NON-CATALOG

Surface Mount

Voltage Controlled Oscillator

ROS-2000

Wide Band 1350 to 2000 MHz

CASE STYLE: CK605

Features

- wide frequency range, 1350 to 2000 MHz
- low phase noise, -140 dBc/Hz at 1 MHz offset, typ.
- linear tuning, 36-53 MHz/V
- aqueous washable
- protected by US patent 6,549,084

Applications

- PCS
- DCS

Electrical Specifications

MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies,kHz				TUNING					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @12 dBr (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
				Typ.				VOLTAGE RANGE (V)		SENSI-TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)						Vcc (volts)	Current (mA)
	Min.	Max.	Typ.	1	10	100	1000	Min.	Max.	Typ.	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Typ.		Max.
ROS-2000	1350	2000	+7	-73	-99	-120	-140	0.5	20.0	36-53	25	180	-90	-20	-	6	0.5	12	30

Pin Connections

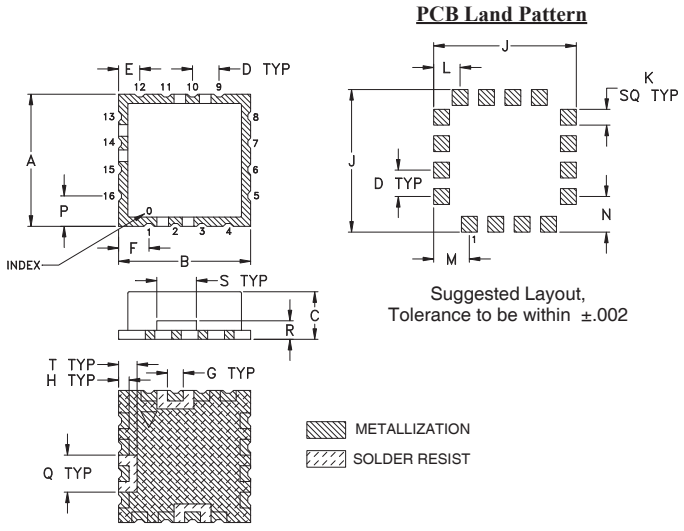
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

Maximum Ratings

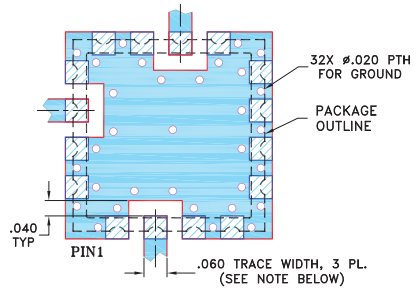
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	13V
Absolute Max. Tuning Voltage (Vtune)	22V
All specifications	50 ohm system

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 BOTTOM 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

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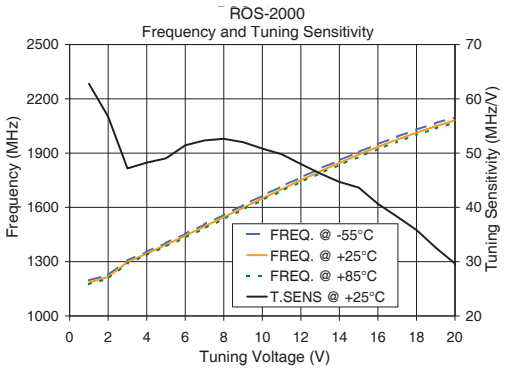
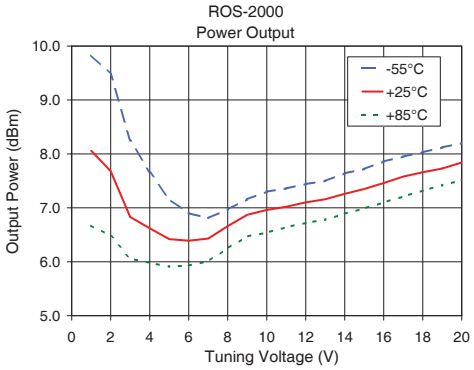
Performance Data & Curves*

