Injection Locked Gunn Diode Oscillators

Bulletin No. OGI

FEATURES

- High output power
- Moderate gain and bandwidth
- CW operation
- Frequency up to 110 GHz

APPLICATIONS

- Power amplification
- Local oscillators
- Multiplier drivers
- Subsystems

OGI Series

DESCRIPTION

OGI series CW injection-locked Gunn oscillators are alternatives to HEMT device and IMPATT diode based stable amplifiers, especially at high millimeterwave frequencies. The operating frequency and power output of these oscillators are up to 110 GHz and 24 dBm. The spectrum purity of the output signal is injected signal dependent. There is an output free running signal in the absence of an input injection signal. The oscillators are provided with integral circulators and optional DC voltage regulator. An optional heater is provided to achieve better temperature stability. For higher gain, broader locking bandwidth and higher output, multi-stage and multi-diodes configurations are used. The operating temperature range is 0 to +50°C.

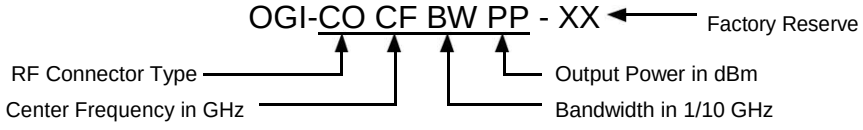
SPECIFICATIONS

Frequency Range (GHz)	Input Power (dBm)	Output Power (dBm, Min)	Locking Bandwidth (GHz, Max)	Bias Voltage Range (Volts)	Bias Current Range (A)	Waveguide Size	Outline Drawing
26.5-40	0 to 10	24	1.5	4-12	0.3-2.5	WR-28	*
33-50	0 to 10	23	2.0	4-11	0.3-2.0	WR-22	*
40-60	0 to 10	22	2.0	3-10	0.3-2.0	WR-19	*
50-75	0 to 10	20	2.0	3-10	0.3-1.5	WR-15	*
60-90	0 to 10	19	2.0	3-10	0.25-1.5	WR-12	*
75-110	0 to 10	19	2.0	4-10	0.25-1.5	WR-10	*
Temperature Range		0 to +50 °C					

* Consult factory for outlines.

HOW TO ORDER

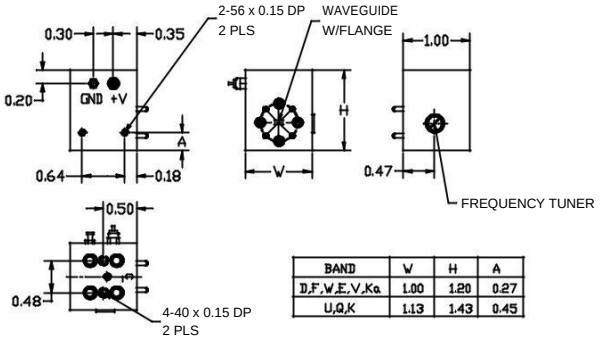
Specify Model Number



Example: To order a center frequency 60 GHz injection locked Gunn oscillator with WR-15 waveguide interface, 2 GHz locking bandwidth and 17 dBm output power, specify OGI-15602017-XX.

