

Surface Mount Voltage Controlled Oscillator

JCOS-820WLN

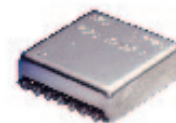
Low Noise 780 to 860 MHz

Features

- very low phase noise, -112 dBc/Hz at 10 kHz offset, typ.
- excellent tuning sensitivity, 8 MHz/V typ.
- aqueous washable

Applications

- UHF transmitters
- cellular local oscillators
- aircraft radios



CASE STYLE: BG419
PRICE: \$49.95 ea. QTY (1-9)

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	
Min.	Max.	Typ.	Min.	Max.	100 Hz	1 kHz	10 kHz	100 kHz	1 MHz	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Voltage (V)	Current (mA) Max.
780	860	+9	0	20	-60	-90	-112	-132	-150	4.5	0.3	8	-13	-8	2.0	9	25

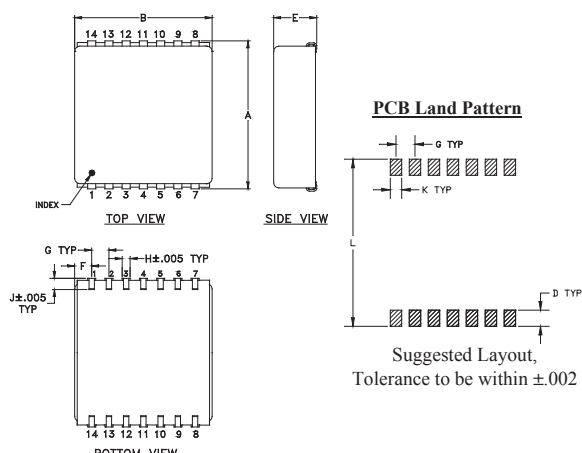
Pin Connections

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

Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+15V
Absolute Max. Tuning Voltage (Vtune)	+24V
all specifications: 50 ohm system	
Permanent damage may occur if any of these limits are exceeded.	

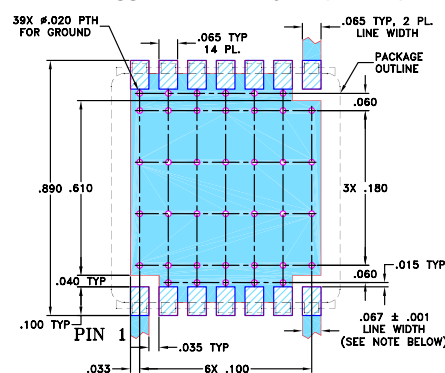
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	wt
.870	.800	--	.100	.400	.100	.100	.047	.065	.065	.890	grams
22.10	20.32	--	2.54	10.16	2.54	2.54	1.19	1.65	1.65	22.61	6.4

Demo Board MCL P/N: TB-62 Suggested PCB Layout (PL-011)



- NOTES:
1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS 0.030 ± 0.002 ; 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

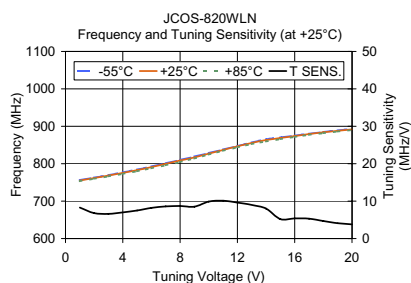
Notes

- A. 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.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document 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

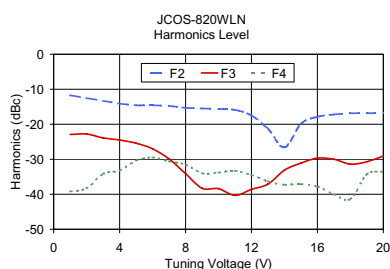
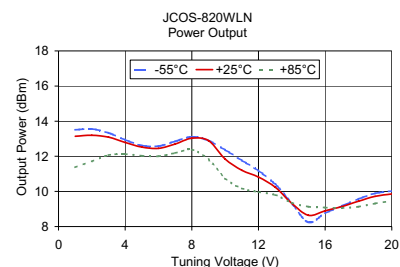


Performance Curves

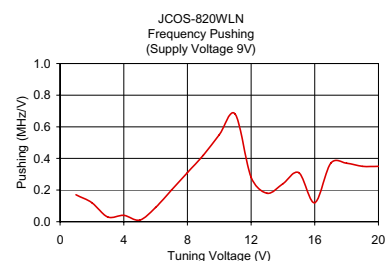
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V TUNE	TUNING SENS. (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)		
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C
1.00	8.30	756.34	755.00	753.18	13.51	13.14	11.37
2.00	6.80	762.99	761.80	759.71	13.56	13.20	11.71
3.00	6.60	769.65	768.40	766.04	13.33	13.09	12.07
4.00	7.00	776.80	775.50	772.67	12.94	12.79	12.12
5.00	7.50	784.48	783.00	779.80	12.61	12.52	12.03
6.00	8.20	792.70	791.10	787.54	12.58	12.45	12.00
7.00	8.60	801.36	799.70	795.75	12.85	12.70	12.19
8.00	8.70	810.21	808.40	804.29	13.11	13.03	12.38
9.00	8.50	819.17	816.90	813.71	12.89	12.89	11.82
10.00	9.90	828.54	826.80	824.30	12.36	11.84	10.74
11.00	10.10	837.95	836.80	834.42	11.76	11.20	10.17
12.00	9.60	847.45	846.40	843.77	11.18	10.82	9.97
13.00	9.00	856.62	855.30	852.27	10.41	10.24	9.80
14.00	8.00	865.04	863.30	859.54	9.31	9.32	9.36
15.00	5.20	870.24	868.60	865.45	8.24	8.64	9.13
16.00	5.40	875.01	874.00	871.44	8.76	8.90	9.08
17.00	5.30	880.21	879.30	876.98	9.17	9.14	9.06
18.00	4.70	884.81	883.90	881.80	9.57	9.44	9.13
19.00	4.10	888.93	888.00	885.96	9.89	9.72	9.31
20.00	3.80	892.75	891.80	889.70	10.02	9.86	9.45



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
1.00	-11.70	-22.90	-39.20	0.17
2.00	-12.50	-22.80	-38.30	0.12
3.00	-13.30	-23.90	-34.20	0.03
4.00	-14.10	-24.50	-33.20	0.04
5.00	-14.60	-25.40	-30.40	0.01
6.00	-14.60	-27.00	-29.50	0.09
7.00	-14.80	-29.90	-30.60	0.20
8.00	-15.30	-34.10	-31.50	0.31
9.00	-15.50	-38.30	-34.00	0.42
10.00	-15.60	-38.40	-33.80	0.55
11.00	-15.90	-40.30	-33.30	0.68
12.00	-17.50	-38.60	-34.50	0.28
13.00	-21.30	-37.10	-36.30	0.18
14.00	-26.60	-33.10	-37.30	0.24
15.00	-19.90	-31.10	-37.10	0.31
16.00	-17.90	-29.70	-37.80	0.12
17.00	-17.20	-30.00	-40.00	0.37
18.00	-16.90	-31.40	-41.40	0.37
19.00	-16.80	-30.70	-34.30	0.35
20.00	-16.90	-29.10	-33.50	0.35



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