

# Surface Mount Voltage Controlled Oscillator

# ROS-900PV+ ROS-900PV

5V Tuning for PLL IC's 810 to 900 MHz



CASE STYLE: CK605  
PRICE: \$19.95 ea. QTY (5-49)

+ RoHS compliant in accordance  
with EU Directive (2002/95/EC)

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

## Features

- supply voltage, 4.5V
- tuning voltage, 5V
- excellent tuning linearly
- small size, 0.5"x0.5"x0.18"
- wide modulation BW, 1MHz typ.

## Applications

- communication receivers
- frequency synthesizers
- cellular
- fast tuning

## Electrical Specifications

FREQUENCY (MHz)	POWER OUTPUT (dBm)	TUNING VOLTAGE (V)	PHASE NOISE (dBc/Hz)				PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	TUNING SENSITIVITY (MHz/V)	HARMONICS (dBc)		3 dB MODULATION BANDWIDTH (MHz)	DC OPERATING POWER			
			SSB at offset frequencies: Typ.							Typ.	Typ.		Typ.	Max.	Typ.	Max.
Min.	Max.	Typ.	Min.	Max.	1 kHz	10 kHz	100 kHz	1 MHz	Typ.	Typ.	Typ.	Max.	Typ.	Max.		
810	900	1	0.5	5.0	-80	-102	-122	-142	3.0	2.0	26-30	-25	-16	1.0	4.5	12

## Pin Connections

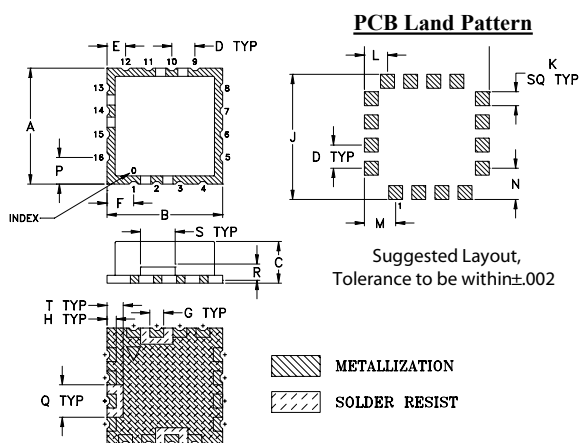
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

## Maximum Ratings

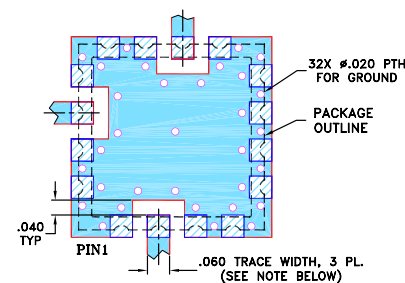
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+6V
Absolute Max. Tuning Voltage (Vtune)	+6V

all specifications: 50 ohm system  
Permanent damage may occur if any of these limits are exceeded.

## Outline Drawing



## Demo Board MCL PIN: 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

**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

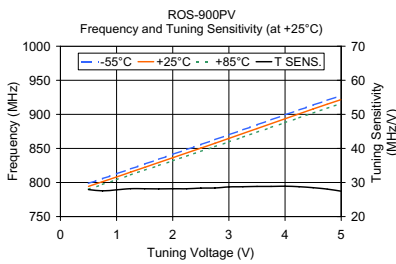
For detailed performance specs  
& shopping online see web site

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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](http://www.minicircuits.com/MCLStore/terms.jsp).

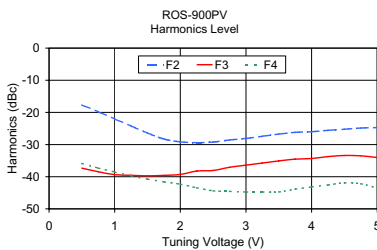
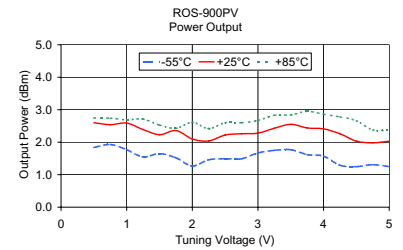
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# ROS-900PV+ ROS-900PV

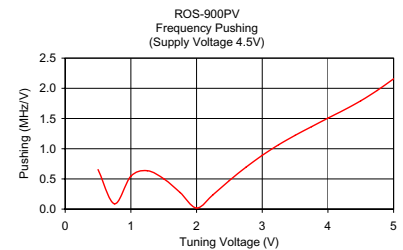
## Performance Data & Curves



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	27.93	798.86	794.32	790.13	1.84	2.60	2.75
0.75	27.55	805.79	801.21	797.21	1.93	2.54	2.74
1.00	27.86	812.84	808.17	804.22	1.77	2.59	2.69
1.25	28.19	819.97	815.22	811.18	1.55	2.39	2.71
1.50	28.16	827.08	822.26	818.09	1.65	2.23	2.53
1.75	28.13	834.19	829.29	824.98	1.52	2.36	2.43
2.00	28.17	841.32	836.33	831.87	1.27	2.10	2.61
2.25	28.16	848.46	843.37	838.73	1.46	2.04	2.42
2.50	28.35	855.68	850.46	845.67	1.49	2.22	2.60
2.75	28.39	862.87	857.56	852.63	1.49	2.26	2.60
3.00	28.70	870.11	864.73	859.62	1.67	2.28	2.67
3.25	28.76	877.40	871.92	866.67	1.75	2.43	2.83
3.50	28.84	884.69	879.13	873.75	1.77	2.55	2.84
3.75	28.85	891.99	886.34	880.84	1.62	2.44	2.95
4.00	28.90	899.27	893.57	887.92	1.57	2.41	2.86
4.25	28.76	906.53	900.76	894.98	1.29	2.26	2.78
4.50	28.47	913.70	907.88	901.99	1.25	2.03	2.66
4.75	28.07	920.73	914.90	908.92	1.31	1.98	2.38
5.00	27.44	927.57	921.76	915.71	1.25	2.03	2.37



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
0.50	-17.67	-37.34	-35.84	0.65
0.75	-19.80	-38.46	-37.30	0.09
1.00	-22.03	-39.36	-38.53	0.55
1.25	-24.22	-39.56	-39.72	0.64
1.50	-26.40	-39.73	-40.73	0.50
1.75	-28.26	-39.59	-41.59	0.27
2.00	-29.14	-39.30	-42.30	0.02
2.25	-29.41	-38.24	-43.41	0.24
2.50	-29.22	-38.06	-44.39	0.47
2.75	-28.56	-37.06	-44.56	0.69
3.00	-28.08	-36.41	-44.74	0.89
3.25	-27.41	-35.74	-44.74	1.07
3.50	-26.74	-35.08	-44.74	1.22
3.75	-26.20	-34.54	-43.87	1.36
4.00	-26.01	-34.34	-43.17	1.51
4.25	-25.56	-33.73	-42.56	1.64
4.50	-25.23	-33.40	-41.90	1.79
4.75	-24.85	-33.51	-42.18	1.96
5.00	-24.70	-34.03	-43.53	2.16



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