



frequency control solutions

YH1420

MINIATURE DIP PACKAGE
GOOD TEMP STABILITY

OCXO

Product Description

Greenray Industries' YH1420/1421 Series OCXOs offer good stability in a compact, DIP package.



Features

- Output: CMOS (Model 1420) or Sinewave (Model 1421)
- Supply Voltage: +3.3 or +5 VDC
- Miniature 20.3 x 12.7 mm package
- Frequency Range: 10 - 120 MHz
- ROHS Compliant

Applications

- Ground radar
- Air traffic control system
- Emergency wireless communications transceiver
- Clock reference for analyzers or synthesizers
- Ethernet synchronization
- Communication system
- Ground station RF telemetry systems
- Multiband terminal
- Upconverter

REV: F



intertek

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| Electrical Characteristics | | | | | | |
|-----------------------------|-----------------------------|----------------------|---------|----------------------|--------|---------------|
| Parameter | Conditions | Min | Typical | Max | Units | Ordering Code |
| Nominal Frequency | @ +25°C | 10 | | 120 | MHz | (FREQ.) |
| Frequency Stability | 0°C to +60°C | | ± 0.1 | | ppm | G17 |
| | -20°C to +70°C | | ± 0.2 | | ppm | N27 |
| | -40°C to +85°C | | ± 0.3 | | ppm | T37 |
| Aging | Per year | | | ± 1.0 | ppm | |
| Frequency vs Voltage | For a 5% change | | | ± 3.0 | ppm | |
| Frequency vs Load | For a 10% change | | | ± 5.0 | ppm | |
| Voltage Control (EFC) | 0 to Supply, Positive Slope | | ± 5.0 | | ppm | |
| Warm-up Time | Within ± 0.05 ppm | | 5 | | min | |
| Phase Noise Performance | | | | | | |
| Parameter | Frequency Offset (Hz) | Min | Typical | Max | Units | Ordering Code |
| Static @ 100 MHz Nom. Freq. | 10 | | -110 | | dBc/Hz | |
| | 100 | | -135 | | dBc/Hz | |
| | 1 k | | -155 | | dBc/Hz | |
| | 10 k | | -158 | | dBc/Hz | |
| | 100 k | | -158 | | dBc/Hz | |
| DC Supply | | | | | | |
| Parameter | Conditions | Min | Typical | Max | Units | Ordering Code |
| Supply Voltage | | 3.0 | 3.3 | 3.6 | Vdc | B |
| | | 4.75 | 5.0 | 5.25 | Vdc | E |
| Input Power | Warm-up, 5 min | | | 3 | W | |
| | Idle @ +25°C | | | 1 | W | |
| RF Output | | | | | | |
| Parameter | Conditions | Min | Typical | Max | Units | Ordering Code |
| CMOS | | | | | | YH1420 |
| Load | | | 15 | | pF | |
| Level | | 0.8 Vdd "1" Level | | 0.2 Vdd "0" Level | V | |
| Symmetry | | 40 | 50 | 60 | % | |
| Sinewave | | | | | | YH1421 |
| Output Power | 50 Ω Load | 0 | | | dBm | |
| Harmonics | | | | -20 | dBc | |



| Environmental and Mechanical Specifications | | | | |
|---|-------------|--------|-----------|----------------------------------|
| Test | Standard | Method | Condition | Description |
| Vibration | MIL-STD-202 | 204 | A | 50 g, 20 to 2,000 Hz, swept sine |
| Shock | MIL-STD-202 | 213 | C | 1,500 g, 0.5 ms half-sine |

| Recommendations and General Information | |
|---|--|
| Parameter | Notes |
| Operating Temperature | -40°C to +85°C |
| Storage Temperature | -45°C to +90°C |
| Terminal Finish | Sn 100 (Lead-free), SnPb 63/37 (non-RoHS) |
| Package Weight | 3 grams |
| Package Finish | Stainless Steel and Ni plated Kovar |
| Soldering Instruction | Hand Solder |
| Shipping | Tray Pack |
| Marking | GRI Logo, Model #, Frequency, Serial #, Date Code Addition marking upon request if space is available |

| Ordering Example | | | | | | | | | |
|----------------------------------|---|---|--|---|-----------------------|---|--------------------|---|---|
| YH1420 | - | T | 57 | - | B | - | 10.0 MHz | - | LF |
| Model | | Temp. Range | Stability | | Supply Voltage | | Freq. (MHz) | | Term. Finish |
| YH1420: CMOS YH1421: Sinewave | | G: -10 to +60°C N: -20 to +70°C T: -40 to +85°C | 17: ±0.1ppm 157: ±0.15ppm 27: ±0.2ppm 37: ±0.3ppm | | B: 3.3V E: 5.0V | | 10 to 120 | | LF: Sn 100 (Lead-free) PB: SnPb 63/37 (non-RoHS) |

The Order ID (YH1420-T57-B-10.0MHz-LF) is only used to issue the preliminary quote. The Part Number (YH1420-1) for the quoted Electrical Characteristics, Screenings, and other options, will be provided with the Greenray Sales Order.

Other specification options are available, please use the contact information below for more information.



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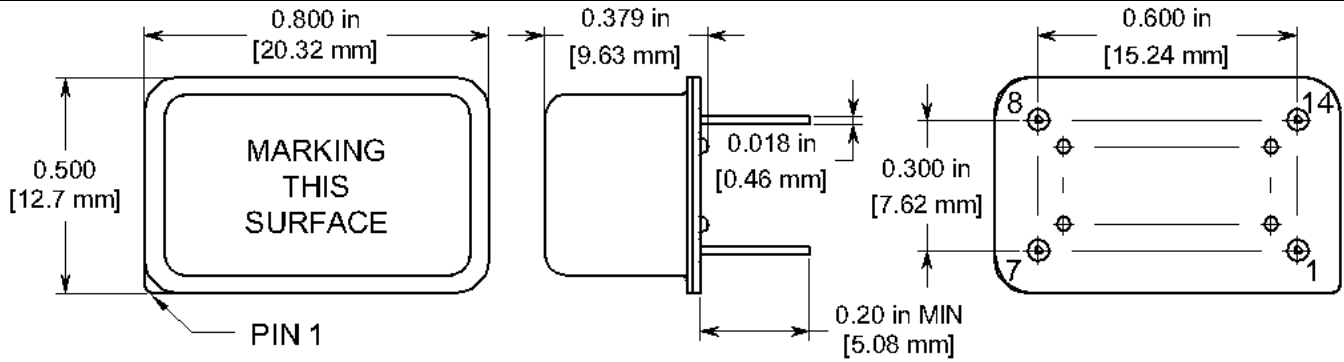


frequency control solutions

YH1420 SERIES
10 MHz to 120 MHz



Package Information



| PAD CONNECTIONS | |
|-----------------|-----------------------|
| 1 | CONTROL VOLTAGE (EFC) |
| 7 | GND |
| 8 | OUTPUT |
| 14 | SUPPLY VOLTAGE (Vdd) |

(NC Pads may have internal connections and should be isolated)



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