

Descriptions

Polaris' PFRM-1-50 series is a Single Channel OCXO Module that provides a highly stable 50 MHz sine wave outputs. The OCXO with excellent performance, housed into this series provides a temperature stability from ± 25 ppb to ± 50 ppb over operating temperature range and aging of ± 100 ppb per year at 25°C.



Features

- ❖ 50 MHz Output Frequency
- ❖ Sine Wave Output
- ❖ Built in OCXO with Excellent Performance
- ❖ Various Options Available
- ❖ Affordable Price
- ❖ Internal Voltage Regulators

Applications

- ❖ Military Electronic Systems
- ❖ SATCOM
- ❖ Frequency Reference Generation
- ❖ Phase Noise Measurements
- ❖ Telecommunications Standards

Ordering Information

❖ PFRM-1-50-TS-OP-PN-SV

- **TS:** Frequency Stability vs. Temperature (ppb)
 - . TS1, TS2, or TS3: See "Note 1"
- **OP:** Output Power (dBm)
 - . 0 to 9 in 1 steps: See "Note 2"
- **PN:** Phase Noise (dBc/Hz)
 - . LN or ULN: See "Note 3"
- **SV:** Supply Voltage (Vdc)
 - . 12 to 15: See "Note 4"

❖ Example

- PFRM-1-50-TS1-05-ULN-12
 - . Frequency Stability vs. Temperature: ± 25 ppb over -20 °C to 70 °C
 - . Output Power: 5 dBm
 - . Phase Noise: Ultra-Low Noise (See "Note 3")
 - . Supply Voltage: 12 Vdc

Specifications for Standard Model

| Parameter | | Unit | Min. | Typ. | Max. | Remarks |
|-------------------------|--------------------------|----------|--------------------|------|------|----------------------------|
| Frequency Calibration | | ppm | -0.1 | | +0.1 | |
| Frequency Stability | vs. Temperature (Note 1) | ppb | TS1 (See "Note 1") | | | See "Ordering Information" |
| | Vs. Aging | Daily | ppb | -3 | +3 | |
| | | 1st year | ppb | -100 | | +100 |
| Output | Frequency | MHz | 50 | | | |
| | Power (Note 2) | dBm | 5 | 7 | | See "Ordering Information" |
| | Harmonics | dBc | | | -30 | |
| | Spurious | dBc | | -70 | -60 | |
| | Load Impedance | Ohm | 50 | | | |
| Phase Noise (Note 3) | | dBc/Hz | ULN (See "Note 3") | | | See "Ordering Information" |
| Supply Voltage (Note 4) | | Vdc | 12 | | 15 | See "Ordering Information" |
| Current Consumption | | mA | Consult Factory | | | Steady State |
| | | | Consult Factory | | | Warm-up |
| Warm Up Time | | min | | 3 | 5 | |
| Operating Temperature | | | TS1 (See "Note 1") | | | |
| Storage Temperature | | | -40 °C to 85 °C | | | |
| Housing (L x W x H) | | mm | 65.0 x 40.0 x 23.5 | | | |

Note 1

| Option | Unit | Value | Condition | Remarks |
|--------|------|-------|-----------------|---------|
| TS1 | ppb | ±25 | -20 °C to 70 °C | |
| TS2 | ppb | ±25 | -40 °C to 75 °C | |
| TS3 | ppb | ±50 | -10 °C to 60 °C | |

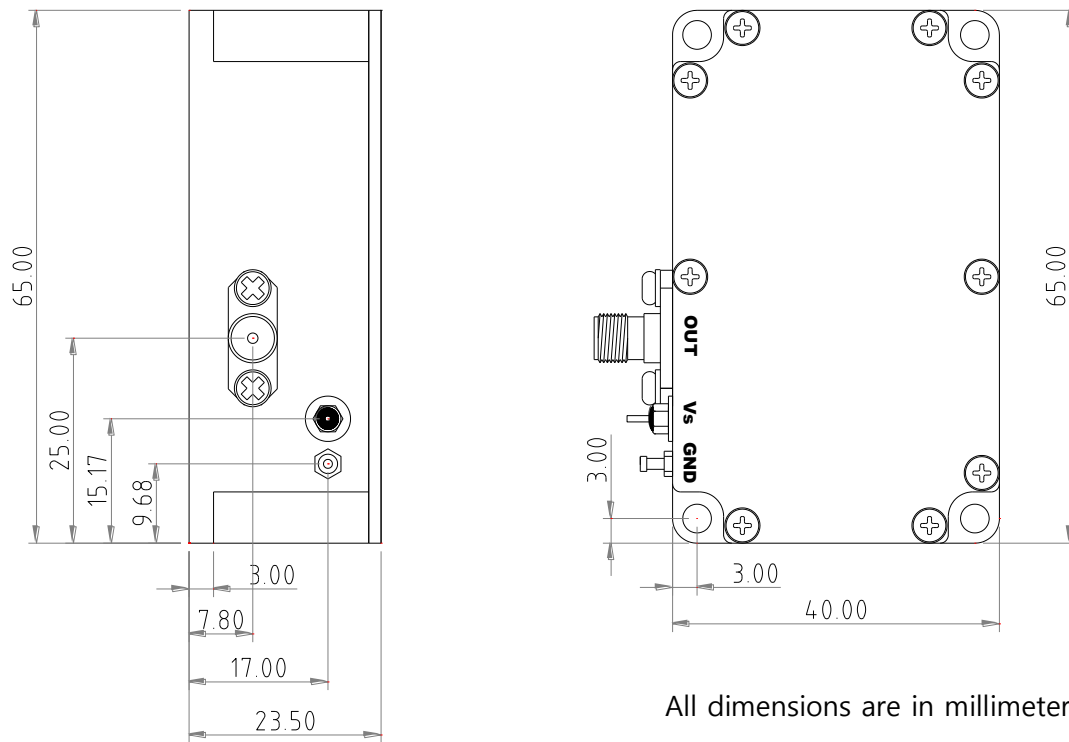
Note 2 Available order from 0 dBm (Typ.) to 9 dBm (Typ.) in 1dB steps.

Note 3

| Option | Frequency Offset | Unit | Min. | Typ. | Max. | Remarks |
|--------------------------|------------------|--------|------|------|------|---------|
| LN (Low Noise) | 100Hz offset | dBc/Hz | | | -110 | |
| | 1KHz offset | dBc/Hz | | | -130 | |
| | 10KHz offset | dBc/Hz | | | -140 | |
| | 100KHz offset | dBc/Hz | | | -150 | |
| | 1MHz offset | dBc/Hz | | | -150 | |
| ULN (Ultra-Low Noise) | 100Hz offset | dBc/Hz | | | -130 | |
| | 1KHz offset | dBc/Hz | | | -150 | |
| | 10KHz offset | dBc/Hz | | | -160 | |
| | 100KHz offset | dBc/Hz | | | -165 | |
| | 1MHz offset | dBc/Hz | | | -165 | |

Note 4 Consult factory for ordering other Supply Voltage.

Housing Drawings



| Symbol | Connector | Description |
|--------|------------------------|------------------------|
| OUT | SMA-Jack, 50 ohm | RF Output (50 MHz) |
| Vs | EMI Feed-thru | Supply Voltage (+12 V) |
| GND | Turret Thread Terminal | Ground |

- Address: #1913, Anam tower, 311, Teheran-ro, Gangnam-gu, Seoul, Republic of Korea
- Tel: +82-2-2009-2120
- e-mail: info@polariswave.com
- web: www.polariswave.com