

Voltage Controlled Oscillator

ROS-550PV+ ROS-550PV

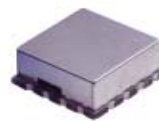
5V Tuning for PLL IC's 450 to 550 MHz

Features

- wide frequency range
- low phase noise, -104 dBc/Hz at 10 kHz offset, typ.
- linear tuning, 30-60 MHz/V typ.
- 5V power supply
- aqueous washable

Applications

- aeronautical communication
- instrumentation
- UHF
- PLL circuitry



CASE STYLE: CK605

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

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

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: 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.		1 kHz	10 kHz	100 kHz	1 MHz				Typ.	Max.		Voltage (V)	Current (mA)
ROS-550PV(+)	450	550	6	-81	-104	-124	-144	3.0	0.5	30-60	-15	—	8.0	5	15

TUNING VOLTAGE TO COVER FREQUENCY RANGE 0.5V MIN. TO 5V MAX.

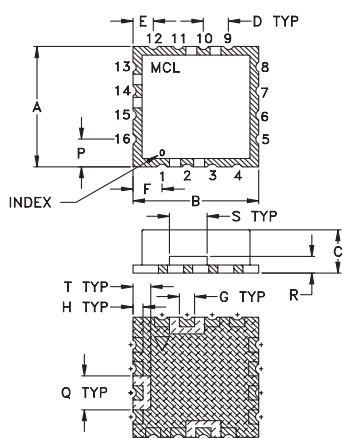
Pin Connections

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

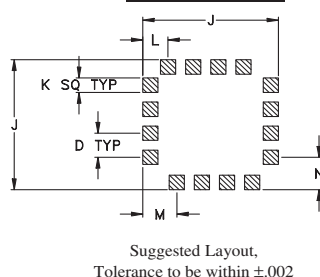
Maximum Ratings

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	

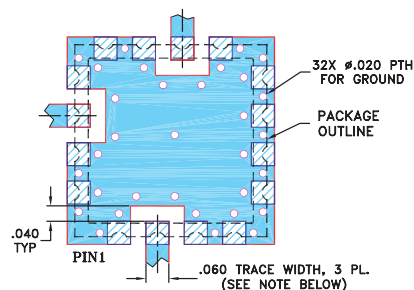
Outline Drawing



PCB Land Pattern



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.

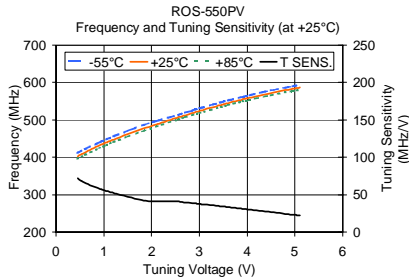
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Dimensions (inch)

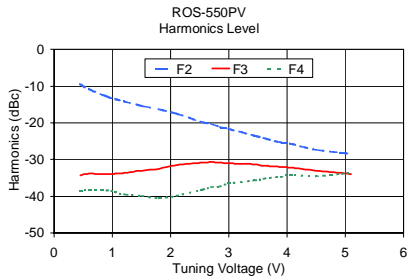
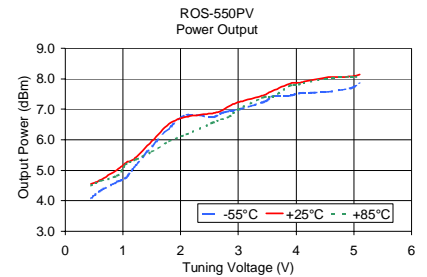
A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	wt.
.500	.500	.180	.100	.080	.115	.060	.040	.540	.060	.100	.135	.135	.115	.140	.070	.150	.070	grams
12.70	12.70	4.57	2.54	2.03	2.92	1.52	1.02	13.72	1.52	2.54	3.43	3.43	2.92	3.56	1.78	3.81	1.78	1.0

Performance Curves

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V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
0.45	72.32	411.96	403.14	396.60	4.08	4.54	4.50
0.60	66.08	421.84	413.05	406.67	4.31	4.67	4.64
0.90	58.45	439.76	431.13	424.69	4.62	5.02	4.82
1.05	55.48	448.07	439.45	432.94	4.75	5.25	5.19
1.20	52.48	455.96	447.33	440.73	5.10	5.38	5.33
1.50	47.74	470.83	462.00	455.31	5.79	5.96	5.61
1.80	42.69	484.59	475.23	469.06	6.37	6.52	5.95
2.10	41.48	497.27	487.56	482.29	6.82	6.75	6.18
2.55	41.03	513.32	506.26	501.08	6.74	6.87	6.55
2.70	39.88	519.27	512.24	507.04	6.87	6.95	6.67
2.85	38.97	525.09	518.09	512.85	6.95	7.11	6.77
3.00	37.98	530.76	523.78	518.51	6.99	7.23	7.00
3.45	34.69	546.80	539.92	534.52	7.25	7.47	7.40
3.60	33.88	551.86	545.00	539.56	7.43	7.61	7.42
3.90	31.45	561.42	554.61	549.06	7.45	7.85	7.78
4.05	30.37	565.95	559.16	553.56	7.53	7.87	7.82
4.50	26.96	578.58	571.83	565.99	7.57	8.04	8.00
4.95	23.46	589.72	582.94	576.79	7.70	8.08	8.07
5.10	22.50	593.12	586.31	580.04	7.87	8.14	8.05



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
0.45	-9.50	-34.34	-38.50	1.31
0.60	-10.84	-33.84	-38.17	1.10
0.90	-12.83	-34.00	-38.33	0.71
1.05	-13.50	-33.84	-38.84	0.54
1.20	-14.17	-33.67	-39.50	0.36
1.50	-15.34	-33.00	-39.84	0.02
1.80	-16.33	-32.50	-40.50	0.35
2.10	-17.50	-31.50	-39.83	0.69
2.55	-19.83	-30.83	-38.17	0.84
2.70	-20.33	-30.66	-37.50	0.79
2.85	-21.17	-30.84	-37.34	0.76
3.00	-21.67	-31.00	-36.50	0.71
3.45	-23.50	-31.33	-35.66	0.59
3.60	-24.17	-31.67	-35.17	0.55
3.90	-25.34	-32.00	-34.67	0.49
4.05	-25.66	-32.16	-34.16	0.43
4.50	-27.33	-33.00	-34.50	0.33
4.95	-28.17	-33.67	-33.84	0.20
5.10	-28.50	-34.00	-33.50	0.13

