

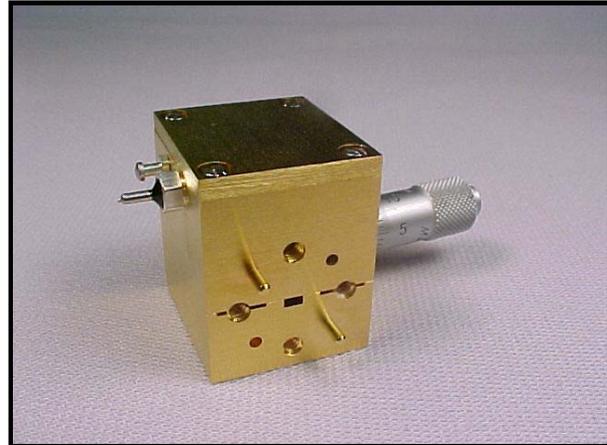
Bias Tuned Gunn Oscillators

FEATURES:

- ❖ Frequency coverage: 10 to 140 GHz
- ❖ Bias Tuning up to 2MHz tuning rate
- ❖ Low AM/FM noise and harmonics
- ❖ High frequency stability
- ❖ Temperature range :0 to 50°C

APPLICATIONS:

- ❖ Test sources
- ❖ Signal generations
- ❖ Radar systems



CBG Series

Cernex CBG series bias tuned Gunn oscillators are offered to cover the frequency range of 10 to 140 GHz in ten waveguide bands. These oscillators utilize either GaAs or InP high performance Gunn diodes and combine various cavity configurations and rich design experience to deliver moderate output power at high microwave and millimeterwave frequency spectrum directly. The oscillators are especially designed for low AM/FM noise and low harmonic emission. Compared to its counterpart, Varactor tuned Gunn oscillator (SOV series), the advantages of the bias tuning Gunn oscillator are higher output power, better linearity and lower cost. The performance of the oscillator can be further enhanced by adding optional integrated isolator, Gunn oscillator modulator/regulator and temperature heater. While the standard interface of the oscillators is waveguide, coaxial interface is available as custom designed models.

SPECIFICATIONS:

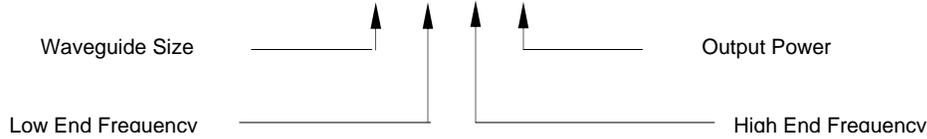
Waveguide Band	X	Ku	K	Ka	Q	U	V	E	W	F
Waveguide Size	WR-90	WR-62	WR-42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10	WR-08
Frequency Range (GHz)	8.2 to 12.4	12 to 18	18 to 26.5	26.5 to 40	33 to 50	40 to 60	50 to 75	60 to 90	75 to 110	90 to 140
Output Power Range (dBm)	10 to 27	10 to 27	10 to 27	10 to 23	10 to 23	10 to 20	10 to 20	10 to 19	10 to 19	10 to 17
Bias Tuning BW (MHz/V)	5 to 25	10 to 25	10 to 50	10 to 50	25 to 100	25 to 100	50 to 250	50 to 500	50 to 750	50 to 750
Tuning Voltage Range (Volts)	$V_0 \pm 0.5$									
Harmonics (dBc)	-20	-20	-20	-20	-20	-20	-20	-20	-20	-20
Phase Noise (dBc/Hz @100 KHz offset)	-90	-90	-90	-90	-85	-82	-80	-78	-75	-70
Frequency Stability (MHz/°C)	-0.5	-0.8	-1.0	-2.0	-3.0	-3.5	-4.0	-4.5	-5.0	-6.0
Power Stability (dB/°C)	-0.01	-0.01	-0.02	-0.02	-0.02	-0.02	-0.03	-0.03	-0.03	-0.03
Bias Voltage Range (Volts)	8 to 10	6 to 8	5 to 8	4 to 6	4 to 8	4 to 10				



Waveguide Band	X	Ku	K	Ka	Q	U	V	E	W	F
Bias Current Range (Amps)	0.3 to 2.0	0.3 to 2.0	0.3 to 2.0	0.3 to 2.0	0.3 to 1.5	0.3 to 1.5	0.3 to 1.0	0.3 to 1.0	0.3 to 1.0	0.3 to 1.0

HOW TO ORDER:

Specify Model Number **CBG-WG LF HF PP - XX** ← To be specified by the factory



Example: To order a 50-75 GHz mechanically tuned Gunn oscillator with WR-15 waveguide interface, and a 17 dBm output power, specify CBG-15507517-XX.

CERNEX RESERVE THE RIGHT TO CHANGE THE SPECIFICATIONS WITHOUT NOTICE