Low Phase Noise

Voltage Controlled Oscillator

ROS-485+

5V Tuning for PLL IC's 450 to 485 MHz

Features

- Linear tuning characteristics
- Low phase noise
- Low pushing
- Low pulling
- 0.5-5V tuning voltage range
- Aqueous washable

Applications

- PLL circuitry
- Frequency synthesizers
- Wireless microphones

CASE STYLE: CK605
PRICE: $19.95 ea. QTY (5-49)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +suffix has been added in order to identify RoHS Compliance. There has been no change to the model's material, form, fit, or function.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-485+	450	485	-1	-91	-114	-134	-153	0.5	5.0	11	60	80	-90	-21	-13	0.3	0.2	5	15

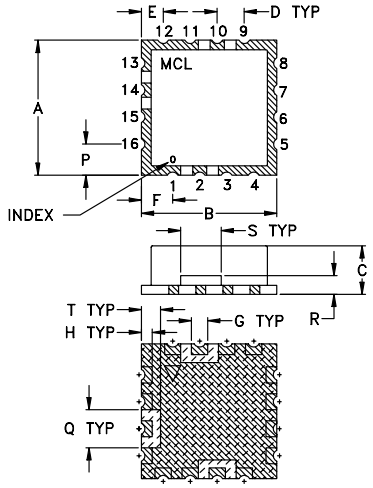
Pin Connections

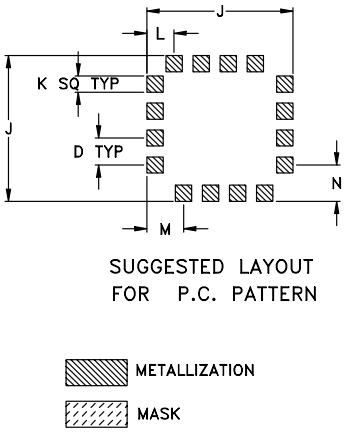
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

Maximum Ratings

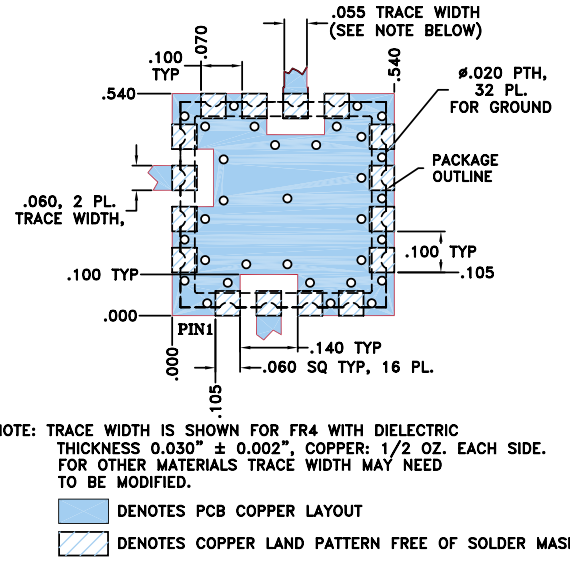
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	7V
Absolute Max. Tuning Voltage (Vtune)	7V
All specifications	50 ohm system

Outline Drawing





Demo Board MCL P/N: TB-10
Suggested PCB Layout (PL-012)



