SOD-24301215-SF-S7

Dielectric Resonator Oscillator, 24.125 GHz, +15 dBm

SOD-24301215-SF-S7 is a mechanically tuned, dielectric resonator oscillator with a center frequency of 24.125 GHz and a mechanical tuning range of ±50 MHz. The oscillator delivers a nominal output power of +15 dBm with a low phase noise and harmonic emissions. The oscillator takes a +12 V_{DC}/120 mA DC bias. The RF output is equipped with a female SMA connector.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Center Frequency		24.125 GHz	
Power Output		+15 dBm	
Mechanical Tuning Range		±50 MHz	
Frequency Stability		±2 ppm/°C	±5 ppm/°C
Phase Noise @ 100 KHz Offset		-115 dBc/Hz	-85 dBc/Hz
Spurious		-80 dBc	-70 dBc
Harmonics			-20 dBc
Bias Voltage	+10 V_{DC}	+12 V_{DC}	+15 V_{DC}
Bias Current		120 mA	130 mA
Specification Temperature		+25 ˚C	
Operating Temperature	0 ˚C		+50 ˚C

Mechanical Specifications:

Item	Specification
RF Port	SMA Female
DC Bias	Solder Pin
Case Material	Aluminum
Finish	Chem Film
Weight	1.6 Oz
Size	1.61” (L) x 0.98” (W) x 0.71” (H)
Outline	OD-FCK-SM1

