

Surface Mount Voltage Controlled Oscillator

JTOS-75+

Linear Tuning 37.5 to 75 MHz

Features

- wide frequency range, 37.5 to 75 MHz
- linear tuning characteristics
- excellent harmonic suppression, -27 dBc typ.
- low phase noise, -140 dBc/Hz at 1 MHz offset
- aqueous washable

Applications

- instrumentation
- VHF communication systems
- 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 (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.	V _{cc} (volts)	Current (mA) Max.
37.5	75	+8.0	1	16	-89	-110	-130	-140	0.15	0.11	2.8-4.0	-27	-20	0.125	12	20

Pin Connections

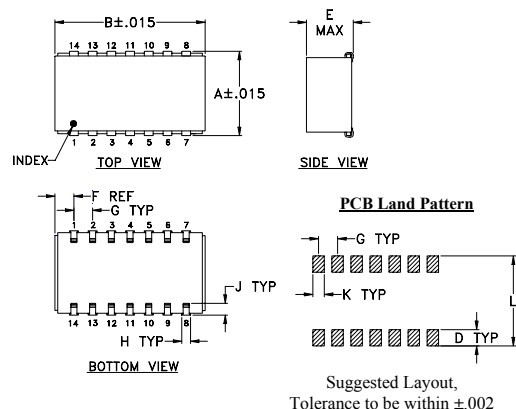
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

Maximum Ratings

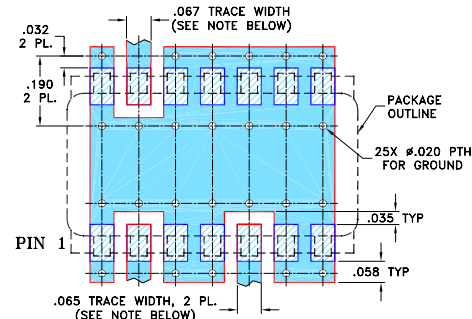
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (V _{cc})	+16V
Absolute Max. Tuning Voltage (V _{tune})	+18V

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

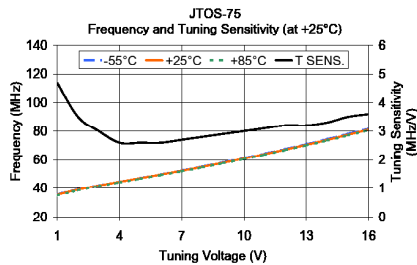


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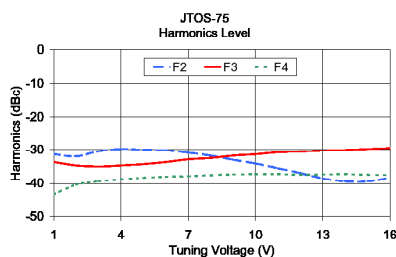
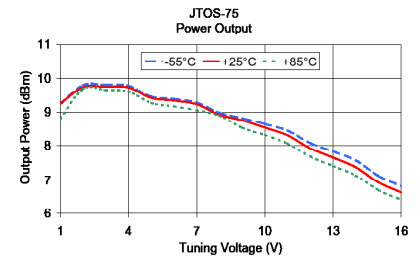
REV. F
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Performance Data & Curves

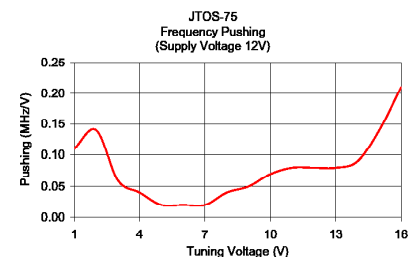
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V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
1.00	4.70	35.61	35.31	34.79	9.25	9.26	8.81
2.00	3.50	39.02	38.81	38.32	9.81	9.75	9.70
3.00	3.00	41.88	41.78	41.34	9.82	9.76	9.67
4.00	2.60	44.50	44.42	44.02	9.79	9.74	9.62
5.00	2.60	47.08	46.98	46.59	9.47	9.43	9.28
6.00	2.60	49.71	49.58	49.20	9.40	9.35	9.18
7.00	2.70	52.45	52.27	51.89	9.29	9.24	9.06
8.00	2.80	55.32	55.08	54.70	8.99	8.93	8.90
9.00	2.90	58.30	58.00	57.63	8.83	8.76	8.54
10.00	3.00	61.35	61.02	60.66	8.65	8.54	8.32
11.00	3.10	64.47	64.12	63.77	8.45	8.31	8.07
12.00	3.20	67.68	67.28	66.94	8.08	7.92	7.68
13.00	3.20	70.98	70.52	70.18	7.83	7.65	7.41
14.00	3.30	74.40	73.86	73.51	7.57	7.37	7.13
15.00	3.50	77.95	77.34	76.95	7.12	6.93	6.70
16.00	3.60	81.65	80.98	80.55	6.82	6.63	6.42



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
1.00	-31.40	-33.70	-43.40	0.11
2.00	-32.00	-34.70	-40.40	0.14
3.00	-30.50	-35.00	-39.40	0.06
4.00	-29.80	-34.70	-38.80	0.04
5.00	-30.00	-34.30	-38.30	0.02
6.00	-30.20	-33.70	-38.00	0.02
7.00	-30.90	-32.90	-37.80	0.02
8.00	-31.80	-32.50	-37.50	0.04
9.00	-33.00	-31.80	-37.30	0.05
10.00	-34.10	-31.40	-37.20	0.07
11.00	-35.50	-30.80	-37.20	0.08
12.00	-36.90	-30.60	-37.40	0.08
13.00	-38.50	-30.30	-37.30	0.08
14.00	-39.40	-30.10	-37.20	0.09
15.00	-39.40	-29.80	-37.40	0.14
16.00	-38.30	-29.50	-37.50	0.21



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