Surface Mount

Voltage Controlled Oscillator

JTOS-300P+
JTOS-300P

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



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.

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

Applications
- PLL circuitry
- measurement instrumentation
- frequency synthesizers

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)	POWER SUPPLY	
					1 kHz	10 kHz	100 kHz	1 MHz							Voltage (V)	Current (mA) Max.
Min.	Max.	Typ.	Min.	Max.					Typ.	Typ.	Typ.	Typ.	Max.	Typ.		
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

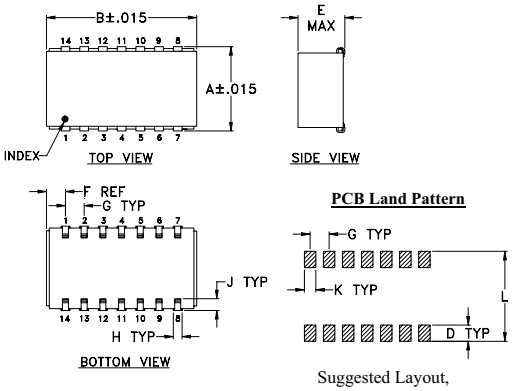
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

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

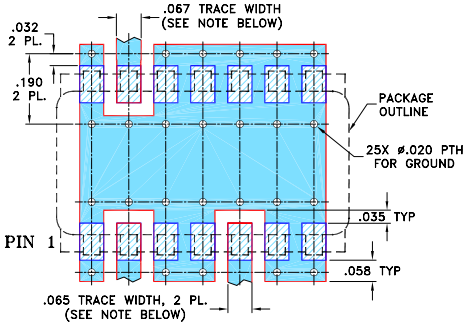
all specifications: 50 ohm system

Outline Drawing



Suggested Layout,
Tolerance to be within ±.002

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



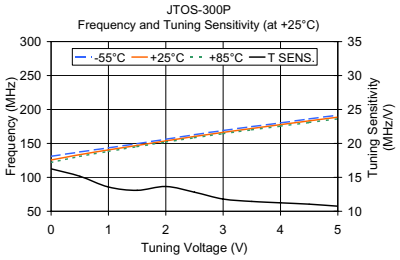
NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

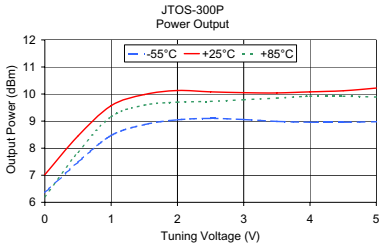
Outline Dimensions (inch / mm)

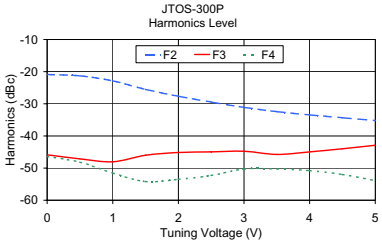
A	B	C	D	E	F	G	H	J	K	L	wt
.505	.800	--	.100	.250	.100	.100	.047	.065	.065	.525	grams
12.83	20.32	--	2.54	6.35	2.54	2.54	1.19	1.65	1.65	13.34	3.0

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	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

