



WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange

Waveguide Low Noise Amplifiers - PEWGA3203

Features

- WR-19 Waveguide Low Noise Amplifier
- UG-383/U-M Flange
- 40 GHz to 60 GHz
- U Band
- Small Signal Gain 38 dB typ
- Noise Figure 4.6 dB typ
- VSWR 2.2:1 typ
- Output P1dB 9.5 dBm typ
- Output Psat +14.5 dBm typ
- DC Bias +6V @ 90 mA typ
- Max RF Input Power (CW) -5 dBm
- 50 Ohm Design
- RF Input and Output Waveguide Flange UG-383/U-M
- Solder Pins for DC Bias Voltage and Ground
- Operational Temperature Range -40°C to +80°C
- Rugged and Compact Aluminum Gold Plated Package Design

Applications

- Military & Space
- R&D Labs
- Communicatoin Systems
- Radar Systems
- Microwave Radio Systems
- RF Wideband Front Ends
- Test Instrumentation

Description

The PEWGA3203 is a WR-19 Waveguide Low Noise Amplifier, operating across the U Band from 40 GHz to 60 GHz. This 50 Ohm design exhibits impressive typical performance which includes 38 dB gain, 4.6 dB noise figure, and +9.5 dBm P1dB. Maximum RF input power (CW) is -5 dBm, and DC bias is +6 Vdc at 90 mA typ. The rugged and small size aluminum package design is gold plated and supports a UG-383/U-M waveguide flange pattern at RF input and output ports. Solder pins are used for DC bias voltage and ground. The module operates across a wide temperature range from -40°C to +80°C.

Electrical Specifications (TA = +25°C, DC Voltage = 6Vdc, DC Current = 90mA)

Description	Minimum	Typical	Maximum	Units
Frequency	40		60	GHz
Small Signal Gain		36		dB
P1 dB		9.5		dBm
Psat		+14.5		dBm
Noise Figure		4.6		dB
VSWR		2.2:1		
RF Input Power			-5	dBm
Operating DC Voltage ^{1,4}	6	6	12	Volts
Operating DC Current		90		mA
Input Power (CW)			-5	dBm
Operating Temperature Range	-40		80	°C

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange PEWGA3203](#)



WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange

Waveguide Low Noise Amplifiers - PEWGA3203

Electrical Specification Notes:

- 1.) DC Supply must be able to source at least 0.5A DC at startup
- 2.) Open and short-circuit loads are not recommended at the amplifier output.
- 3.) Ensure proper 50 Ohm load before turning the amplifier "ON".
- 4.) Reverse biasing will destroy the amplifier
- 5.) Do not put any foreign objects inside the waveguide. Warranty Void.

Mechanical Specifications

Size

Length	1.5 in [38.1 mm]
Width	1.5 in [38.1 mm]
Height	1.2 in [30.48 mm]
Weight	0.25 lbs [113.4 g]
Body Material and Plating	Aluminum, Gold
Design	
DC Bias Connector	
Flange	UG-383/U-Mod

Biasing Up and Power Down Procedure

Biasing Up Procedure		Power Down Procedure	
Step 1	Connect Ground Pin	Step 1	Turn OFF RF input
Step 2	Apply DC Supply Voltage	Step 2	Turn OFF DC Supply Voltage
Step 3	Turn ON RF input	Step 3	Remove Ground

Environmental Specifications

Temperature

Operating Range	-40 to 80 deg C
Storage Temperature	-40 to 100 deg C

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

Plotted and Other Data

Notes:

