

Surface Mount Voltage Controlled Oscillator

ROS-1500+

Linear Tuning 1000 to 1500 MHz

Features

- wide frequency range, 1000-1500 MHz
- low phase noise, -104 dBc/Hz at 10 kHz offset, typ.
- linear tuning, 25-40 MHz/V typ.
- wide modulation bandwidth, 100 MHz typ.
- aqueous washable
- protected by US patent 6,549,084

Applications

- instrumentation
- satellite TV receivers



CASE STYLE: CK605
PRICE: \$16.95 ea. QTY (20)

+RoHS Compliant

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

Electrical Specifications

FREQUENCY (MHz)		POWER OUTPUT (dBm)	TUNING VOLTAGE (V)		PHASE NOISE (dBc/Hz)				PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	TUNING SENSITIVITY (MHz/V)	HARMONICS (dBc)		3 dB MODULATION BANDWIDTH (MHz)	DC OPERATING POWER	
Min.	Max.		Min.	Max.	SSB at offset frequencies: Typ.							Typ.	Typ.		Typ.	Max.
		Typ.			1 kHz	10 kHz	100 kHz	1 MHz	Typ.	Typ.	Typ.	Typ.	—	Typ.	10	26
1000	1500	8.0	0.5	20	-79	-104	-124	-144	10	1.2	25-40	-13	—	100	10	26

Pin Connections

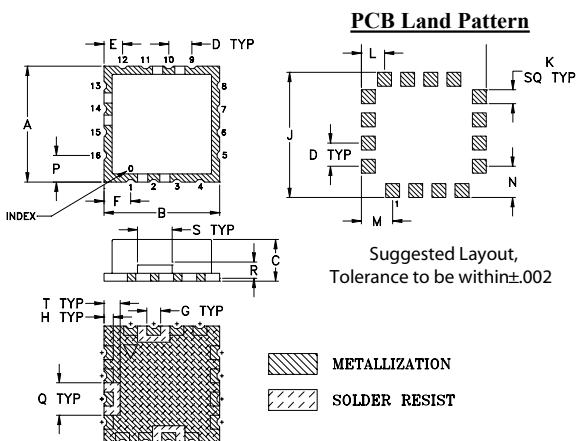
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

Maximum Ratings

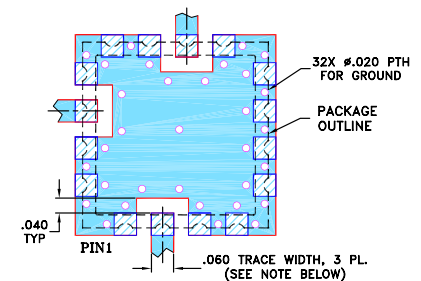
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+11V
Absolute Max. Tuning Voltage (Vtune)	+22V

all specifications: 50 ohm system
Permanent damage may occur if any of these limits are exceeded.

Outline Drawing



Demo Board MCL PIN: 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 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

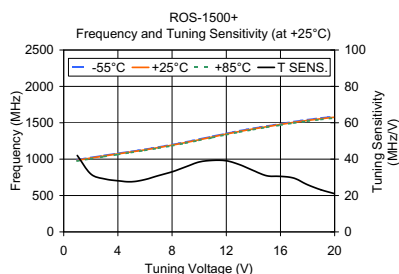
Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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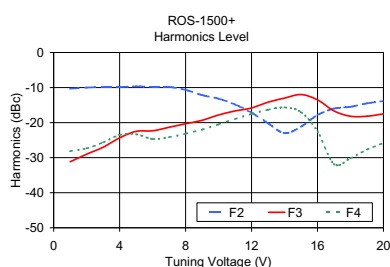
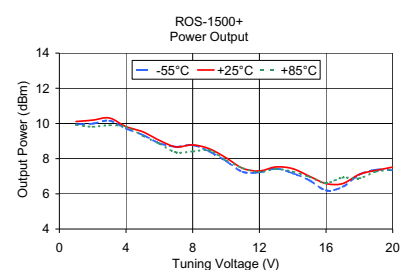


Performance Data & Curves

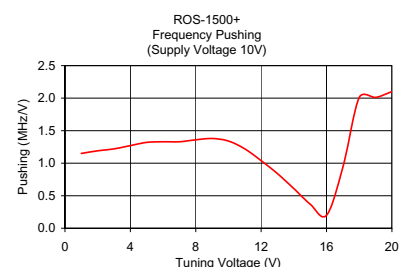
ROS-1500+



V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
1.00	42.02	990.22	982.48	972.73	9.95	10.11	9.92
2.00	31.87	1021.64	1014.36	1005.33	9.99	10.19	9.81
3.00	29.16	1050.64	1043.52	1034.68	10.16	10.31	9.90
4.00	28.12	1078.59	1071.64	1063.04	9.71	9.82	9.80
5.00	27.57	1106.13	1099.21	1090.87	9.35	9.53	9.30
6.00	28.79	1134.98	1128.00	1119.69	8.88	9.04	8.85
7.00	30.94	1166.04	1158.94	1150.55	8.68	8.67	8.36
8.00	33.02	1199.24	1191.96	1183.49	8.77	8.78	8.41
9.00	35.74	1235.35	1227.70	1219.01	8.41	8.56	8.47
10.00	38.43	1273.94	1266.14	1257.23	7.86	8.05	7.92
11.00	39.35	1313.61	1305.49	1296.40	7.25	7.45	7.46
12.00	39.09	1353.06	1344.58	1335.22	7.22	7.30	7.24
13.00	36.92	1390.14	1381.50	1372.08	7.43	7.53	7.41
14.00	33.72	1424.01	1415.22	1405.79	7.17	7.43	7.26
15.00	30.83	1454.49	1446.05	1437.24	6.77	7.00	6.96
16.00	30.53	1483.66	1476.58	1468.08	6.20	6.58	6.62
17.00	29.56	1515.16	1506.14	1496.29	6.40	6.58	6.92
18.00	25.93	1542.21	1532.07	1521.52	7.09	7.11	6.88
19.00	23.12	1565.45	1555.19	1544.39	7.37	7.33	7.26
20.00	21.03	1586.27	1576.22	1565.46	7.34	7.52	7.37



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
1.00	-10.33	-31.16	-28.16	1.15
2.00	-10.00	-29.00	-27.33	1.19
3.00	-9.83	-27.00	-25.66	1.22
4.00	-9.84	-24.34	-23.50	1.27
5.00	-9.66	-22.50	-23.33	1.32
6.00	-9.83	-22.33	-24.66	1.33
7.00	-9.83	-21.33	-24.17	1.33
8.00	-10.66	-20.33	-23.16	1.36
9.00	-12.16	-19.33	-22.00	1.38
10.00	-13.16	-17.83	-20.50	1.34
11.00	-14.83	-16.67	-19.00	1.22
12.00	-17.17	-15.84	-17.50	1.04
13.00	-20.16	-14.16	-16.33	0.84
14.00	-23.00	-13.00	-15.67	0.61
15.00	-21.17	-12.00	-17.00	0.37
16.00	-17.84	-13.50	-22.50	0.20
17.00	-16.00	-16.67	-31.83	0.94
18.00	-15.50	-18.17	-30.17	2.01
19.00	-14.50	-18.17	-27.67	2.01
20.00	-13.84	-17.50	-25.84	2.10



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