

# Surface Mount Voltage Controlled Oscillator

# JTOS-1550+ JTOS-1550

Linear Tuning 1150 to 1550 MHz

## Features

- linear tuning characteristics, 22-32 MHz/V typ.
- low phase noise, -141 dBc/Hz at 1 MHz offset
- aqueous washable

## Applications

- GPS
- wide frequency synthesizers
- agile communication systems



CASE STYLE: BK377  
PRICE: \$19.95 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.

## 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.		
1150	1550	+7.0	0.5	20	-73	-101	-121	-141	14	0.7	22-32	-20	-10	2.7	12	30

## Pin Connections

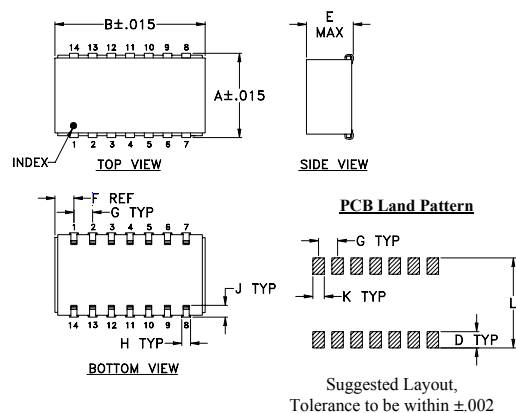
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

## Maximum Ratings

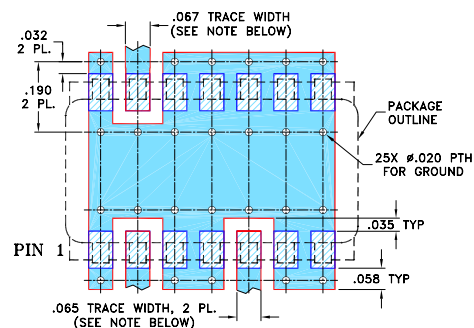
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+13V
Absolute Max. Tuning Voltage (Vtune)	+22V

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

## Outline Drawing



## Demo Board MCL PIN: TB-04 Suggested PCB Layout (PL-005)



## Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	wt
.505	.800	--	.100	.250	.100	.100	.047	.065	.065	.525	grams
12.83	20.32	--	2.54	6.35	2.54	2.54	1.19	1.65	1.65	13.34	3.0



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

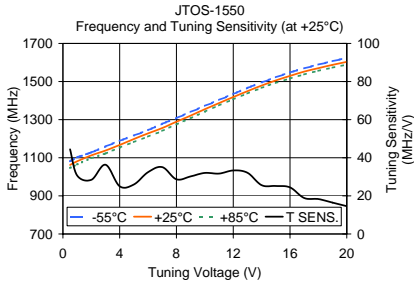
Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

For detailed performance specs & shopping online see web site

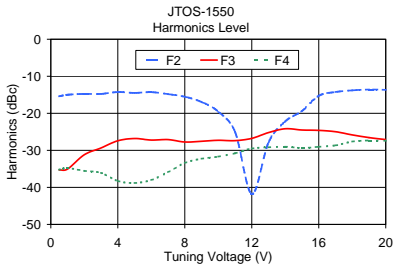
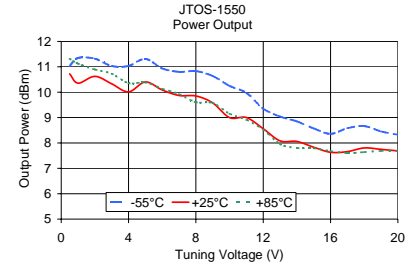
REV. B  
M102713  
JTOS-1550  
ED-741A/2  
MM/TD/CP/AM  
091223  
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# JTOS-1550+ JTOS-1550

## Performance Data & Curves



V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
0.50	44.46	1082	1062	1047	11.04	10.72	11.32
1.00	30.73	1102	1081	1065	11.35	10.35	11.13
2.00	28.43	1128	1112	1098	11.32	10.62	10.90
3.00	36.34	1159	1138	1122	11.03	10.33	10.73
4.00	25.02	1189	1167	1153	11.03	10.01	10.36
5.00	25.97	1217	1198	1182	11.31	10.40	10.38
6.00	32.45	1245	1228	1211	10.94	10.09	10.14
7.00	35.09	1278	1256	1241	10.80	9.87	9.93
8.00	28.69	1308	1289	1275	10.83	9.85	9.61
9.00	30.20	1340	1321	1308	10.64	9.58	9.58
10.00	32.05	1372	1355	1342	10.25	9.00	9.15
11.00	31.71	1403	1387	1375	9.97	9.00	8.91
12.00	33.35	1434	1419	1406	9.35	8.56	8.52
13.00	32.11	1466	1449	1437	9.04	8.08	7.96
14.00	25.60	1495	1479	1467	8.85	8.06	7.80
15.00	25.18	1522	1506	1492	8.57	7.83	7.79
16.00	24.44	1548	1529	1516	8.36	7.63	7.68
17.00	18.88	1569	1552	1537	8.58	7.66	7.61
18.00	18.33	1589	1570	1556	8.66	7.80	7.64
19.00	16.45	1607	1588	1573	8.45	7.75	7.69
20.00	14.60	1624	1603	1588	8.32	7.69	7.68



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
0.50	-15.42	-35.30	-35.22	2.72
1.00	-14.98	-35.05	-34.79	1.73
2.00	-14.75	-31.19	-35.55	1.94
3.00	-14.77	-29.35	-36.09	2.27
4.00	-14.26	-27.42	-38.27	1.41
5.00	-14.49	-26.81	-38.82	1.53
6.00	-14.27	-27.22	-38.02	1.67
7.00	-14.81	-27.09	-35.88	1.53
8.00	-15.53	-27.74	-33.41	1.17
9.00	-16.94	-27.56	-32.25	0.87
10.00	-19.54	-27.28	-31.70	0.54
11.00	-25.03	-27.39	-30.79	0.05
12.00	-41.80	-26.77	-29.50	-0.43
13.00	-27.86	-25.21	-29.18	-0.70
14.00	-22.18	-24.17	-29.02	-0.65
15.00	-19.37	-24.51	-29.37	-0.62
16.00	-15.28	-24.61	-29.05	-0.59
17.00	-14.25	-24.96	-28.66	-0.30
18.00	-13.80	-25.83	-27.62	-0.23
19.00	-13.58	-26.56	-27.34	-0.11
20.00	-13.67	-27.10	-27.42	-0.06

