

Surface Mount Voltage Controlled Oscillator

JTOS-1300+

Linear Tuning 900 to 1300 MHz

Features

- wide frequency range, 900 to 1300 MHz
- linear tuning characteristics
- low phase noise, -135 dBc/Hz at 1 MHz offset
- aqueous washable

Applications

- measurement instrumentation
- cellular
- PCS
- GPS



CASE STYLE: BK377
PRICE: \$18.95 ea. QTY (5-49)

+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			
			SSB at offset frequencies: Typ.							Typ.	Typ.		Typ.	Max.	Vcc (volts)	Current (mA) Max.
Min.	Max.	Typ.	Min.	Max.	1 kHz	10 kHz	100 kHz	1 MHz	Typ.	Typ.	Typ.	Max.	Typ.	Max.		
900	1300	+7.0	1	20	-70	-95	-115	-135	12	1.0	25-45	-28	-17	1.0	12	30

Pin Connections

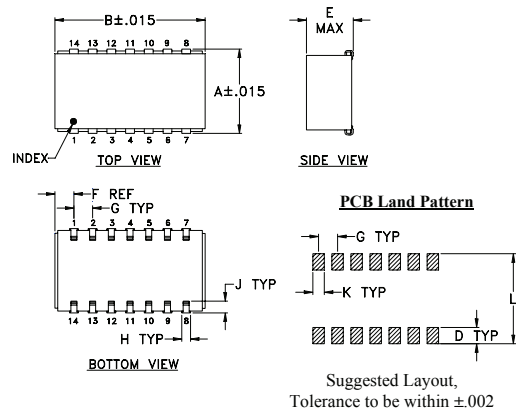
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

Maximum Ratings

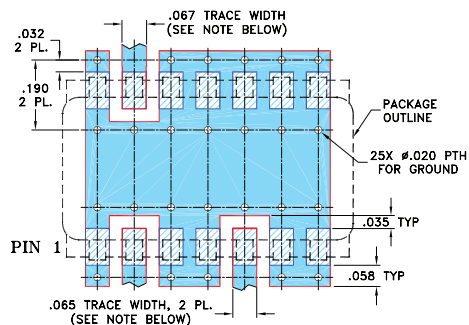
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+15V
Absolute Max. Tuning Voltage (Vtune)	+22V

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)



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

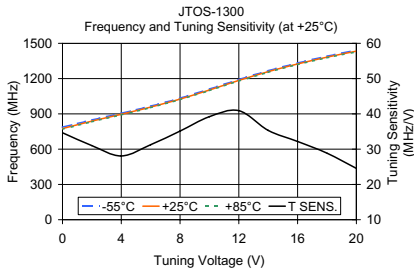
Notes

- 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

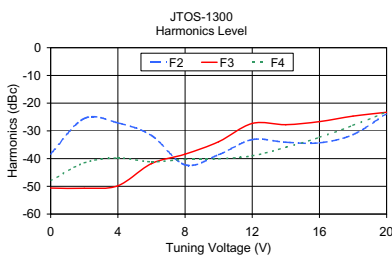
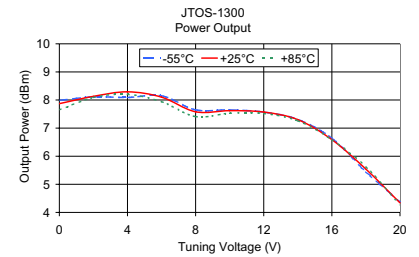


Performance Data & Curves

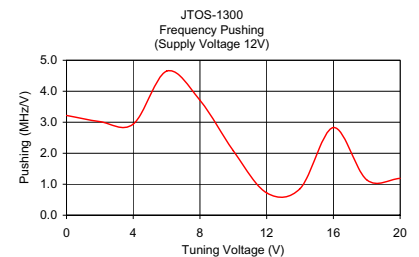
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V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
0.00	34.65	786.58	775.04	769.41	7.99	7.87	7.65
2.00	30.99	848.61	838.39	832.97	8.11	8.13	8.09
4.00	28.07	904.82	896.40	891.43	8.09	8.29	8.20
6.00	31.26	965.67	958.01	953.12	8.15	8.10	7.94
8.00	35.13	1033.65	1025.80	1020.79	7.65	7.58	7.41
10.00	39.22	1110.96	1103.08	1098.09	7.65	7.62	7.53
12.00	40.91	1192.50	1184.14	1178.93	7.57	7.57	7.52
14.00	35.31	1267.41	1258.92	1253.19	7.31	7.30	7.26
16.00	32.17	1332.76	1324.34	1318.94	6.64	6.59	6.59
18.00	28.85	1390.63	1382.10	1376.54	5.44	5.54	5.62
20.00	24.55	1441.92	1433.14	1427.03	4.37	4.34	4.28



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
0.00	-38.30	-50.63	-47.97	3.22
2.00	-25.52	-50.69	-41.52	3.02
4.00	-27.11	-49.78	-39.78	2.94
6.00	-31.63	-41.80	-41.13	4.65
8.00	-42.24	-38.41	-40.24	3.71
10.00	-38.57	-33.91	-40.07	2.08
12.00	-33.15	-27.31	-38.98	0.72
14.00	-34.11	-27.77	-35.94	0.86
16.00	-34.31	-26.65	-32.31	2.83
18.00	-31.33	-24.66	-27.99	1.14
20.00	-23.79	-23.29	-23.13	1.19



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