



# ULS210A

## Features

- PLL LOOP Bandwidth as low as  $\leq 1\text{Hz}$
- Better additional short-term stability, up to  $1.0\text{E-}13/1\text{s}$
- Ultra low phase noise  $\leq -175\text{dBc/Hz}@10\text{kHz}$

## Applications

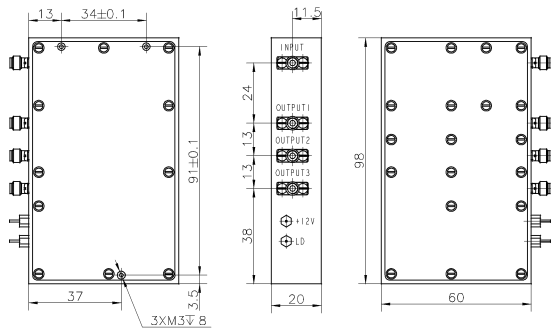
- Frequency standards and sources
- Measuring and calibration equipment
- Navigation

## Technical Specifications

|  |                                    |                  |                  |                  |
|--|------------------------------------|------------------|------------------|------------------|
| <b>Standard Frequency</b>                            | 100 MHz                            |                  |                  |                  |
| <b>Additional short-term stability</b>               | $\leq 1 \times 10^{-13}/1\text{s}$ |                  |                  |                  |
| <b>Phase Noise</b> ( dBc/Hz, free-running)           | <b>Option: S</b>                   | <b>Option: H</b> | <b>Option: L</b> | <b>Option: U</b> |
| 10 Hz  | -100                               | -103             | -105             | -108             |
| 100 Hz   | -130                               | -133             | -135             | -138             |
| 1 KHz  | -160                               | -163             | -165             | -168             |
| 10 KHz   | -171                               | -172             | -173             | -175             |
| 100 KHz  | -173                               | -173             | -175             | -175             |
| <b>Aging</b> (after 30 days of continuous operation) | $\leq 5 \times 10^{-7}$ / year     |                  |                  |                  |
| <b>Input voltage range</b>                           | 12 VDC $\pm$ 5%                    |                  |                  |                  |
| Power consumption (at 25°C)                          | 8W / 5W                            |                  |                  |                  |
| Warm up time (at 25°C to $2 \times 10^{-7}$ )        | $\leq 5$ min                       |                  |                  |                  |
| <b>Input External Reference</b>                      |                                    |                  |                  |                  |
| Frequency range                                      | 10MHz $\pm$ 2Hz                    |                  |                  |                  |
| Power  | 10 $\pm$ 3 dBm                     |                  |                  |                  |
| PLL LOOP Bandwidth                                   | 1Hz ~100Hz                         |                  |                  |                  |
| <b>Output specifications</b>                         |                                    |                  |                  |                  |
| Wave form  | Sine wave                          |                  |                  |                  |
| Number of outputs                                    | 3                                  |                  |                  |                  |
| Port to port isolation                               | $\geq 50$ dB                       |                  |                  |                  |
| Power  | 10 $\pm$ 3 dBm                     |                  |                  |                  |
| Harmonics  | $\leq -30$ dBc                     |                  |                  |                  |
| Spurious   | $\leq -100$ dBc                    |                  |                  |                  |
| Frequency stability vs Temperature (-40°C to 70°C)   | $\leq 2 \times 10^{-7}$            |                  |                  |                  |
| Load   | 50 $\Omega$ $\pm$ 5%               |                  |                  |                  |
| g sensitivity  | $\leq 5 \times 10^{-10}$ / g       |                  |                  |                  |
| Vibration  | MIL-STD-202G                       |                  |                  |                  |
| <b>Size</b> (L×W×H)                                  | 98×60×20mm <sup>3</sup>            |                  |                  |                  |



**Outline drawing and Electrical connections (mm)**



INPUT: 10MHz (SSMA-F)  
OUTPUT1: 100MHz (SSMA-F)  
OUTPUT2: 100MHz (SSMA-F)  
OUTPUT3: 100MHz (SSMA-F)  
+12V: +12V Power supply  
LD : TTL Level:L- lock,H-unlock

