

Voltage Controlled Oscillator

ROS-4100-119+

Linear Tuning 3950 to 4100 MHz



Features

- Linear tuning characteristics
- Low pulling
- Low pushing
- Aqueous washable

Applications

- Wireless communications
- Wimax

CASE STYLE: CK605

PRICE: \$15.95 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. 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				TUNING				NON HARMONIC SPOURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @12 dB _r (MHz)	PUSHING (MHz/V)	DC OPERATING POWER		
								VOLTAGE RANGE	SENSI- TIVITY	PORT CAP	3 dB MODULATION BANDWIDTH						V _{cc}	Current	
	(V)	(MHz/V)		(pF)	(MHz)	(volts)	(mA)												
	Typ.	1		10	100	1000	Min.	Max.	Typ.	Typ.	Typ.		Typ.	Max.			Typ.	Typ.	Max.
ROS-4100-119+	3950	4100	+5.5	-71	-96	-117	-137	0.5	10	25	30	10	-90	-31	-20	2	1.5	5	35

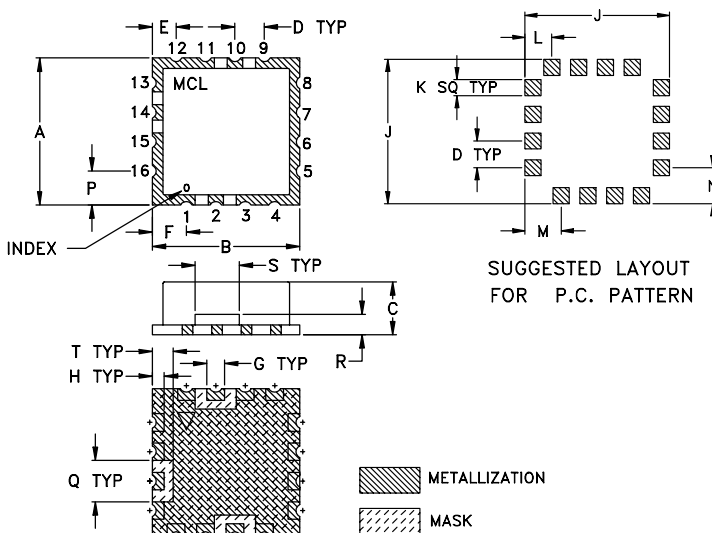
Pin Connections

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

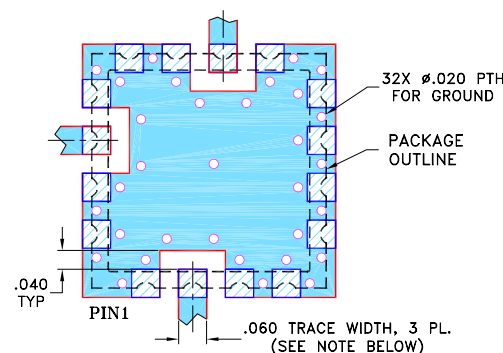
Maximum Ratings



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)	12V
All specifications	50 ohm system

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: $0.030" \pm .002"$; 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 / 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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REV. OR
M105590
EDR-7822/1
ROS-4100-119+
RAV
060718
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Performance Data & Curves*