Oscillator Outline Drawings #1

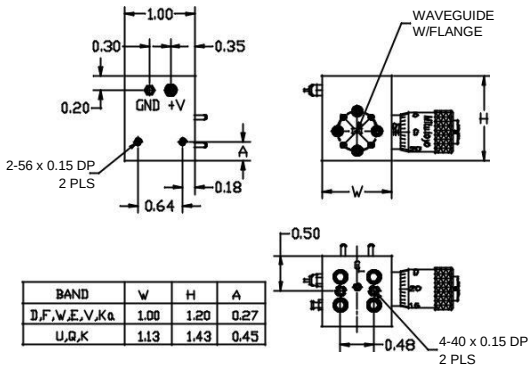
WT-G-1



BAND	W	H	A
D,F,W,E,V,Ka	1.00	1.20	0.27
U,Q,K	1.13	1.43	0.45

Dimensions are in inches

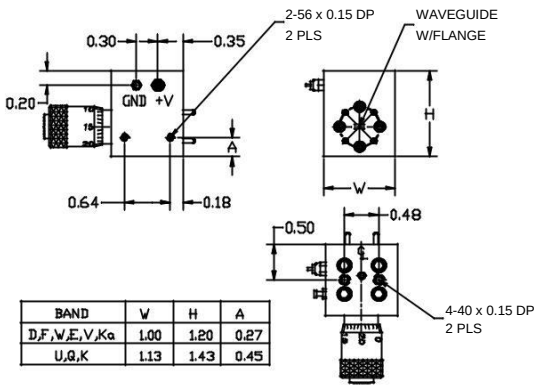
WT-G-2



BAND	W	H	A
D,F,W,E,V,Ka	1.00	1.20	0.27
U,Q,K	1.13	1.43	0.45

Dimensions are in inches

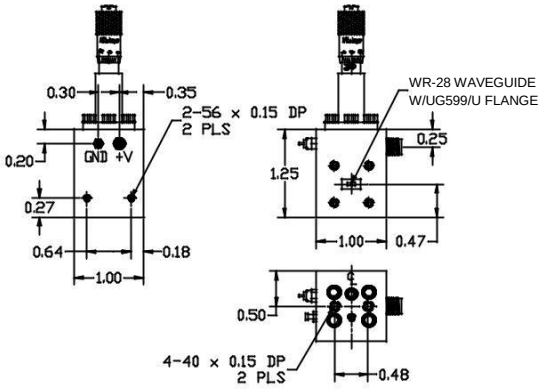
WT-G-3



BAND	W	H	A
D,F,W,E,V,Ka	1.00	1.20	0.27
U,Q,K	1.13	1.43	0.45

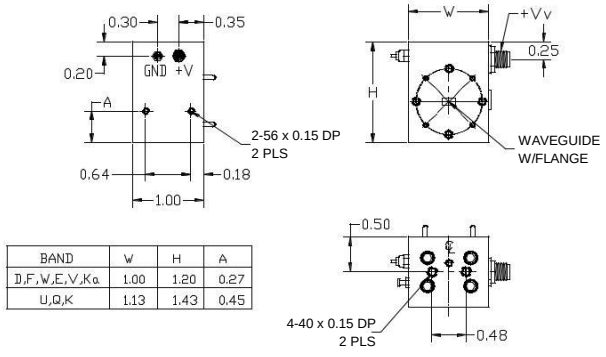
Dimensions are in inches

WT-G-4



Dimensions are in inches

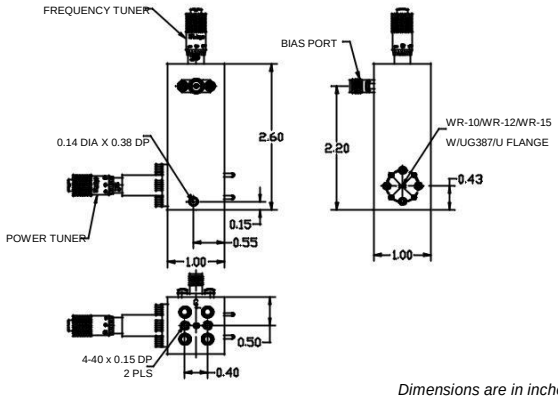
WT-G-5



BAND	W	H	A
D,F,W,E,V,Ka	1.00	1.20	0.27
U,Q,K	1.13	1.43	0.45

Dimensions are in inches

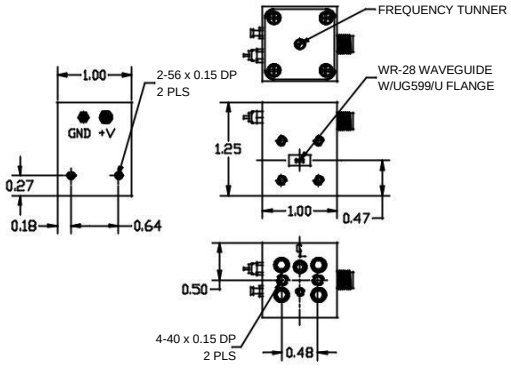
WT-G-6



Dimensions are in inches

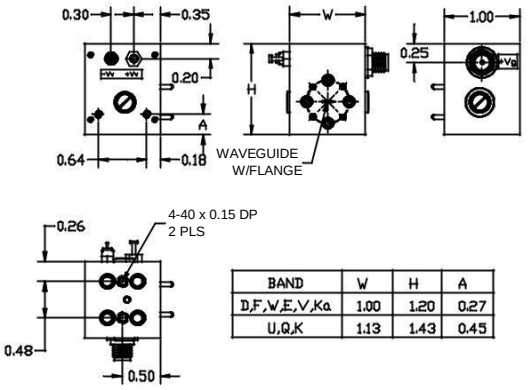
The flange pattern shown is for illustration purpose. Refer to Technical Reference Section for flange pattern details.
