

Voltage Controlled Oscillator ROS-2600-1119+

50Ω 1650 to 2600 MHz

The Big Deal:

- Wide Band
- Low Phase Noise
- Robust design and construction
- Small size .500" x .500" x .180"



CASE STYLE: CK605

Product Overview:

The ROS-2600-1119+ is a Voltage Controlled Oscillator, designed to operate from 1650 to 2600 MHz for cable TV application. The ROS-2600-1119+ is packaged in a metal case (size of .500" x .500" x .180") to shield against unwanted signals and noise.

Key Features

Feature	Advantages
Wide Band: from 1650 to 2600 MHz	The model's wide bandwidth makes it suitable for a wide variety of applications, such as: CATV, military, test equipment etc...
Low Phase Noise: -102 dBc/Hz typ at 10 kHz offset	Low phase noise improves system EVM (Error Vector Magnitude).
Good Pushing, 1 MHz/V typ.	Provides increased immunity against noisy DC lines and improves output frequency stability vs. variations in supply voltage.
Robust design and construction	To enhance the robustness of ROS-2600-1119+, each internal component is secured to the substrate with chip bonder, thereby eliminating the risk of tombstoning during subsequent solder reflow operations by the customer and provides better immunity to microphonic effects and reduced phase hit.
Small size: .500" x .500" x .180"	The small size enables the ROS-2600-1119+ to be used in compact designs.

Notes

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Voltage Controlled Oscillator

ROS-2600-1119+

Wide Band 1650 to 2600 MHz

Features

- wide band frequency range
- low phase noise
- low pushing
- aqueous washable

Applications

- wireless communications
- cable TV
- test equipment
- military



CASE STYLE: CK605

+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				TUNING					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
	Min.	Max.		Typ.	1	10	100	1000	VOLTAGE RANGE (V)	SENSI- TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)		Typ.	Typ.			Typ.	Max.
ROS-2600-1119+	1650	2600	+6	-75	-102	-122	-142	0.3	28	25-60	50	30	-90	-18	-	2.5	1	10	53

Pin Connections

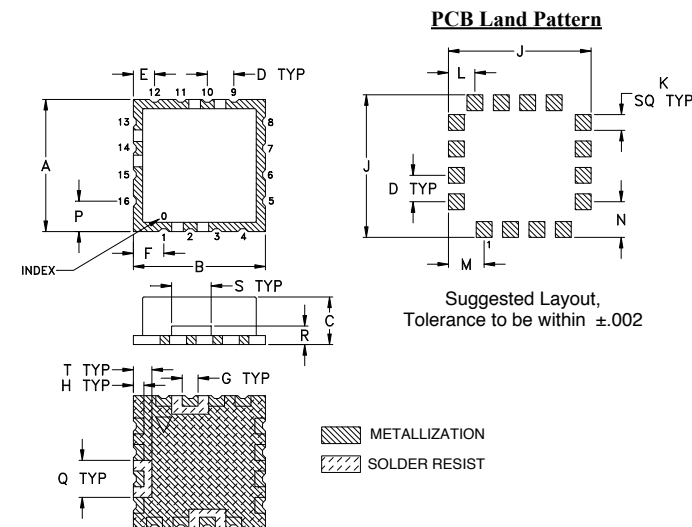
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

Maximum Ratings

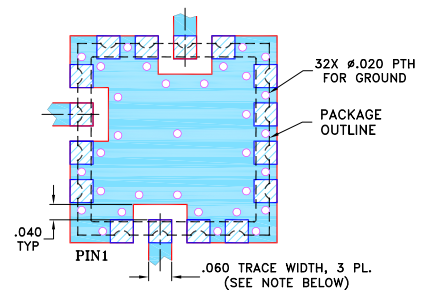
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	10.5V
Absolute Max. Tuning Voltage (Vtune)	30.0V
All specifications	50 ohm system

