Surface Mount

Voltage Controlled Oscillator JTOS-200

Linear Tuning 100 to 200 MHz

CASE STYLE: BK377
PRICE: Contact Sales Dept.

Features
- wide frequency range, 100 to 200 MHz
- linear tuning characteristics
- excellent harmonic suppression, -25 dBc typ.
- low phase noise, -145 dBc/Hz at 1 MHz offset
- aqueous washable

Applications
- VHF
- FM broadcasting

+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 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.
100	200	+10.0	1	16	-84	-105	-124	-145	1.0	0.2	6-10	-25	-20	0.11	12	20

Pin Connections

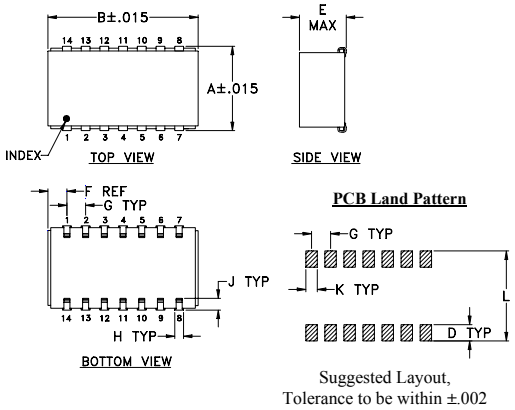
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

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)	+18V

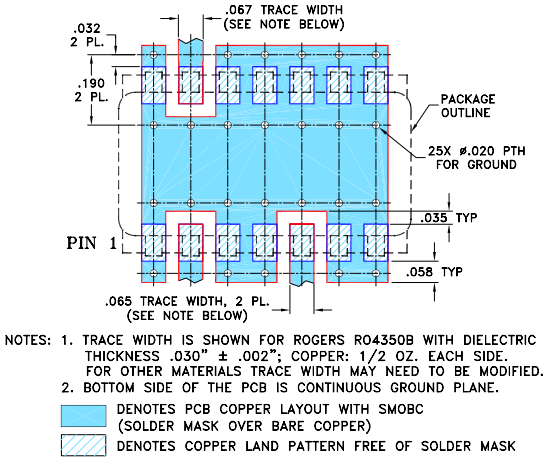
all specifications: 50 ohm system
Permanent damage may occur if any of these limits are exceeded.

Outline Drawing



Suggested Layout,
Tolerance to be within ±.002

Demo Board MCL P/N: TB-04
Suggested PCB Layout (PL-005)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B 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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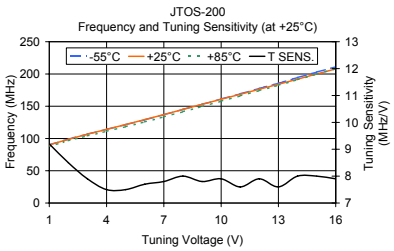
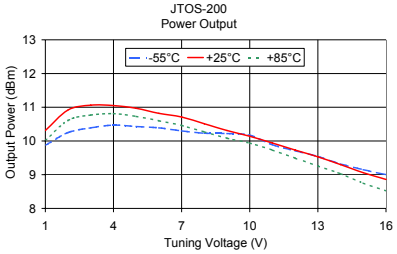
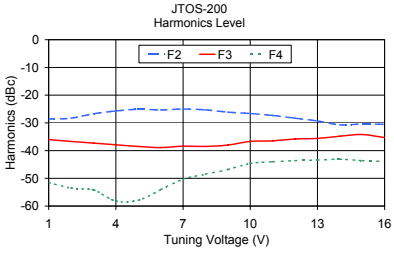
Performance Data & Curves

JTOS-200



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	9.20	90.26	90.12	87.80	9.87	10.31	10.02
2.00	8.50	99.05	98.66	96.63	10.25	10.92	10.61
3.00	7.90	106.85	106.58	104.12	10.39	11.06	10.77
4.00	7.50	114.18	114.08	111.21	10.47	11.05	10.81
5.00	7.50	121.53	121.62	118.38	10.43	10.97	10.73
6.00	7.70	129.06	129.30	125.81	10.39	10.82	10.60
7.00	7.80	136.93	137.10	133.58	10.30	10.71	10.46
8.00	8.00	145.12	145.10	141.55	10.23	10.51	10.27
9.00	7.80	153.05	152.95	149.75	10.22	10.31	10.08
10.00	7.90	161.31	160.83	157.85	10.17	10.14	9.94
11.00	7.60	169.31	168.47	166.06	9.89	9.94	9.73
12.00	7.90	177.63	176.36	174.38	9.71	9.73	9.49
13.00	7.60	185.60	183.96	182.60	9.54	9.53	9.26
14.00	8.00	194.50	191.96	191.25	9.32	9.30	9.03
15.00	8.00	202.95	200.00	199.71	9.15	9.06	8.75
16.00	7.90	211.21	207.87	208.18	9.00	8.86	8.52





V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
1.00	-28.60	-36.00	-51.50	0.15
2.00	-28.30	-36.70	-53.50	0.24
3.00	-26.70	-37.30	-54.20	0.16
4.00	-25.70	-37.90	-58.20	0.17
5.00	-25.10	-38.50	-57.90	0.13
6.00	-25.30	-38.90	-54.10	0.15
7.00	-25.00	-38.40	-50.30	0.20
8.00	-25.30	-38.50	-48.50	0.22
9.00	-26.10	-38.00	-46.80	0.26
10.00	-26.60	-36.70	-44.60	0.18
11.00	-27.30	-36.50	-44.00	0.25
12.00	-28.30	-35.80	-43.60	0.12
13.00	-29.30	-35.60	-43.40	0.10
14.00	-30.70	-34.80	-43.10	0.15
15.00	-30.40	-34.20	-43.60	0.15
16.00	-30.50	-35.30	-43.90	0.33