

# NON-CATALOG

Surface Mount

## Voltage Controlled Oscillator

### JTOS-1750+

Linear Tuning 1350 to 1750 MHz

#### Features

- linear tuning sensitivity, 29-37 MHz/V typ.
- low phase noise, -144 dBc/Hz at 1 MHz offset
- aqueous washable
- protected by US patent 6,549,084

#### Applications

- GPS
- PDC
- communications
- wideband freq. synthesizers



Generic photo used for illustration purposes only  
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				TUNING					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
	Min.	Max.		Typ.	1	10	100	1000	VOLTAGE RANGE (V)	SENSI-TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)		Typ.	Typ.			Typ.	Typ.
JTOS-1750+	1350	1750	+8	-70	-99	-123	-144	0.5	20	29 - 37	13	150	-90	-15	-10	7	0.7	12	30

#### Pin Connections

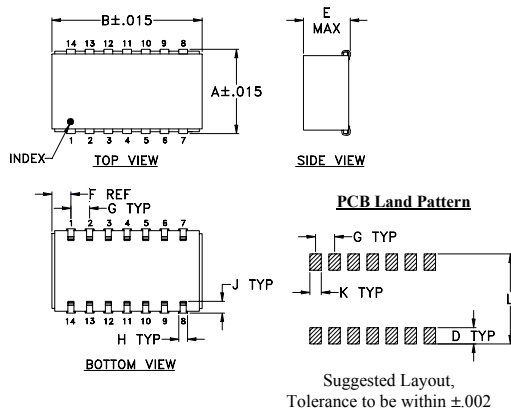
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

#### Maximum Ratings

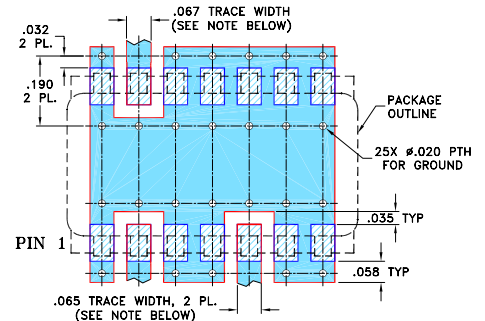
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+13V
Absolute Max. Tuning Voltage (Vtune)	+22V

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

- 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.
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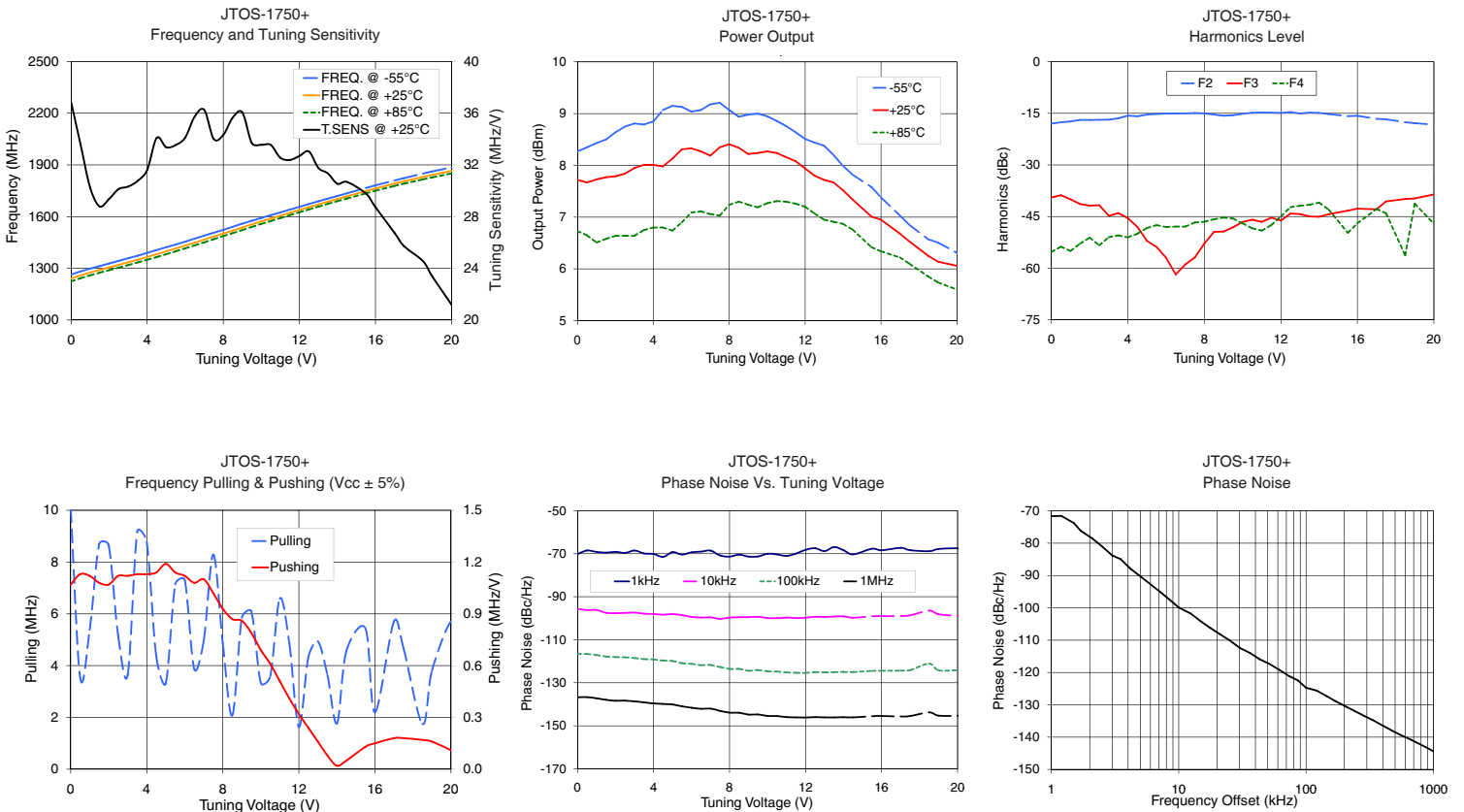