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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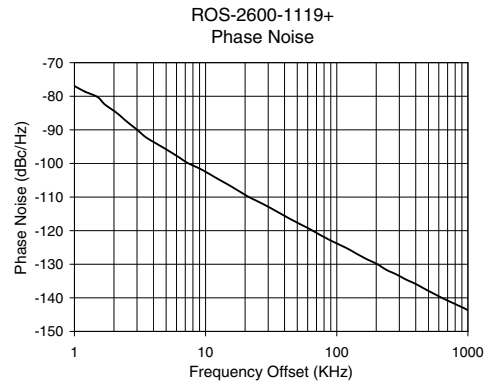
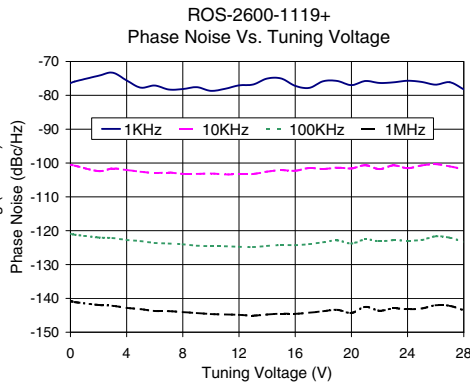
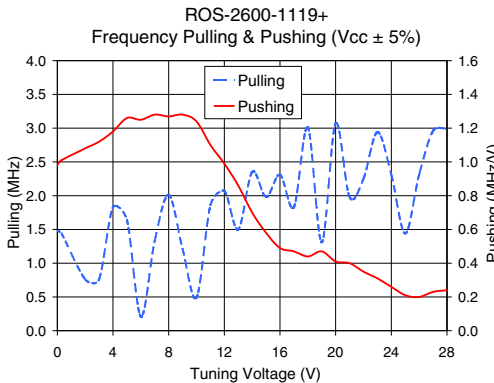
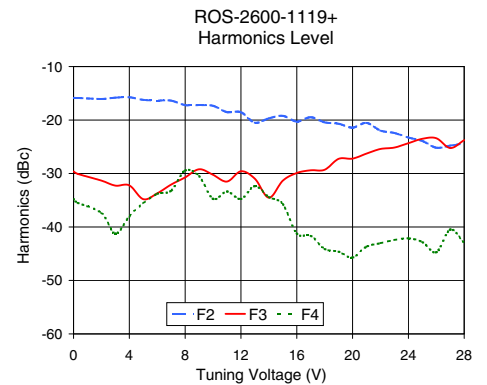
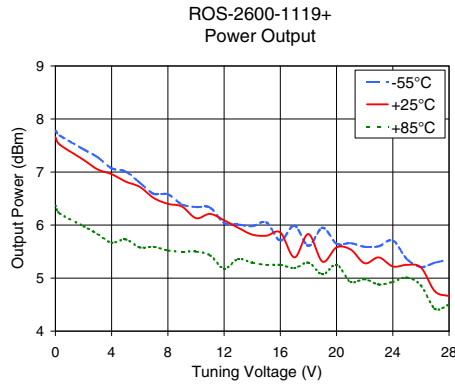
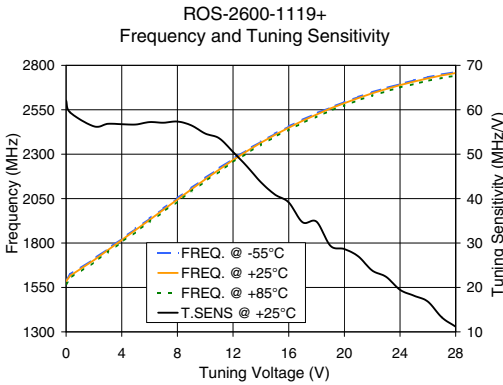


