

Surface Mount Voltage Controlled Oscillator

ROS-400+ ROS-400

Linear Tuning 200 to 380 MHz

Features

- octave band tuning
- low phase noise, -100 dBc/Hz at 10 kHz offset
- linear tuning, 9-22 MHz/V typ.
- excellent harmonic suppression, -24 dBc typ.
- aqueous washable

Applications

- test instruments-signal generators
- VHF/UHF



CASE STYLE: CK605
PRICE: \$14.95 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.

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.	Vcc (volts)	Current (mA) Max.
200	380	+9.5	0.5	17	-80	-100	-120	-140	0.2	0.3	9-22	-24	-18	0.1	12	20

Pin Connections

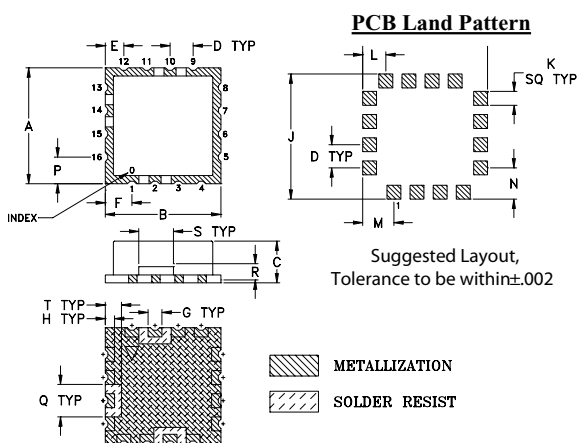
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

Maximum Ratings

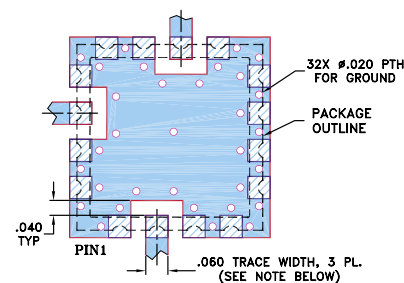
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+13V
Absolute Max. Tuning Voltage (Vtune)	+18V

all specifications: 50 ohm system

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.
- Legend:
 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



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



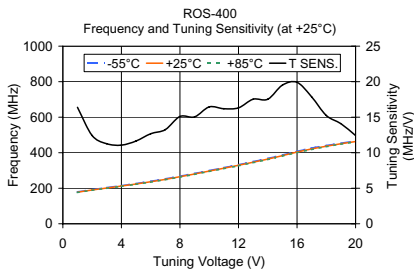
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RF/IF MICROWAVE COMPONENTS

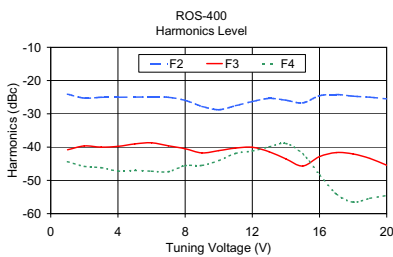
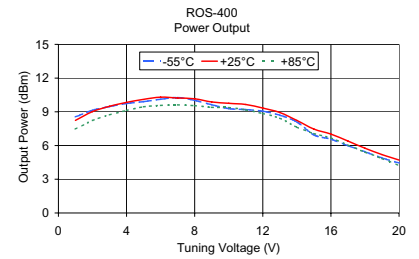
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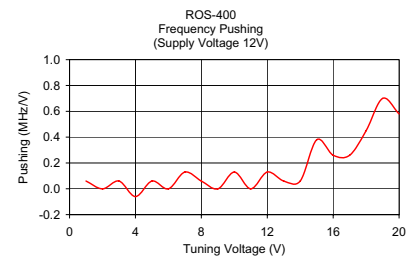
Performance Data & Curves



V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
1.00	16.38	179.97	177.60	176.26	8.55	8.24	7.47
2.00	12.42	192.32	190.02	188.54	9.14	9.02	8.23
3.00	11.26	203.71	201.28	199.74	9.47	9.49	8.73
4.00	11.07	214.98	212.35	210.75	9.74	9.84	9.12
5.00	11.65	226.50	224.00	222.21	9.91	10.11	9.45
6.00	12.67	239.55	236.67	234.30	10.12	10.30	9.57
7.00	13.25	253.12	249.92	247.94	10.27	10.23	9.62
8.00	15.10	268.03	265.02	262.46	10.02	10.16	9.55
9.00	15.04	283.52	280.06	277.89	9.63	9.88	9.40
10.00	16.45	299.65	296.51	294.08	9.29	9.76	9.38
11.00	16.19	316.22	312.70	309.89	9.20	9.65	9.17
12.00	16.32	332.54	329.02	326.53	9.06	9.33	8.85
13.00	17.54	350.40	346.56	343.74	8.70	8.94	8.43
14.00	17.54	367.74	364.10	361.47	8.10	8.23	7.64
15.00	19.52	387.07	383.62	380.93	6.95	7.46	7.07
16.00	19.90	407.87	403.52	400.19	6.57	7.02	6.67
17.00	17.86	426.24	421.38	417.79	5.99	6.40	6.05
18.00	15.23	440.83	436.61	433.79	5.44	5.76	5.42
19.00	14.08	453.63	450.69	448.06	4.90	5.19	4.85
20.00	12.42	466.43	463.10	460.03	4.45	4.71	4.21



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
1.00	-24.09	-40.80	-44.37	0.06
2.00	-25.26	-39.65	-45.79	0.00
3.00	-25.02	-40.01	-46.16	0.06
4.00	-25.00	-39.77	-47.19	-0.06
5.00	-24.96	-39.04	-47.00	0.06
6.00	-24.91	-38.71	-47.24	0.00
7.00	-25.03	-39.60	-47.39	0.13
8.00	-25.95	-40.49	-45.57	0.06
9.00	-27.74	-41.74	-45.49	0.00
10.00	-28.76	-41.06	-44.06	0.13
11.00	-27.57	-40.30	-41.89	0.00
12.00	-26.30	-40.04	-41.16	0.13
13.00	-25.35	-41.39	-39.93	0.06
14.00	-25.91	-43.54	-38.90	0.06
15.00	-26.71	-45.68	-42.00	0.38
16.00	-24.56	-42.85	-48.34	0.26
17.00	-24.18	-41.65	-54.06	0.26
18.00	-24.68	-42.06	-56.52	0.45
19.00	-25.00	-43.40	-55.40	0.70
20.00	-25.51	-45.46	-54.55	0.58



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