

Voltage Controlled Oscillator

Linear Tuning 1710 to 1800 MHz

- linear tuning characteristics
- low phase noise
- low pushing
- low pulling
- aqueous washable



CASE STYLE F: CK605

- cellular communication
- point-to-point communication

+RoHS Compliant

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

MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE				TUNING					NON HARMONIC SPOURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
				dBc/Hz SSB at offset frequencies,kHz				VOLTAGE RANGE (V)	SENSI- TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)	Vcc (volts)						Current (mA)	
	Typ.	1	10	100	1000	Min.	Max.						Typ.	Typ.	Typ.	Typ.	Typ.		Max.
ROS-1770-1PH19+	1710	1800	+3	-86	-111	-132	-152	0.5	8	18-21	18	120	-90	-22	-13	0.1	0.2	5	30

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

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)	10V
All specifications	50 ohm system

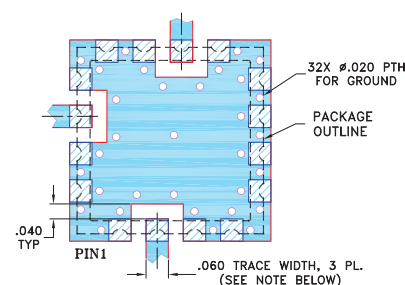
Permanent damage may occur if any of these limits are exceeded

PCB Land Pattern

Suggested Layout,
Tolerance to be within $\pm.002$

Legend:
 METALLIZATION
 SOLDER RESIST

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



NOTES:

1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .030" $\pm$.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

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

- Notes**
- A. Performance and quality attributes and conditions not expressly stated in this specification document are to be excluded and do not form a part of this specification document.
- B. Technical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
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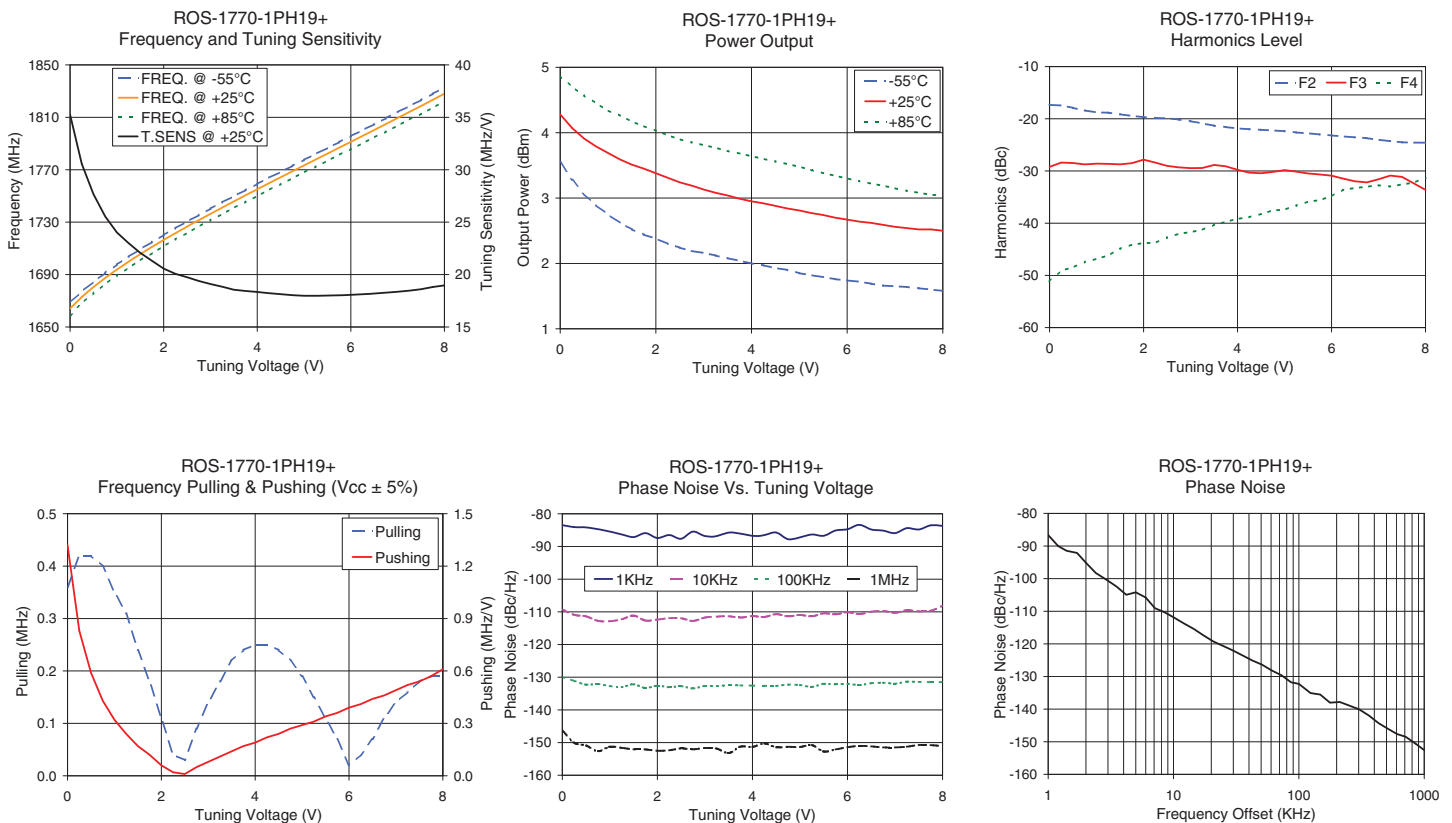
REV. A
M151108
EDR-7183/1MP
ROS-1770-1PH19+
RAV
150512
Page 1 of 2

