

## 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

**Cernex 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.

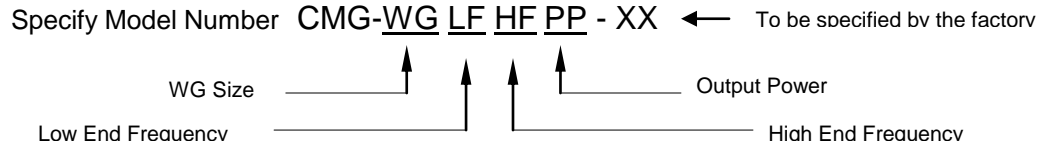
### SPECIFICATIONS:

| 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 |



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

**HOW TO ORDER:**



**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.

CERNEX RESERVE THE RIGHT TO CHANGE THE SPECIFICATIONS WITHOUT NOTICE