

# Surface Mount Voltage Controlled Oscillator

## ROS-285PV+

### 5V Tuning for PLL IC's 245 to 285 MHz



CASE STYLE: CK605

#### Features

- linear tuning, sensitivity ratio 2:1, typ.
- excellent harmonic suppression, -20 dBc typ.
- suitable for use with monolithic PLL chips
- 5V power supply
- aqueous washable

#### Applications

- communication receivers
- frequency synthesizers
- VHF
- 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)				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.	Max.		Typ.	Current (mA)		
Min.	Max.	Typ.	Min.	Max.	1 kHz	10 kHz	100 kHz	1 MHz	Typ.	Typ.	Typ.	Max.	Typ.	Max.		
245	285	3	0.5	5.0	-80	-100	-120	-140	2.0	0.2	10-20	-20	-10	0.1	5	20

#### Pin Connections

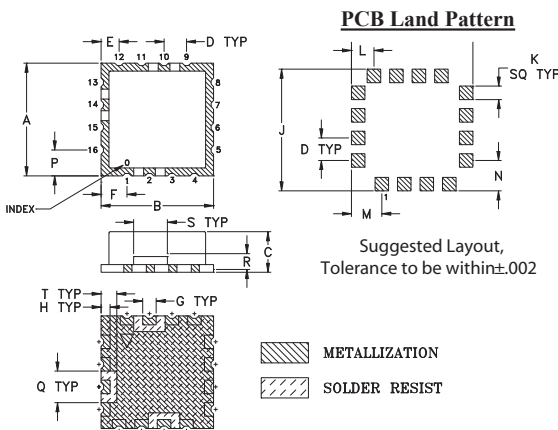
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

#### Maximum Ratings

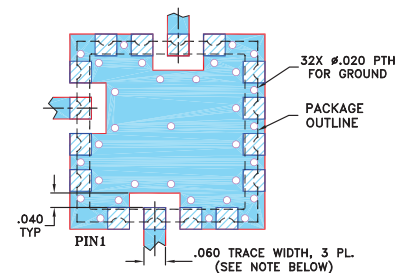
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+8V
Absolute Max. Tuning Voltage (Vtune)	+10V

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

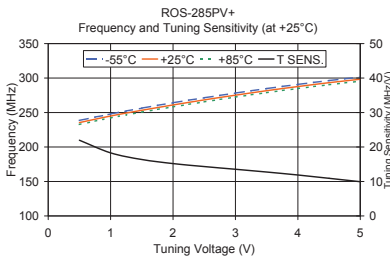
#### Notes

- 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.  
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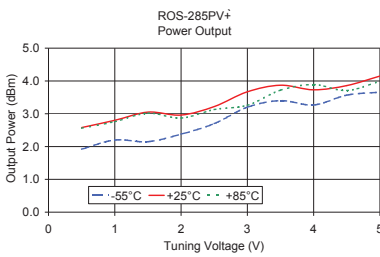
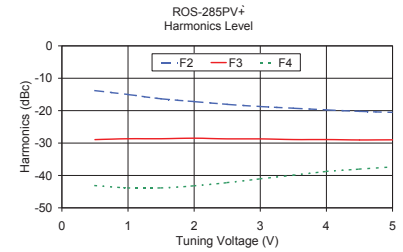


# Performance Data & Curves

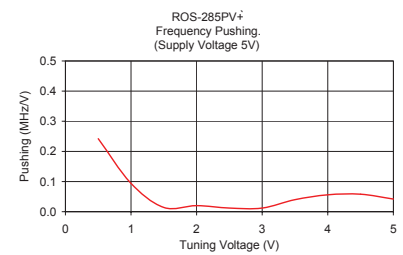
# ROS-285PV+



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	21.97	238.58	235.41	232.77	1.92	2.58	2.56
1.00	18.29	248.02	244.92	242.29	2.20	2.80	2.76
1.50	16.37	256.43	253.32	250.66	2.15	3.05	3.02
2.00	15.19	264.18	261.05	258.35	2.38	2.96	2.87
2.50	14.32	271.45	268.29	265.57	2.70	3.22	3.13
3.00	13.55	278.31	275.15	272.41	3.20	3.67	3.26
3.50	12.75	284.78	281.64	278.86	3.40	3.87	3.72
4.00	11.87	290.82	287.69	284.88	3.27	3.73	3.89
4.50	10.91	296.39	293.27	290.45	3.57	3.86	3.71
5.00	9.93	301.45	298.36	295.53	3.66	4.15	3.99



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
0.50	-13.78	-28.94	-43.11	0.24
1.00	-15.00	-28.66	-43.83	0.09
1.50	-16.33	-28.67	-43.83	0.01
2.00	-17.18	-28.51	-43.18	0.02
2.50	-18.04	-28.70	-42.20	0.01
3.00	-18.71	-28.71	-41.04	0.01
3.50	-19.24	-28.91	-39.91	0.04
4.00	-19.74	-28.91	-38.74	0.06
4.50	-20.21	-29.04	-38.04	0.06
5.00	-20.51	-29.01	-37.35	0.04



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