NON-CATALOG

Surface Mount

Voltage Controlled Oscillator

ROS-1300+

Wide Band 400 to 1300 MHz



CASE STYLE: CK605

Features

- very wide band frequency
- linear tuning characteristics
- low phase noise
- low pushing
- aqueous washable

Applications

- wireless communications
- industrial communications
- test equipment

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies,kHz Typ.				TUNING VOLTAGE RANGE (V)		SENSI-TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)	NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @12 dBr (MHz)	PUSHING (MHz/V)	DC OPERATING POWER Vcc (volts)	DC OPERATING POWER Current (mA)
	Min.	Max.	Typ.	1	10	100	1000	Min.	Max.	Typ.	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Typ.		Max.
ROS-1300+	400	1300	+8	-70	-95	-120	-141	0.3	20	25-65	120	30	-90	-11	-	3.5	3	5	42

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)	22V
All specifications	50 ohm system

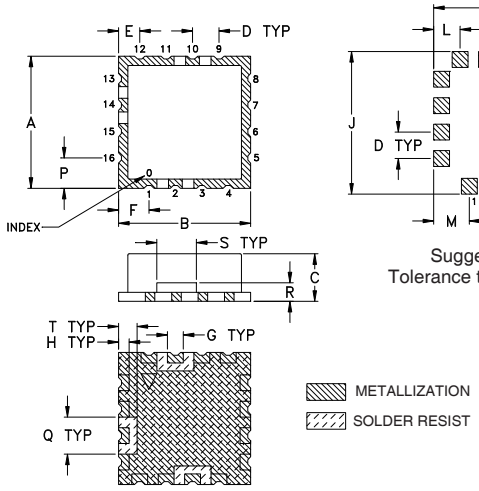
Permanent damage may occur if any of these limits are exceeded.

Tape & Reel: F37

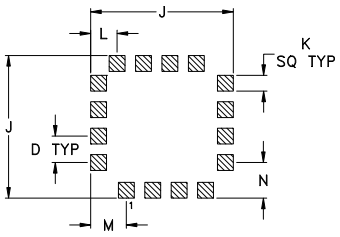
7" Reels with 10, 20, 50, 100 devices
13" Reels with 200, 500 devices

Environmental Ratings: ENV65

Outline Drawing

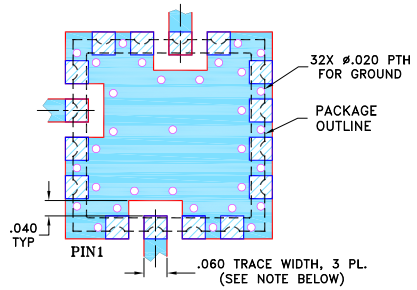


PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

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

Notes

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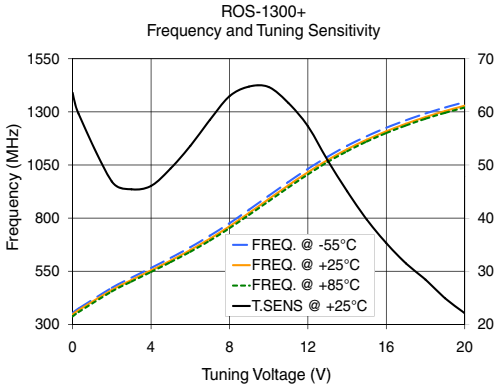
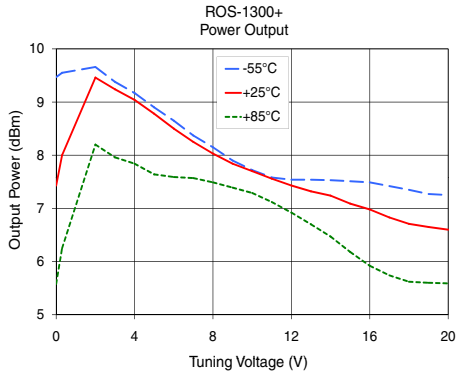
Performance Data & Curves*

