

Surface Mount

## Voltage Controlled Oscillator

## ROS-740PV+

5V Tuning for PLL IC's 720 to 740 MHz



CASE STYLE: CK605  
PRICE: Contact Sales Dept.

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

### Features

- low phase noise, -106 dBc/Hz at 10 kHz offset, typ.
- linear tuning, 8-14 MHz/V typ.
- 5V power supply
- aqueous washable
- protected by US patent 6,424,241

### Applications

- PLL circuitry
- UHF
- communication systems

### Electrical Specifications

FREQUENCY (MHz)		POWER OUTPUT (dBm)	TUNING VOLTAGE (V)		PHASE NOISE (dBc/Hz) SSB at offset frequencies: Typ.				PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	TUNING SENSITIVITY (MHz/V)	HARMONICS (dBc)		3 dB MODULATION BANDWIDTH (MHz)	DC OPERATING POWER	
Min.	Max.	Typ.	Min.	Max.	1 kHz	10 kHz	100 kHz	1 MHz	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Voltage (V)	Current (mA) Max.
720	740	0	0.5	5.0	-84	-106	-126	-145	1.0	0.8	10-14	-16	-10	5.0	5	15

### Pin Connections

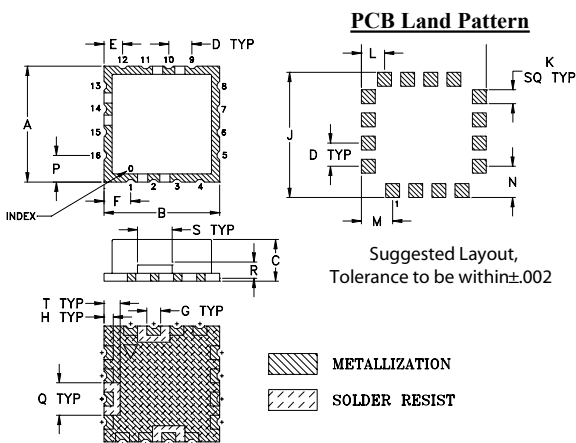
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

### Maximum Ratings

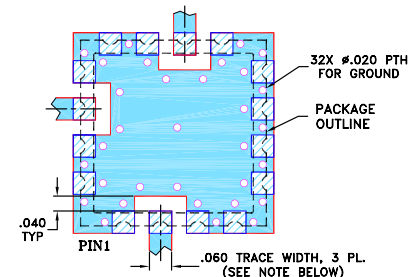
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+6V
Absolute Max. Tuning Voltage (Vtune)	+6V

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

### Notes

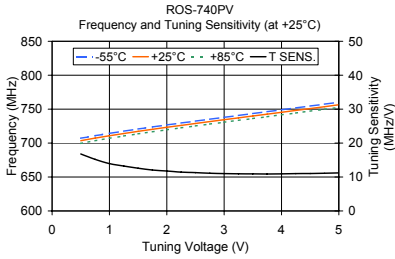
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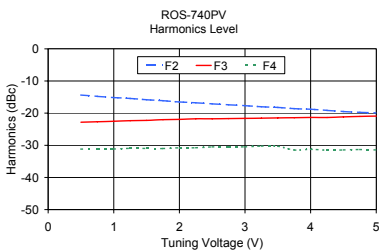
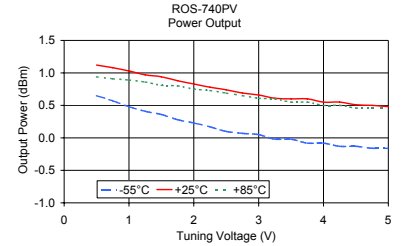
# NON-CATALOG

## Performance Data & Curves

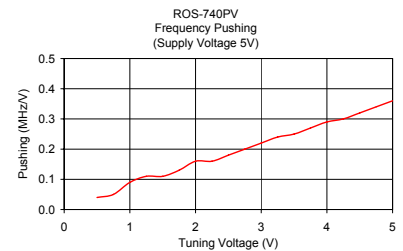
## ROS-740PV+



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	16.80	707.20	703.51	699.64	0.65	1.12	0.94
0.75	15.20	710.89	707.31	703.55	0.57	1.08	0.91
1.00	13.96	714.33	710.80	707.12	0.48	1.03	0.89
1.25	13.24	717.60	714.11	710.48	0.41	0.97	0.86
1.50	12.60	720.74	717.26	713.65	0.36	0.94	0.81
1.75	12.06	723.76	720.28	716.69	0.28	0.88	0.80
2.00	11.77	726.71	723.22	719.64	0.23	0.83	0.75
2.25	11.45	729.58	726.08	722.50	0.17	0.78	0.73
2.50	11.30	732.42	728.90	725.31	0.10	0.74	0.69
2.75	11.12	735.22	731.68	728.08	0.07	0.69	0.65
3.00	11.01	738.01	734.44	730.81	0.05	0.66	0.61
3.25	10.94	740.77	737.17	733.53	-0.02	0.61	0.60
3.50	10.92	743.53	739.90	736.23	-0.02	0.60	0.55
3.75	10.89	746.29	742.62	738.93	-0.08	0.60	0.55
4.00	10.92	749.05	745.35	741.63	-0.08	0.55	0.50
4.25	11.00	751.84	748.10	744.36	-0.13	0.55	0.50
4.50	11.03	754.63	750.86	747.09	-0.13	0.51	0.46
4.75	11.11	757.44	753.64	749.84	-0.16	0.50	0.46
5.00	11.21	760.29	756.44	752.61	-0.16	0.48	0.46



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
0.50	-14.35	-22.83	-31.18	0.04
0.75	-14.78	-22.67	-31.12	0.05
1.00	-15.16	-22.53	-31.14	0.09
1.25	-15.42	-22.33	-30.93	0.11
1.50	-15.82	-22.26	-30.98	0.11
1.75	-16.11	-22.03	-30.99	0.13
2.00	-16.52	-21.95	-30.77	0.16
2.25	-16.77	-21.75	-30.76	0.16
2.50	-17.10	-21.76	-30.50	0.18
2.75	-17.40	-21.68	-30.46	0.20
3.00	-17.67	-21.63	-30.47	0.22
3.25	-18.00	-21.57	-30.23	0.24
3.50	-18.20	-21.48	-30.29	0.25
3.75	-18.58	-21.42	-31.46	0.27
4.00	-18.77	-21.33	-31.24	0.29
4.25	-19.13	-21.35	-31.52	0.30
4.50	-19.48	-21.17	-31.43	0.32
4.75	-19.73	-21.02	-31.30	0.34
5.00	-19.91	-20.92	-31.43	0.36



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