

Voltage Controlled Oscillator

ROS-400+ ROS-400

Linear Tuning 200 to 380 MHz

Features

- octave band tuning
- low phase noise, -100 dBc/Hz @ 10 KHz off set
- 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

MODEL NO.	FREQ. (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.		Min.	Max.	1 kHz	10 kHz	100 kHz	1 MHz				Typ.	Max.		V _{cc} (volts)	Current (mA)
ROS-400	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

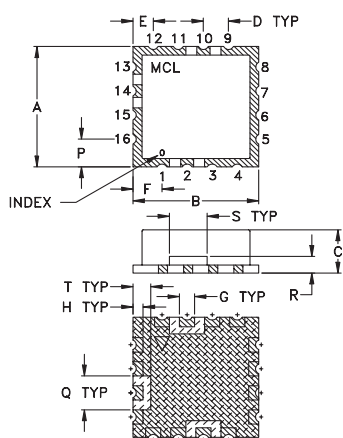
RFOUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

Maximum Ratings

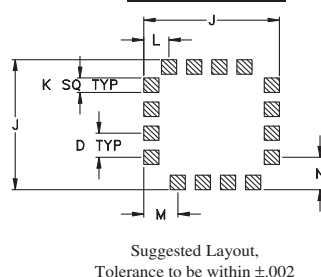
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (V _{cc})	+13V
Absolute Max. Tuning Voltage (V _{tune})	+18V

all specifications: 50 ohm system

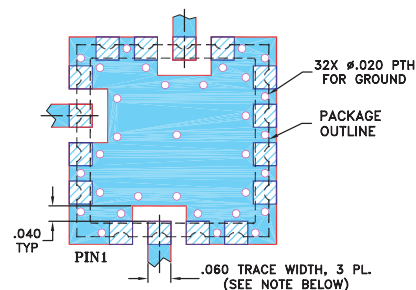
Outline Drawing



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.

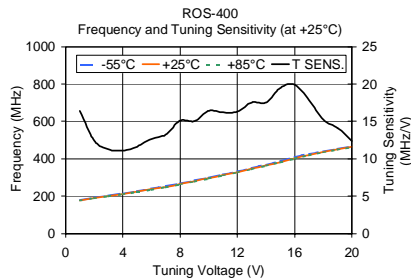
■ DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
□ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Dimensions (inch)

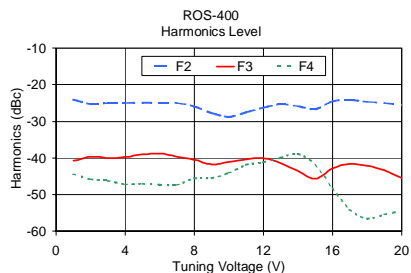
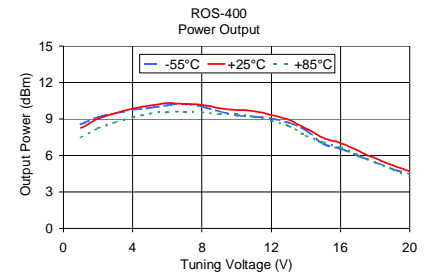
A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	wt.
.500	.500	.180	.100	.080	.115	.060	.040	.540	.060	.100	.135	.135	.115	.140	.070	.150	.070	grams
12.70	12.70	4.57	2.54	2.03	2.92	1.52	1.02	13.72	1.52	2.54	3.43	3.43	2.92	3.56	1.78	3.81	1.78	1.0

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
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

