



WR-22 Waveguide Power Amplifier, Q Band, 33 GHz to 50 GHz, 45 dB Gain, 20 dBm Psat, UG-383/U Flange

Waveguide Power Amplifiers - PEWGA3217

Features

- WR-22 Waveguide Power Amplifier
- 33 GHz to 50 GHz
- Q Band
- Small Signal Gain 45 dB typ
- Output P1dB: +18 dBm typ
- Output Psat: +20 dBm typ
- VSWR 1.75:1 typ
- DC Bias +8V @ 220 mA typ
- Max RF Input Power (CW) +5 dBm
- 50 Ohm Design
- RF Input and Output Waveguide Flange UG-383/U
- Solder Pins for DC Bias Voltage and Ground
- Operational Temperature Range -10°C to +45°C
- Rugged and Compact Gold Plated Aluminum Package Design with an Integrated Heatsink
- RoHS Compliant

Applications

- Test & Measurement
- Military and Commercial Communications
- Military Electronic Systems
- Research & Development

Description

The PEWGA3217 is a WR-22 Waveguide Power Amplifier, operating across the Q Band from 33 GHz to 50 GHz. This 50 Ohm design exhibits impressive typical performance which includes 45 dB gain, +18 dBm P1dB and +20 dBm Psat. Maximum RF input power (CW) is +5 dBm, and DC bias is +8 Vdc at 220 mA typ. The rugged and small size aluminum package design is gold plated with an integrated heatsink to ensure highly reliable operation. The RF input and output ports support a UG-383/U waveguide flange pattern. Solder pins are used for DC bias voltage and ground. The Power amplifier design is RoHS compliant and operates across a wide temperature range from -10°C to +45°C.

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency	33		50	GHz
Small Signal Gain		45		dB
Saturated Output Power		20		dBm
Output at 1dB Compression Point		18		dBm
Input VSWR		1.9:1		
Output VSWR		1.6:1		
Operating DC Voltage	5	8	10	Volts
Operating DC Current		220		mA
Input Power (CW)			5	dBm
Operating Temperature Range	-10		45	°C

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-22 Waveguide Power Amplifier, Q Band, 33 GHz to 50 GHz, 45 dB Gain, 20 dBm Psat, UG-383/U Flange PEWGA3217](#)



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Electrical Specification Notes:

- 1.) DC Supply must be able to source at least 9A 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 will be voided.

Absolute Maximum Rating

Parameter	Rating
Operating Temperature	-10°C to +45°C
Storage Temperature	-40°C to +100°C
Total Power Dissipation	2W
Input Power (CW)	+5dBm
DC Operating Voltage	+12V

Mechanical Specifications

Length	1.5 in [38.1 mm]
Width	1.5 in [38.1 mm]
Height	1.9 in [48.26 mm]
Weight	0.05 lbs [22.68 g]
Body Material and Plating	Aluminum, Gold
Design	
DC Bias Connector	Solder Pin

Description	Input Port	Output Port
Type	WR-22	WR-22
Flange	UG-383/U	UG-383/U

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Environmental Specifications

Biassing Up Procedure

Biassing Up Procedure	
Step 1	Connect Ground Pin
Step 2	Apply DC Supply Voltage
Step 3	Turn ON RF input

Power Down Procedure	
Step 1	Turn OFF RF input
Step 2	Turn OFF DC Supply Voltage
Step 3	Remove Ground