## Performance Data & Curves\*

## JTOS-1750+

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 1550 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	36.84	1263.4	1240.6	1224.1	8.27	7.72	6.73	23.86	-18.0	-39.5	-55.3	1.07	10.05	-70.16	-95.7	-116.6	-136.8	1.0	-71.63
0.50	33.56	1282.0	1259.0	1242.7	8.35	7.67	6.65	23.88	-17.6	-38.8	-53.8	1.13	3.54	-68.54	-96.2	-116.6	-136.7	2.1	-78.56
1.00	30.24	1298.0	1275.8	1259.2	8.43	7.73	6.51	23.91	-17.4	-40.0	-55.0	1.12	5.39	-69.19	-96.2	-117.1	-137.2	3.5	-84.95
2.00	29.38	1328.4	1305.3	1289.8	8.64	7.79	6.64	23.97	-16.9	-41.8	-51.1	1.07	8.65	-69.15	-97.7	-118.1	-138.4	6.1	-92.93
3.00	30.32	1358.5	1335.1	1319.0	8.81	7.95	6.64	24.02	-16.9	-44.8	-51.0	1.12	3.65	-68.54	-97.4	-118.5	-138.7	8.7	-97.84
4.00	31.61	1389.4	1365.6	1349.6	8.85	8.01	6.80	24.10	-15.7	-45.5	-51.1	1.13	8.78	-70.14	-98.1	-119.2	-139.6	10.0	-99.87
5.00	33.37	1422.2	1398.5	1381.7	9.15	8.13	6.74	24.17	-15.4	-52.1	-48.3	1.19	3.32	-69.27	-98.1	-119.9	-140.1	21.1	-108.17
6.00	34.12	1454.9	1431.9	1416.0	9.04	8.33	7.09	24.26	-15.1	-57.0	-48.1	1.12	7.31	-69.37	-99.4	-121.2	-141.6	36.1	-113.91
8.00	34.32	1523.3	1502.0	1487.2	9.07	8.41	7.24	24.42	-15.0	-52.8	-46.5	0.93	4.86	-71.36	-99.7	-123.5	-143.9	61.6	-119.18
9.00	36.06	1559.1	1537.0	1522.0	8.98	8.22	7.24	24.43	-15.7	-49.4	-45.3	0.86	5.85	-71.35	-99.5	-124.4	-144.8	86.4	-122.46
10.00	33.55	1592.1	1571.9	1557.8	8.95	8.27	7.27	24.51	-15.1	-46.6	-47.0	0.69	3.33	-70.04	-100.0	-124.7	-145.4	100.0	-124.71
11.00	32.55	1624.6	1605.4	1591.8	8.76	8.16	7.30	24.52	-14.8	-46.6	-49.1	0.51	6.59	-71.05	-99.7	-125.2	-145.9	145.0	-127.31
12.00	32.69	1656.7	1637.9	1625.0	8.51	7.94	7.20	24.47	-14.9	-46.2	-44.9	0.32	1.63	-68.23	-99.7	-125.4	-146.1	170.2	-128.87
13.00	31.77	1688.9	1670.7	1657.7	8.38	7.72	6.95	24.43	-15.1	-44.3	-41.9	0.16	4.94	-68.81	-99.4	-125.1	-146.1	203.5	-130.46
14.00	30.54	1719.8	1702.3	1689.7	7.99	7.52	6.87	24.38	-14.9	-45.1	-41.0	0.02	1.77	-68.39	-99.1	-125.0	-146.0	285.6	-133.42
16.00	28.73	1781.0	1763.2	1750.1	7.38	6.95	6.34	24.27	-15.7	-42.7	-47.0	0.15	2.20	-68.42	-99.0	-124.4	-145.4	335.4	-134.75
17.00	26.75	1809.5	1791.3	1778.1	7.03	6.68	6.22	24.26	-16.6	-42.9	-42.8	0.18	5.71	-67.28	-99.0	-124.4	-145.7	470.7	-137.95
18.50	24.55	1849.7	1830.2	1816.0	6.57	6.25	5.85	24.23	-17.6	-39.9	-56.3	0.17	1.75	-68.85	-96.5	-121.1	-143.8	562.6	-139.48
19.00	23.34	1862.5	1842.5	1827.9	6.51	6.14	5.74	24.23	-17.9	-39.7	-41.3	0.16	3.81	-67.82	-98.1	-124.2	-145.3	927.2	-143.64
20.00	21.19	1885.6	1865.5	1850.6	6.31	6.06	5.60	24.25	-18.3	-38.6	-47.1	0.11	5.70	-67.51	-98.9	-124.2	-145.4	1000.0	-144.37

\*at 25°C unless mentioned otherwise.



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