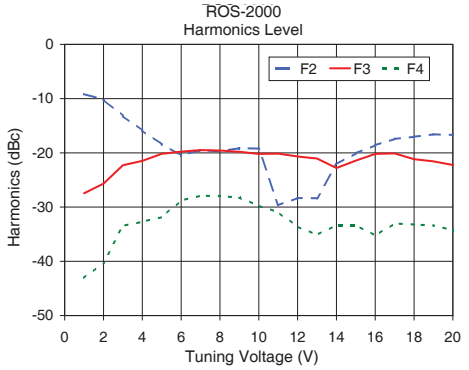
ROS-2000

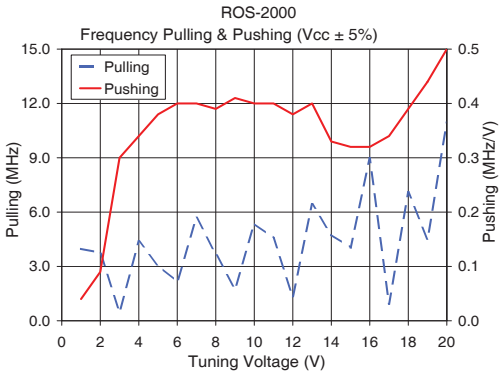
V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			Icc (mA)	HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ. PULL (MHz)	PHASE NOISE (dBc/Hz) at offsets				FREQ OFFSET (KHz)	PHASE NOISE at 1675 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	62.79	1196.8	1184.2	1174.6	9.83	8.06	6.67	21.45	-9.2	-27.5	-43.1	0.04	3.97	-74.27	-97.4	-117.8	-138.8	1.0	-72.34
0.50	56.71	1226.4	1215.6	1206.8	9.48	7.68	6.48	21.42	-10.2	-25.7	-40.3	0.09	3.76	-75.22	-98.5	-118.8	-139.5	2.1	-82.00
2.00	47.17	1306.5	1297.6	1289.6	8.25	6.83	6.06	21.34	-13.2	-22.3	-33.5	0.30	0.49	-74.97	-99.8	-120.3	-140.5	3.5	-88.51
3.00	48.25	1354.6	1344.8	1336.5	7.66	6.62	5.98	21.32	-15.9	-21.5	-32.7	0.34	4.39	-75.10	-99.9	-120.4	-140.6	6.1	-94.24
4.00	49.04	1403.7	1393.0	1384.2	7.16	6.42	5.91	21.31	-18.4	-20.2	-31.9	0.38	3.06	-75.68	-99.9	-120.2	-140.5	8.7	-98.06
5.00	51.44	1453.8	1442.0	1432.7	6.90	6.39	5.93	21.30	-20.5	-19.8	-28.8	0.40	2.15	-73.86	-99.1	-120.2	-140.3	10.0	-99.59
6.00	52.34	1506.0	1493.5	1483.6	6.81	6.43	6.01	21.30	-19.5	-19.5	-27.9	0.40	5.70	-74.52	-99.3	-120.0	-140.2	21.1	-106.69
7.00	52.64	1559.2	1545.8	1535.5	6.97	6.66	6.25	21.30	-19.7	-19.6	-28.0	0.39	3.70	-72.24	-99.5	-120.0	-140.3	36.1	-111.63
8.00	52.02	1612.4	1598.5	1587.9	7.16	6.87	6.47	21.31	-19.1	-19.8	-28.2	0.41	1.76	-73.04	-99.4	-120.2	-140.4	61.6	-116.39
9.00	50.82	1664.5	1650.5	1639.9	7.30	6.96	6.54	21.34	-19.2	-20.2	-29.8	0.40	5.36	-73.86	-99.7	-120.5	-140.7	88.0	-119.63
10.00	49.80	1715.9	1701.3	1690.5	7.36	7.02	6.64	21.34	-29.7	-20.1	-31.0	0.40	4.57	-73.01	-99.3	-120.3	-140.6	100.0	-120.73
12.00	46.25	1814.2	1799.1	1787.8	7.50	7.16	6.78	21.38	-28.4	-21.0	-35.1	0.40	6.44	-72.00	-99.1	-120.4	-140.6	125.7	-122.71
13.00	44.69	1860.1	1845.3	1834.2	7.64	7.26	6.89	21.41	-22.1	-22.8	-33.3	0.33	4.75	-72.64	-99.3	-120.4	-140.6	179.6	-125.85
14.00	43.65	1905.7	1890.0	1878.3	7.72	7.35	6.99	21.40	-20.1	-21.4	-33.3	0.32	4.04	-70.49	-97.9	-119.8	-140.0	214.7	-127.39
15.00	40.66	1949.5	1933.7	1921.8	7.86	7.46	7.10	21.43	-18.6	-20.2	-35.3	0.32	8.98	-71.20	-98.4	-119.8	-140.1	306.7	-130.52
16.00	38.29	1990.4	1974.3	1962.1	7.95	7.58	7.21	21.44	-17.4	-20.1	-33.0	0.34	0.94	-71.30	-98.5	-119.6	-139.9	360.2	-131.92
17.00	35.84	2029.4	2012.6	2000.0	8.03	7.66	7.32	21.45	-17.0	-21.2	-33.2	0.39	7.10	-70.31	-97.6	-119.3	-139.5	505.5	-134.93
18.00	32.58	2065.4	2048.5	2035.5	8.12	7.73	7.42	21.46	-16.6	-21.6	-33.4	0.44	4.50	-68.35	-97.4	-119.0	-139.1	604.2	-136.48
19.00	29.66	2098.1	2081.1	2068.1	8.20	7.84	7.51	21.47	-16.7	-22.2	-34.3	0.50	10.94	-69.39	-97.7	-118.8	-138.9	709.5	-137.90
20.00	27.99	2128.9	2110.7	2097.4	8.21	7.88	7.61	21.45	-15.9	-22.3	-34.3	0.61	9.37	-67.54	-96.8	-118.1	-138.3	1000.0	-140.92

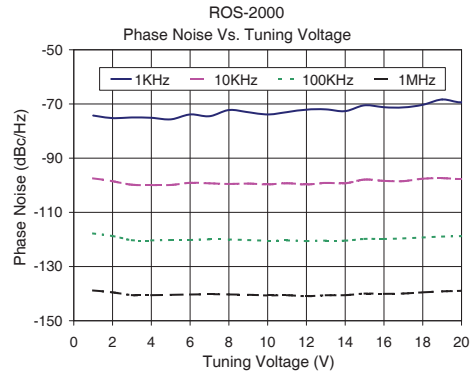
*at 25°C unless mentioned otherwise

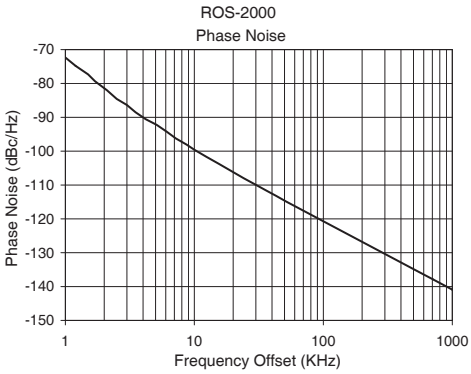












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