

# Surface Mount Voltage Controlled Oscillator

# JTOS-3000+ JTOS-3000

## Wide Band 2300 to 3000 MHz

### Features

- wide frequency range, 2300 to 3000 MHz
- low phase noise, -131 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

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)				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.		Max.	Vcc (volts)
2300	3000	+10.0	0.5	12	-59	-87	-109	-131	20	11	70-180	-25	-12	55	5	28

### Pin Connections

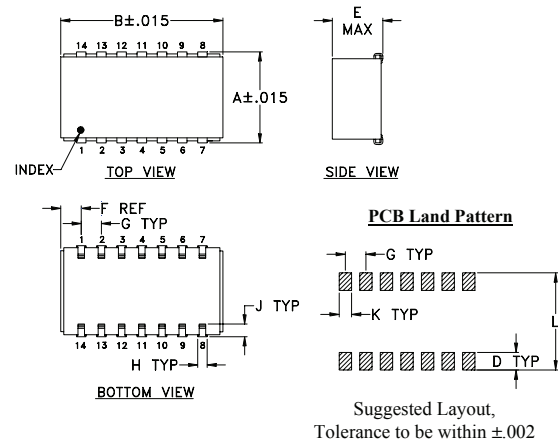
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

### Maximum Ratings

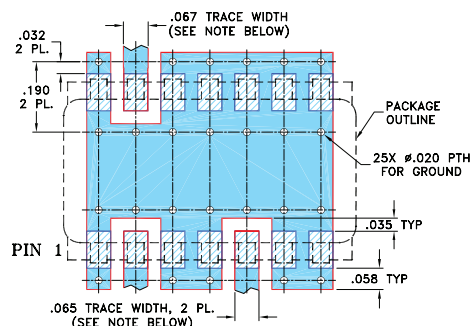
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+6.5V
Absolute Max. Tuning Voltage (Vtune)	+15V

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

### Outline Drawing



### Demo Board MCL 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

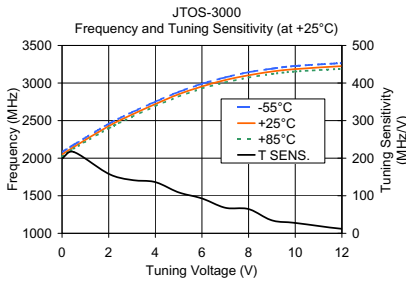
### Notes

- 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-Circuits' applicable established test performance criteria and measurement instructions.  
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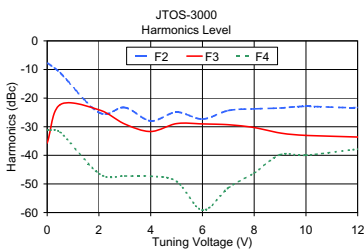
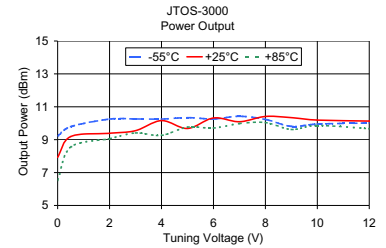


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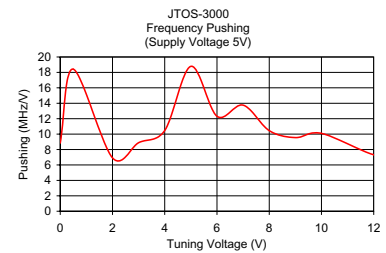
## Performance Data & Curves



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	198.71	2081.38	2048.51	2020.22	9.22	7.93	6.52
0.50	216.63	2177.49	2147.87	2126.40	9.79	9.19	8.54
2.00	158.24	2456.43	2426.42	2398.02	10.25	9.39	9.06
3.00	141.95	2609.76	2579.50	2549.06	10.26	9.55	9.41
4.00	136.32	2751.66	2720.39	2694.08	10.25	10.16	9.26
5.00	109.00	2881.17	2850.86	2819.58	10.34	9.68	9.76
6.00	92.72	2990.44	2953.71	2927.49	10.26	10.32	9.71
7.00	68.03	3075.25	3040.06	3008.83	10.42	10.09	9.98
8.00	64.53	3144.04	3103.09	3073.02	10.23	10.41	10.04
9.00	34.54	3191.29	3152.65	3120.58	9.81	10.34	9.62
10.00	27.60	3227.10	3185.39	3152.64	9.95	10.19	9.86
12.00	11.82	3265.46	3225.12	3189.12	10.02	10.13	9.67
13.00	9.72	3274.72	3236.36	3201.66	10.12	10.09	9.54
14.00	8.85	3282.03	3245.65	3210.62	10.07	10.01	9.53



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
0.00	-7.66	-35.70	-31.32	8.84
0.50	-11.16	-22.30	-31.89	18.42
2.00	-25.03	-24.09	-46.37	6.92
3.00	-23.30	-29.07	-47.21	8.89
4.00	-27.98	-31.67	-47.31	10.46
5.00	-24.92	-28.91	-49.09	18.78
6.00	-27.33	-29.02	-59.15	12.32
7.00	-24.34	-29.29	-51.38	13.76
8.00	-23.77	-30.28	-46.20	10.45
9.00	-23.47	-32.18	-39.79	9.55
10.00	-22.90	-33.03	-39.97	10.09
12.00	-23.29	-33.61	-37.86	7.32
13.00	-21.50	-34.32	-37.46	7.23
14.00	-21.06	-35.33	-36.40	7.29



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