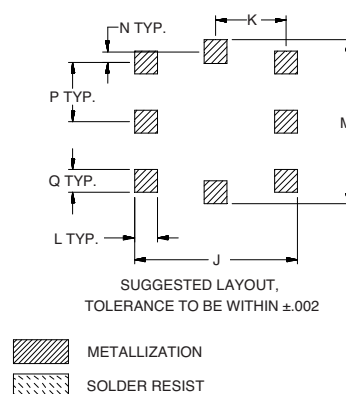
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	17V
Absolute Max. Tuning Voltage (Vtune)	16V
All specifications	50 ohm system

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

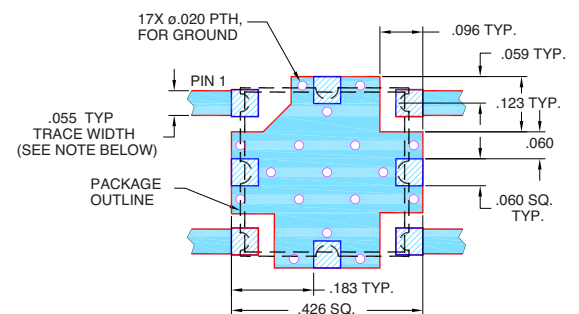
Outline Drawing



PCB Land Pattern



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



- NOTES:
1. TRACE WIDTH IS SHOWN FOR RF4 WITH DIELECTRIC THICKNESS 0.030" ± 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	GRAM
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	0.60

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ISO 9001 ISO 14001 AS 9100 CERTIFIED

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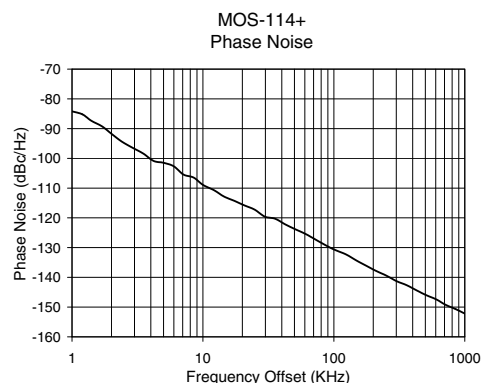
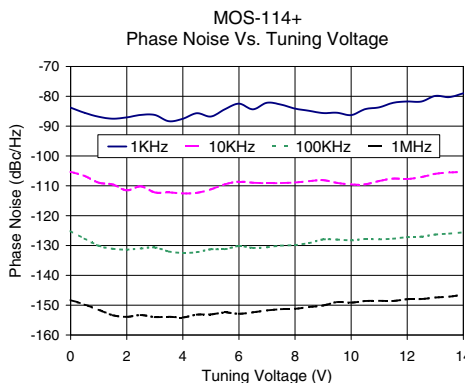
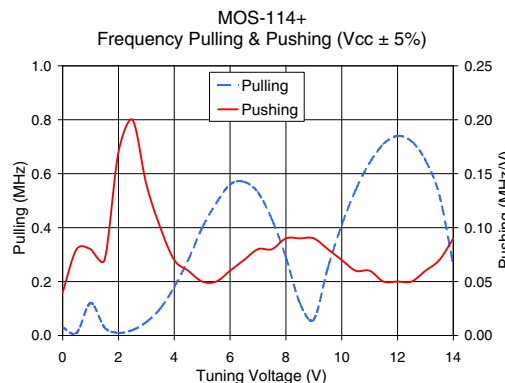
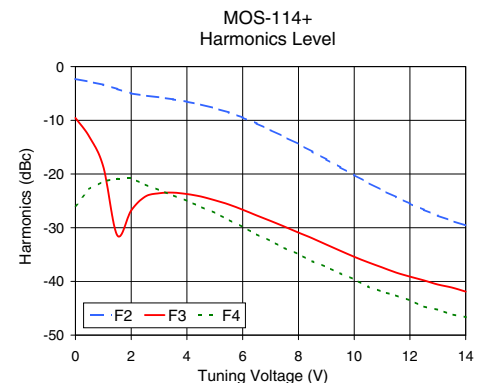
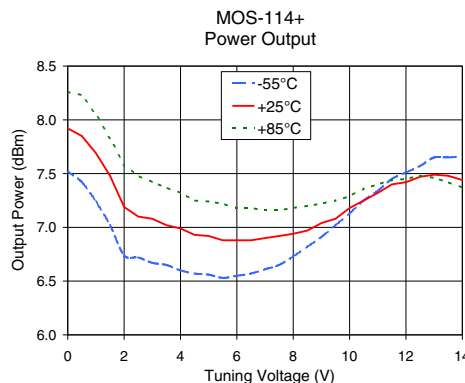
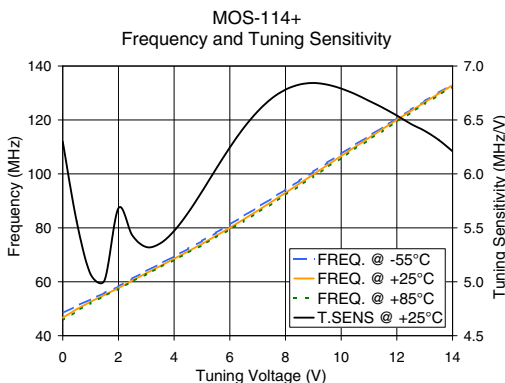
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Performance Data & Curves*

