

Surface Mount Voltage Controlled Oscillator

JTOS-2000+ JTOS-2000

Linear Tuning 1370 to 2000 MHz

Features

- wide frequency range, 1370 to 2000 MHz typ.
- linear tuning characteristics
- low phase noise, -140 dBc/Hz at 1 MHz offset
- aqueous washable
- protected by US patent 6,549,084

Applications

- instrumentation
- PCS/DCS
- communication systems



CASE STYLE: BK377
PRICE: \$19.95 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) 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.
1370	2000	+12.0	1.0	22	-70	-100	-120	-140	10	2	40-65	-18	-8	9	8	30

Pin Connections

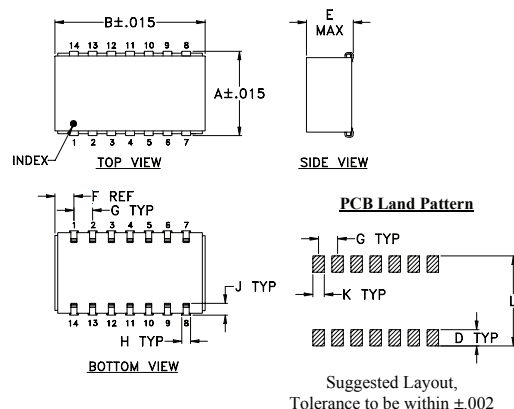
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

Maximum Ratings

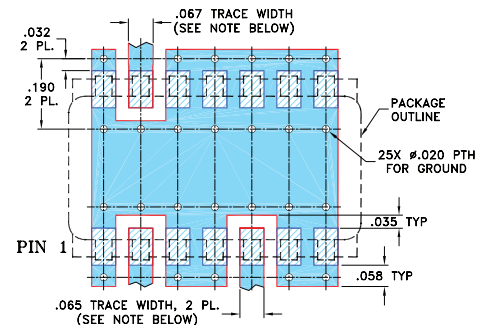
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+10V
Absolute Max. Tuning Voltage (Vtune)	+25V

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

Outline Drawing



Demo Board MCL P/N: 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

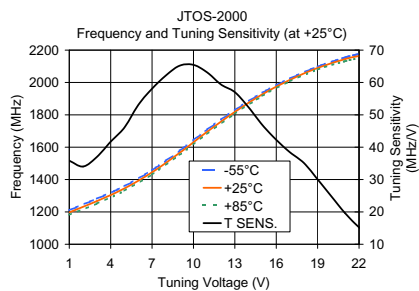
Notes

- 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.
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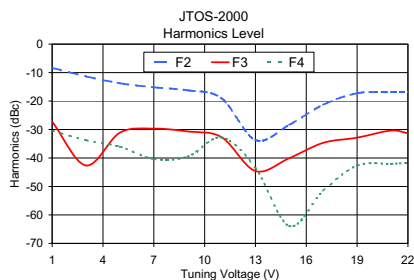
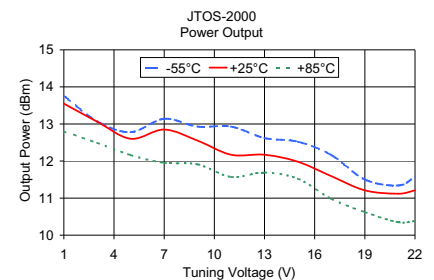


Performance Data & Curves

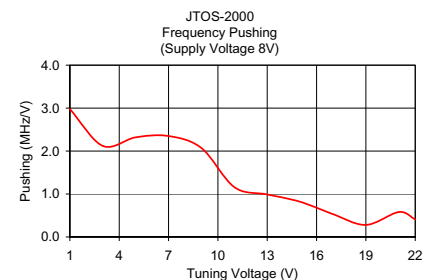
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V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
1.00	35.81	1210.65	1196.99	1181.52	13.76	13.55	12.80
3.00	36.97	1281.59	1266.83	1251.56	13.07	13.06	12.49
5.00	46.09	1359.14	1345.53	1330.90	12.78	12.60	12.16
7.00	58.09	1458.25	1444.68	1431.09	13.14	12.85	11.95
9.00	65.19	1578.74	1564.95	1551.09	12.93	12.55	11.91
11.00	63.10	1709.02	1695.58	1681.47	12.93	12.17	11.57
13.00	57.02	1829.19	1818.05	1805.86	12.62	12.17	11.69
15.00	46.84	1937.02	1927.36	1916.78	12.52	11.98	11.52
17.00	38.40	2024.69	2016.48	2007.13	12.16	11.59	10.98
19.00	30.04	2097.79	2090.02	2080.03	11.50	11.21	10.62
21.00	19.58	2154.87	2144.84	2131.87	11.34	11.12	10.35
22.00	15.22	2176.42	2164.42	2149.96	11.57	11.21	10.38



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
1.00	-8.33	-27.23	-30.34	2.98
3.00	-11.33	-42.62	-33.73	2.12
5.00	-13.75	-31.08	-36.02	2.32
7.00	-15.17	-29.69	-40.37	2.35
9.00	-16.21	-30.68	-39.51	2.07
11.00	-19.05	-32.69	-32.78	1.16
13.00	-33.70	-44.59	-43.47	0.99
15.00	-28.36	-40.05	-63.90	0.82
17.00	-21.29	-34.68	-51.52	0.53
19.00	-17.25	-32.86	-42.66	0.28
21.00	-16.87	-30.36	-42.07	0.58
22.00	-16.69	-31.34	-41.71	0.41



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