

# Surface Mount Voltage Controlled Oscillator

# JTOS-2700V+ JTOS-2700V

Linear Tuning 2050 to 2700 MHz

## Features

- wide bandwidth, 2050 to 2700 MHz
- low phase noise, -134 dBc/Hz at 1 MHz offset
- flat tuning sensitivity, 46-56 MHz/V typ.
- aqueous washable
- protected by US patent 6,549,084

## Applications

- satellite systems
- instrumentation
- ISM



CASE STYLE: BK377  
PRICE: \$21.95 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.

## 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.
2050	2700	+8.0	0.5	18	-72	-94	-114	-134	5.0	1.0	46-56	-25	-10	8.0	5	20

## Pin Connections

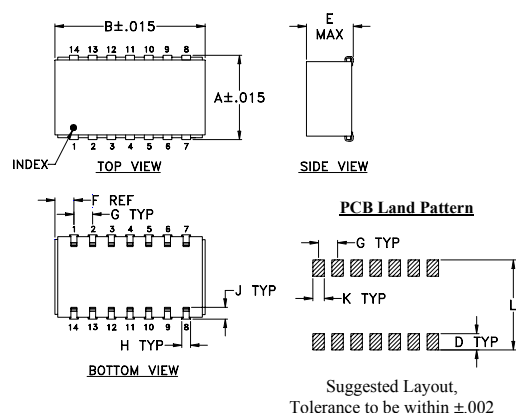
RF OUT	13
VCC	2
V-TUNE	5
GROUND	1,3,4,6,7,8,9,10,11,12,14

## Maximum Ratings

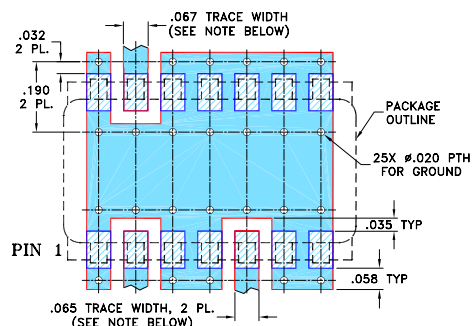
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+6V
Absolute Max. Tuning Voltage (Vtune)	+20V

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

**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

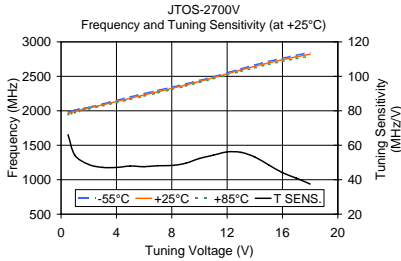
For detailed performance specs  
& shopping online see web site

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).

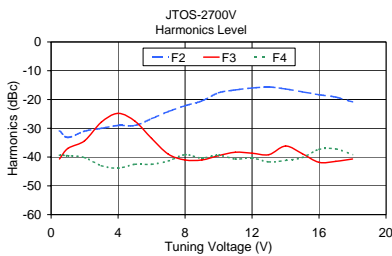
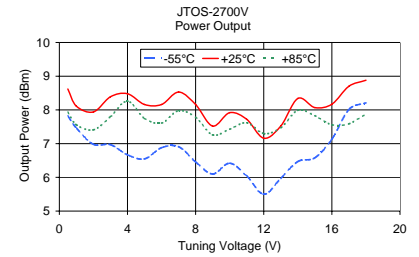
REV. B  
M102713  
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# JTOS-2700V+ JTOS-2700V

## 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
0.50	66.10	1984.06	1962.28	1944.74	7.82	8.62	7.93
1.00	54.18	2008.02	1989.36	1973.98	7.46	8.11	7.56
2.00	48.85	2049.84	2038.86	2024.40	6.98	7.94	7.41
3.00	47.16	2100.28	2086.36	2070.81	6.97	8.39	7.80
4.00	47.11	2150.89	2133.24	2116.63	6.67	8.48	8.26
5.00	47.96	2201.79	2181.80	2164.34	6.55	8.16	7.75
6.00	47.57	2249.20	2229.07	2211.64	6.88	8.16	7.61
7.00	48.13	2296.32	2277.25	2259.79	6.91	8.53	7.98
8.00	48.27	2342.62	2325.22	2308.21	6.46	8.16	7.78
9.00	49.53	2390.20	2374.59	2358.09	6.10	7.52	7.26
10.00	52.33	2439.98	2426.07	2409.77	6.42	7.92	7.43
11.00	54.22	2493.19	2480.08	2463.52	6.04	7.72	7.62
12.00	56.14	2551.46	2536.17	2518.13	5.50	7.16	7.30
13.00	55.90	2609.00	2592.33	2572.37	5.97	7.52	7.47
14.00	53.23	2665.27	2646.24	2623.82	6.47	8.34	7.99
15.00	48.60	2716.42	2695.75	2671.71	6.58	8.07	7.83
16.00	44.11	2762.75	2740.74	2715.56	7.13	8.17	7.56
17.00	40.89	2806.72	2782.42	2756.07	8.01	8.70	7.59
18.00	37.51	2846.39	2820.83	2793.54	8.21	8.88	7.88



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
0.50	-30.84	-40.67	-39.34	1.24
1.00	-33.16	-37.00	-39.50	0.70
2.00	-31.00	-34.33	-40.17	0.24
3.00	-30.00	-27.84	-43.00	0.35
4.00	-29.00	-24.83	-43.83	0.64
5.00	-29.00	-27.50	-42.50	0.69
6.00	-26.66	-33.50	-42.50	0.86
7.00	-24.17	-39.00	-41.34	0.23
8.00	-22.17	-41.00	-39.17	0.66
9.00	-20.50	-41.00	-40.34	1.35
10.00	-17.66	-39.50	-39.33	1.94
11.00	-16.66	-38.33	-40.66	2.23
12.00	-16.00	-38.67	-40.34	1.86
13.00	-15.66	-39.16	-41.66	1.21
14.00	-16.34	-36.17	-41.17	0.22
15.00	-17.33	-38.83	-40.17	0.72
16.00	-18.33	-41.83	-37.33	1.55
17.00	-19.17	-41.50	-37.17	2.32
18.00	-20.83	-40.67	-39.17	2.82