ROS-4100-119+

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 4025 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1KHz	10KHz	100KHz	1MHz		
0.00	23.66	3905.2	3890.1	3877.3	5.14	4.56	3.91	30.50	-32.2	-55.9	-56.1	2.15	2.20	-71.4	-97.0	-118.2	-138.4	1.0	-70.03
0.50	22.60	3917.2	3901.9	3890.1	5.17	4.64	3.97	30.50	-31.8	-53.3	-58.6	2.15	2.66	-72.1	-96.9	-118.4	-138.3	2.0	-80.07
1.00	22.80	3928.6	3913.2	3901.0	5.19	4.70	4.06	30.50	-32.3	-54.9	-58.1	2.17	2.61	-74.0	-97.2	-118.1	-137.8	3.5	-85.68
1.50	23.32	3939.9	3924.6	3911.9	5.27	4.73	4.14	30.51	-33.3	-57.1	-57.3	2.12	1.83	-72.9	-96.1	-117.6	-137.4	6.0	-90.69
2.00	24.08	3951.7	3936.3	3923.5	5.37	4.80	4.19	30.51	-32.9	-54.8	-58.5	2.01	0.55	-72.8	-96.8	-117.5	-137.5	8.5	-95.48
2.50	26.05	3964.6	3948.3	3935.6	5.46	4.90	4.26	30.52	-32.0	-57.3	-58.6	1.90	0.96	-70.5	-95.4	-117.7	-137.6	10.0	-95.42
3.00	26.82	3977.1	3961.3	3948.1	5.59	5.00	4.35	30.52	-32.1	-58.3	-61.2	1.88	2.21	-70.2	-95.5	-117.4	-137.6	20.8	-103.57
3.50	25.11	3989.6	3974.7	3961.3	5.64	5.13	4.43	30.55	-33.2	-62.1	-60.3	1.60	2.56	-72.4	-96.5	-117.8	-138.0	35.5	-108.37
4.00	26.55	4002.8	3987.3	3975.2	5.67	5.23	4.55	30.56	-33.5	-65.7	-61.1	1.42	2.39	-72.1	-96.6	-117.9	-138.0	60.7	-112.57
4.50	26.80	4016.6	4000.6	3987.8	5.73	5.25	4.74	30.55	-33.2	-63.1	-62.5	1.26	1.71	-72.1	-95.8	-117.4	-137.6	86.7	-115.57
5.00	26.93	4030.5	4014.0	4000.9	5.80	5.31	4.79	30.53	-32.6	-59.0	-62.5	1.15	0.44	-71.9	-95.4	-116.8	-137.3	100.0	-117.13
5.50	26.26	4044.1	4027.4	4013.9	5.88	5.39	4.82	30.53	-31.9	-55.9	-62.5	1.00	1.58	-70.2	-95.9	-117.0	-137.0	148.1	-120.64
6.00	25.70	4057.4	4040.5	4027.0	5.95	5.46	4.92	30.52	-32.3	-53.2	-62.4	0.85	2.60	-70.0	-95.2	-116.7	-137.0	177.0	-121.94
7.00	23.17	4081.3	4065.8	4052.3	6.22	5.61	5.06	30.51	-33.6	-47.1	-62.3	0.41	2.40	-71.0	-94.5	-116.5	-136.4	211.6	-123.97
7.50	21.67	4092.8	4077.4	4064.6	6.21	5.74	5.08	30.51	-33.0	-47.3	-62.7	0.16	1.30	-70.2	-95.9	-117.5	-137.5	302.4	-126.73
8.00	22.71	4104.6	4088.3	4076.3	6.12	5.79	5.19	30.49	-32.5	-46.8	-63.1	0.02	0.43	-68.4	-94.3	-116.6	-136.6	361.5	-128.58
8.50	22.51	4116.0	4099.6	4086.7	6.10	5.73	5.30	30.46	-32.6	-44.2	-61.1	0.09	1.49	-70.7	-94.5	-116.0	-136.3	507.5	-131.19
9.00	21.69	4127.1	4110.9	4097.6	6.11	5.67	5.26	30.45	-32.8	-44.6	-60.3	0.20	2.44	-70.1	-94.6	-116.1	-136.0	606.7	-132.80
9.50	21.46	4138.3	4121.7	4108.7	6.15	5.62	5.22	30.43	-33.4	-43.5	-57.8	0.33	2.68	-69.6	-94.6	-116.0	-136.4	851.6	-135.67
10.00	21.79	4149.4	4132.4	4119.7	6.17	5.61	5.18	30.40	-33.7	-41.1	-57.8	0.44	2.61	-69.4	-94.9	-115.5	-135.8	1000.0	-136.96

*at 25°C unless mentioned otherwise

