

Surface Mount Voltage Controlled Oscillator

JTOS-1650+ JTOS-1650

Linear Tuning 1200 to 1650 MHz

Features

- wide frequency range, 1200 to 1650 MHz
- linear tuning characteristics
- low phase noise, -135 dBc/Hz at 1 MHz offset
- aqueous washable

Applications

- GPS
- instrumentation
- 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) 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) Max.
1200	1650	+7.0	1	13	-70	-95	-115	-135	15	1.5	50-90	-20	-14	1.0	12	30

Pin Connections

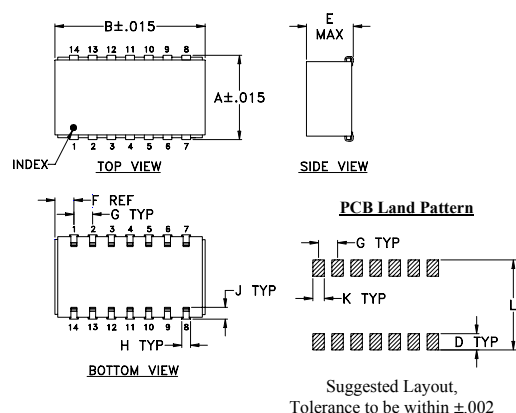
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

Maximum Ratings

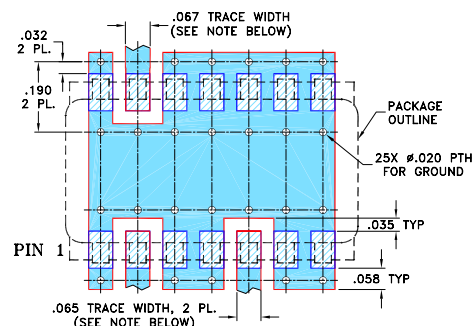
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+15V
Absolute Max. Tuning Voltage (Vtune)	+15V

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

Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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

IF/RF MICROWAVE COMPONENTS

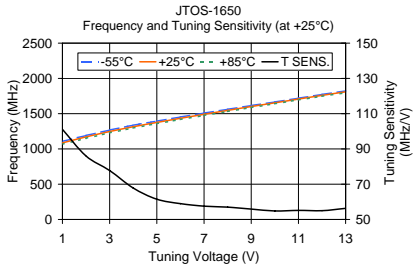
For detailed performance specs & shopping online see web site

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.

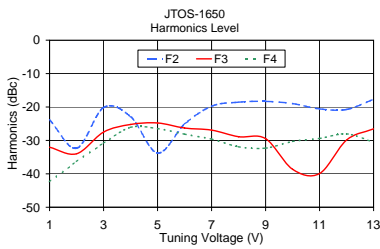
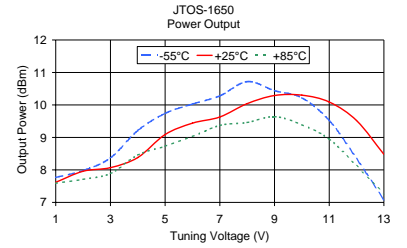
REV. B
M102713
JTOS-1650
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Performance Data & Curves



V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
1.00	101.10	1106.73	1085.63	1067.20	7.77	7.62	7.59
2.00	85.99	1190.49	1170.27	1151.71	7.98	7.96	7.71
3.00	77.73	1267.65	1246.62	1228.18	8.37	8.07	7.89
4.00	67.82	1336.40	1315.12	1297.10	9.21	8.38	8.46
5.00	61.47	1394.36	1375.44	1358.98	9.74	9.09	8.73
6.00	58.97	1452.60	1434.07	1417.73	10.03	9.44	9.03
7.00	57.55	1508.07	1490.42	1475.01	10.28	9.63	9.37
8.00	56.98	1561.32	1546.49	1531.62	10.72	10.04	9.46
9.00	55.89	1615.27	1601.08	1587.11	10.44	10.29	9.64
10.00	54.81	1665.66	1652.87	1641.11	10.22	10.30	9.39
11.00	55.14	1719.10	1706.95	1695.58	9.52	10.09	8.95
12.00	54.98	1772.48	1758.82	1747.06	8.35	9.52	8.13
13.00	56.31	1822.76	1809.17	1797.64	7.08	8.48	7.27



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
1.00	-23.86	-32.03	-42.36	0.16
2.00	-32.33	-33.99	-36.33	0.48
3.00	-20.17	-27.50	-30.83	0.90
4.00	-22.89	-25.23	-26.06	0.98
5.00	-33.78	-24.78	-26.45	1.22
6.00	-25.12	-26.29	-28.12	1.51
7.00	-19.76	-26.92	-29.59	1.51
8.00	-18.55	-28.89	-31.89	1.36
9.00	-18.30	-29.47	-32.30	1.08
10.00	-18.97	-38.64	-30.30	0.54
11.00	-20.56	-39.90	-29.40	0.13
12.00	-20.72	-29.88	-28.05	0.86
13.00	-17.70	-26.53	-30.53	1.09

