

Surface Mount Voltage Controlled Oscillator

JTOS-1550+

Linear Tuning 1150 to 1550 MHz

Features

- linear tuning characteristics, 20-45 MHz/V typ.
- low phase noise, -142 dBc/Hz at 1 MHz offset
- aqueous washable

Applications

- GPS
- wide frequency synthesizers
- agile communication systems



CASE STYLE: BK377

+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) SSB at offset frequencies: Typ.				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.	Typ.	Min.	Max.	1 kHz	10 kHz	100 kHz	1 MHz	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Vcc (volts)	Current (mA)
1150	1550	+9.0	0.5	18	-72	-100	-122	-142	14	1.2	20-45	-18	—	100	12	32

Pin Connections

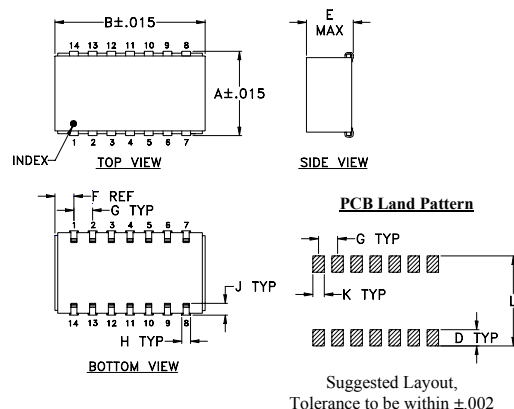
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

Maximum Ratings

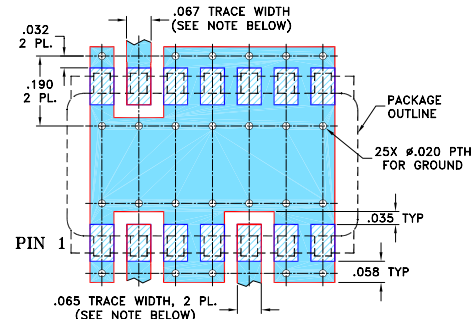
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+13V
Absolute Max. Tuning Voltage (Vtune)	+20V

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)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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/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

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.
C. The parts covered by this specification document 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

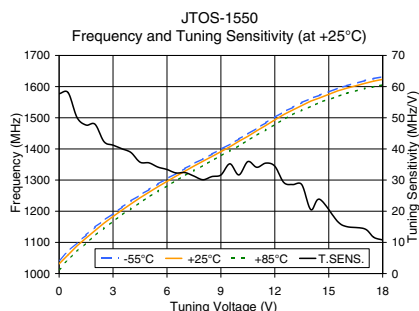


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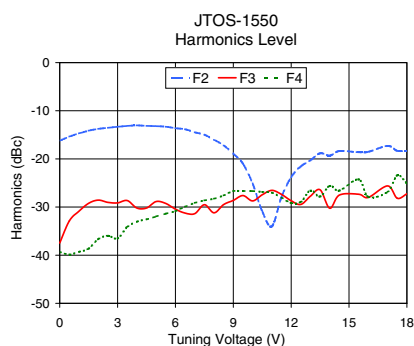
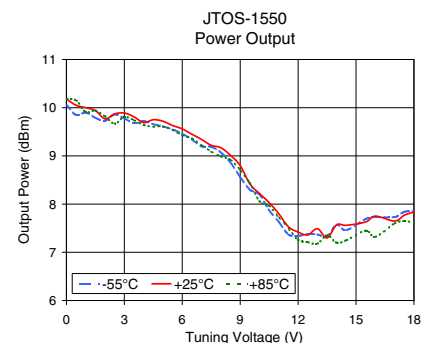
REV. G
M151107
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ED-741A/2
MM/TD/CP/AM
150817
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Performance Data & Curves

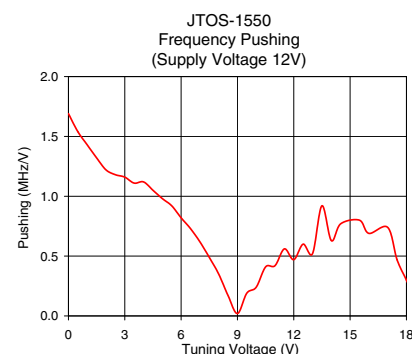
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V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
0.00	57.73	1042.3	1031.2	1012.8	10.06	10.18	10.19
0.50	58.05	1071.5	1060.1	1044.2	9.85	10.05	10.15
1.00	50.05	1099.0	1089.1	1071.7	9.90	10.00	9.91
2.00	47.90	1149.3	1138.0	1122.1	9.73	9.77	9.82
2.50	42.31	1171.3	1161.9	1146.0	9.86	9.87	9.67
4.00	38.84	1233.4	1223.7	1208.5	9.72	9.69	9.64
5.00	35.52	1269.9	1261.0	1246.4	9.61	9.72	9.61
6.00	33.40	1304.3	1295.8	1281.4	9.46	9.56	9.43
7.50	31.30	1353.0	1344.9	1330.7	9.19	9.22	9.09
8.00	30.12	1368.1	1360.5	1346.9	9.07	9.17	8.99
9.00	31.63	1398.8	1391.2	1377.8	8.56	8.80	8.70
10.00	31.66	1431.7	1424.6	1410.4	8.20	8.22	8.06
11.00	34.11	1466.3	1458.4	1443.8	7.63	7.80	7.72
12.00	34.46	1501.6	1493.2	1478.2	7.34	7.42	7.26
13.00	28.56	1533.4	1525.0	1510.3	7.37	7.49	7.18
13.50	28.55	1548.8	1539.3	1524.4	7.33	7.30	7.35
14.00	20.53	1561.7	1553.6	1536.3	7.57	7.57	7.20
16.00	15.07	1602.8	1594.7	1578.3	7.73	7.75	7.32
17.00	14.35	1619.1	1610.4	1593.9	7.73	7.65	7.60
18.00	10.77	1631.5	1623.0	1605.4	7.86	7.84	7.62



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
0.00	-16.2	-37.5	-39.4	1.69
0.50	-15.4	-32.9	-39.9	1.54
1.00	-14.7	-30.9	-39.3	1.43
2.00	-13.8	-28.6	-36.7	1.22
2.50	-13.6	-29.0	-36.0	1.18
4.00	-13.0	-30.2	-33.0	1.12
5.00	-13.2	-28.9	-32.0	0.98
6.00	-13.6	-30.4	-30.8	0.82
7.50	-15.0	-29.5	-28.6	0.49
8.00	-16.0	-31.2	-28.3	0.35
9.00	-18.9	-28.6	-26.7	0.02
10.00	-25.1	-28.7	-26.7	0.24
11.00	-34.0	-26.5	-27.0	0.42
12.00	-23.8	-28.7	-29.2	0.47
13.00	-20.3	-27.7	-26.6	0.52
13.50	-18.8	-26.4	-27.8	0.92
14.00	-19.3	-30.2	-25.6	0.63
16.00	-18.5	-28.0	-27.9	0.69
17.00	-17.3	-25.6	-26.9	0.74
18.00	-18.3	-27.3	-25.1	0.30



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