

Surface Mount Voltage Controlled Oscillator

JTOS-3000+ JTOS-3000

Linear Tuning 2300 to 3000 MHz

Features

- wide frequency range, 2300 to 3000 MHz
- linear tuning characteristics
- low phase noise, -130 dBc/Hz at 1 MHz offset, typ.
- aqueous washable

Applications

- measurement instrumentation
- ISM
- wireless
- satellite systems



CASE STYLE: BK377
PRICE: \$20.95 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 dBr (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.
2300	3000	+10.0	0.5	12	-60	-90	-110	-130	50	5.0	50-150	-22	-12	20	5	25

Pin Connections

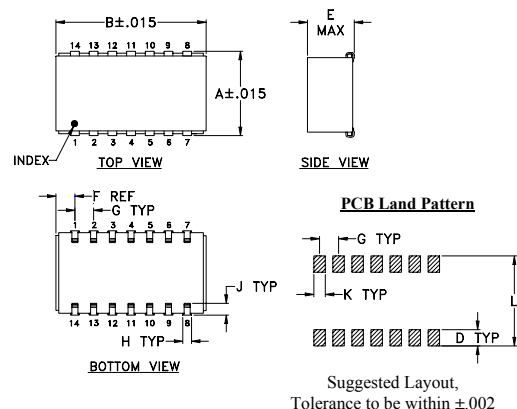
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

Maximum Ratings

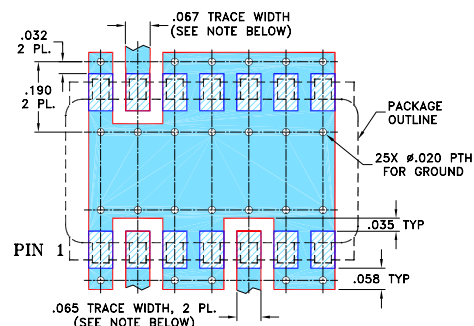
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+7V
Absolute Max. Tuning Voltage (Vtune)	+15V

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

Outline Drawing



**Demo Board MCL 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

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ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

For detailed performance specs
& shopping online see web site



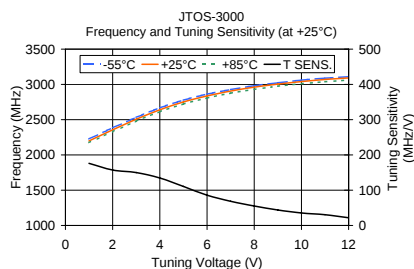
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Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained 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.

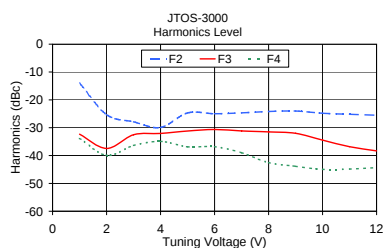
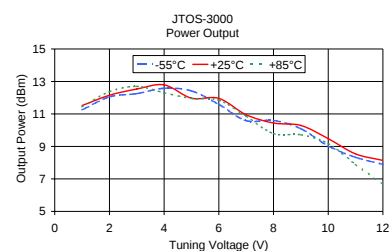
REV. D
M102713
JTOS-3000
ED-5452/3
MM/TD/CP
091223
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Performance Data & Curves

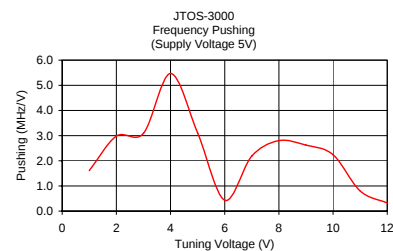
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V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
1.00	176.12	2225.99	2198.67	2174.92	11.25	11.52	11.44
2.00	157.23	2384.50	2355.89	2330.30	12.05	12.15	12.37
3.00	149.91	2532.44	2505.80	2480.24	12.25	12.53	12.70
4.00	134.49	2667.36	2640.29	2613.28	12.58	12.79	12.31
5.00	110.75	2777.08	2751.04	2722.31	12.42	11.97	11.96
6.00	85.80	2861.78	2836.84	2808.04	11.59	11.96	11.85
7.00	68.55	2926.73	2905.39	2876.59	10.59	10.95	10.86
8.00	55.21	2981.93	2960.60	2929.42	10.60	10.44	9.79
9.00	43.80	3022.95	3004.40	2975.14	10.09	10.29	9.72
10.00	35.45	3060.48	3039.86	3009.84	9.03	9.48	9.18
11.00	30.39	3088.57	3070.25	3037.86	8.33	8.54	7.90
12.00	21.74	3108.80	3091.99	3062.02	7.90	8.14	6.65



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
1.00	-14.00	-32.33	-33.83	1.61
2.00	-25.29	-37.45	-39.95	2.98
3.00	-27.86	-32.52	-36.36	3.09
4.00	-29.90	-32.06	-34.90	5.47
5.00	-24.68	-31.18	-36.85	3.11
6.00	-24.97	-30.63	-36.80	0.43
7.00	-24.65	-31.15	-38.99	2.19
8.00	-24.18	-31.51	-42.51	2.80
9.00	-24.00	-32.00	-43.83	2.62
10.00	-24.79	-34.46	-44.96	2.24
11.00	-25.16	-36.83	-44.83	0.80
12.00	-25.50	-38.33	-44.33	0.32



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