Performance Data & Curves*

ROS-2600-1119+

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 2125 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	62.08	1593.1	1585.0	1570.1	7.78	7.66	6.37	44.67	-15.9	-29.6	-34.8	0.98	1.48	-76.4	-100.5	-120.9	-140.8	1.0	-76.96
0.30	59.38	1623.8	1616.1	1602.4	7.69	7.52	6.22	44.69	-15.9	-30.1	-35.5	1.01	1.44	-75.9	-100.8	-121.2	-141.1	2.1	-84.94
2.00	56.27	1711.2	1703.8	1691.7	7.43	7.23	5.98	44.78	-16.1	-31.3	-37.4	1.08	0.76	-74.2	-102.4	-122.0	-142.0	3.5	-92.21
3.00	56.84	1767.6	1760.1	1748.2	7.28	7.05	5.83	44.82	-15.8	-32.3	-41.2	1.12	0.76	-73.3	-101.6	-122.2	-142.2	6.1	-97.88
5.00	56.68	1881.1	1873.7	1861.9	7.01	6.82	5.73	44.98	-16.2	-34.8	-35.6	1.26	1.64	-77.7	-102.6	-123.1	-143.2	8.7	-101.25
7.00	57.09	1995.1	1987.6	1975.9	6.59	6.51	5.59	45.13	-16.4	-32.1	-33.2	1.28	1.33	-78.3	-102.8	-123.8	-143.8	10.0	-102.49
8.00	57.35	2052.5	2044.6	2033.3	6.58	6.40	5.52	45.18	-17.2	-30.7	-29.5	1.27	2.01	-78.2	-103.2	-124.0	-144.1	21.1	-109.87
10.00	54.64	2166.0	2158.5	2147.0	6.34	6.13	5.50	45.32	-17.3	-30.2	-34.7	1.24	0.49	-78.7	-103.1	-124.6	-144.6	36.1	-114.63
11.00	53.58	2220.9	2213.1	2202.3	6.33	6.21	5.43	45.36	-18.5	-31.5	-33.4	1.10	1.86	-78.1	-103.4	-124.6	-144.7	61.6	-119.43
12.00	50.51	2274.3	2266.7	2255.8	6.04	6.09	5.18	45.40	-18.5	-29.6	-34.8	0.99	2.07	-77.1	-103.3	-124.8	-144.9	86.4	-122.59
13.00	47.25	2324.3	2317.2	2305.8	6.01	5.95	5.36	45.42	-20.5	-31.0	-32.4	0.86	1.50	-76.8	-103.2	-124.8	-145.1	100.0	-123.79
14.00	43.70	2371.2	2364.5	2353.2	5.98	5.82	5.29	45.39	-19.7	-34.5	-34.4	0.70	2.35	-75.1	-102.5	-124.5	-144.8	145.0	-127.09
16.00	39.13	2456.4	2449.1	2438.2	5.71	5.86	5.25	45.33	-20.3	-29.9	-41.2	0.49	2.31	-77.2	-102.3	-124.3	-144.6	170.2	-128.54
18.00	34.80	2530.5	2522.9	2511.4	5.61	5.83	5.29	45.24	-20.4	-29.3	-44.1	0.44	3.01	-75.8	-101.8	-123.4	-143.8	203.5	-129.97
20.00	28.63	2594.0	2587.1	2574.8	5.65	5.58	5.25	45.16	-21.4	-27.2	-45.7	0.41	3.07	-77.0	-101.6	-123.8	-144.3	285.6	-133.06
22.00	23.82	2648.7	2642.7	2629.5	5.59	5.28	4.98	45.04	-22.0	-25.4	-43.0	0.35	2.25	-76.4	-101.8	-123.2	-143.6	335.4	-134.52
24.00	19.47	2694.6	2688.9	2675.3	5.71	5.22	4.93	44.94	-23.3	-24.3	-42.1	0.26	2.31	-75.7	-101.5	-122.9	-143.2	470.7	-137.38
25.00	18.14	2715.8	2708.4	2694.7	5.36	5.25	5.01	44.91	-23.9	-23.5	-42.8	0.21	1.44	-76.0	-100.7	-122.7	-143.0	562.6	-138.97
27.00	13.26	2748.9	2743.3	2729.2	5.29	4.75	4.42	44.82	-24.8	-25.2	-40.5	0.23	2.96	-76.1	-101.0	-122.1	-142.2	927.2	-143.03
28.00	11.16	2762.6	2756.6	2742.1	5.35	4.66	4.50	44.83	-24.4	-23.8	-43.0	0.24	2.99	-78.2	-101.8	-123.3	-143.5	1000.0	-143.70

*at 25°C unless mentioned otherwise



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