

# Surface Mount Voltage Controlled Oscillator

# JTOS-535P+ JTOS-535P

5V Tuning for PLL IC's 278 to 325 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: \$16.95 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)	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.
278	325	+9.5	0.5	5.0	-75	-97	-117	-137	2.0	0.5	17-22	-30	-20	0.115	12	20

## Pin Connections

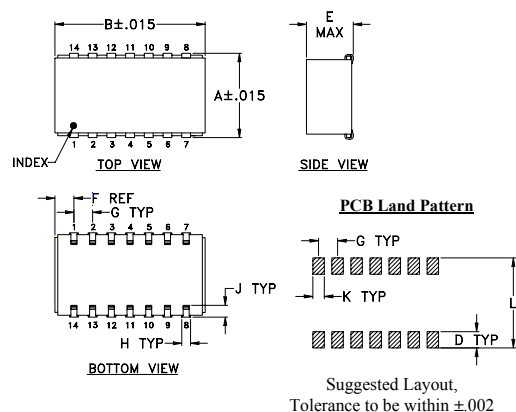
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

## Maximum Ratings

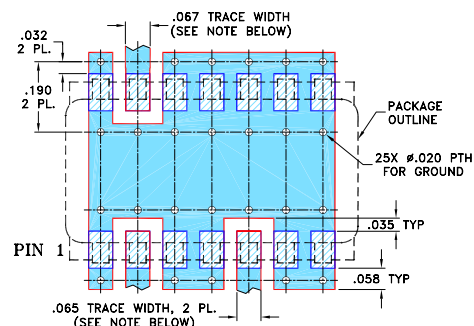
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+16V
Absolute Max. Tuning Voltage (Vtune)	+7V

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)



## 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

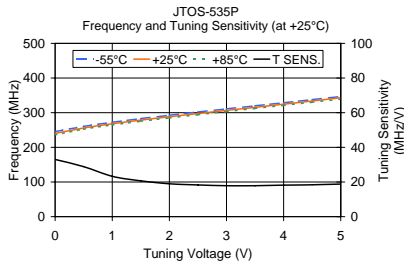
For detailed performance specs & shopping online see web site

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

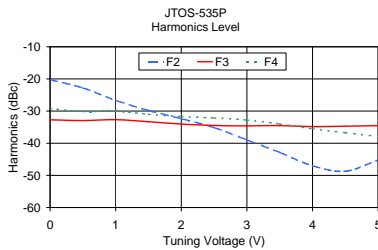
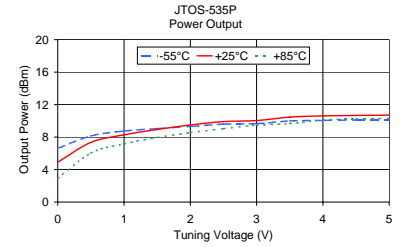
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# JTOS-535P+ JTOS-535P

## 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
0.00	33.00	245.51	240.36	236.08	6.62	4.90	2.90
0.50	28.85	260.45	255.82	252.18	8.14	7.35	6.04
1.00	23.30	272.41	268.01	264.56	8.75	8.28	7.17
1.50	20.66	282.95	278.66	275.23	9.05	8.93	7.95
2.00	18.98	292.72	288.36	284.88	9.32	9.49	8.55
2.50	18.30	302.09	297.57	294.20	9.60	9.91	9.04
3.00	17.86	311.13	306.52	303.36	9.66	10.03	9.48
3.50	17.87	319.94	315.44	312.35	9.99	10.46	9.67
4.00	18.19	328.69	324.51	321.29	10.06	10.61	10.11
4.50	18.40	337.57	333.72	330.19	10.10	10.67	10.24
5.00	18.81	346.97	343.10	339.19	10.08	10.70	10.30



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
0.00	-20.22	-32.72	-29.22	0.06
0.50	-22.78	-32.95	-30.11	0.90
1.00	-26.67	-32.67	-30.00	0.58
1.50	-29.81	-33.31	-30.98	0.19
2.00	-32.37	-34.04	-31.70	0.38
2.50	-35.13	-34.47	-32.13	1.09
3.00	-38.94	-34.61	-32.78	0.83
3.50	-42.85	-34.52	-34.02	0.19
4.00	-47.00	-34.83	-35.50	-0.13
4.50	-48.71	-34.71	-36.71	-0.13
5.00	-45.21	-34.54	-37.87	0.00