MOS-114+

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 86 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	6.30	48.4	46.7	45.6	7.52	7.92	8.26	18.29	-2.3	-9.6	-25.9	0.04	0.03	-83.8	-105.3	-125.2	-148.3	1.0	-84.21
0.50	5.56	51.0	49.8	49.1	7.42	7.85	8.23	18.23	-2.8	-13.1	-22.8	0.08	0.01	-85.5	-106.7	-127.7	-149.8	2.0	-91.74
1.00	5.07	53.5	52.6	52.1	7.24	7.69	8.05	18.14	-3.4	-18.7	-21.4	0.08	0.12	-86.8	-109.0	-130.1	-151.5	3.5	-98.39
2.00	5.68	58.3	57.6	57.3	6.74	7.19	7.58	17.84	-5.0	-26.8	-20.8	0.17	0.01	-87.1	-111.5	-131.4	-153.9	6.0	-102.69
3.00	5.32	64.0	63.2	62.8	6.67	7.08	7.42	17.60	-5.7	-23.6	-23.0	0.14	0.05	-86.3	-112.2	-130.6	-154.0	8.5	-106.46
4.00	5.47	69.4	68.5	68.1	6.60	6.99	7.32	17.42	-6.5	-23.7	-25.0	0.07	0.18	-87.5	-112.5	-132.5	-154.1	10.0	-108.92
5.00	5.84	75.1	74.1	73.6	6.56	6.92	7.24	17.27	-7.7	-24.9	-27.3	0.05	0.40	-86.8	-111.2	-131.3	-153.1	20.8	-115.85
6.00	6.25	81.2	80.0	79.4	6.55	6.88	7.18	17.14	-9.5	-26.7	-29.9	0.06	0.56	-82.5	-108.6	-130.2	-152.9	35.5	-120.28
6.50	6.43	84.4	83.2	82.5	6.57	6.88	7.18	17.08	-10.6	-27.7	-31.2	0.07	0.57	-84.4	-109.0	-130.8	-152.4	60.7	-125.39
7.00	6.58	87.6	86.4	85.7	6.61	6.90	7.16	17.03	-11.8	-28.7	-32.5	0.08	0.53	-82.2	-109.1	-130.6	-151.8	86.7	-129.23
8.00	6.78	94.2	93.0	92.2	6.73	6.94	7.18	16.97	-14.4	-30.9	-34.9	0.09	0.29	-84.1	-108.9	-129.9	-151.2	100.0	-130.62
9.00	6.84	100.8	99.8	99.0	6.91	7.04	7.22	16.92	-17.3	-33.1	-37.3	0.09	0.06	-85.6	-108.1	-128.0	-150.1	148.1	-134.31
10.00	6.79	107.5	106.6	105.9	7.13	7.18	7.29	16.90	-20.2	-35.4	-39.6	0.07	0.41	-86.3	-109.6	-128.3	-149.2	177.0	-136.12
11.00	6.68	114.1	113.4	112.7	7.34	7.32	7.40	16.89	-23.0	-37.4	-41.9	0.06	0.64	-83.7	-108.4	-127.9	-148.5	211.6	-137.89
11.50	6.61	117.4	116.7	116.0	7.45	7.40	7.44	16.89	-24.3	-38.3	-42.6	0.05	0.71	-82.2	-107.6	-127.7	-148.6	302.4	-141.30
12.00	6.54	120.6	120.1	119.4	7.51	7.42	7.45	16.88	-25.5	-39.1	-43.5	0.05	0.74	-81.7	-107.7	-127.2	-148.0	361.5	-142.68
12.50	6.46	123.8	123.3	122.7	7.57	7.47	7.48	16.89	-26.7	-39.8	-44.7	0.05	0.72	-81.8	-107.1	-127.0	-148.0	507.5	-145.98
13.00	6.40	127.0	126.6	126.0	7.65	7.49	7.46	16.89	-27.8	-40.6	-45.3	0.06	0.65	-79.9	-106.0	-126.3	-147.4	606.7	-147.42
13.50	6.32	130.1	129.8	129.2	7.65	7.48	7.42	16.88	-28.7	-41.1	-46.1	0.07	0.52	-80.3	-105.5	-126.0	-147.1	851.6	-150.69
14.00	6.21	133.2	132.9	132.4	7.66	7.44	7.37	16.88	-29.6	-41.9	-46.7	0.09	0.26	-79.0	-105.4	-125.6	-146.5	1000.0	-152.17

*at 25°C unless mentioned otherwise



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