NON-CATALOG

Surface Mount

Voltage Controlled Oscillator

ROS-960PV+

5V Tuning for PLL ICs 890 to 960 MHz

Generic photo used for illustration purposes only

CASE STYLE: CK605

Features
- low phase noise, -142 dBc/Hz at 1 MHz, typ.
- linear tuning, 25-28 MHz/V typ.
- aqueous washable

Applications
- cellular
- instrumentation
- fast tuning
- PLL circuitry

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

FREQUENCY (MHz)		POWER OUTPUT (dBm)	TUNING VOLTAGE (V)		PHASE NOISE (dBc/Hz) SSB at offset frequencies: Typ.				PULLING pk-pk @ 12 dBr (MHz)	PUSHING (MHz/V)	TUNING SENSITIVITY (MHz/V)	HARMONICS (dBc)		3 dB MODULATION BANDWIDTH (MHz)	DC OPERATING POWER	
					1 kHz	10 kHz	100 kHz	1 MHz							Voltage (V)	Current (mA) Max.
Min.	Max.	Typ.	Min.	Max.					Typ.	Typ.	Typ.	Typ.	Max.	Typ.		
890	960	0	0.5	5.0	-80	-102	-122	-142	2.0	0.2	25-28	-27	-18	1.0	5	12

Pin Connections

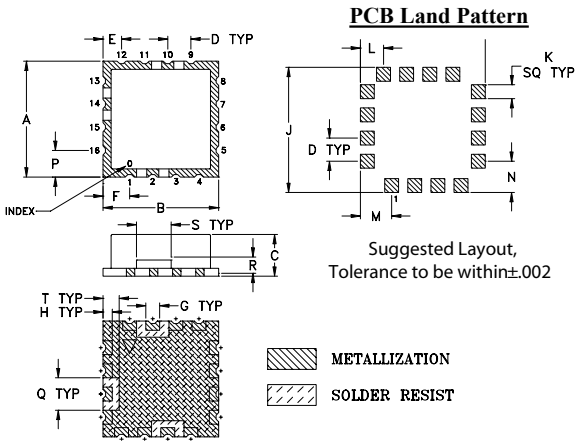
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

Maximum Ratings

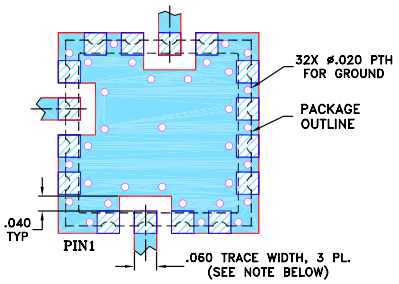
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+6V
Absolute Max. Tuning Voltage (Vtune)	+6V

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 FR4 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

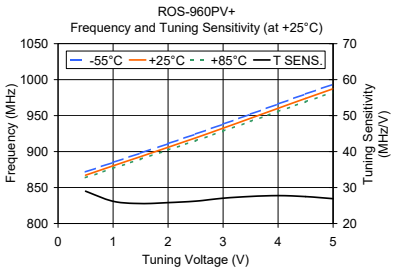
Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	wt.
.500	.500	.180	.100	.080	.115	.060	.040	.540	.060	.100	.135	.135	.115	.140	.070	.150	.070	grams
12.70	12.70	4.57	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	1.0

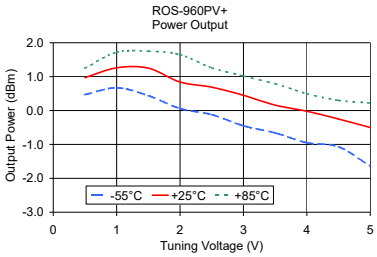
Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

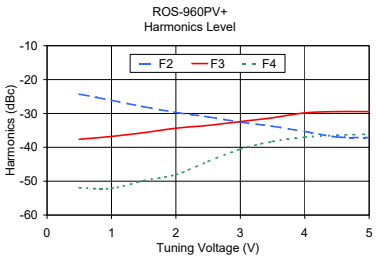
Performance Data & Curves

ROS-960PV+

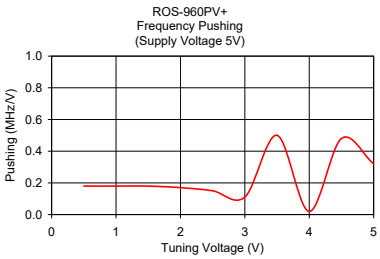


V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
0.50	28.98	871.76	867.13	863.73	0.47	0.97	1.25
1.00	26.18	884.93	880.22	876.80	0.67	1.26	1.72
1.50	25.56	897.89	893.00	889.45	0.44	1.25	1.75
2.00	25.81	911.01	905.90	902.20	0.06	0.84	1.65
2.50	26.21	924.34	919.01	915.12	-0.12	0.69	1.26
3.00	27.04	938.09	932.53	928.44	-0.45	0.45	1.02
3.50	27.52	952.05	946.29	942.02	-0.66	0.16	0.79
4.00	27.75	966.07	960.17	955.74	-0.95	-0.02	0.50
4.50	27.49	979.98	973.91	969.27	-1.07	-0.25	0.30
5.00	26.90	993.64	987.36	982.54	-1.64	-0.50	0.22





V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
0.50	-24.28	-37.62	-51.95	0.18
1.00	-26.12	-36.79	-52.12	0.18
1.50	-28.01	-35.68	-49.85	0.18
2.00	-29.71	-34.37	-48.04	0.17
2.50	-31.03	-33.53	-44.19	0.15
3.00	-32.55	-32.39	-40.55	0.11
3.50	-33.78	-31.28	-38.28	0.50
4.00	-35.33	-29.83	-37.00	0.02
4.50	-36.95	-29.45	-36.45	0.48
5.00	-37.12	-29.45	-36.12	0.32



Notes

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.

B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp