



Mechanically Tuned Gunn Diode Oscillator: WR-28, CF: 35GHz, Output Power: +15dBm, Tuning Range: +/- 3GHz, UG-599/U with heatsink

## Waveguide Gunn Oscillators Technical Data Sheet

PEWGN1010

### Features

- WR-28 Waveguide Gunn Diode Oscillator
- 35 GHz with a Tuning Range of +/- 3 GHz
- Pout: +15 dBm typ
- Harmonics: +20 dBc typ
- Phase Noise: -95 dBc/Hz typ at 100 KHz offset
- Frequency Stability: -0.4 MHz/°C typ
- Power Stability: -0.03 dB/°C typ
- Bias Voltage: +4.5 Vdc
- DC Current: 250 mA
- Waveguide Flange UG-599/U
- 0°C to +50°C Operating Temperature
- 50 Ohm Design
- Mechanical Tuning Screw
- Integrated Heatsink
- Rugged Design meets MIL-STD-202 Test Conditions

### Applications

- Aerospace & Defense
- Test & Measurement
- Microwave Radio Systems
- Doppler Sensors
- Tranceivers
- Military & Commercial Communication Systems
- Research & Development

### Description

The PEWGN1010 is a Waveguide Gunn Diode Oscillator that operates in Ka band with a center frequency of 35 GHz and wide tuning range of +/- 3 GHz by use of a mechanical tuning screw. This Indium Phosphate (InP) Gunn Diode design yields higher output power, higher efficiency, and lower AM noise than GaAs counterparts. Impressive performance at 50 ohms includes a high output power level of +15 dBm min with a harmonic response of -20 dBc typ. Additional typical performance includes Phase Noise of -95 dBc/Hz at 100 kHz offset, Frequency Stability of -0.4 MHz/°C, and Power Stability of -0.03 dB/°C. Nominal bias voltage is +4.5 Vdc with 250 mA current, and the operational temperature range is 0°C to +50°C. The compact package supports a WR-28 waveguide size with a UG-599/U flange, and incorporates an integrated heatsink for optimum thermal dissipation. Also, this highly reliable oscillator module is designed to meet a variety of MIL-STD-202 test conditions including shock, vibration, altitude, and humidity.

### Electrical Specifications (TA = +25°C, Bias Voltage= 4.5V, Bias Current= 250mA)

Description	Minimum	Typical	Maximum	Units
Center Frequency		35		GHz
Tuning Range		±3		GHz
Output Power	13	15		dBm
Frequency Stability		-0.4		MHz/deg C
Power Stability		-0.03		dB/deg C
Phase Noise @ 100kHz Offset		-95		dBc/Hz
Harmonics		-20		dBc
Bias Voltage		4.5	5	V
Bias Current		250		mA

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Mechanically Tuned Gunn Diode Oscillator: WR-28, CF: 35GHz, Output Power: +15dBm, Tuning Range: +/- 3GHz, UG-599/U with heatsink PEWGN1010](#)



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### Mechanical Specifications

#### Size

Length	2.75 in [69.85 mm]
Width	1 in [25.4 mm]
Height	2 in [50.8 mm]
Weight	0.18 lbs [81.65 g]

#### Configuration

Waveguide Size	WR-28
Flange	UG-599/U
Bias Connector	Pin

### Environmental Specifications

#### Temperature

Operating Range	0 to 50 deg C
Storage Range	-40 to 100 deg C

#### Environment

Humidity	MIL-STD-202, Method 103B, Condition B
Shock	MIL-STD-202F, Method 213B, Condition B
Vibration	MIL-STD-202F, Method 204D, Condition B
Altitude	MIL-STD-202F, Method 105C, Condition B

**Compliance Certifications** (see [product page](#) for current document)

### Plotted and Other Data

Notes:

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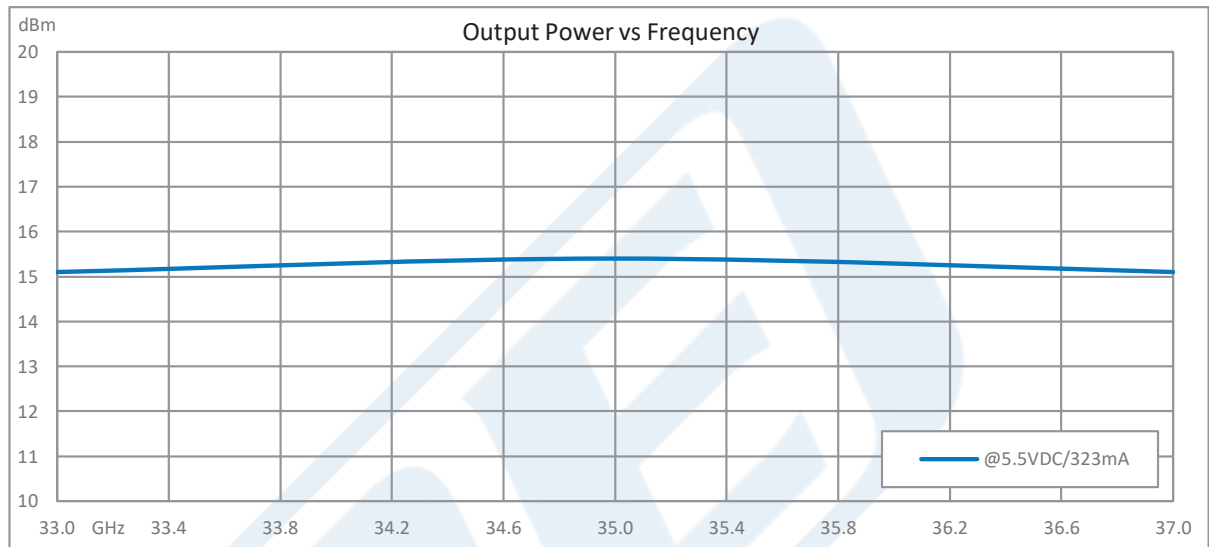


