

Surface Mount Voltage Controlled Oscillator

ROS-1500+ 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



CASE STYLE: CK605
PRICE: \$16.95 ea. QTY (5-49)

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

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

Applications

- instrumentation
- satellite TV receivers

Electrical Specifications

Frequency (MHz)		Power Output (dBm)	Tuning Voltage (V)		Phase Noise (dBc/Hz) SSB at offset frequencies: Typ.				Pulling pk-pk @ 12 dB _r (MHz)	Pushing (MHz/V)	Tuning Sensitivity (MHz/V)	Harmonics (dBc)		3 dB Modulation Bandwidth (MHz)	DC Operating Power	
Min.	Max.	Typ.	Min.	Max.	1 kHz	10 kHz	100 kHz	1 MHz	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	V _{CC} (volts)	Current (mA) Max.
1000	1500	8.0	0.5	20	-79	-104	-124	-144	10	1.2	25-40	-13	—	100	10	26

Pin Connections

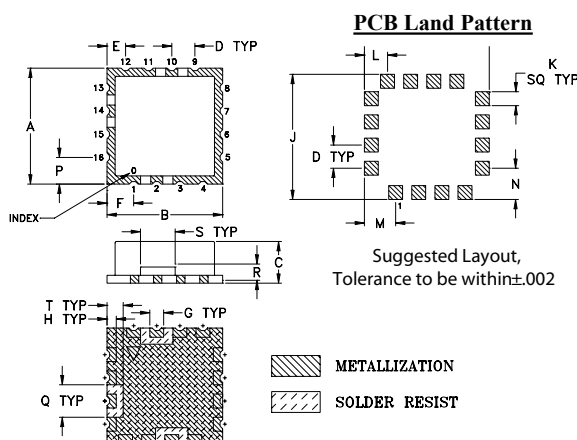
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

Maximum Ratings

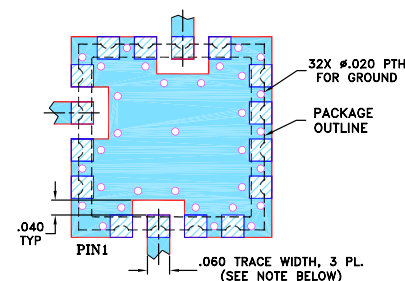
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+11V
Absolute Max. Tuning Voltage (Vtune)	+22V

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

Outline Drawing



Demo Board MCL 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 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)

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



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

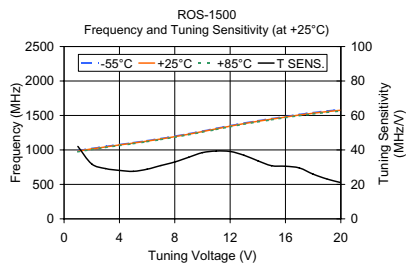
IF/RF MICROWAVE COMPONENTS



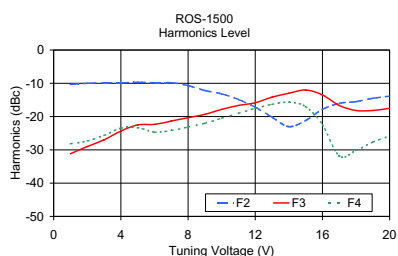
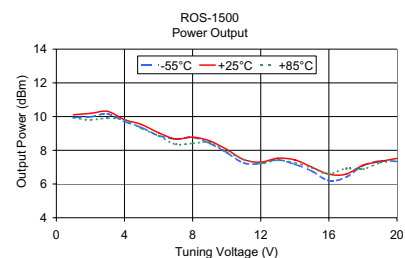
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Performance Data & Curves

ROS-1500+ 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

