



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

## Waveguide Gunn Oscillators Technical Data Sheet

PEWGN1011

### 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
- 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 PEWGN1011 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 at 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. Also, this highly reliable oscillator module is designed to meet MIL-STD-202 test conditions including shock, vibration, altitude, and humidity, for highly reliable operation.

### 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 PEWGN1011](#)



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### Mechanical Specifications

#### Size

Length	1 in [25.4 mm]
Width	1 in [25.4 mm]
Height	1.25 in [31.75 mm]
Weight	0.062 lbs [28.12 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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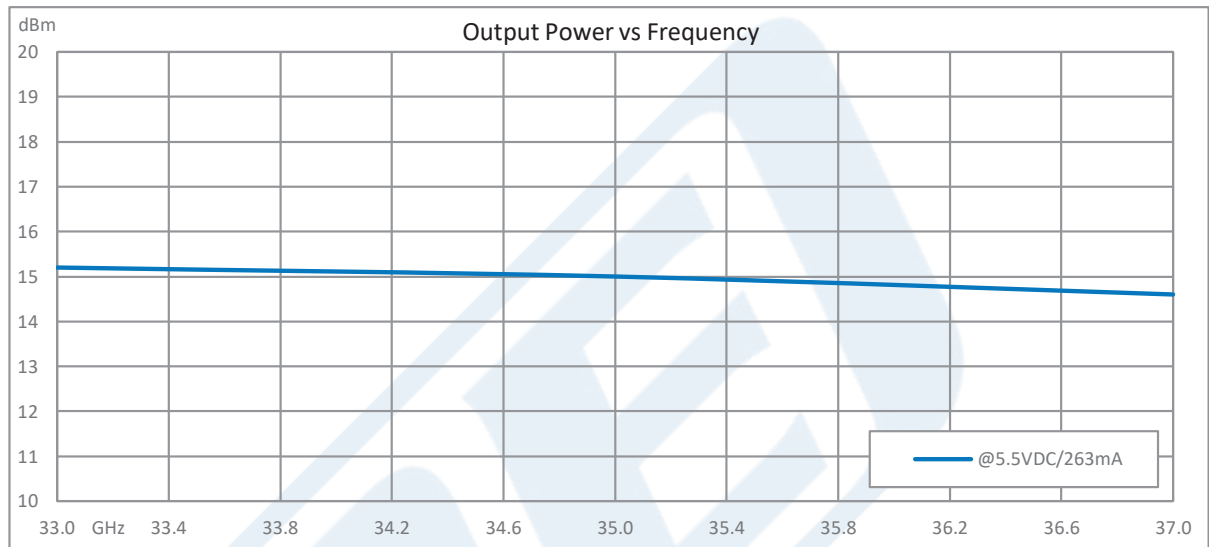


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### Typical Performance Data



Mechanically Tuned Gunn Diode Oscillator: WR-28, CF: 35GHz, Output Power: +15dBm, Tuning Range: +/- 3GHz, UG-599/U 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 PEWGN1011](https://www.pasternack.com/waveguide-gunn-oscillator-35-ghz-tuning-range-3-ghz-pewgn1000-p.aspx)

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

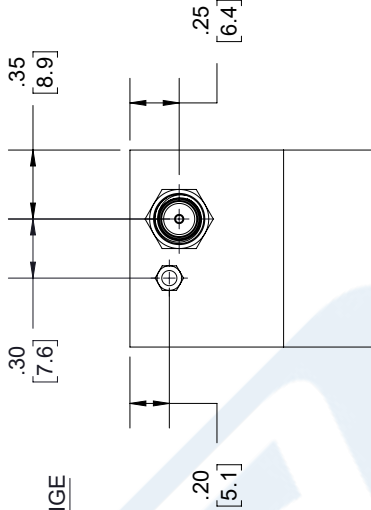
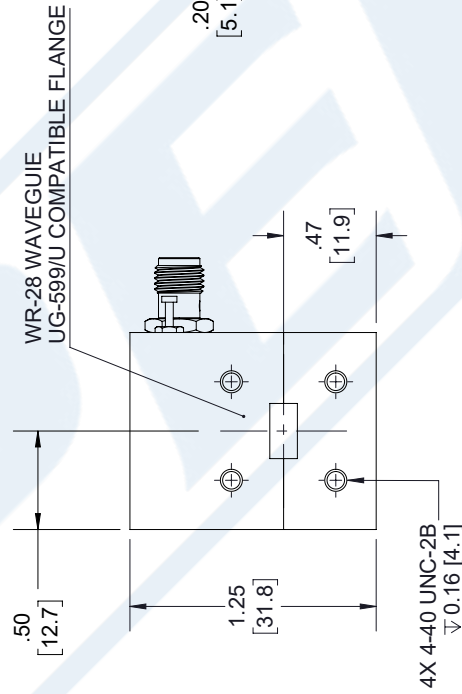
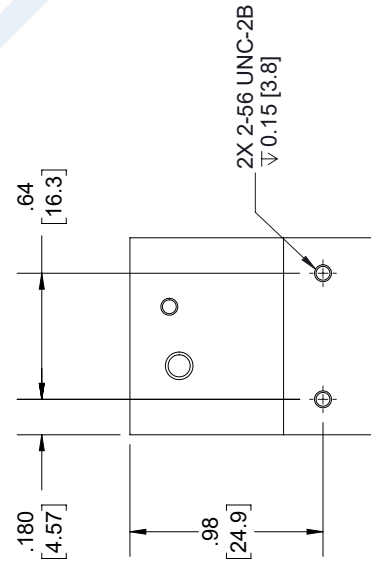
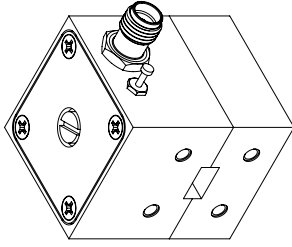
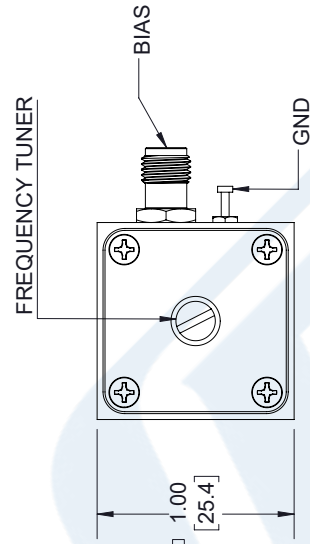
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# PEWGN1011 CAD Drawing

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### REVISIONS

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



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 = +5% / L / -0

ALL DIMENSIONS SHOWN  
ARE FOR REFERENCE ONLY.

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ITEM NO. PEWGN1011  
DRAWN BY K.DANG  
CAGE CODE A 53919  
SCALE N/A  
SHEET 1 OF 1

THIRD-ANGLE PROJECTION

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