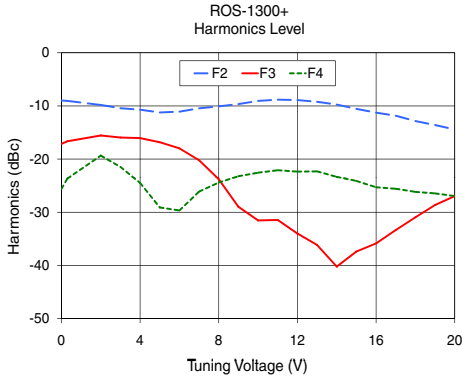
ROS-1300+

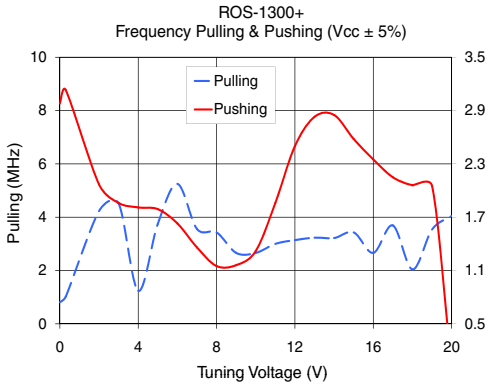
V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			Icc (mA)	HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ. PULL (MHz)	PHASE NOISE (dBc/Hz) at offsets				FREQ OFFSET (kHz)	PHASE NOISE at 850 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	63.57	354.3	347.6	337.7	9.47	7.43	5.58	34.27	-9.0	-17.2	-25.6	2.98	0.81	-70.31	-93.2	-119.1	-141.2	1.0	-74.08
0.30	59.68	374.3	366.7	357.5	9.55	8.00	6.25	34.19	-9.1	-16.7	-23.7	3.13	1.02	-70.09	-93.1	-118.6	-140.4	2.5	-85.49
2.00	46.89	472.0	461.8	454.6	9.66	9.46	8.20	34.13	-9.8	-15.6	-19.4	2.07	4.23	-71.65	-95.8	-120.3	-140.9	4.2	-90.81
3.00	45.43	519.8	508.7	501.3	9.38	9.24	7.96	34.25	-10.4	-16.0	-21.5	1.86	4.51	-72.21	-96.1	-120.1	-140.7	7.3	-96.47
4.00	46.07	565.7	554.1	546.8	9.17	9.04	7.84	34.39	-10.7	-16.1	-24.5	1.81	1.24	-73.65	-96.5	-120.0	-140.7	10.0	-99.68
5.00	49.34	612.8	600.2	592.7	8.90	8.78	7.64	34.50	-11.2	-16.8	-29.1	1.79	3.75	-73.57	-96.9	-120.1	-140.7	12.0	-101.64
6.00	53.58	662.7	649.5	641.6	8.65	8.50	7.59	34.66	-11.1	-18.0	-29.7	1.63	5.25	-73.57	-97.5	-121.1	-141.7	23.6	-108.41
7.00	58.48	717.3	703.1	694.4	8.37	8.25	7.57	34.82	-10.5	-20.2	-26.1	1.36	3.56	-74.90	-98.4	-121.6	-142.2	39.5	-113.69
8.00	62.94	775.9	761.6	752.6	8.15	8.03	7.49	35.00	-10.1	-23.8	-24.4	1.15	3.43	-73.96	-99.0	-122.5	-143.1	65.2	-118.85
9.00	64.76	839.5	824.5	814.9	7.90	7.84	7.39	35.08	-9.7	-29.0	-23.2	1.16	2.66	-73.99	-99.7	-123.0	-143.6	100.0	-123.15
10.00	64.67	904.9	889.3	879.2	7.72	7.70	7.29	35.12	-9.1	-31.5	-22.6	1.32	2.66	-74.25	-99.3	-123.1	-143.6	109.3	-124.17
12.00	57.31	1031.6	1015.6	1005.7	7.54	7.43	6.92	34.72	-8.9	-34.0	-22.4	2.50	3.14	-72.83	-98.7	-123.1	-143.8	153.5	-127.25
13.00	50.94	1088.6	1073.0	1063.5	7.54	7.32	6.70	34.49	-9.2	-36.2	-22.3	2.83	3.23	-73.57	-98.6	-123.1	-144.0	180.2	-128.78
14.00	45.07	1140.3	1123.9	1114.7	7.53	7.24	6.47	34.25	-9.8	-40.2	-23.4	2.85	3.22	-73.23	-98.2	-122.8	-143.7	215.4	-130.44
15.00	39.74	1185.1	1169.0	1160.4	7.51	7.09	6.18	34.12	-10.6	-37.4	-24.1	2.58	3.43	-71.75	-97.8	-122.5	-143.6	302.4	-133.34
16.00	35.29	1225.2	1208.7	1200.4	7.49	6.98	5.92	34.03	-11.3	-35.9	-25.3	2.35	2.66	-71.87	-97.7	-122.3	-143.3	355.1	-134.84
17.00	31.49	1260.3	1244.0	1236.1	7.42	6.83	5.74	34.01	-11.9	-33.4	-25.6	2.15	3.69	-71.15	-97.8	-122.2	-143.2	498.5	-137.79
18.00	28.41	1292.1	1275.5	1267.5	7.35	6.71	5.62	34.01	-12.8	-31.0	-26.2	2.06	2.04	-72.71	-97.9	-122.1	-143.1	595.9	-139.36
19.00	24.92	1320.5	1303.9	1295.7	7.27	6.65	5.60	34.05	-13.6	-28.6	-26.5	2.05	3.54	-70.71	-97.4	-121.9	-142.9	982.3	-143.60
20.00	22.09	1345.7	1328.8	1320.5	7.25	6.60	5.59	34.08	-14.4	-27.0	-27.0	2.06	4.05	-71.44	-97.4	-121.7	-142.6	1000.0	-143.76

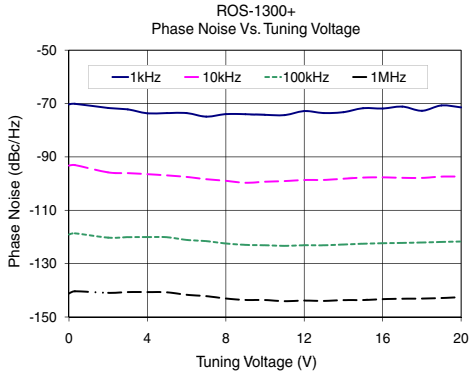
*at 25°C unless mentioned otherwise

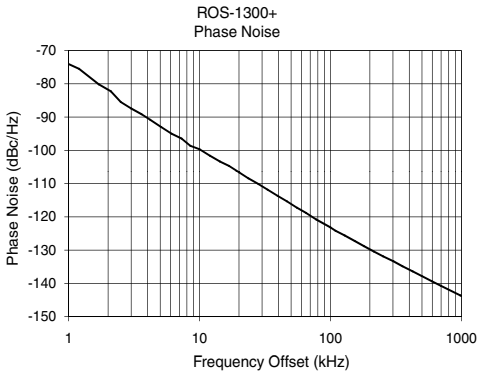












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