

Surface Mount

Voltage Controlled Oscillator JCOS-820BLN

Low Noise 807 to 832 MHz

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



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

Electrical Specifications

| MODEL NO. | FREQ. (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 | |
|-------------|-------------|------|--------------------|--------------------|------|----------------------|-------|--------|---------|-------|-----------------------------|-----------------|----------------------------|-----------------|------|---------------------------------|--------------|-------------------|
| | Min. | Max. | | Min. | Max. | 100 Hz | 1 kHz | 10 kHz | 100 kHz | 1 MHz | | | | Typ. | Max. | | Typ. | Current (mA) Max. |
| JCOS-820BLN | 807 | 832 | +3 | 1 | 14 | -57 | -88 | -112 | -132 | -151 | 0.4 | 0.4 | 6 | -24 | -20 | 2.0 | 10 | 25 |

Pin Connections

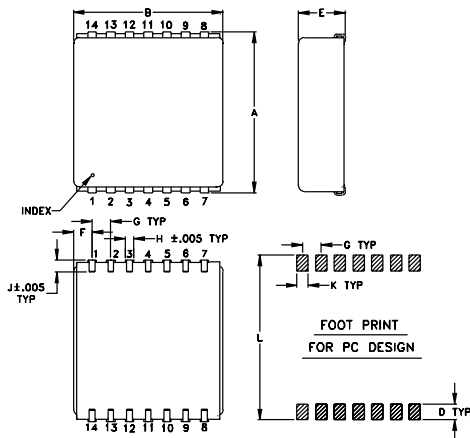
| | |
|--------|----------------------------|
| RFOUT | 7 |
| V-CC | 8 |
| V-TUNE | 1 |
| GROUND | 2,3,4,5,6,9,10,11,12,13,14 |

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

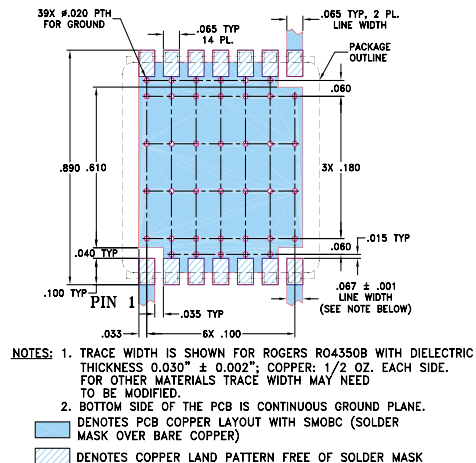
Outline Drawing

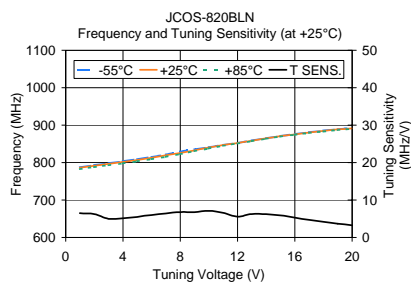


Outline Dimensions (inch/mm)

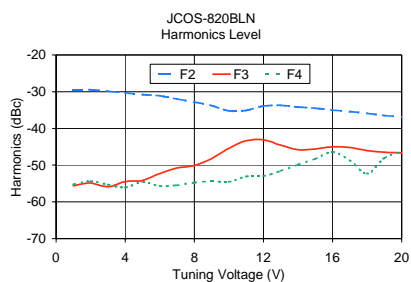
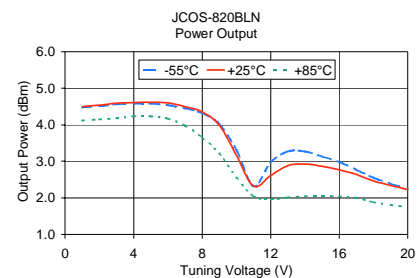
| A | B | C | D | E | F | G |
|-------|-------|------|-------|-------|------|------|
| .870 | .800 | -- | .100 | .400 | .100 | .100 |
| 22.10 | 20.32 | -- | 2.54 | 10.16 | 2.54 | 2.54 |
| H | J | K | L | wt | | |
| .047 | .065 | .065 | .890 | grams | | |
| 1.19 | 1.65 | 1.65 | 22.61 | 6.4 | | |

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





| 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 |

