

Surface Mount Voltage Controlled Oscillator

JTOS-535+

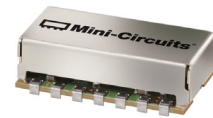
Linear Tuning 300 to 525 MHz

Features

- wide frequency range, 300 to 525 MHz
- linear tuning characteristics
- excellent harmonic suppression, -35 dBc typ.
- low phase noise, -144 dBc/Hz at 1 MHz offset
- aqueous washable

Applications

- VHF/UHF
- instrumentation
- signal generators



CASE STYLE: BK377

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies,kHz Typ.				TUNING				NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @12 dBr (MHz)	PUSHING (MHz/V)	DC OPERATING POWER		
								VOLTAGE RANGE (V)	SENSI-TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)						Vcc (volts)	Current (mA)	
	Min.	Max.	Typ.	1	10	100	1000	Min.	Max.	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Typ.		Max.	
JTOS-535+	300	525	+10.5	-76	-101	-123	-144	1	16	15-21	350	0.12	-90	-35	-20	2.0	0.5	12	22

Pin Connections

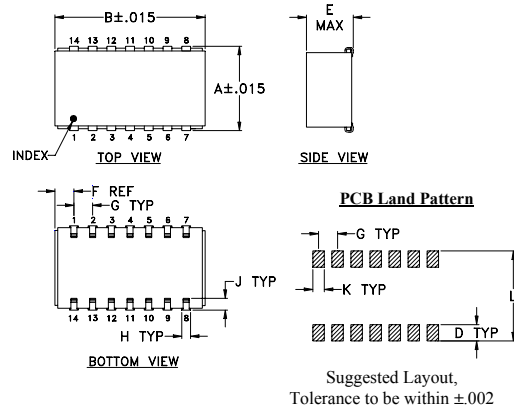
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

Maximum Ratings

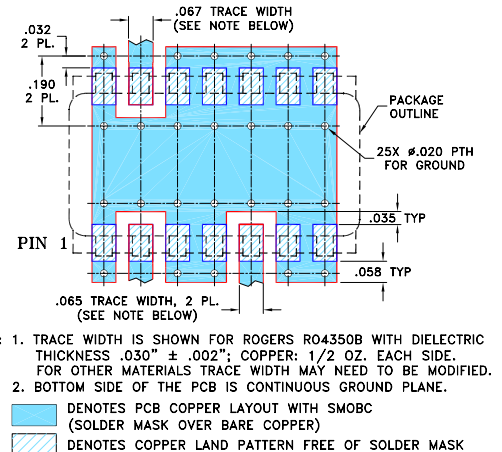
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+16V
Absolute Max. Tuning Voltage (Vtune)	+18V

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

Outline Drawing



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

Notes

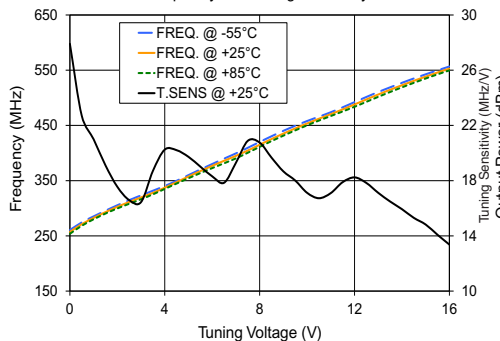
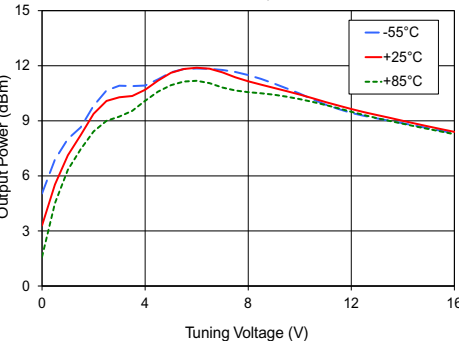
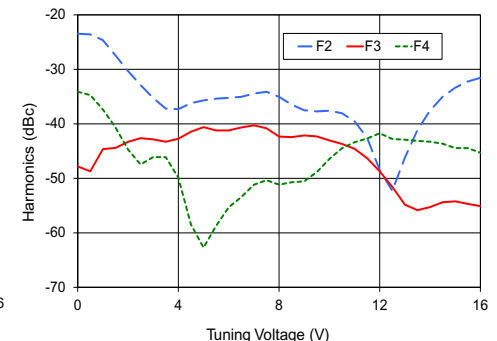
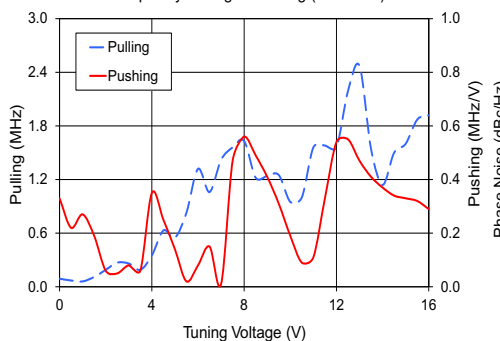
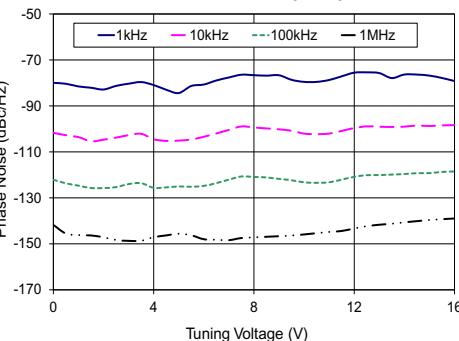
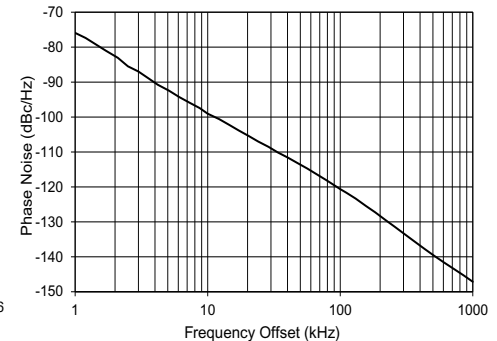
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Performance Data & Curves