The outline drawings shown are standard versions. Contact factory for your specific package requirements.

WT-G-7



Dimensions are in inches

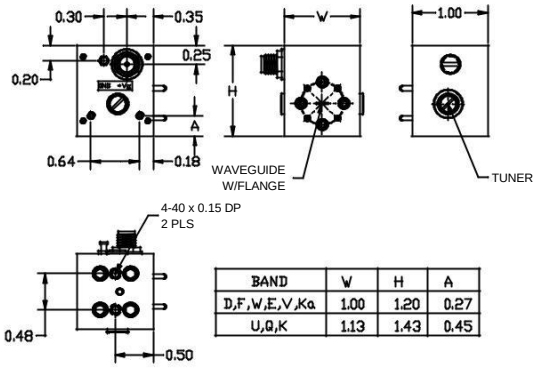
WT-G-8



BAND	W	H	A
D,F,W,E,V,Ka	1.00	1.20	0.27
U,Q,K	1.13	1.43	0.45

Dimensions are in inches

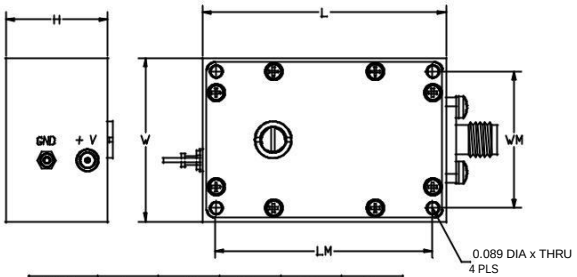
WT-G-9



BAND	W	H	A
D,F,W,E,V,Ka	1.00	1.20	0.27
U,Q,K	1.13	1.43	0.45

Dimensions are in inches

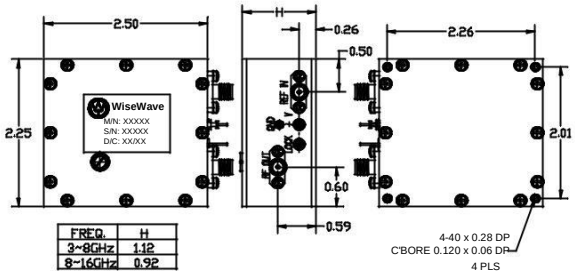
WT-G-10



FREQ.	L	W	LM	WM	H
8~13GHz	1.80	1.20	1.60	1.00	0.75
13~18GHz	1.50	1.00	1.30	0.80	0.60

Dimensions are in inches

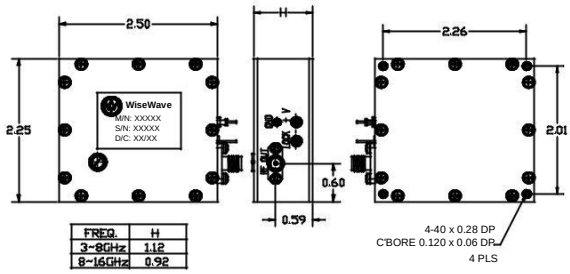
WT-G-11



FREQ.	H
3~8GHz	1.12
8~16GHz	0.92

Dimensions are in inches

WT-G-12



FREQ.	H
3~8GHz	1.12
8~16GHz	0.92

Dimensions are in inches

The flange pattern shown is for illustration purpose. Refer to Technical Reference Section for flange pattern details. The outline drawings shown are standard versions. Contact factory for your specific package requirements.