

# NON-CATALOG

Surface Mount

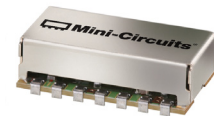
## Voltage Controlled Oscillator

## JTOS-1750

Linear Tuning 1350 to 1750 MHz

### Features

- linear tuning sensitivity, 26-35 MHz/V typ.
- low phase noise, -141 dBc/Hz at 1 MHz offset
- aqueous washable
- protected by US patent 6,549,084



CASE STYLE: BK377  
PRICE: Contact Sales Dept.

### Applications

- GPS
- PDC
- communications
- wideband freq. synthesizers

### 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.	Vcc (volts)	Current (mA) Max.
1350	1750	+7.0	0.5	20	-73	-101	-121	-141	7	0.5	26-35	-16	-10	2.7	12	30

### Pin Connections

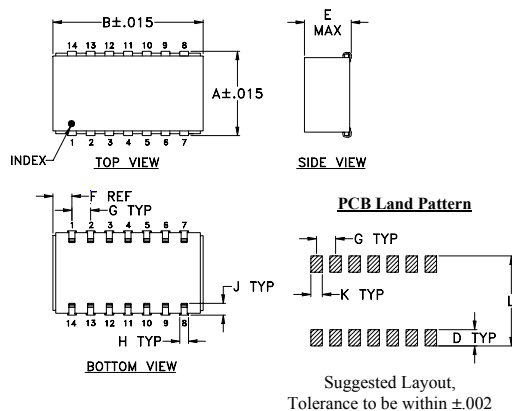
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

### Maximum Ratings

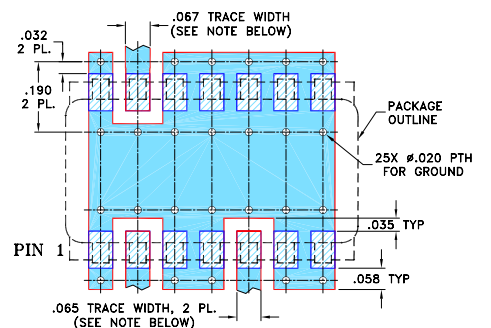
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+13V
Absolute Max. Tuning Voltage (Vtune)	+22V

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



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Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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](http://www.minicircuits.com/MCLStore/terms.jsp).

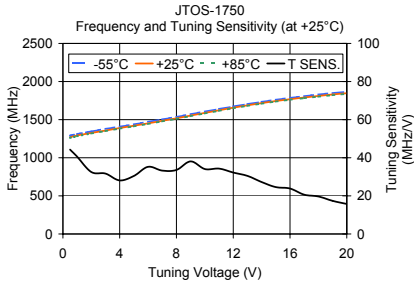
For detailed performance specs & shopping online see web site

REV. C  
M102713  
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ED-7176A/5  
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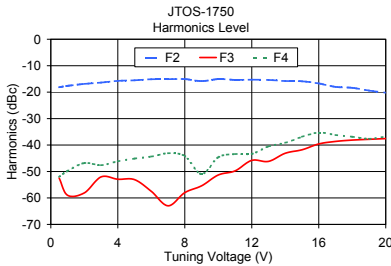
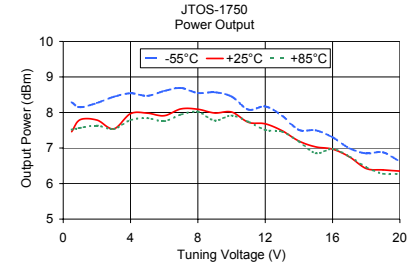
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## Performance Data & Curves

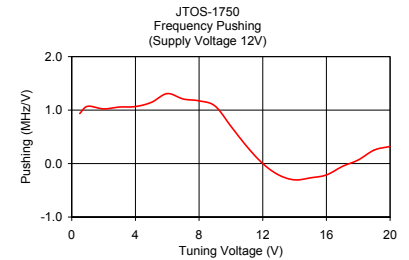
## JTOS-1750



V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
0.50	44.27	1290	1270	1262	8.29	7.46	7.52
1.00	40.57	1310	1292	1283	8.15	7.79	7.57
2.00	32.50	1344	1326	1318	8.27	7.79	7.63
3.00	31.68	1378	1357	1349	8.44	7.54	7.54
4.00	28.11	1408	1390	1382	8.54	7.97	7.79
5.00	30.44	1438	1420	1412	8.47	7.98	7.84
6.00	35.23	1471	1451	1442	8.61	7.91	7.76
7.00	33.24	1503	1484	1476	8.69	8.10	7.94
8.00	33.59	1535	1518	1510	8.55	8.09	8.02
9.00	38.08	1571	1553	1544	8.57	7.99	7.77
10.00	34.09	1605	1589	1581	8.45	8.01	7.91
11.00	34.33	1640	1623	1615	8.08	7.72	7.74
12.00	32.24	1673	1657	1649	8.17	7.68	7.51
13.00	30.49	1704	1688	1680	7.91	7.49	7.46
14.00	27.27	1733	1717	1709	7.51	7.20	7.18
15.00	24.60	1760	1745	1736	7.50	7.03	6.86
16.00	23.85	1785	1768	1760	7.30	6.97	6.97
17.00	20.63	1807	1791	1782	6.99	6.75	6.76
18.00	19.70	1829	1811	1801	6.85	6.42	6.46
19.00	17.40	1848	1831	1820	6.88	6.38	6.28
20.00	15.76	1865	1847	1837	6.62	6.35	6.27



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
0.50	-18.14	-52.48	-52.01	0.94
1.00	-17.62	-58.99	-49.79	1.07
2.00	-16.89	-58.10	-46.82	1.02
3.00	-16.38	-52.05	-47.63	1.06
4.00	-15.75	-52.91	-46.15	1.07
5.00	-15.54	-53.08	-45.09	1.14
6.00	-15.12	-57.50	-44.35	1.31
7.00	-15.09	-62.97	-43.09	1.21
8.00	-15.08	-57.98	-44.13	1.17
9.00	-15.81	-55.40	-50.97	1.08
10.00	-15.07	-51.32	-44.62	0.70
11.00	-15.36	-49.75	-43.43	0.32
12.00	-15.28	-45.81	-43.33	0.00
13.00	-15.39	-46.17	-40.52	-0.21
14.00	-15.81	-43.08	-39.13	-0.31
15.00	-15.91	-41.79	-36.88	-0.27
16.00	-16.71	-39.60	-35.29	-0.21
17.00	-18.01	-38.62	-36.19	-0.05
18.00	-18.37	-38.12	-36.87	0.07
19.00	-19.41	-37.81	-37.64	0.25
20.00	-20.24	-37.56	-36.85	0.32



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