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FMWGN1011
DATA SHEET

WR-28 Waveguide Gunn Oscillator at a 35 GHz Center Frequency with 3 GHz Tuning Range and -95 dBc/Hz Phase Noise, Ku Band, UG-599/U

The FMWGN1011 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 mechancial 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	Min	Typ	Max	Units
Center Frequency		35		GHz
Tuning Range	±0	±3		kHz
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

Mechanical Specifications

Size

Length	1 in [25.4 mm]
Width	1 in [25.4 mm]
Height	1.25 in [31.75 mm]
Weight	0.0625 lbs [28.35 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

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

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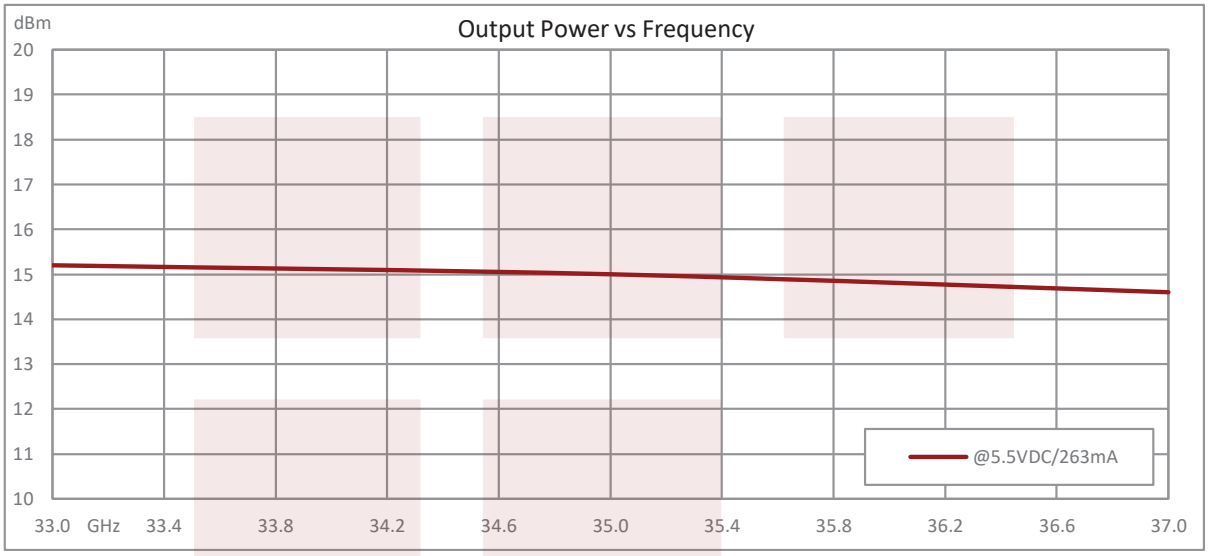
Altitude	MIL-STD-202F, Method 105C, Condition B

Compliance Certifications (see product page for current document)

Plotted and Other Data

Notes:

Typical Performance Data

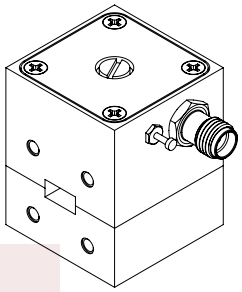


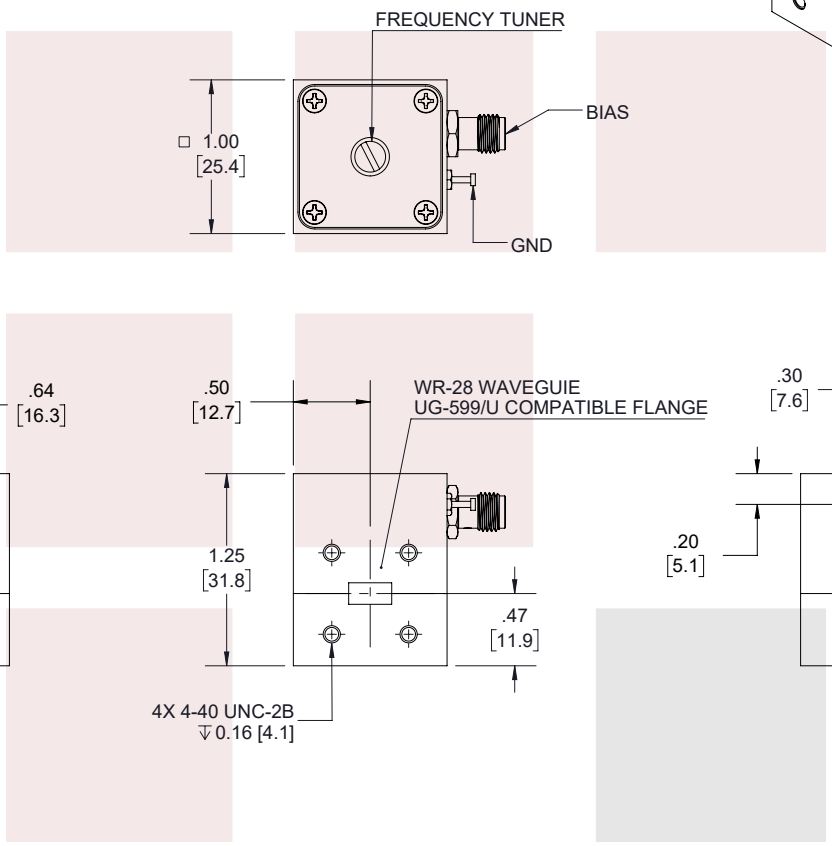
WR-28 Waveguide Gunn Oscillator at a 35 GHz Center Frequency with 3 GHz Tuning Range and -95 dBc/Hz Phase Noise, Ku Band, UG-599/U from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: WR-28 Waveguide Gunn Oscillator at a 35 GHz Center Frequency with 3 GHz Tuning Range and -95 dBc/Hz Phase Noise, Ku Band, UG-599/U FMWGN1011

URL: https://www.fairviewmicrowave.com/wr28-waveguide-gunn-oscillator-35-ghz-center-frequency-band-ug599-fmw-gn1011-p.aspx

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





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TITLE

WR-28 Waveguide Gunn Oscillator at a 35 GHz Center Frequency with 3 GHz Tuning Range and -95 dBc/Hz Phase Noise, Ku Band, UG-599/U

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

TOLERANCES:

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

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.

THIRD-ANGLE PROJECTION

SHEET 1 OF 1

SCALE N/A

SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV
A	3FKR5	K.DANG	FMWGN1011	A

T-Rev.D