



ULS515

Features

- PLL LOOP Bandwidth as low as $\leq 50\text{mHz}$
- Better short-term stability, up to $5.0E-13/1s$
- Ultra low phase noise $\leq -175\text{dBc/Hz}@10\text{kHz}$

Applications

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

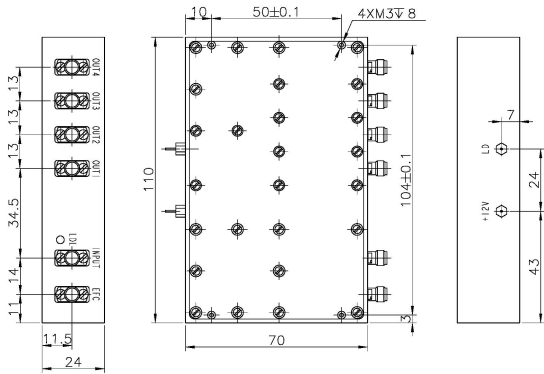
Technical Specifications

Standard Frequency	10 MHz	50 MHz	10 MHz	50 MHz	10 MHz	50 MHz	10 MHz	50 MHz
Short-term stability	$\leq 5 \times 10^{-12}/1s$		$\leq 3 \times 10^{-12}/1s$		$\leq 1.5 \times 10^{-12}/1s$		$\leq 8 \times 10^{-13}/1s$	
Phase Noise (dBc/Hz, free-running)	Option: S		Option: H		Option: L		Option: U	
1 Hz	-100	-86	-105	-91	-110	-96	-115	-101
10 Hz	-125	-106	-130	-111	-135	-116	-140	-121
100 Hz	-150	-130	-150	-135	-155	-140	-155	-143
1 KHz	-158	-160	-158	-163	-158	-165	-158	-168
10 KHz	-160	-171	-160	-172	-160	-173	-160	-175
100 KHz	-160	-173	-160	-173	-160	-175	-160	-176
Aging (after 30 days of continuous operation)	$\leq 1 \times 10^{-7} / \text{year}$							
Input voltage range	12 VDC \pm 5%							
Power consumption (at 25°C)	8W / 5W							
Warm up time (at 25°C to 2×10^{-7})	$\leq 5 \text{ min}$							
Input External Reference								
Frequency range	10MHz \pm 2Hz							
Power	10 \pm 3 dBm							
PLL LOOP Bandwidth	50mHz \sim 10Hz							
Input EFC								
Tuning range	$\geq \pm 2 \times 10^{-7}$ (0 ~ 10 V, Positive)							
Output specifications								
Wave form	Sine wave							
Number of outputs	4							
Port to port isolation (Same frequency)	$\geq 50 \text{ dB}$							
Power	10 \pm 3 dBm							
Harmonics	$\leq -30 \text{ dBc}$							
Spurious	$\leq -100 \text{ dBc}$							
Frequency stability vs Temperature (-40°C to 70°C)	$\leq 2 \times 10^{-8}$							
Load	50 Ω \pm 5%							
g sensitivity	$\leq 5 \times 10^{-10} / g$							



Vibration	MIL-STD-202G
Size (L×W×H)	110×70×24mm ³

Outline drawing and Electrical connections (mm)



EFC: Electronic Frequency Control (SMA-F)
INPUT: 10MHz (SMA-F)
OUTPUT1: 10MHz (SMA-F)
OUTPUT2: 10MHz (SMA-F)
OUTPUT3: 50MHz (SMA-F)
OUTPUT4: 50MHz (SMA-F)
+12V: +12V Power supply
LD: TTL Level:L- lock,H-unlock
LDL: LD Lamp

