

General Description

The MCS-PLL-120/120 is complex fixed frequency ultra low phase noise clock generator solution for low frequency jitter-cleaner and reference clock generation application.

It's contains ultra precision loop filter, phase-locked loop (PLL) and integrated voltage-controlled crystal oscillator



Key Features

- Ultra-Low Phase Noise
- No Programming Required
- Fixed frequency

Specifications (T=25°C)

| Parameter | Sym. | Min. | Typ. | Max. | Unit |
|---------------------------------------|-------------------|------|-----------------|-------------------|-------|
| Frequency output (Sine wave) | F_{OUT} | | 120 | | MHz |
| Reference Input Frequency (Sine wave) | F_{IN} | | 120* | | MHz |
| Reference Input Voltage | V_{PP} | 0.5 | | 3 | V p-p |
| Supply Voltage | V_{CC} | +5.3 | +5.5 | +5.7 | V |
| Supply Current | | | 170 | 200 | mA |
| Output Power | P_{OUT} | +8 | | | dBm |
| Spurious Suppression | P_{SP} | 80 | | | dBc |
| Harmonic Suppression | P_H | | | 25 | dBc |
| Output Impedance | Z_{OUT} | | 50Ω | | |
| Operating Temperature (type) | - A - C - D | T | 0 -20 -40 | +40 +55 +65 | °C |
| Lock Detect Indicator / Control | | | CMOS +3.3 V | | |

Phase Noise parameters

| Phase Noise (*) | Offset | Phase Noise |
|-----------------|----------|-------------|
| | @ 10 Hz | -103 dBc/Hz |
| | @ 100 Hz | -123 dBc/Hz |
| | @ 1 kHz | -145 dBc/Hz |
| | @10 kHz | -163 dBc/Hz |
| | @100 kHz | -172 dBc/Hz |
| | @1 MHz | -172 dBc/Hz |

(*) External 120 MHz reference sources should have phase noise better than -100dBc/Hz@100 Hz offset to achieve published specifications.

Absolute maximum parameters

| Parameter | Sym. | Value | Unit |
|----------------|----------|------------|------|
| Voltage Supply | V_{CC} | 6.0 | V |
| | T_s | -60 to +85 | °C |

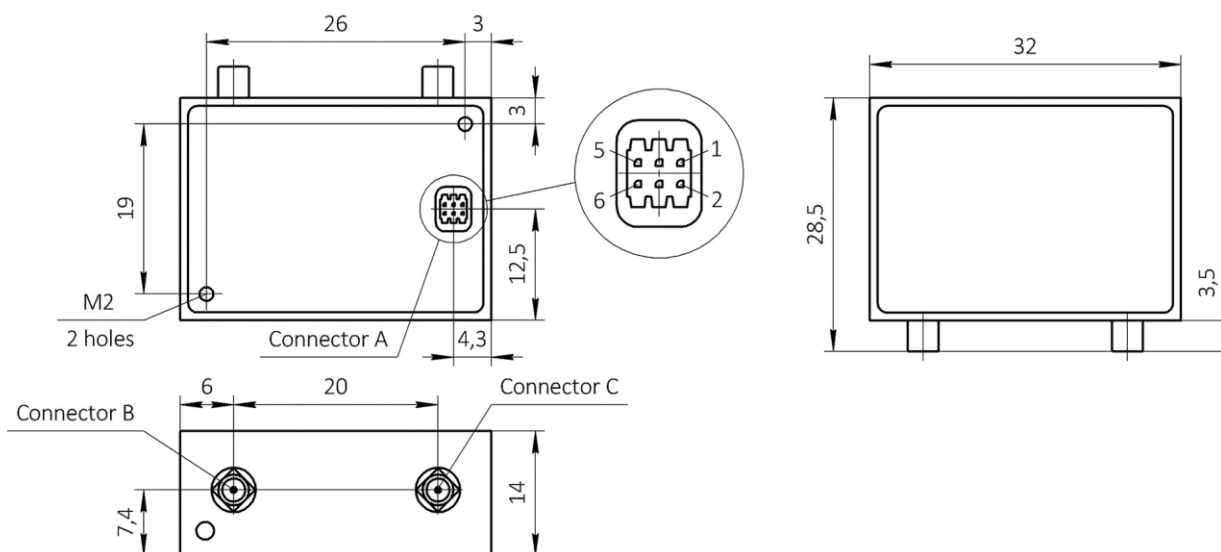
Connectors

| # | Description |
|---|-------------|
| A | |
| B | |
| C | |

Connector A

| Function | I / O | Pin Number | Note |
|----------|-------|------------|--------------|
| GND | - | 1, 3 | Ground |
| V_{CC} | - | 2, 4 | Power Supply |
| Lock | I | 5 | |
| PLL | I | 6 | |

Physical dimensions:



NOTE: All dimensions are given in mm and are maximum unless otherwise specified.