



Orbital Precision Reference Oscillator Package



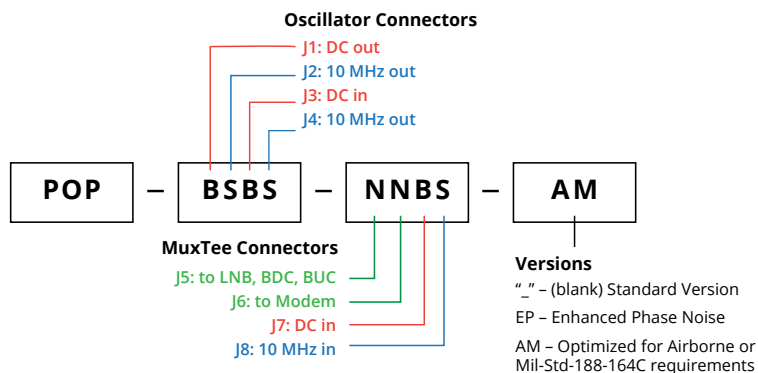
Precision OCXO 10 MHz Reference Oscillator and BiasTee Multiplexer (MuxTee) in one package.

An Orbital Research Precision Oscillator Package (POP) is a stacked 10 MHz Oscillator and a MuxTee. This device allows insertion of the 10 MHz Reference Oscillator and external DC source to feed an external referenced LNB, BDC or BUC via the device coax connector.

Advantages include:

- Integrated device in small form factor for indoor or outdoor installations – 3.425L x 2.55W x 1.875H (inches)
- A variety of Reference Oscillators to choose from to fit any application – video to higher order modulated data
- Industry Leading VSWR and thru loss specs for maximum power transfer
- Blocking of 10 MHz and DC signals from Modem to avoid interfering signals
- Reference signal can be distributed to other devices via 2nd output port (J4)
- Up to 4A of DC power transferred
- Independent oscillator and power supply provide immunity from ground loops, unwanted modulations, and transients
- Upgradable to add a second MuxTee to power a second LNB, BDC or BUC – See PODM Brochure
- Exceptional quality ensures improved phase noise, Bit Error Rate (BER), and Carrier to Noise Ratio (C/N0).
- MIL-STD-188-164C compliant for POP-AM variant

How to order a POP – Precision Oscillator Package



Connectors Available

DC connectors: J1, J3, J7

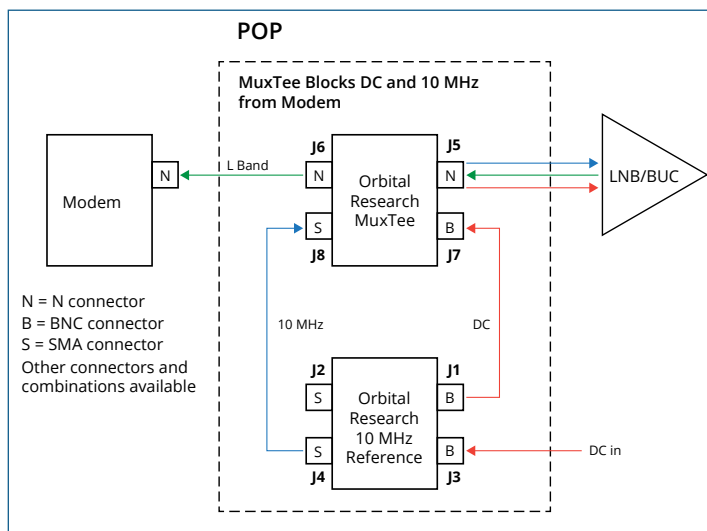
B – BNC | S – SMA | T – TNC | N – N | ft – feedthru

10 MHz connectors: J2, J4, J8

B – BNC | S – SMA | N – N

L-Band connectors: J5, J6

F – F 75 ohm | S – SMA | T – TNC | N – N



SPECIFICATIONS		STANDARD	ENHANCED	AIRBORNE
L-Band Band-pass			900 to 2100 MHz 900 to 3500 MHz option	
Thru Loss			0.5 dB maximum	
Return Loss			20 dB minimum	
10 MHz Output level			+ 2 dBm	
Stability over temperature		$\pm 5 \times 10^{-8}$	$\pm 5 \times 10^{-8}$	$\pm 1 \times 10^{-8}$
Aging		$\pm 5 \times 10^{-7}/\text{year}$	$\pm 5 \times 10^{-7}/\text{year}$	$\pm 1 \times 10^{-7}/\text{year}$ $\pm 5 \times 10^{-10}/\text{day}$ (option for 0.2 ppb/day)
Allan deviation				$\pm 1 \times 10^{-11}$ Tau = 1 sec
Temperature Range		0°C to +50°C	0°C to +50°C	40°C to +80°C
Phase Noise	100 Hz	-145 dBc/Hz	-145 dBc/Hz	-150 dBc/Hz
	1 kHz	-152 dBc/Hz	-158 dBc/Hz	-158 dBc/Hz
	10 kHz	-155 dBc/Hz	-160 dBc/Hz	-165 dBc/Hz
	100 kHz	-155 dBc/Hz	-160 dBc/Hz	-165 dBc/Hz
	1 MHz	-155 dBc/Hz	-160 dBc/Hz	-165 dBc/Hz
Power			+12.5 to +18 VDC +24 VDC option	
Standards		RoHS and Reach, MIL-STD-188-164C for Airborne Version		
Humidity		Up to 100% condensation and frost		
Size		3.425(L) x 2.55(W) x 1.875(H) inches		
Paint		FED-STD-595, anodized blue finish		

Mounting Options:

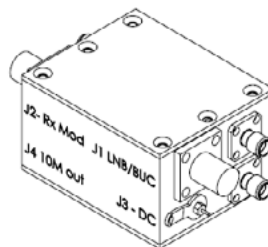
- With Mounting Plate (not shown)
- 19" rack mounting plate

Product Used with:

- For a complete list of System Interface Products that can be used with a MODM, please visit our web site at <https://orbitalresearch.net/product/sips/>

Reduced form factor Option:

- <1 RU high to fit inside 1 RU rack
2.3L x 1.9W x 1.36H



Specifications subject to change

Please contact [Orbital Research](mailto:sales@orbitalresearch.net) for ordering information:
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