

# Surface Mount Voltage Controlled Oscillator

## JCOS-820BLN

Low Noise 807 to 832 MHz



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

### Features

- very low phase noise, -112 dBc/Hz at 10 kHz offset, typ.
- excellent tuning sensitivity, 6 MHz/V typ.
- aqueous washable

### Applications

- GPS
- UHF transmitters
- aircraft radios

### Electrical Specifications

FREQUENCY (MHz)	POWER OUTPUT (dBm)	TUNING VOLTAGE (V)	PHASE NOISE (dBc/Hz)					PULLING pk-pk @ 12 dB (MHz)	PUSHING (MHz/V)	TUNING SENSITIVITY (MHz/V)	HARMONICS (dBc)		3 dB MODULATION BANDWIDTH (MHz)	POWER SUPPLY			
			SSB at offset frequencies: Typ.								Typ.	Typ.		Typ.	Max.	Typ.	Max.
Min.	Max.	Typ.	Min.	Max.	100 Hz	1 kHz	10 kHz	100 kHz	1 MHz	Typ.	Typ.	Typ.	Max.	Typ.	Max.		
807	832	+3	1	14	-57	-88	-112	-132	-151	0.4	0.4	6	-24	-20	2.0	10	25

### Pin Connections

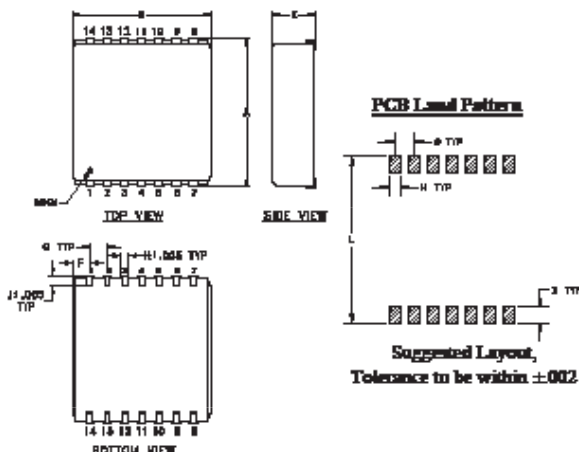
RF OUT	7
VCC	8
V-TUNE	1
GROUND	2,3,4,5,6,9,10,11,12,13,14

### Maximum Ratings

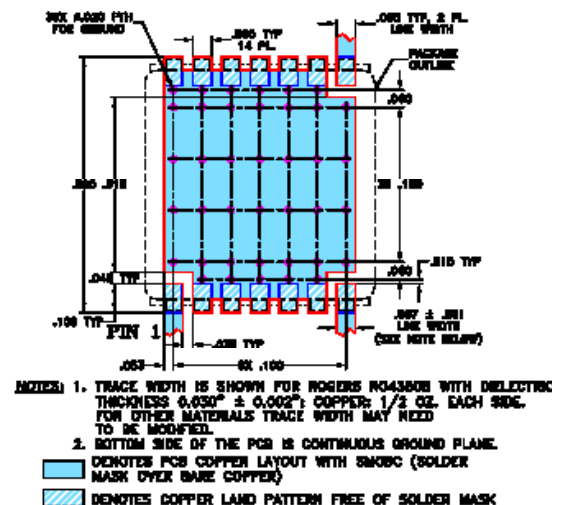
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	+15V
Absolute Max. Tuning Voltage (Vtune)	+24V

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

### Outline Drawing



Demo Board MCL PIN: TB-62  
Suggested PCB Layout (PL-011)



