

Surface Mount

# Voltage Controlled Oscillator

# ROS-1100V+

Linear Tuning 1000 to 1100 MHz

### Features

- low phase noise, -103 dBc/Hz at 10 KHz
- linear tuning sensitivity, 12-16 MHz/V typ.
- 5V power supply
- aqueous washable
- protected by US patent 6,424,241

### Applications

- radio



Generic photo used for illustration purposes only

CASE STYLE: CK605

**+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	
Min.	Max.		Min.	Max.	SSB at offset frequencies: Typ.							Typ.	Typ.		Typ.	Max.
		Typ.			1 kHz	10 kHz	100 kHz	1 MHz	Typ.	Typ.	Typ.	Typ.	Max.	Typ.		
1000	1100	0	0.5	12	-80	-103	-123	-142	1.5	1.5	12-16	-26	-20	8.0	5	25

### Pin Connections

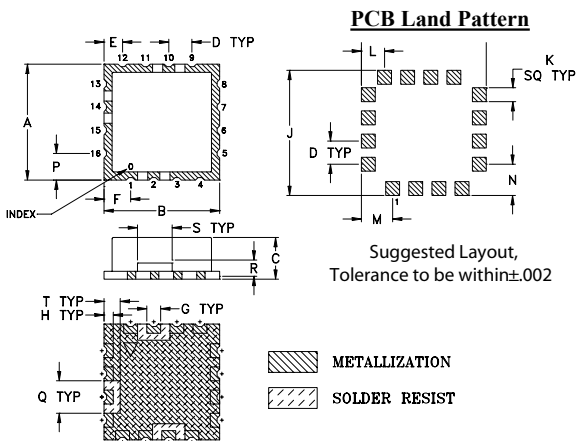
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

### Maximum Ratings

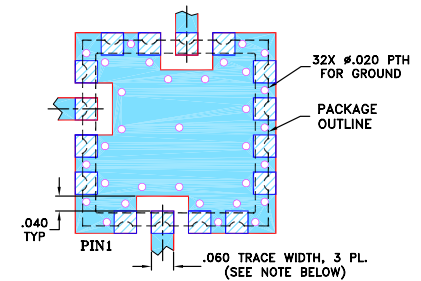
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+6V
Absolute Max. Tuning Voltage (Vtune)	+15V

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

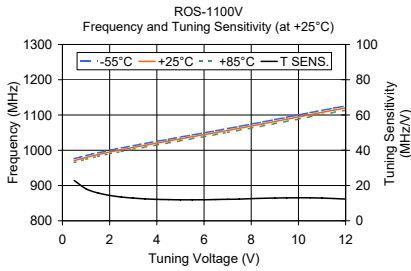
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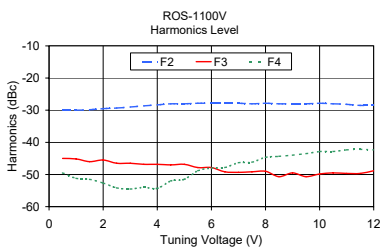
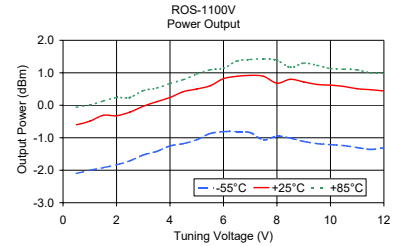
# NON-CATALOG

## Performance Data & Curves

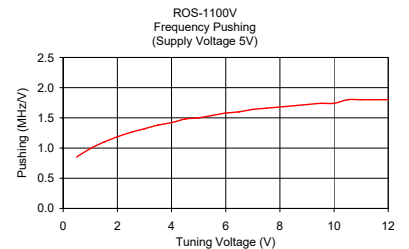
## ROS-1100V+



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	22.86	976.23	970.63	965.38	-2.10	-0.60	-0.06
1.00	18.13	985.00	979.69	974.64	-2.00	-0.49	0.01
1.50	15.82	992.77	987.60	982.61	-1.92	-0.31	0.13
2.00	14.42	999.89	994.81	989.84	-1.83	-0.32	0.24
2.50	13.47	1006.59	1001.55	996.55	-1.71	-0.21	0.24
3.00	12.88	1013.02	1007.99	1002.96	-1.53	-0.03	0.45
3.50	12.44	1019.25	1014.21	1009.13	-1.42	0.11	0.53
4.00	12.14	1025.35	1020.28	1015.16	-1.25	0.24	0.67
4.50	12.02	1031.37	1026.29	1021.10	-1.18	0.42	0.79
5.00	11.90	1037.36	1032.24	1026.99	-1.06	0.50	0.96
5.50	11.90	1043.34	1038.19	1032.87	-0.87	0.60	1.09
6.00	11.93	1049.35	1044.16	1038.76	-0.81	0.82	1.14
6.50	12.04	1055.42	1050.18	1044.72	-0.81	0.89	1.36
7.00	12.18	1061.56	1056.27	1050.73	-0.84	0.92	1.41
7.50	12.32	1067.79	1062.43	1056.82	-1.06	0.89	1.43
8.00	12.54	1074.11	1068.70	1063.00	-0.95	0.68	1.39
8.50	12.74	1080.54	1075.07	1069.31	-1.01	0.80	1.17
9.00	12.87	1087.02	1081.50	1075.64	-1.11	0.72	1.30
9.50	13.02	1093.57	1088.01	1082.07	-1.18	0.64	1.23
10.00	13.05	1100.16	1094.54	1088.52	-1.21	0.62	1.13
10.50	13.05	1106.73	1101.06	1094.97	-1.24	0.58	1.11
11.00	12.90	1113.19	1107.51	1101.34	-1.30	0.51	1.09
11.50	12.62	1119.53	1113.82	1107.60	-1.36	0.48	1.00
12.00	12.29	1125.68	1119.97	1113.67	-1.31	0.44	0.98



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
0.50	-30.00	-45.00	-49.50	0.85
1.00	-30.00	-45.17	-51.17	0.99
1.50	-29.84	-46.00	-51.50	1.10
2.00	-29.50	-45.50	-52.67	1.19
2.50	-29.33	-46.50	-54.16	1.26
3.00	-29.00	-46.50	-54.50	1.32
3.50	-28.66	-46.83	-54.00	1.38
4.00	-28.33	-46.83	-54.33	1.42
4.50	-28.00	-47.00	-52.00	1.48
5.00	-28.00	-46.84	-51.50	1.50
5.50	-27.84	-47.84	-48.84	1.54
6.00	-27.84	-47.84	-48.00	1.58
6.50	-27.83	-49.17	-47.83	1.60
7.00	-27.83	-49.33	-46.33	1.64
7.50	-28.00	-49.17	-46.17	1.66
8.00	-27.84	-49.00	-44.67	1.68
8.50	-28.00	-50.67	-44.34	1.70
9.00	-28.00	-49.50	-44.00	1.72
9.50	-28.00	-50.67	-43.50	1.74
10.00	-27.83	-49.83	-42.83	1.74
10.50	-28.00	-49.50	-42.83	1.80
11.00	-28.16	-49.66	-42.33	1.80
11.50	-28.50	-49.66	-42.16	1.80
12.00	-28.50	-48.84	-42.33	1.80



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