

Dielectric and Coaxial Resonator Oscillators

Series 500



Dielectric and Coaxial Resonator Oscillators have been widely used during the past 80 years, and remain as important today, although the technical requirements have become more demanding. This is where Spectrum Microwave can help.



Spectrum Microwave engineers have 30 years' experience building dielectric and coaxial resonator oscillators. This hands-on experience is invaluable when designing the circuit. We have hundreds of designs to choose from and will not hesitate to push the limits to get even a demanding specification.

Features

- Ultra Low Phase Noise
- Voltage Tuning Option
- Integral Voltage Regulator
- Low Loss Isolators Incorporated for Enhanced Pulling

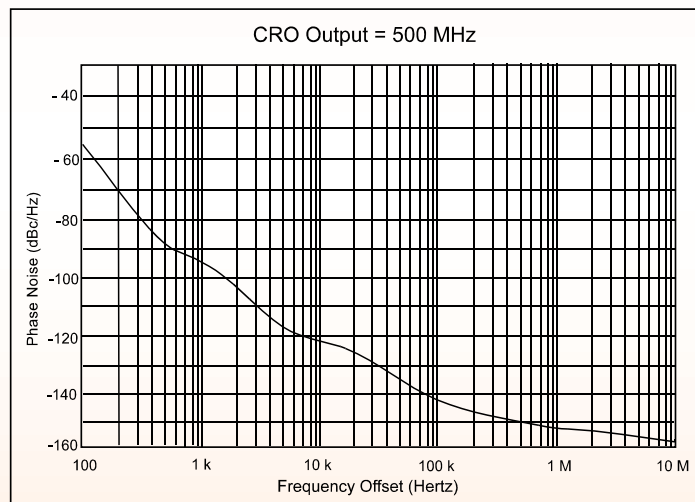
APPLICATION INFORMATION

Spectrum Microwave's line of Dielectric Resonator Oscillators (DROs) and Coaxial Resonator Oscillators (CROs) are designed and built with both small size and Low Phase Noise in mind. Our complete line of free-running DRO designs operate from 1,000 MHz to 18 GHz, with "modified standard" units available in all frequencies from HF to Ku band.

The core of our design is our choice of dielectric resonators, which is a ceramic based crystal that has Very Low Loss and is Dependably Stable even during Extreme Temperature changes. To reduce modulation side bands and microphonics during high vibration and shock, the resonator is securely attached down to the housing.

Spectrum Microwave incorporates Voltage Regulators in order to provide clean bias for optimum performance. Mechanical tuning is available on all standard units. The Voltage Tuning option allows for voltage tuning over moderate tuning ranges to allow for phase locking or for FM modulation applications.

Spectrum Microwave securely mounts our DROs and CROs and pots the internal circuitry to minimize Microphonics and sideband modulation. Metal-backed PC boards and thick walls and lids improve shock/vibration/stability performance. And, an optional gain stage is incorporated for higher output power. All of our models have an active isolator for better pulling performance.



Part Number	Frequency (GHz)	Output Power (dBm)	Phase Noise	Harmonics	Spurious	Supply
511 Series	0.5 – 2	+10	-135 @100 KHz	-20	-80	15 V/90 mA
512 Series	2 – 4	+10	-130 @100 KHz	-20	-80	15 V/90 mA
513 Series	4 – 6	+10	-127 @100 KHz	-20	-80	15 V/90 mA
514 Series	6 – 8	+10	-127 @100 KHz	-20	-80	15 V/90 mA
515 Series	8 – 10	+10	-126 @100 KHz	-20	-80	15 V/90 mA
516 Series	10 – 12	+10	-125 @100 KHz	-20	-80	15 V/90 mA
517 Series	12 – 14	+10	-123 @100 KHz	-20	-80	15 V/90 mA
518 Series	14 – 16	+10	-117 @100 KHz	-20	-80	15 V/90 mA