INPUT Frequency 10 MHz. ±1 x 10<sup>-7</sup> Level +7 dBm ±5 dB into 50 ohms OUTPUT Frequency 100 MHz Level +13 dBm ±2 dB into 50 ohms **STABILITY** Output Phase Noise L(f) (Free-Running) 10 Hz -100 dBc/Hz 100 Hz -130 dBc/Hz 1 kHz -158 dBc/Hz 10 kHz -176 dBc/Hz 100 kHz -176 dBc/Hz Aging  $\pm 1 \times 10^{-6}$  per year after 30 days operating, typical Temperature Stability  $\pm 5 \times 10^{-7}$  free-running from 0 to  $\pm 50 \,^{\circ}$ C, (Ref. +25℃) Harmonics -30 dBc PLL Divider Products -70 dBc **Non-Harmonic Spurious** -80 dBc, excluding power supply line related spurs Phase Lock Alarm TTL Locked: +3.5 VDC to +5.2 VDC (Hi) Out-of-Lock: +0.8 VDC max (Lo) Phase Lock Voltage Monitor Voltage monitor pin supplied MECHANICAL Dimensions 2.5 x 3.5 x 0.8" Connectors SMA(f)'s and solder pins on side Feed-thru terminals for lock alarm, supply and phase lock voltage monitor

|                                      |  | REV                     | DATE                          | REVISION RECORD               |                       |                  | DWN                            | AUTH   |
|--------------------------------------|--|-------------------------|-------------------------------|-------------------------------|-----------------------|------------------|--------------------------------|--------|
|                                      |  | -                       | 02-25-10                      | 10 Initial Release            |                       |                  | PAC                            |        |
| Packaging                            |  |                         |                               |                               |                       |                  |                                |        |
| Machined aluminum housing            | Ļ  |                         |                               |                               |                       |                  |                                |        |
| Mounting                             | Ļ  |                         |                               |                               |                       |                  |                                |        |
| Through holes, 4 places              | -  |                         |                               |                               |                       |                  |                                |        |
| Threaded inserts on base, 4 places   |  |                         |                               |                               |                       |                  |                                |        |
| POWER REQUIREMENTS                   |  |                         |                               |                               |                       |                  |                                |        |
| Supply Voltage                       |  |                         |                               |                               |                       |                  |                                |        |
| +15 VDC ±5%                          |  |                         |                               |                               |                       |                  |                                |        |
| Warm-Up Power                        | Ø0.0930                                      |                         |                               |                               | I                     | 16 X .060        |                                |        |
| 8 Watts at start-up for 5 minutes    | Mountin                                      | g Holes                 | -                             | 2.500 —                       |                       | Tapped H         | loies                          |        |
| at +25° C                            |  | - \ i                   | 2                             |                               | → 1.750<br>→ 1.665    |                  |                                |        |
| Total Power                          | Ī  |                         | -                             |                               | - 1005                |                  | >    − 1.490                   |        |
|                                      |  | N.                      |                               |                               |                       | ( ``             | )    -1.250                    |        |
| 5 Watts at steady state +25°C        |  |                         | т                             |                               | T                     |                  | ○    − 1.010                   |        |
|                                      |  |                         |                               |                               |                       |                  |                                |        |
|                                      |  |                         |                               |                               |                       |                  |                                |        |
| Target Bandwidth: < 10 Hz            |  |                         |                               |                               |                       |                  |                                |        |
| Type 2 Loop                          |  |                         |                               |                               |                       |                  |                                |        |
| CRYSTAL                              | 3.50   |                         |                               |                               | - 0.000               |                  | - 0.000                        |        |
| Туре                                 |  |                         |                               |                               |                       |                  |                                |        |
| 100 MHz SC-cut                       |  |                         |                               |                               |                       |                  |                                |        |
| OTHER                                |  |                         |                               |                               |                       |                  |                                |        |
| Test Data                            |  |                         |                               |                               |                       | °                | • - 1.010                      |        |
| Output Level                         |  | ŀ                       | ₽                             |                               | 1.200                 | ( ``             | )    - 1.250                   |        |
| Phase Noise (free-running)           |  |                         |                               |                               |                       |                  | °    − 1.490                   |        |
| Temperature Stability (free-running) |  | -                       |                               |                               | → 1.665<br>- 1.750    | Ш.,              |                                |        |
| Harmonics, PLL Products, Spurious    | 4 X 2-56                                     |                         |                               | ♥                             |                       |                  | 7                              |        |
|                                      | Threaded                                     |                         |                               |                               |                       |                  |                                |        |
|                                      |  | 1.250                   | - 0.385<br>- 0.800<br>- 1.165 | - 0.443<br>- 0.218<br>- 0.000 |                       | 0.000            | 0.240                          |        |
|                                      |  | 0                       | 5 5 5<br>                     | 5 x 3                         |                       | ò ō              | ò                              |        |
|                                      |  | - F                     |                               |                               |                       | CONN             | Function                       |        |
|                                      | •  |                         |                               |                               |                       | v                | Phase Lock V                   | oltage |
|                                      | 0.80   |                         | $\odot_{\circ}$               |                               | -0.000 $-0.160$       | RF Out<br>+V     | RF Signal Out<br>Supply Voltag | _      |
|                                      |  | _                       | RF OUT 1                      | GND +V                        | REF INPUT 0.300 0.400 | ALM              | Alarm<br>Ground, Case          |        |
|                                      |  |                         |                               |                               | 0.400                 | GND<br>REF INPUT | Reference Sig                  | nal In |
|                                      |  |                         |                               |                               |                       |                  |                                |        |
|                                      |  |                         |                               |                               |                       |                  |                                |        |
|                                      |  |                         |                               |                               |                       |                  |                                |        |
|                                      |  |                         |                               |                               |                       |                  |                                |        |
| Wenzel Associates, Inc.              |  |                         |                               |                               |                       |                  |                                |        |
|                                      | Austin, Texas                                |                         |                               |                               |                       |                  |                                |        |
|                                      | Title  |                         |                               |                               | ,                     |                  |                                |        |
|                                      |  | 100                     | MHz-SC                        | ULN P                         | hase Lock (           | Crystal C        | <b>)scillat</b>                | or     |
|                                      | 100 MHz-SC ULN Phase Lock Crystal Oscillator |                         |                               |                               |                       |                  |                                |        |
|                                      | P/N:   |                         | 2114                          | Rev:                          | Date:<br>02-25-10     | Drawn:           | Ref:                           |        |
|                                      |  |                         | .2114                         |                               |                       |                  |                                |        |
|                                      |  | ances:<br>ept as noted) |                               | 0.XX Dec:                     | 0.XXX Dec:            | FSCM:            | · 4                            | 4      |
|                                      |  | nsions are ir           | inches                        | ±0.030                        | )" ±0.010"            | 62821            | Page <b>1</b> c                | fl     |
|                                      |  |                         |                               | 1                             |                       | 1                | 1                              |        |