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

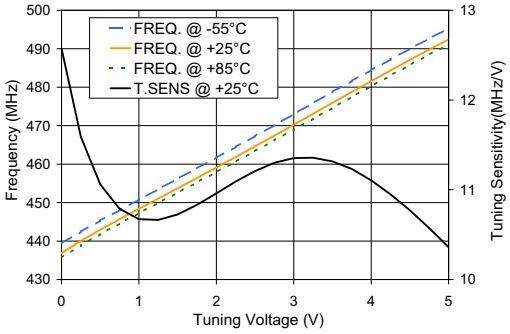
Performance Data & Curves*

ROS-485+

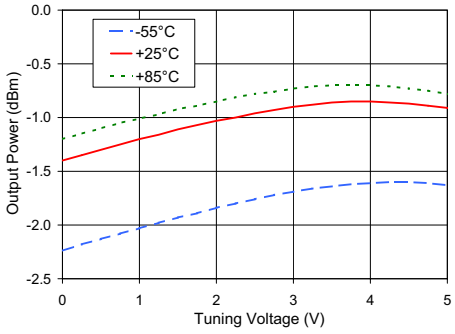
V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			Icc (mA)	HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ. PULL (MHz)	PHASE NOISE (dBc/Hz) at offsets				FREQ OFFSET (KHz)	PHASE NOISE at 464 MHz (dBc/Hz)
		-55ºC	+25ºC	+85ºC	-55ºC	+25ºC	+85ºC		F2	F3	F4			1KHz	10KHz	100KHz	1MHz		
0.00	12.57	439.4	436.9	435.7	-2.24	-1.40	-1.20	10.05	-20.0	-34.6	-37.5	0.08	0.12	-92.2	-113.7	-134.3	-153.3	1.0	-92.92
0.50	11.06	445.3	442.9	441.8	-2.13	-1.30	-1.10	10.09	-20.1	-34.4	-37.5	0.14	0.12	-91.8	-114.7	-134.0	-153.0	2.0	-98.09
0.75	10.79	448.1	445.7	444.6	-2.08	-1.25	-1.05	10.10	-20.3	-34.2	-37.6	0.17	0.12	-91.2	-114.4	-134.4	-153.3	3.5	-104.47
1.00	10.67	450.8	448.4	447.3	-2.03	-1.20	-1.01	10.12	-20.5	-34.1	-37.5	0.18	0.13	-89.9	-114.6	-134.5	-153.7	6.0	-108.83
1.25	10.66	453.5	451.1	449.9	-1.98	-1.16	-0.97	10.13	-20.7	-34.1	-37.7	0.19	0.13	-89.8	-113.8	-134.3	-154.2	8.5	-112.98
1.50	10.73	456.2	453.7	452.6	-1.93	-1.11	-0.92	10.15	-20.8	-33.9	-37.9	0.20	0.14	-90.5	-113.9	-134.3	-153.0	10.0	-113.40
1.75	10.83	458.9	456.4	455.2	-1.89	-1.07	-0.89	10.16	-20.9	-33.7	-38.0	0.21	0.15	-91.2	-114.4	-134.0	-153.4	20.8	-120.58
2.00	10.96	461.7	459.1	457.9	-1.84	-1.03	-0.85	10.18	-20.9	-33.4	-38.1	0.21	0.15	-90.8	-113.5	-134.4	-153.8	35.5	-125.24
2.25	11.09	464.5	461.9	460.7	-1.80	-1.00	-0.81	10.19	-21.0	-33.3	-38.1	0.21	0.16	-92.0	-114.2	-134.1	-153.1	60.7	-129.09
2.50	11.21	467.3	464.6	463.4	-1.76	-0.96	-0.78	10.20	-21.1	-33.1	-38.3	0.21	0.17	-91.0	-113.8	-134.1	-153.3	86.7	-132.85
2.75	11.30	470.1	467.4	466.2	-1.72	-0.93	-0.76	10.21	-21.2	-32.9	-38.5	0.20	0.18	-90.3	-114.1	-134.2	-153.2	100.0	-134.22
3.00	11.35	473.0	470.3	469.0	-1.69	-0.90	-0.73	10.22	-21.3	-32.7	-38.8	0.19	0.18	-92.0	-113.9	-133.8	-153.6	148.1	-137.28
3.25	11.36	475.9	473.1	471.8	-1.66	-0.88	-0.71	10.23	-21.3	-32.5	-39.1	0.17	0.20	-92.0	-113.4	-133.9	-153.3	177.0	-139.01
3.50	11.32	478.8	475.9	474.6	-1.64	-0.86	-0.70	10.24	-21.3	-32.4	-39.6	0.14	0.22	-90.4	-113.5	-133.7	-153.2	211.6	-140.28
3.75	11.23	481.6	478.8	477.5	-1.62	-0.85	-0.70	10.24	-21.4	-32.2	-40.0	0.11	0.24	-91.5	-114.0	-133.9	-153.7	302.4	-143.80
4.00	11.10	484.4	481.6	480.3	-1.61	-0.85	-0.70	10.24	-21.5	-31.8	-40.3	0.08	0.26	-89.8	-113.0	-133.7	-153.3	361.5	-145.38
4.25	10.95	487.2	484.3	483.0	-1.60	-0.86	-0.71	10.24	-21.6	-31.6	-40.4	0.05	0.27	-91.1	-113.5	-134.0	-152.6	507.5	-148.00
4.50	10.77	490.0	487.1	485.8	-1.60	-0.87	-0.73	10.24	-21.8	-31.4	-41.2	0.01	0.28	-90.3	-112.8	-133.9	-152.6	600.0	-149.44
4.75	10.57	492.7	489.8	488.5	-1.61	-0.89	-0.75	10.24	-21.9	-31.5	-41.7	0.03	0.29	-91.3	-113.2	-133.7	-152.2	851.6	-153.24
5.00	10.36	495.3	492.4	491.1	-1.63	-0.91	-0.78	10.23	-22.0	-31.4	-42.0	0.05	0.27	-90.7	-113.7	-133.5	-152.4	1000.0	-153.26

*at 25°C unless mentioned otherwise

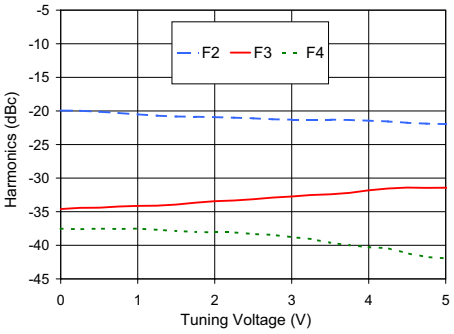
ROS-485
Frequency and Tuning Sensitivity



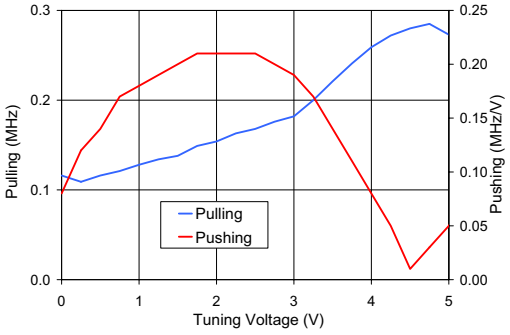
ROS-485
Power Output



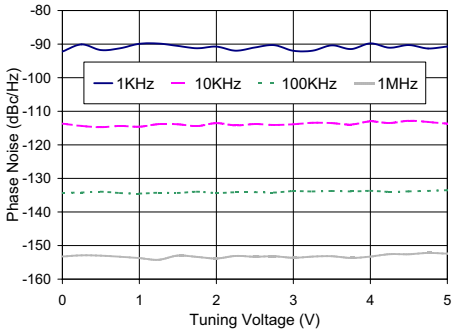
ROS-485
Harmonics Level



ROS-485
Frequency Pulling & Pushing (Vcc ± 5%)



ROS-485
Phase Noise Vs. Tuning Voltage



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Phase Noise