

Surface Mount Voltage Controlled Oscillator

JTOS-300P+

5V Tuning for PLL IC's 148 to 174 MHz

Features

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

Applications

- PLL circuitry
- measurement instrumentation
- frequency synthesizers



CASE STYLE: BK377

+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 _r (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.
148	174	+10	0.5	5.0	-82	-102	-122	-142	1.0	0.2	10-14	-27	-20	0.12	12	20

Pin Connections

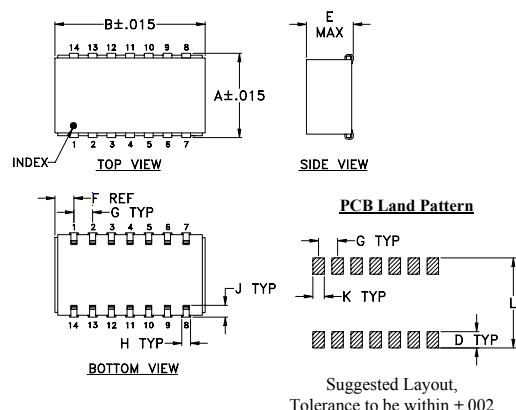
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

Maximum Ratings

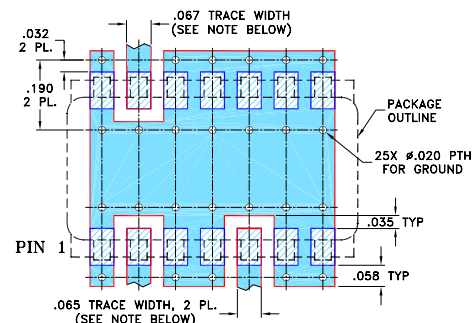
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+16V
Absolute Max. Tuning Voltage (Vtune)	+7V

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)



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

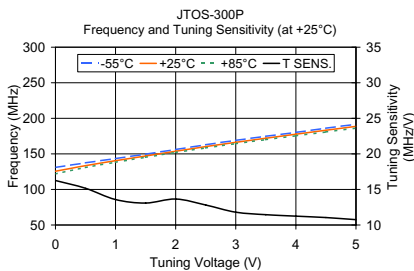


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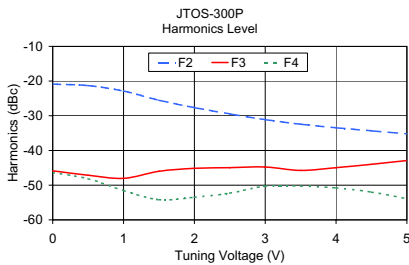
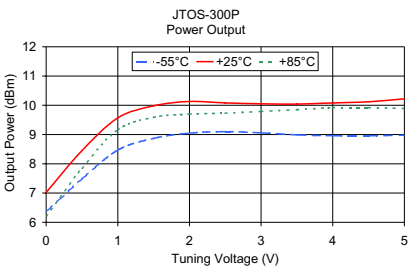
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Page 1 of 1

Performance Data & Curves

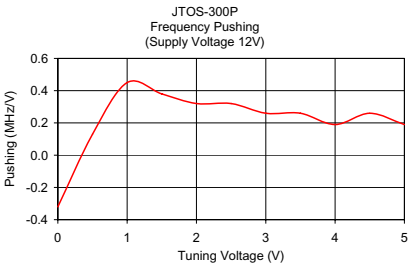
JTOS-300P+



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	16.26	130.97	125.58	121.94	6.36	7.02	6.21
0.50	15.16	137.44	133.44	130.82	7.48	8.45	7.85
1.00	13.58	143.41	140.40	138.32	8.47	9.57	9.16
1.50	13.09	149.57	147.01	145.24	8.87	9.98	9.59
2.00	13.65	156.17	153.67	152.09	9.05	10.13	9.70
2.50	12.81	162.85	160.26	158.44	9.10	10.08	9.73
3.00	11.80	169.07	166.24	164.40	9.06	10.05	9.79
3.50	11.45	174.77	172.00	170.06	8.99	10.04	9.85
4.00	11.24	180.29	177.66	175.50	8.96	10.08	9.92
4.50	11.05	186.11	183.22	180.88	8.96	10.12	9.92
5.00	10.75	191.68	188.65	186.34	8.98	10.22	9.89



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
0.00	-20.87	-45.87	-46.37	-0.32
0.50	-21.30	-47.14	-48.14	0.13
1.00	-22.87	-48.04	-51.54	0.45
1.50	-25.50	-46.00	-54.17	0.38
2.00	-27.65	-45.15	-53.48	0.32
2.50	-29.45	-44.95	-52.29	0.32
3.00	-31.10	-44.77	-50.27	0.26
3.50	-32.42	-45.76	-50.26	0.26
4.00	-33.45	-44.95	-50.79	0.19
4.50	-34.33	-43.99	-51.99	0.26
5.00	-35.22	-42.89	-53.89	0.19



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