

# Surface Mount Voltage Controlled Oscillator

# JTOS-100P+ JTOS-100P

5V Tuning for PLL IC's 48 to 59 MHz

## Features

- low phase noise
- 5V tuning voltage range
- linear tuning characteristics
- aqueous washable

## Applications

- PLL circuitry
- measurement instrumentation
- frequency synthesizers



CASE STYLE: BK377  
PRICE: \$14.95 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 p-k-pk @ 12 dB (MHz)	PUSHING (MHz/V)	TUNING SENSITIVITY (MHz/V)	HARMONICS (dBc)		3 dB MODULATION BANDWIDTH (MHz)	POWER SUPPLY	
Min.	Max.	Typ.	Min.	Max.	1 kHz	10 kHz	100 kHz	1 MHz	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Voltage (V)	Current (mA) Max.
48	59	+9	0.5	5.0	-83	-108	-128	-140	0.6	0.2	3.5-4	-30	-20	0.1	12	18

## Pin Connections

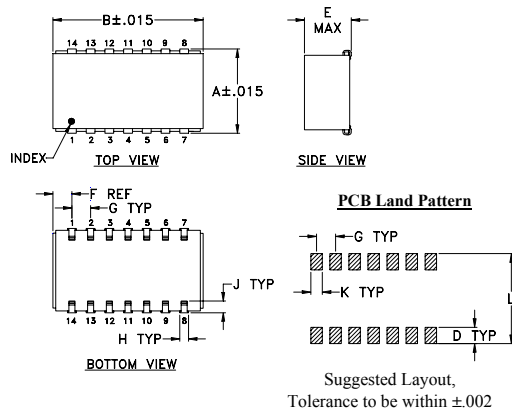
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

## Maximum Ratings

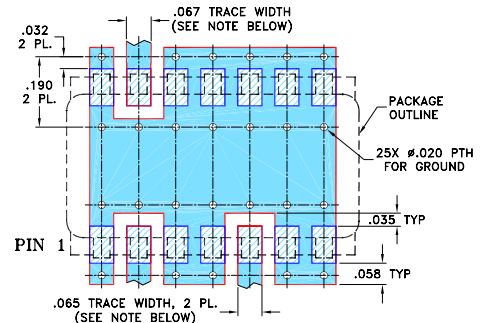
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+16V
Absolute Max. Tuning Voltage (Vtune)	+7V

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](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

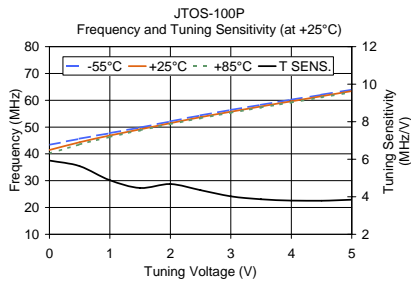
For detailed performance specs & shipping online see web site

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](http://www.minicircuits.com/MCLStore/terms.jsp).

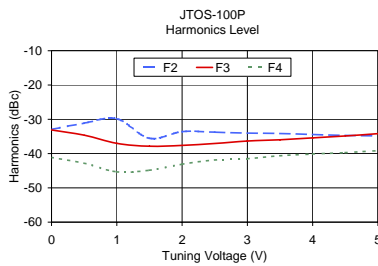
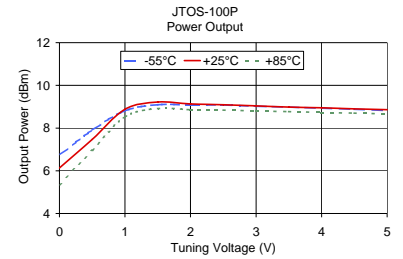
REV. A  
M102713  
JTOS-100P  
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091223  
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# Performance Data & Curves

# JTOS-100P+ JTOS-100P



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	5.93	43.34	41.46	40.21	6.74	6.13	5.35
0.50	5.63	45.64	44.35	43.52	7.91	7.47	6.96
1.00	4.88	47.75	46.87	46.32	8.81	8.88	8.52
1.50	4.47	49.80	49.15	48.75	9.09	9.22	8.91
2.00	4.68	52.13	51.45	51.10	9.08	9.13	8.86
2.50	4.35	54.35	53.69	53.32	9.08	9.09	8.84
3.00	4.02	56.37	55.73	55.34	9.02	9.04	8.80
3.50	3.87	58.30	57.68	57.28	8.98	8.98	8.77
4.00	3.80	60.19	59.59	59.18	8.93	8.95	8.73
4.50	3.79	62.07	61.49	61.06	8.88	8.90	8.70
5.00	3.84	63.98	63.41	62.97	8.82	8.86	8.66



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
0.00	-32.96	-33.12	-41.12	0.06
0.50	-31.13	-34.63	-42.80	0.13
1.00	-29.85	-37.02	-45.35	0.19
1.50	-35.52	-37.86	-44.86	0.26
2.00	-33.60	-37.60	-43.10	0.26
2.50	-33.73	-37.06	-41.89	0.26
3.00	-34.02	-36.35	-41.52	0.19
3.50	-34.13	-35.96	-40.63	0.19
4.00	-34.43	-35.43	-40.10	0.19
4.50	-34.71	-34.88	-39.71	0.13
5.00	-34.84	-34.17	-39.17	0.06