ECCN

EAR99

FEATURES

- Low AM/FM Noise and Harmonics
- Mechanically Tunable

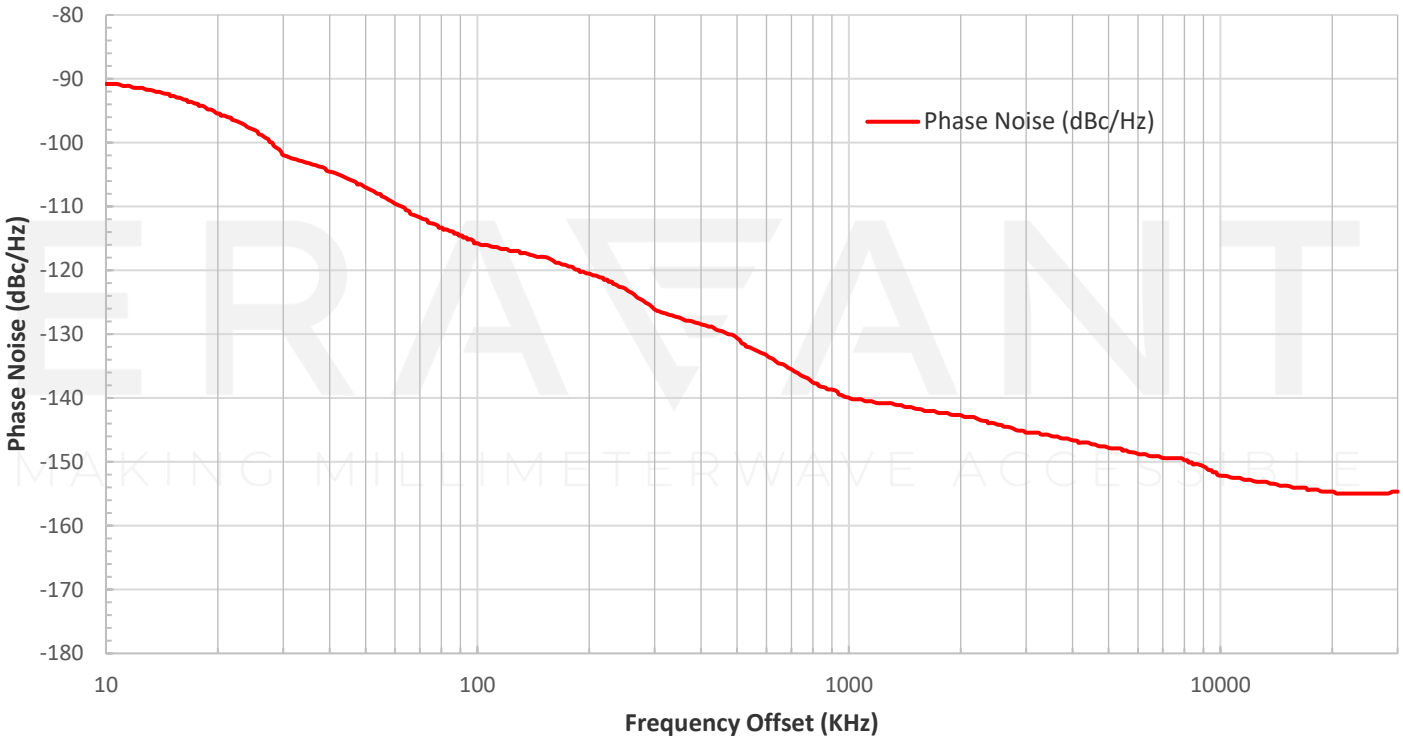
APPLICATIONS

- Radar Systems
- Test Sources
- Signal Generation
- Lab Test Setups

SUPPLEMENTAL DETAILS

Measured Phase Noice vs. Frequency Offset

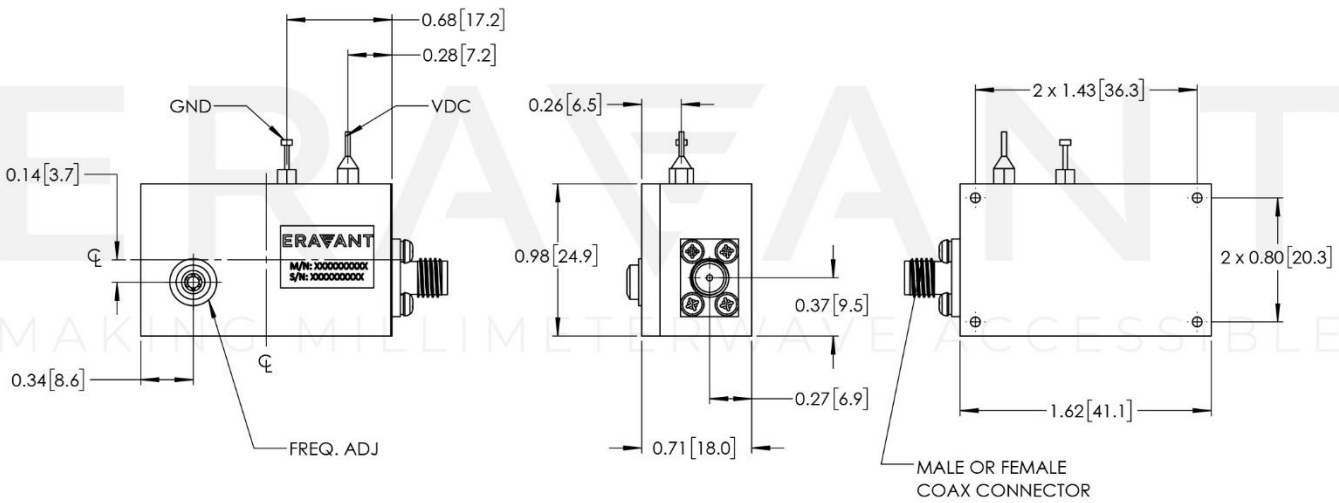
25 °C Operating Temperature



Measured Data:

Parameter	Measurement		
	-40 ˚C	+25 ˚C	+70 ˚C
Center Frequency	24.1287 GHz	24.1233 GHz	24.1187 GHz
Output Power	+15.1 dBm	+14.5 dBm	+14.0 dBm
Frequency Stability	+3.44 ppm/°C	-	-4.23 ppm/°C
Spurious	-80 dBc	-80 dBc	-80 dBc
Harmonics	-20 dBc	-20 dBc	-20 dBc
Current Consumption at +12 V	130 mA	120 mA	120 mA

Mechanical Outline: Unless otherwise specified, all dimensions are in inches [millimeters])



NOTE:

- All data presented is collected from a sample lot. Actual data may vary unit to unit, slightly.
- All testing was performed under +25 ˚C case temperature unless specified.
- Eravant reserves the right to change the information presented without notice.
- Other mechanical configurations are available under different model numbers.

CAUTION:

- Reversing polarity bias will destroy the device.
- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- The case temperature of the device shall never exceed **+50 ˚C**. Use additional heatsink or fan if necessary.
- Proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model SCH-08008-S1 is highly recommended.