Temperature

Operating Range
Storage Range

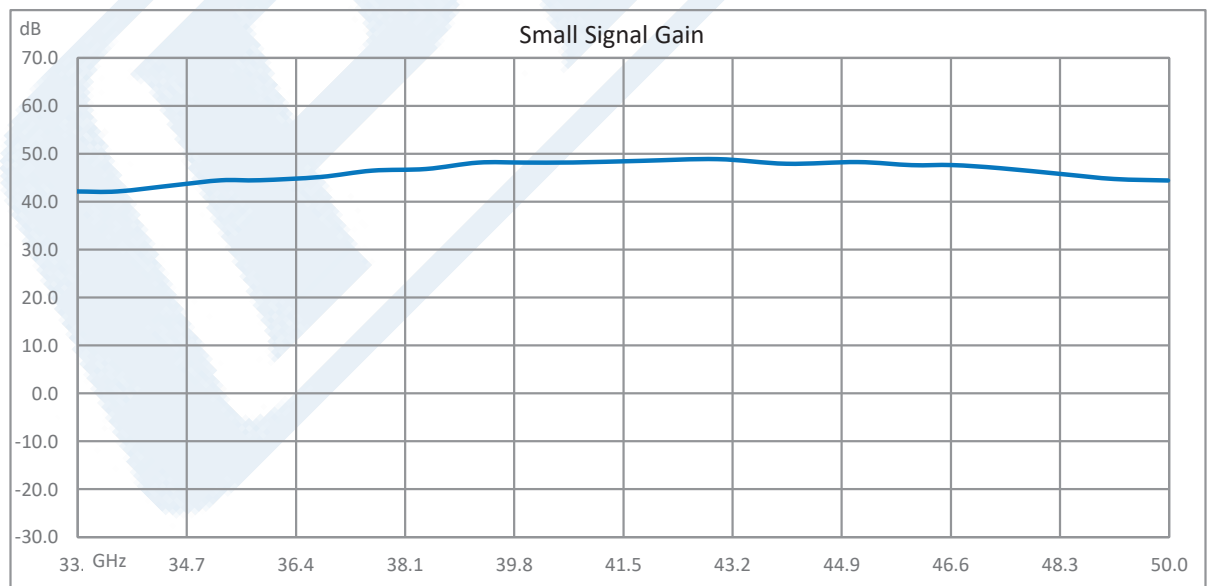
-10 to 45 deg C
-40 to 100 deg C

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

Plotted and Other Data

Notes:

Typical Performance Data

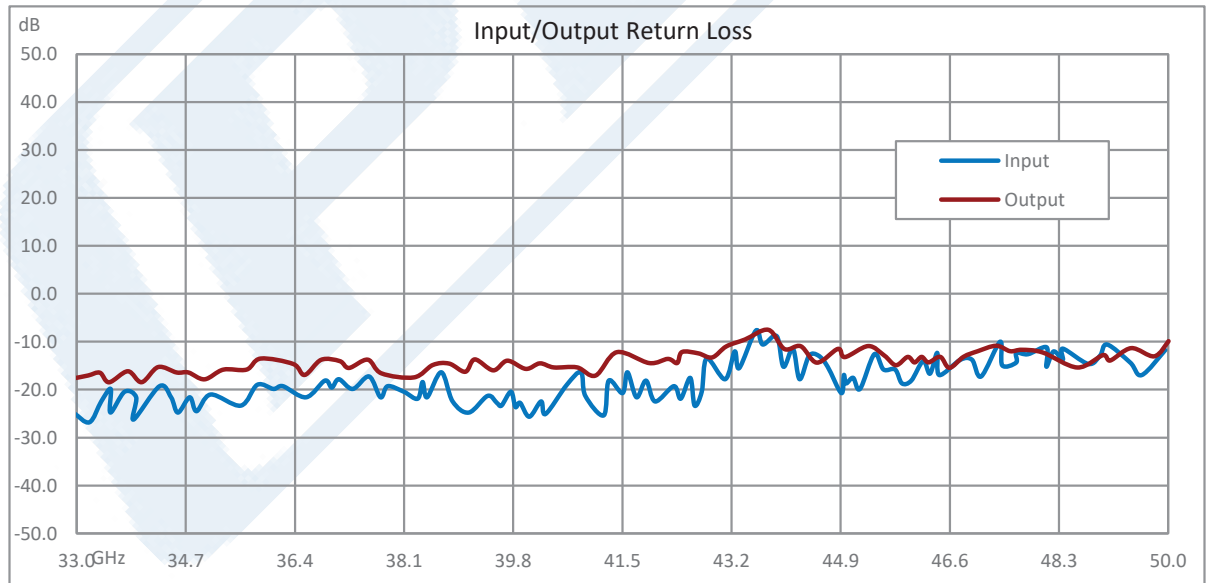
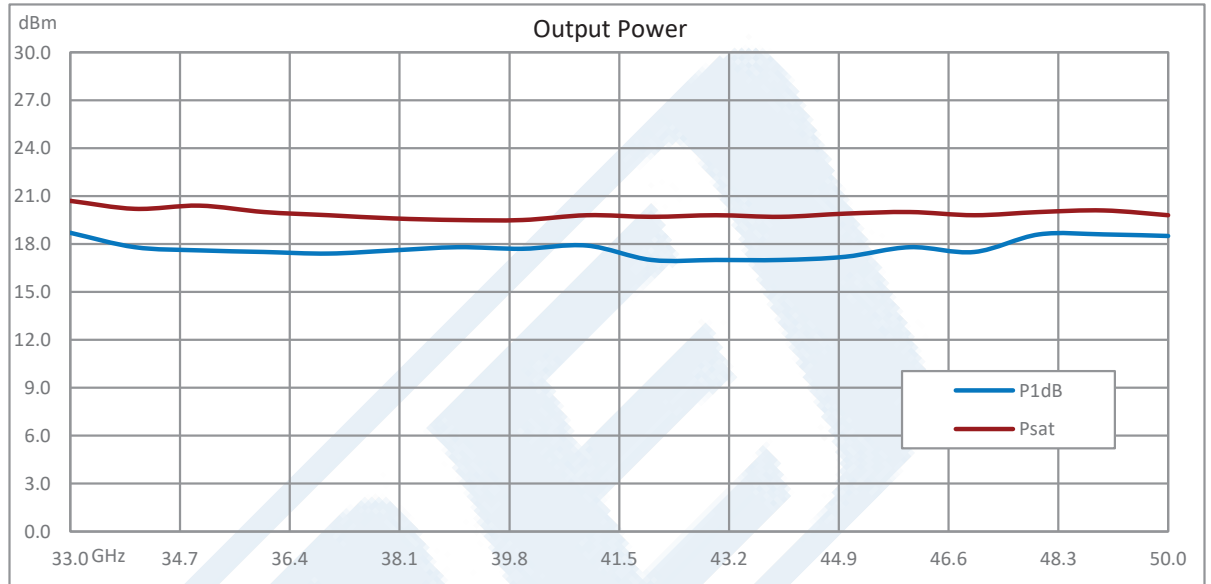