### 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

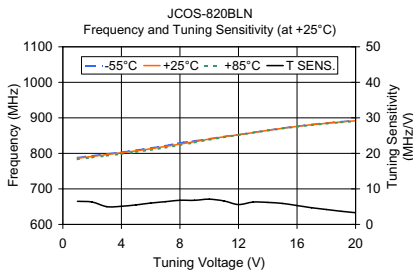
### Notes

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 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.  
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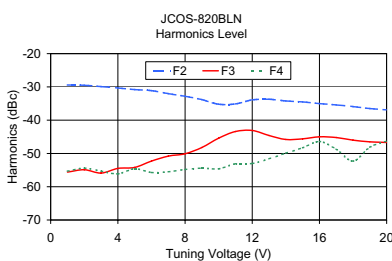
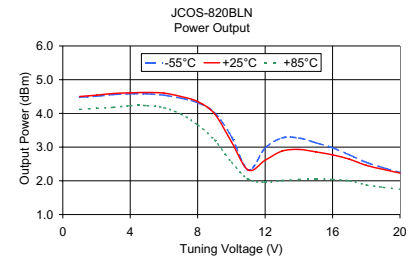


# Performance Curves

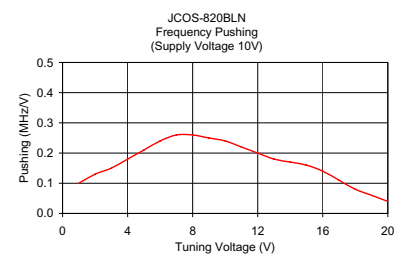
# JCOS-820BLN



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	6.50	788.05	786.20	782.90	4.48	4.50	4.12
2.00	6.30	793.33	791.46	788.11	4.51	4.54	4.15
3.00	5.00	798.36	796.46	793.02	4.56	4.59	4.18
4.00	5.10	803.54	801.58	798.08	4.58	4.61	4.23
5.00	5.50	809.07	807.04	803.43	4.58	4.62	4.23
6.00	6.00	815.13	813.00	809.27	4.54	4.60	4.17
7.00	6.40	821.70	819.43	815.71	4.45	4.50	3.98
8.00	6.80	829.56	826.18	822.80	4.32	4.35	3.66
9.00	6.80	835.18	832.93	830.29	4.02	3.99	3.21
10.00	7.10	841.21	840.08	837.80	3.31	3.16	2.55
11.00	6.60	847.38	846.70	844.77	2.32	2.32	2.05
12.00	5.60	852.63	852.27	851.22	2.97	2.61	1.96
13.00	6.30	858.98	858.52	857.53	3.27	2.88	2.01
14.00	6.20	865.29	864.76	863.67	3.27	2.93	2.04
15.00	5.90	871.22	870.62	869.41	3.13	2.86	2.05
16.00	5.30	876.52	875.88	874.57	2.98	2.77	2.04
17.00	4.70	881.30	880.60	879.17	2.77	2.64	2.00
18.00	4.20	885.56	884.84	883.33	2.55	2.46	1.88
19.00	3.70	889.31	888.55	887.00	2.39	2.34	1.81
20.00	3.30	892.61	891.84	890.23	2.25	2.23	1.75



V TUNE	HARMONICS (dBc)			FREQ. PUSHING (MHz/V)
	F2	F3	F4	
1.00	-29.40	-55.60	-55.30	0.10
2.00	-29.50	-54.90	-54.40	0.13
3.00	-29.90	-55.90	-55.30	0.15
4.00	-30.30	-54.50	-56.10	0.18
5.00	-30.80	-54.20	-54.60	0.21
6.00	-31.10	-52.30	-55.70	0.24
7.00	-32.00	-50.80	-55.50	0.26
8.00	-32.80	-50.10	-54.80	0.26
9.00	-33.80	-48.20	-54.40	0.25
10.00	-35.20	-45.40	-54.60	0.24
11.00	-35.10	-43.40	-53.10	0.22
12.00	-33.90	-43.10	-53.00	0.20
13.00	-33.70	-44.60	-51.60	0.18
14.00	-34.20	-45.80	-49.90	0.17
15.00	-34.50	-45.60	-48.30	0.16
16.00	-35.00	-45.00	-46.40	0.14
17.00	-35.40	-45.20	-48.70	0.11
18.00	-35.90	-46.00	-52.30	0.08
19.00	-36.50	-46.50	-48.10	0.06
20.00	-36.90	-46.70	-46.30	0.04



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