JTOS-535+

V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			Icc (mA)	HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ. PULL (MHz)	PHASE NOISE (dBc/Hz) at offsets				FREQ OFFSET (kHz)	PHASE NOISE at 413 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	27.91	260.7	257.2	253.8	5.04	3.30	1.59	17.25	-23.5	-47.8	-34.1	0.33	0.09	-79.95	-101.7	-122.1	-141.8	1.0	-75.92
0.50	22.70	274.4	271.2	268.3	6.89	5.53	4.51	17.31	-23.6	-48.7	-34.7	0.22	0.07	-80.36	-102.7	-123.7	-145.5	2.5	-85.48
1.00	21.00	285.3	282.5	280.0	8.01	7.12	6.33	17.30	-24.7	-44.6	-37.4	0.27	0.06	-81.52	-103.6	-124.7	-146.2	4.2	-90.77
2.00	17.56	305.4	302.6	299.7	9.82	9.38	8.42	17.34	-30.3	-43.3	-44.7	0.06	0.19	-82.85	-104.7	-125.7	-147.1	7.3	-95.89
3.00	16.45	323.3	319.7	316.3	10.91	10.28	9.23	17.16	-35.3	-42.9	-46.1	0.08	0.26	-80.34	-102.7	-124.0	-148.7	8.7	-97.44
4.00	20.25	340.3	337.2	335.1	10.92	10.69	10.09	16.91	-37.3	-42.8	-49.9	0.35	0.35	-80.91	-104.5	-125.6	-147.1	10.0	-99.04
5.00	19.72	360.0	357.5	354.4	11.64	11.61	10.94	16.81	-35.7	-40.6	-62.7	0.14	0.55	-84.39	-105.1	-125.0	-145.6	24.0	-107.00
6.00	18.31	380.1	376.8	372.7	11.85	11.89	11.18	16.63	-35.2	-41.2	-55.3	0.08	1.32	-80.69	-103.4	-124.8	-148.0	40.2	-111.59
7.00	19.29	399.4	394.9	390.4	11.77	11.64	10.81	16.32	-34.5	-40.3	-51.2	0.01	1.42	-77.62	-100.4	-122.1	-148.4	66.3	-116.36
8.00	20.76	420.0	415.0	411.2	11.49	11.15	10.56	16.10	-35.1	-42.3	-51.2	0.56	1.63	-76.63	-99.4	-120.9	-147.2	79.3	-118.16
8.50	19.67	430.4	425.4	421.6	11.28	10.97	10.50	16.03	-36.5	-42.4	-50.7	0.49	1.22	-76.83	-99.8	-121.1	-146.9	100.0	-120.63
9.00	18.67	440.2	435.2	431.5	11.03	10.79	10.42	15.95	-37.5	-42.1	-50.5	0.41	1.24	-76.66	-100.2	-121.7	-146.7	130.7	-123.35
10.00	17.12	458.0	453.6	450.2	10.48	10.43	10.18	15.79	-37.6	-43.0	-46.4	0.19	0.95	-79.54	-102.0	-123.2	-145.9	183.5	-127.27
11.00	17.10	473.9	470.5	467.1	9.88	10.02	9.86	15.61	-39.5	-44.6	-43.4	0.11	1.56	-78.72	-102.0	-123.2	-144.8	219.3	-129.47
12.00	18.24	492.2	488.0	483.8	9.43	9.64	9.49	15.46	-48.5	-48.7	-41.7	0.54	1.56	-75.53	-99.6	-120.8	-143.3	307.9	-133.60
12.50	17.83	501.5	497.1	492.8	9.27	9.47	9.31	15.40	-52.3	-51.6	-42.8	0.55	2.19	-75.39	-98.9	-120.1	-142.3	361.5	-135.57
13.00	17.12	510.5	506.0	501.8	9.13	9.31	9.14	15.36	-46.2	-54.8	-42.9	0.47	2.47	-75.71	-99.1	-120.1	-141.7	507.5	-139.63
14.00	15.93	527.2	522.8	519.0	8.87	9.00	8.84	15.27	-37.6	-55.3	-43.3	0.37	1.14	-76.34	-99.0	-119.6	-140.6	606.7	-141.64
15.00	14.82	542.6	538.4	535.0	8.59	8.69	8.55	15.20	-33.4	-54.2	-44.4	0.33	1.60	-76.81	-98.7	-119.2	-139.6	851.6	-145.30
16.00	13.37	556.7	552.9	549.7	8.32	8.40	8.27	15.13	-31.5	-55.1	-45.3	0.29	1.92	-79.17	-98.4	-118.5	-139.0	1000.0	-147.14

JTOS-535+
Frequency and Tuning SensitivityJTOS-535+
Power OutputJTOS-535+
Harmonics LevelJTOS-535+
Frequency Pulling & Pushing (Vcc ± 5%)JTOS-535+
Phase Noise Vs. Tuning VoltageJTOS-535+
Phase Noise

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