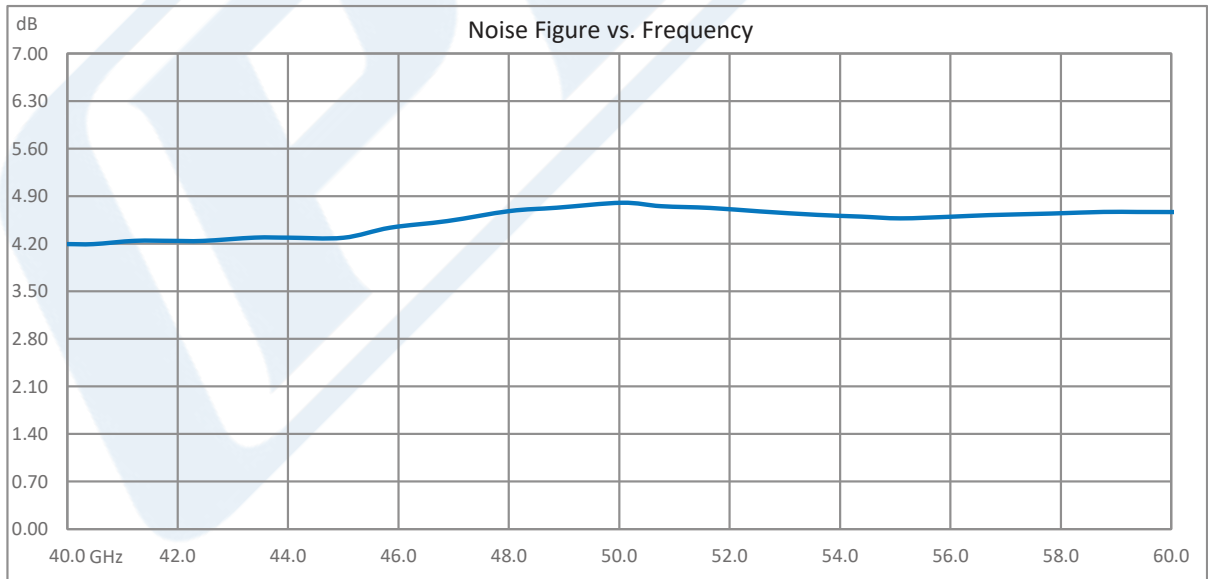
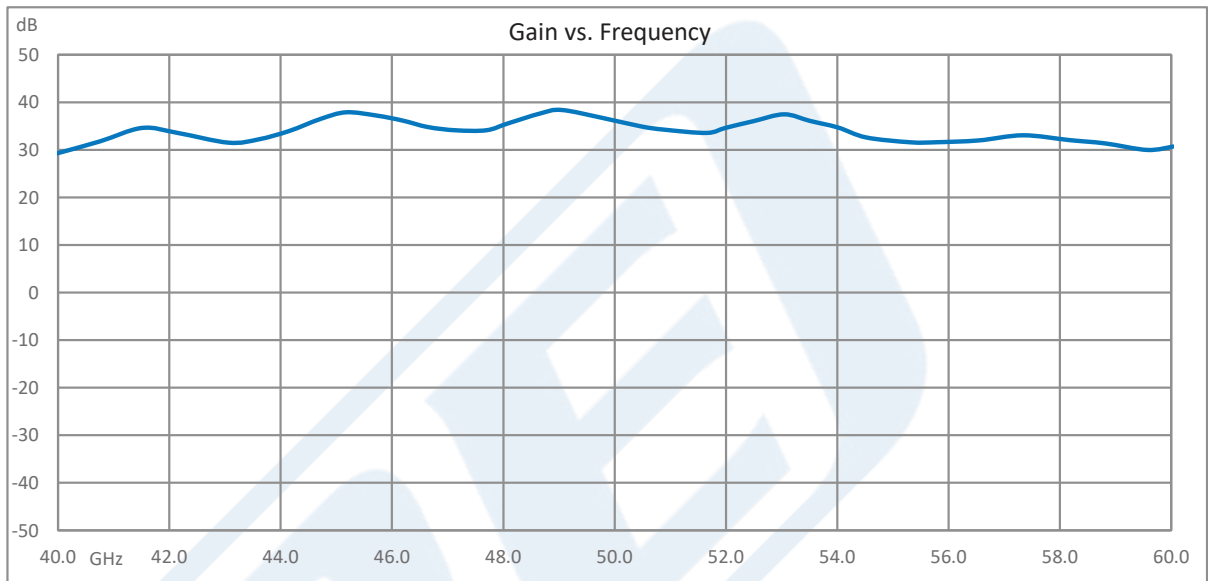
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange PEWGA3203](#)



WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange

Waveguide Low Noise Amplifiers - PEWGA3203

Typical Performance Data



Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange PEWGA3203](#)



WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange

Waveguide Low Noise Amplifiers - PEWGA3203

Absolute Maximum Rating

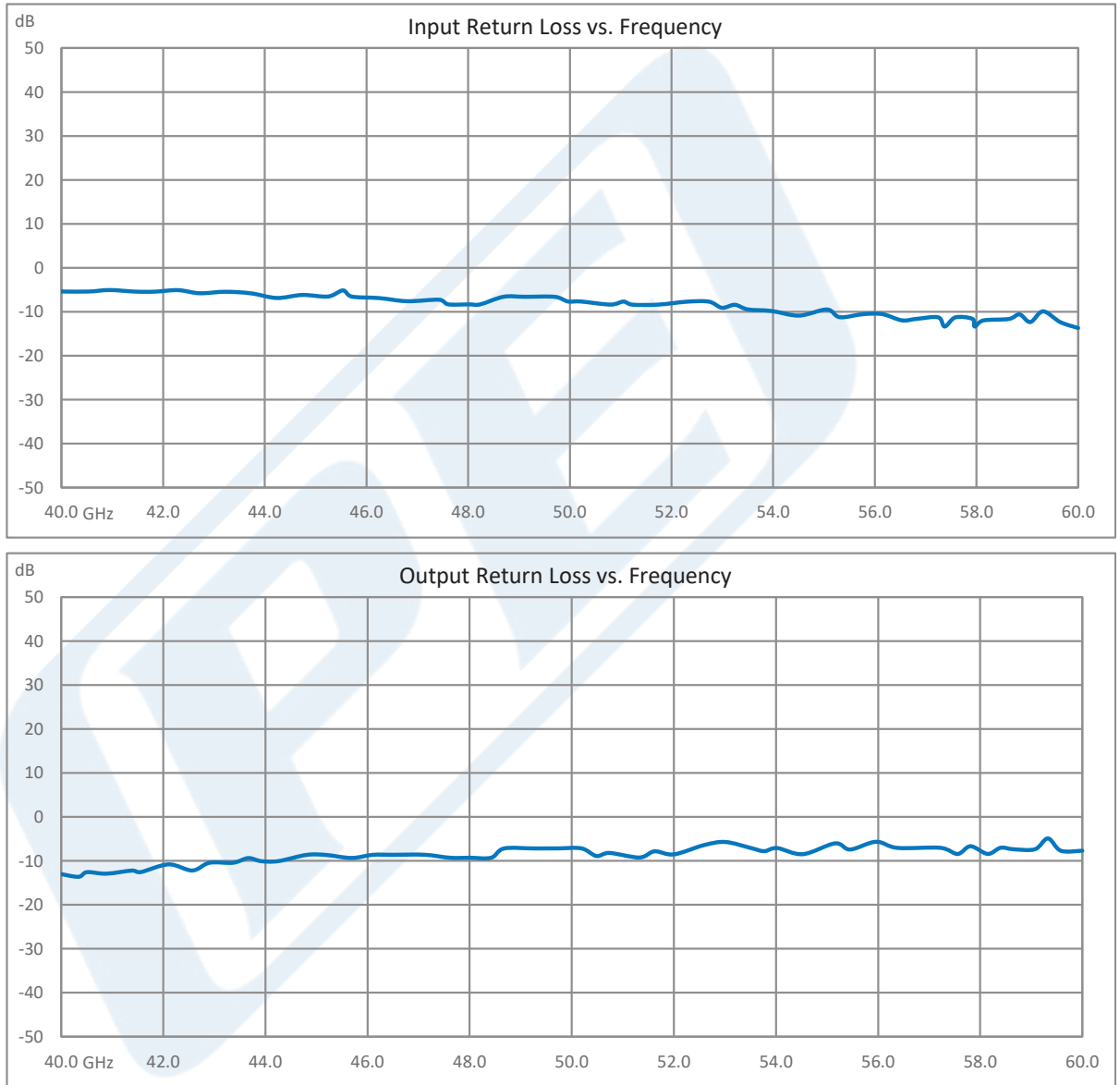
Parameter	Rating
Operating Temperature	-40°C to +80°C
Storage Temperature	-40°C to +100°C
Total Power Dissipation	1.5W
Input Power (CW)	-5dBm
DC Operating Voltage	+12Vdc

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange PEWGA3203](#)



WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange

Waveguide Low Noise Amplifiers - PEWGA3203

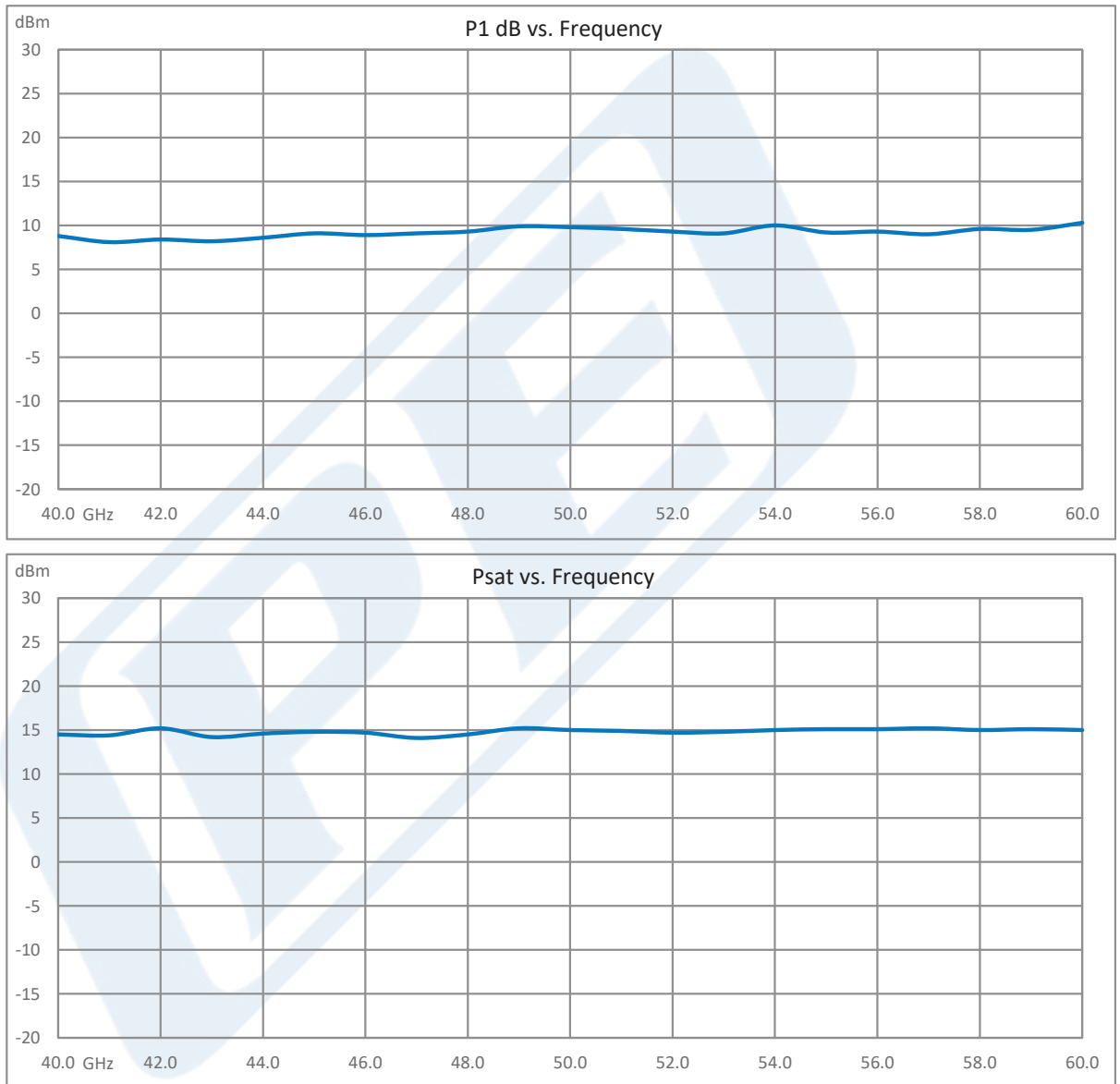


Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange PEWGA3203](#)



WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange

Waveguide Low Noise Amplifiers - PEWGA3203



Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange PEWGA3203](#)



WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange

Waveguide Low Noise Amplifiers - PEWGA3203

WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange 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: [WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange PEWGA3203](#)

URL: <https://www.pasternack.com/wr-19-waveguide-low-noise-amplifier-u-band-60-ghz-pewga3203-p.aspx>

