

Descriptions

The Polaris PFRM-1-50 series is a single channel frequency reference module that provides a highly stable 50 MHz sine wave output. The OCXO with excellent performance, housed inside this series provides a temperature stability from ± 25 ppb to ± 50 ppb over operating temperature range.



Features

- ❖ Single channel output
- ❖ 50 MHz output
- ❖ Sine wave
- ❖ Internal OCXO with excellent performance
- ❖ Electronic frequency adjustment
- ❖ Various options available

Applications

- Frequency reference for oscillators
- Military electronic systems
- SATCOM
- External frequency synchronization of instruments
- Telecommunication 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
- **PN:** Phase Noise (dBc/Hz)
 - . LN or ULN: See "Note 3"
- **SV:** Supply Voltage (Vdc)
 - . 12 to 15

❖ Example

- PFRM-1-50-TS1-05-ULN-12
 - . Frequency Stability vs. Temperature: ± 30 ppb over -20 °C to 70 °C
 - . Output Power: 5 dBm
 - . Phase Noise: Ultra-Low Noise (See "Note 3")
 - . Supply Voltage: 12 Vdc

Specifications

Parameter		Unit	Min.	Typ.	Max.	Remarks
Frequency Calibration		ppm	-0.1		+0.1	
Frequency Stability vs. Temperature		ppb	Note 1			
Output	Frequency	MHz	50			
	Power	dBm	Note 2			
	Harmonics	dBc			-60	
	Spurious	dBc		-80	-70	
	Load Impedance	Ohm	50			
Phase Noise		dBc/Hz	Note 3			
Supply Voltage		Vdc	12		15	
Current Consumption	Steady State	mA	Consult Factory			
	Warm-up		Consult Factory			
Warm Up Time		min		3	5	
Operating Temperature		°C	Note 1			
Storage Temperature		°C	-40 to 85			
Housing (L x W x H)		mm	65.0 x 40.0 x 23.5			

Note 1

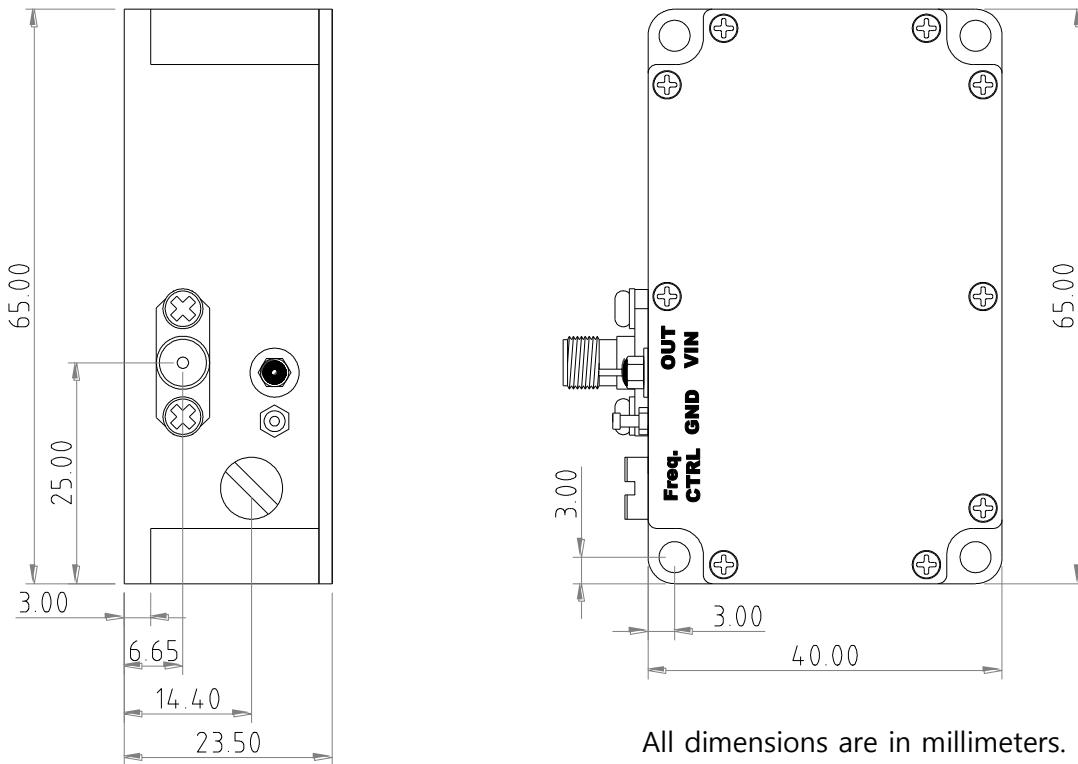
Option	Unit	Value	Condition	Remarks
TS1	ppb	±30	-20 °C to 70 °C	Consult factory to order other frequency stability
TS2	ppb	±25	-40 °C to 75 °C	
TS3	ppb	±50	-10 °C to 60 °C	

Note 2 Available order from 0 to 9 dBm 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	

Housing Drawings



All dimensions are in millimeters.

Marking	Connector	Description
OUT	SMA-Jack, 50 ohm	Output
VIN	EMI Feed-thru	Supply Voltage
Freq. CTRL	Flat Head Wrench Bolt	Electronic Frequency Control
GND	Turret Thread Terminal	GND

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