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### Typical Performance Data



Mechanically Tuned Gunn Diode Oscillator: WR-28, CF: 35GHz, Output Power: +15dBm, Tuning Range: +/- 3GHz, UG-599/U with heatsink from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Mechanically Tuned Gunn Diode Oscillator: WR-28, CF: 35GHz, Output Power: +15dBm, Tuning Range: +/- 3GHz, UG-599/U with heatsink PEWGN1010](#)

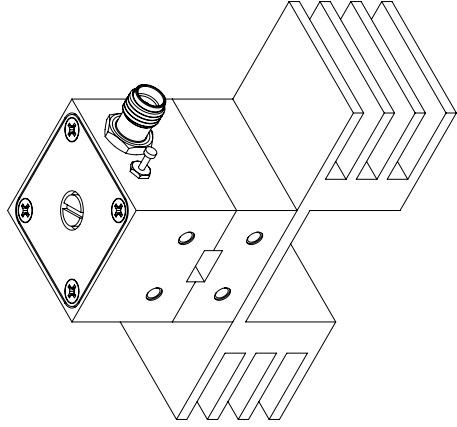
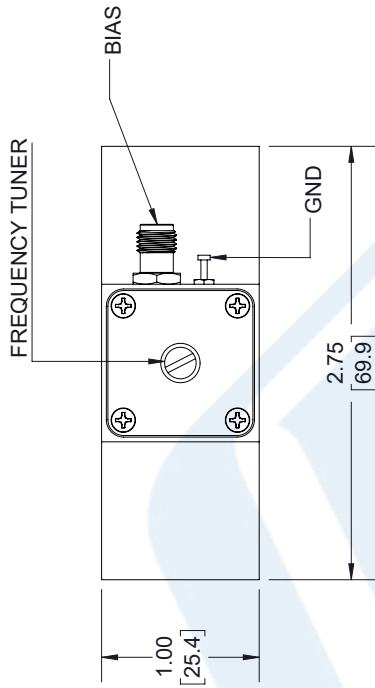
URL: <https://www.pasternack.com/waveguide-gunn-oscillator-35-ghz-tuning-range-3-ghz-pewgn1000-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

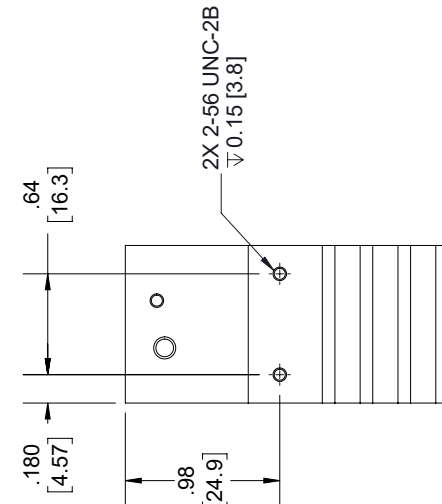
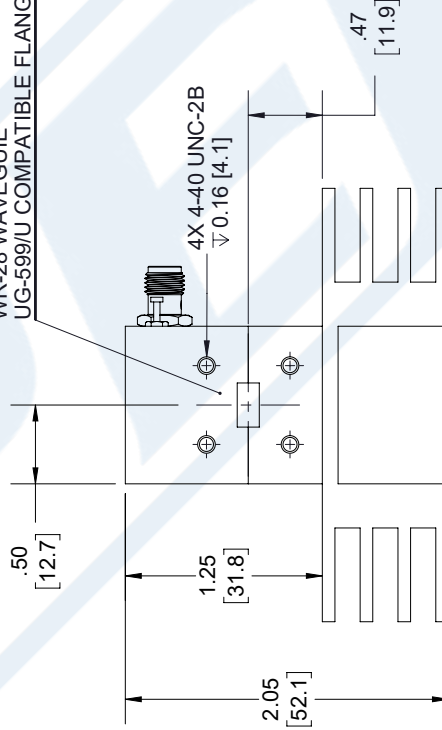
# PEWGN1010 CAD Drawing

Mechanically Tuned Gunn Diode Oscillator: WR-28, CF: 35GHz, Output Power: +15dBm, Tuning Range: +/- 3GHz, UG-599/U with heatsink

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	5/18/2021	T. GALLA



## WR-28 WAVEGUIDE UG-599/U COMPATIBLE FLANGE



UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [ ] ARE MILLIMETERS

**TOLERANCES:**

.X = ±.2 [5.08]	FRACTIONS ± 1/32
.XX = ±.02 [.51]	ANGLES ± 1°
.XXX = ±.005 [.13]	

**CABLE LENGTH (L) TOLERANCES:**

L ≤ 12 [305]	±.1 [25] / -0
12 [305] < L ≤ 60 [1524]	±.2 [51] / -0
60 [1524] < L ≤ 120 [3048]	±.4 [102] / -0
120 [3048] < L ≤ 300 [7620]	±.6 [152] / -0
300 [7620] < L ≤ ∞	±.9% L / -0

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

**THIRD-ANGLE PROJECTION**

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SCALE N/A

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SIZE	CAGE CODE	DRAWN BY	ITEM NO
A	53919	K.DANG	PEWGN1010
REV			A

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