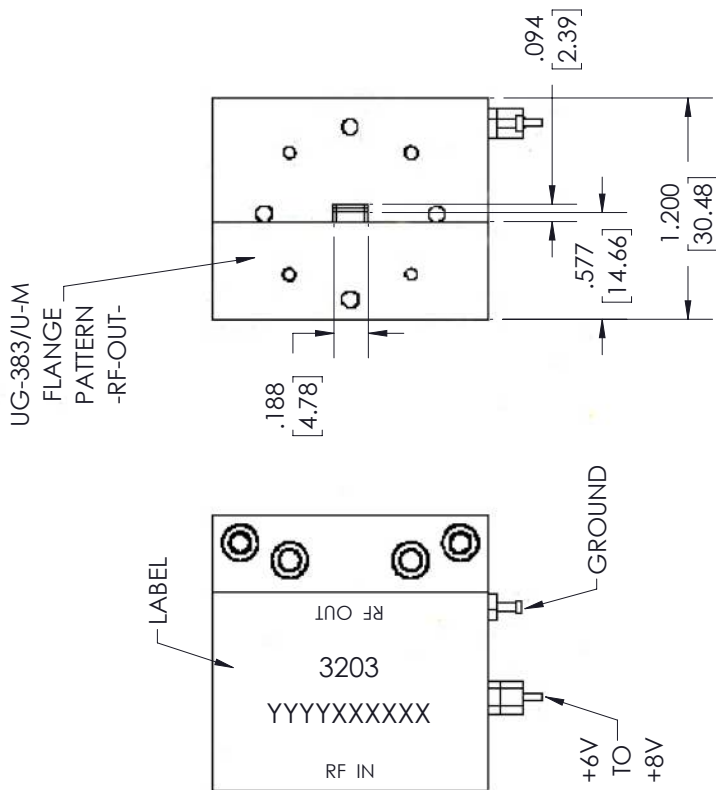
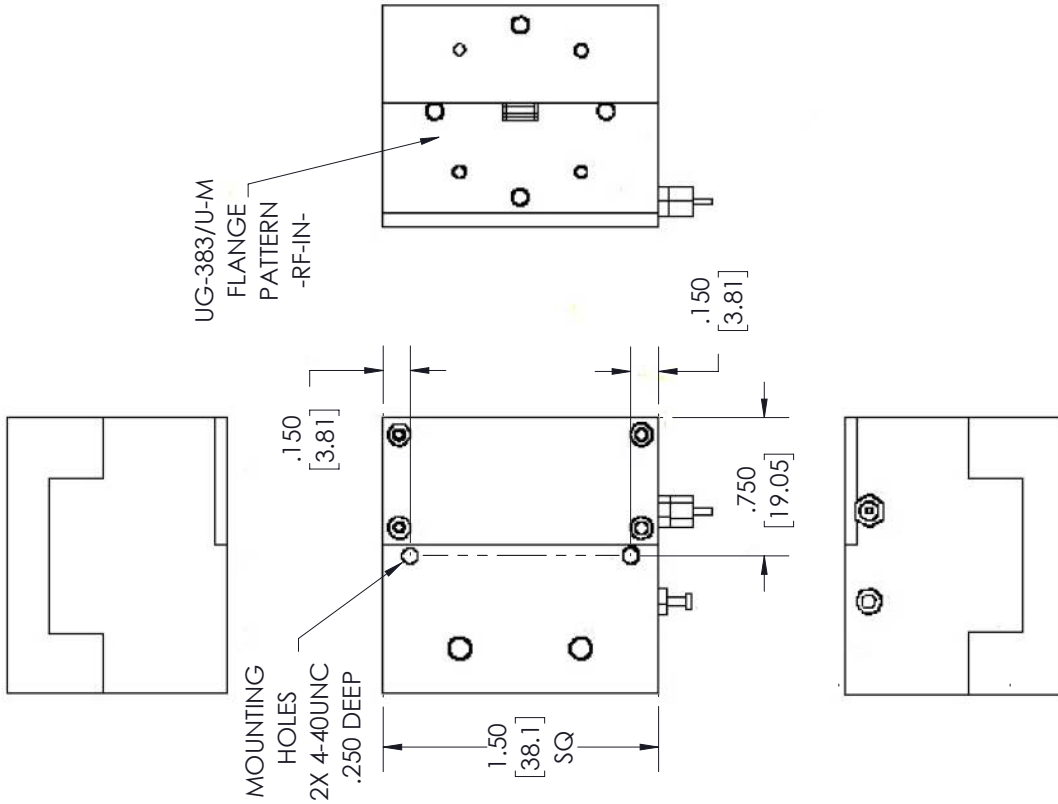
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange PEWGA3203](#)

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.

PEWGA3203 CAD Drawing

WR-19 Waveguide Low Noise Amplifier, U Band, 40 GHz to 60 GHz, 38 dB Gain, 9.5 dBm P1dB, UG-383/U-M Flange

REVISIONS		
REV.	DESCRIPTION	DATE
A	INITIAL RELEASE	03/11/2022
		APPROVED
		TGALLA



THIRD-ANGLE PROJECTION

THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF PASTERNAK CORPORATION ALL RIGHTS RESERVED.

SHEET 1 OF 1

SCALE N/A

REV A

PE PASTERNAK
an INFINITE brand

Pasternack Enterprises, Inc.
P. O. Box 16759, Irvine, CA 92623.
Phone: 1.949.261.1920 | 1.866.727.8376
Fax: 1.949.261.7451
Website: www.pasternack.com
E-mail: sales@pasternack.com

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

TOLERANCES:

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

SIZE A

CAGE CODE 53919

DRAWN BY BPUCHASKI

ITEM NO. PEWGA3203

THESE COMMODITIES, TECHNOLOGY OR SOFTWARE WERE EXPORTED FROM THE UNITED STATES IN ACCORDANCE WITH THE EXPORT ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.