Performance Data & Curves*

ROS-1770-1PH19+

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 1740 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	35.26	1668.7	1664.1	1658.9	3.55	4.28	4.87	23.54	-17.3	-29.2	-51.1	1.32	0.36	-83.5	-109.3	-129.9	-146.3	1.0	-86.63
0.25	30.57	1677.1	1672.9	1668.1	3.28	4.07	4.70	23.59	-17.4	-28.4	-49.1	0.83	0.42	-84.1	-110.9	-131.1	-150.1	2.0	-95.13
0.50	27.66	1684.5	1680.5	1675.8	3.06	3.91	4.57	23.63	-17.9	-28.5	-48.5	0.59	0.42	-84.1	-111.4	-132.3	-150.9	3.5	-102.39
1.00	24.02	1697.6	1693.8	1689.2	2.75	3.69	4.34	23.71	-18.8	-28.6	-46.8	0.32	0.35	-85.5	-112.9	-132.7	-151.3	6.0	-105.79
1.50	22.07	1709.3	1705.6	1700.9	2.52	3.51	4.17	23.80	-19.1	-28.7	-44.9	0.17	0.24	-87.1	-111.1	-132.2	-152.1	8.5	-110.34
2.00	20.57	1720.2	1716.4	1711.7	2.38	3.38	4.03	23.89	-19.7	-27.8	-43.8	0.06	0.11	-87.4	-112.4	-132.6	-152.5	10.0	-111.85
2.50	19.75	1730.4	1726.6	1721.8	2.24	3.24	3.90	23.98	-19.9	-29.0	-42.8	0.01	0.03	-87.6	-112.0	-132.8	-151.8	20.8	-119.27
3.00	19.10	1740.3	1736.4	1731.5	2.16	3.13	3.81	24.08	-20.5	-29.5	-41.7	0.08	0.14	-86.8	-111.8	-132.7	-151.7	35.5	-123.53
3.25	18.84	1745.1	1741.2	1736.2	2.12	3.08	3.77	24.13	-20.9	-29.4	-41.3	0.11	0.18	-86.8	-111.4	-132.8	-151.9	60.7	-128.15
3.75	18.44	1754.5	1750.5	1745.5	2.04	2.99	3.68	24.23	-21.6	-29.1	-39.7	0.17	0.24	-86.1	-111.8	-132.5	-151.3	86.7	-131.77
4.00	18.34	1759.2	1755.1	1750.0	2.00	2.95	3.64	24.28	-21.9	-29.8	-39.2	0.19	0.25	-86.8	-111.3	-132.6	-151.3	100.0	-132.28
4.50	18.13	1768.4	1764.3	1759.0	1.93	2.88	3.56	24.39	-22.1	-30.4	-38.2	0.24	0.24	-85.7	-110.7	-132.7	-151.4	148.1	-135.52
5.00	17.98	1777.5	1773.3	1768.0	1.85	2.81	3.48	24.50	-22.4	-29.8	-37.4	0.29	0.19	-87.2	-111.0	-132.4	-151.4	177.0	-138.03
5.50	18.00	1786.6	1782.3	1776.9	1.79	2.74	3.38	24.60	-22.8	-30.5	-35.9	0.34	0.11	-86.7	-110.4	-132.0	-152.7	211.6	-137.82
6.00	18.05	1795.6	1791.3	1785.7	1.74	2.67	3.30	24.72	-23.2	-30.9	-34.8	0.39	0.02	-84.7	-110.1	-132.0	-151.4	302.4	-140.06
6.50	18.19	1804.8	1800.3	1794.7	1.69	2.62	3.22	24.84	-23.6	-32.0	-33.3	0.44	0.07	-84.8	-110.0	-131.8	-151.2	361.5	-141.95
7.00	18.39	1813.9	1809.5	1803.7	1.65	2.56	3.15	24.96	-24.0	-31.6	-32.7	0.49	0.14	-85.9	-110.3	-132.0	-151.5	507.5	-145.92
7.50	18.60	1823.2	1818.7	1812.8	1.62	2.52	3.08	25.09	-24.5	-31.1	-32.6	0.54	0.18	-84.8	-109.8	-131.5	-150.8	606.7	-147.63
7.75	18.81	1827.9	1823.3	1817.3	1.60	2.52	3.05	25.15	-24.6	-32.4	-32.2	0.57	0.19	-83.5	-109.7	-131.5	-150.8	851.6	-150.58
8.00	18.97	1832.7	1828.0	1822.0	1.58	2.50	3.04	25.21	-24.6	-33.6	-31.3	0.61	0.19	-83.7	-108.2	-131.5	-151.1	1000.0	-152.58

*at 25°C unless mentioned otherwise



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