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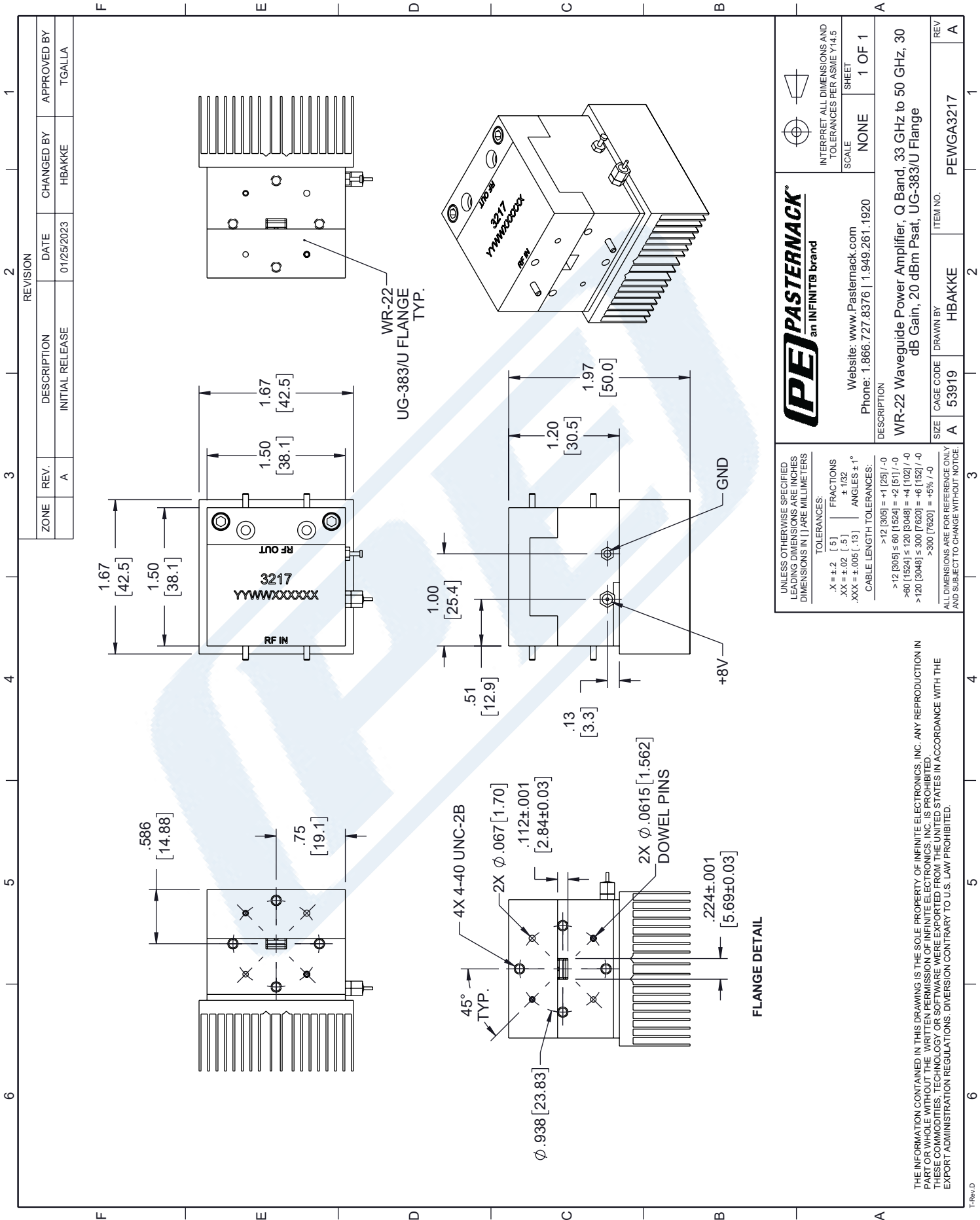
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PEWGA3217 CAD Drawing

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TOLERANCES:		SCALE	SHEET
X = +.2 [5]	FRACTIONS	NONE	1 OF 1
XX = +.02 [.5]	+ 1/2		
XXX = ±.005 [.13]	ANGLES ± 1°		
CABLE LENGTH TOLERANCES:		DESCRIPTION	
>12 [305] = +1 [25] / -0		WR-22 Waveguide Power Amplifier, Q Band, 33 GHz to 50 GHz, 30 dB Gain, 20 dBm Psat, UG-383/U Flange	
>12 [305] ≤ 60 [1524] = +2 [51] / -0		Website: www.Pasternack.com	
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>300 [7620] = +8% / -0			
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SIZE	A	53919	PEWGA3217
REV	A		

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