

Mechanically Tuned Gunn Diode Oscillators

FEATURES:

- ❖ High output power
- ❖ Wide mechanical tuning range
- ❖ Bias tuning ability
- ❖ Excellent frequency stability
- ❖ Low AM and FM noise

APPLICATIONS:

- ❖ Test benches
- ❖ Local oscillators
- ❖ Multiplier drivers
- ❖ Subsystems



DESCRIPTION:

CMG Series

Cernexwave CMG Series mechanically tuned Gunn oscillators combine proprietary circuit design capability and experience with either GaAs or InP Gunn diode to cover the frequency range of 18 to 110 GHz in seven waveguide bands. The oscillators are especially designed for high output power, wide mechanical tuning range, bias tuning ability and low AM/FM noise characteristics. The standard oscillators are equipped with a micrometer driver, which enables convenient frequency tuning and reliable frequency resetting. The oscillators are ideally suited for bench test sources, while a self-locking screw can be provided instead of the micrometer driver for system integration. The oscillators can be supplied with optional integrated isolator, voltage regulator and temperature heater. While waveguide is the standard interface, the oscillators are available with coaxial interface as an option.

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	5 to 20	3 to 19	3 to 19	0 to 17
Mechanical Tuning BW (GHz)	0.5 to 2.0	0.5 to 3.0	0.5 to 4.0	0.5 to 10	0.5 to 10	0.5 to 10	0.5 to 20	0.5 to 20	0.5 to 20	0.5 to 20
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	4 to 10	4 to 10	4 to 10	4 to 10
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

CERNEXWAVE

NOTE: ISOLATOR, HEATER, REGULATOR, K(F), 2.4mm(F) & MICROMETER ARE ALSO AVAILABLE AS OPTIONS.

HOW TO ORDER:

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

WG Size _____ ↑ ↑ ↑ ↑ _____ Output Power

Low End Frequency _____ ↑ ↑ _____ High End Frequency

Example: To order a 59-60 GHz mechanically tuned Gunn oscillator with WR-15 waveguide interface, and a 17 dBm output power, specify CGM-15596017-XX.

CERNEXWAVE RESERVE THE RIGHT TO CHANGE THE SPECIFICATIONS WITHOUT NOTICE