



# ULS112

## Features

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

## Applications

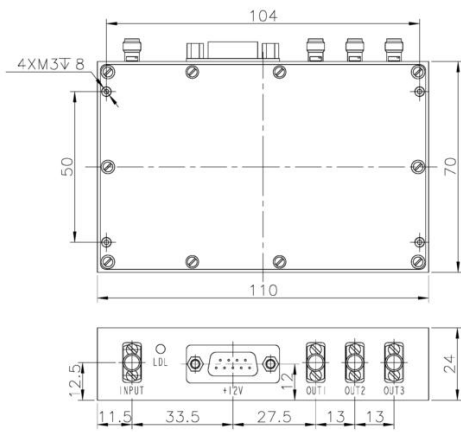
- Frequency standards and sources
- Measuring and calibration equipment
- Navigation

## Technical Specifications

<b>Standard Frequency</b>	120 MHz			
<b>Additional short-term stability</b>	$\leq 1 \times 10^{-13}/1s$			
<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	-173
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)	7W / 4W			
Warm up time (at 25°C to $2 \times 10^{-7}$ )	$\leq 5$ min			
<b>Input External Reference</b>				
Frequency range	10MHz $\pm$ 2Hz (Option: 5 MHz)			
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	$\leq -80$ 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)	110×70×24mm <sup>3</sup>			



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



- INPUT: 10MHz (SMA-F)
- OUT1: 120MHz (SMA-F)
- OUT2: 120MHz (SMA-F)
- OUT3: 120MHz (SMA-F)
- LDL: Lock Lamp
- J3/1. LD (TTL Level:L- lock,H-unlock)
- J3/2. Ground
- J3/3. Ground
- J3/4. NC
- J3/5. Vc
- J3/6. NC
- J3/7. +12V Power supply
- J3/8. NC
- J3/9. Vref

