

## Descriptions

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



## Features

- ❖ 100 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-1-100-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-1-100-TS1-05-ULN-12
  - . Frequency Stability vs. Temperature:  $\pm 25$  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	100			
	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	

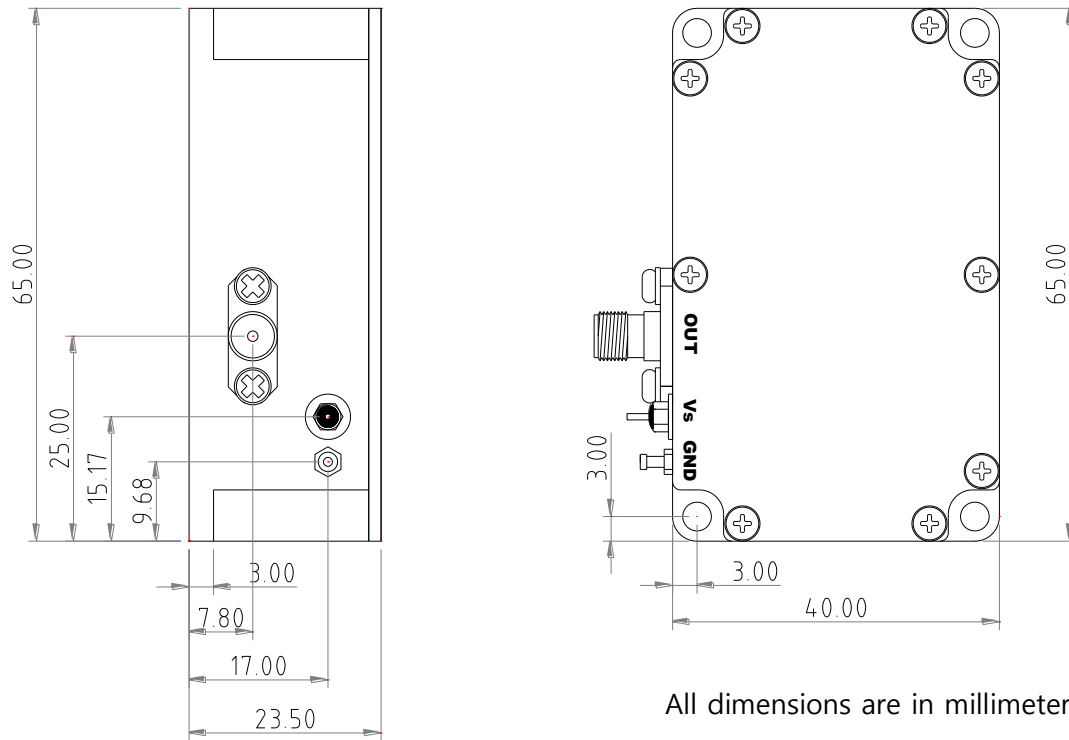
Note 2 Available order from 0 dBm (Typ.) to 9 dBm (Typ.) in 1dB steps.

Note 3

Option	Frequency Offset	Unit	Min.	Typ.	Max.	Remarks
LN (Low Noise)	100Hz offset	dBc/Hz			-105	
	1KHz offset	dBc/Hz			-125	
	10KHz offset	dBc/Hz			-135	
	100KHz offset	dBc/Hz			-150	
	1MHz offset	dBc/Hz			-150	
ULN (Ultra-Low Noise)	100Hz offset	dBc/Hz			-125	
	1KHz offset	dBc/Hz			-145	
	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 (100 MHz)
Vs	EMI Feed-thru	Supply Voltage (+12 V)
GND	Turret Thread Terminal	Ground

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