



Features and Benefits

Frequency range: 4.096-10MHz
Supply voltage: 12V
Steady current: 350mA/Max
Output waveform: Sinewave
Frequency stability vs. operating temperature: ±0.05PPB
Aging: ±5PPB per year
Phase noise@10KHz: -155dBc/Hz
Operating temperature: -40°C to +70°C
Size: 51x51x38mm

Typical Applications

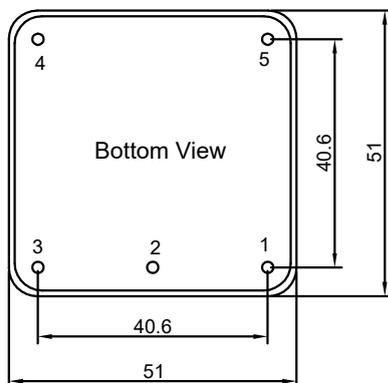
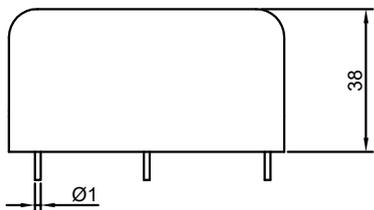
5G, GPS, CDMA
Telecommunication, Test & Measurement

Description

DOCXO5151AN01-HS offers high frequency stability, low long term aging and low phase noise, all in a compact package to suit the different communication needs, Not sensitive for rapid changes of ambient temperature.

Mechanical Drawing & Pin Connections

Drawing No: A 8 &&\$&+!%



Pin Connections:

| Pin# | Function |
|------|-------------------|
| 1 | Control Voltage |
| 2 | Reference Voltage |
| 3 | RF Output |
| 4 | Ground |
| 5 | Supply Voltage |

Unit in mm
1mm = 0.0394 inches



Specifications

| Oscillator Specification | Sym | Condition | Value | | | Unit | Note |
|---|--|---|----------|------|----------------------|------|--------------------------|
| | | | Min. | Typ. | Max. | | |
| Operational Frequency | F _{nom} | | 4.096 | | 10 | MHz | |
| RF Output | | | | | | | |
| Signal Waveform | | | Sinewave | | | | |
| Load | R _L | ±5% | | 50 | | ohm | |
| Level | | | +5 | +7 | +9 | dBm | |
| Sub Harmonics | | For 8.192MHz and 10MHz | | | -40 | dBc | |
| Harmonic suppression | | | 30 | | | dBc | |
| Power Supply | | | | | | | |
| Supply Voltage | V _{CC} | ±5% | | 12.0 | | V | |
| Power Consumption | | Steady state, +25°C | | | 350 | mA | Still air |
| | | Warm-up | | | 1.5 | A | |
| Warm-up Time | T _{up} | within accuracy of $\lt; \pm 5 \times 10^{-8}$ | | | 15 | min | |
| Frequency Adjustment Range | | | | | | | |
| Frequency pulling range | | | ±0.25 | | | ppm | |
| External control voltage | V _{in} | | 0 | | +5.0 | V | |
| Reference voltage | V _{ref} | | | +5.0 | | V | |
| Frequency Stability | | | | | | | |
| Versus Operating Temperature Range | | | | | | ppb | See ordering information |
| Versus Load | | | | | ±1x10 ⁻¹⁰ | | |
| Versus supply voltage | | | | | ±1x10 ⁻¹⁰ | | |
| Short term stability (Allan deviation) | | per 1 sec | | | 2x10 ⁻¹² | | |
| Phase noise for 5MHz | | 1Hz | | | -105 | dBc | |
| | | 10Hz | | | -130 | dBc | |
| | | 100Hz | | | -145 | dBc | |
| | | 1kHz | | | -150 | dBc | |
| | | 10kHz | | | -155 | dBc | |
| Environmental, Mechanical Conditions | | | | | | | |
| Operating temperature range | See ordering information | | | | | | |
| Storage temperature range | -55°C to +80°C | | | | | | |
| Vibration | Frequency range: 1 to 500Hz. Acceleration: 5g. | | | | | | |
| Shock | Acceleration: 150g. Duration: 2±0.5ms | | | | | | |



Ordering Information

| | | | | |
|------------------------|---|------|----|----|
| DOCXO5151AN01-HS-XXMHz | - | 01 | 02 | 03 |
| Group | | Code | | |

For example, DOCXO5151AN01-HS-10MHz-1-1-1 denotes the OCXO has the following specifications:

Frequency: 10MHz
 Stability vs. Temperature: ±0.3PPB
 Temperature Range: 0°C to +55°C
 Aging: ±30PPB

| 01 | Frequency Stability |
|------|---------------------|
| Code | Specification |
| 1 | ±0.3 PPB |
| 2 | ±0.2 PPB |
| 3 | ±0.1 PPB |
| 4 | ±0.05 PPB |

| 02 | Temperature Range |
|------|-------------------|
| Code | Specification |
| 1 | 0°C to +55°C |
| 2 | -10°C to +60°C |
| 3 | -20°C to +70°C |
| 4 | -40°C to +70°C |

| 03 | Year Aging |
|------|---------------|
| Code | Specification |
| 1 | ±30 PPB |
| 2 | ±20 PPB |
| 3 | ±10 PPB |
| 4 | ±5.0 PPB |

| Availability of stability vs. operating temperature range | ±0.3 PPB | ±0.2 PPB | ±0.1 PPB | ±0.05 PPB |
|---|-----------|-----------|-------------|---------------|
| 0°C to +55°C | Available | Available | Available | Conditional |
| -10°C to +60°C | Available | Available | Available | Conditional |
| -20°C to +70°C | Available | Available | Available | Conditional |
| -40°C to +70°C | Available | Available | Conditional | Not Available |

| Availability of first year aging values for frequencies | 4.096 MHz | 5.0 MHz | 8.192 MHz | 10.0 MHz |
|---|-------------|-----------|-------------|-----------|
| ±30 PPB | Available | Available | Available | Available |
| ±20 PPB | Available | Available | Available | Available |
| ±10 PPB | Conditional | Available | Conditional | Available |
| ±5.0 PPB | Conditional | Available | Conditional | Available |

Note: This is the initial general datasheet, not the final datasheet. For reference only.