

WR-22 Waveguide Low Noise Amplifier, Q Band, 33 GHz to 50 GHz, 32 dB Gain, 20.5 dBm P1dB, UG-383/U Flange

## Waveguide Low Noise Amplifiers - PEWGA3202

### Features

- WR-22 Waveguide Low Noise Amplifier
- UG-383/U Flange
- 33 GHz to 50 GHz
- Q Band
- Small Signal Gain 32 dB typ
- Noise Figure 2.8 dB typ
- VSWR 1.9:1 typ
- Output P1dB +18 dBm typ
- Output Psat +22 dBm typ
- DC Bias +6V @ 675 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 -40°C to +80°C
- Rugged and Compact Aluminum Gold Plated Package Design

### Applications

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

### Description

The PEWGA3202 is a WR-22 Waveguide Low Noise Amplifier, operating across the Q Band from 33 GHz to 50 GHz. This 50 Ohm design exhibits impressive typical performance which includes 32 dB gain, 5.5 dB noise figure, and +20.5 dBm P1dB. Maximum RF input power (CW) is +5 dBm, and DC bias is +6 Vdc at 675 mA typ. The rugged and small size aluminum package design is gold plated and supports a UG-383/U 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 = 650mA)

Description	Minimum	Typical	Maximum	Units
Frequency	33		50	GHz
Small Signal Gain		32		dB
P1 dB		20.5		dBm
Psat		+22		dBm
Noise Figure		5.5		dB
VSWR		1.9:1		
RF Input Power			5	dBm
Operating DC Voltage <sup>1,4</sup>	6	6	8	Volts
Operating DC Current		650		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-22 Waveguide Low Noise Amplifier, Q Band, 33 GHz to 50 GHz, 32 dB Gain, 20.5 dBm P1dB, UG-383/U Flange PEWGA3202](#)



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### Electrical Specification Notes:

- 1.) DC Supply must be able to source at least 1.15A 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	0.2 lbs [90.72 g]
Body Material and Plating	Aluminum, Gold
Design	
DC Bias Connector	
Flange	UG-383/U

### 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:

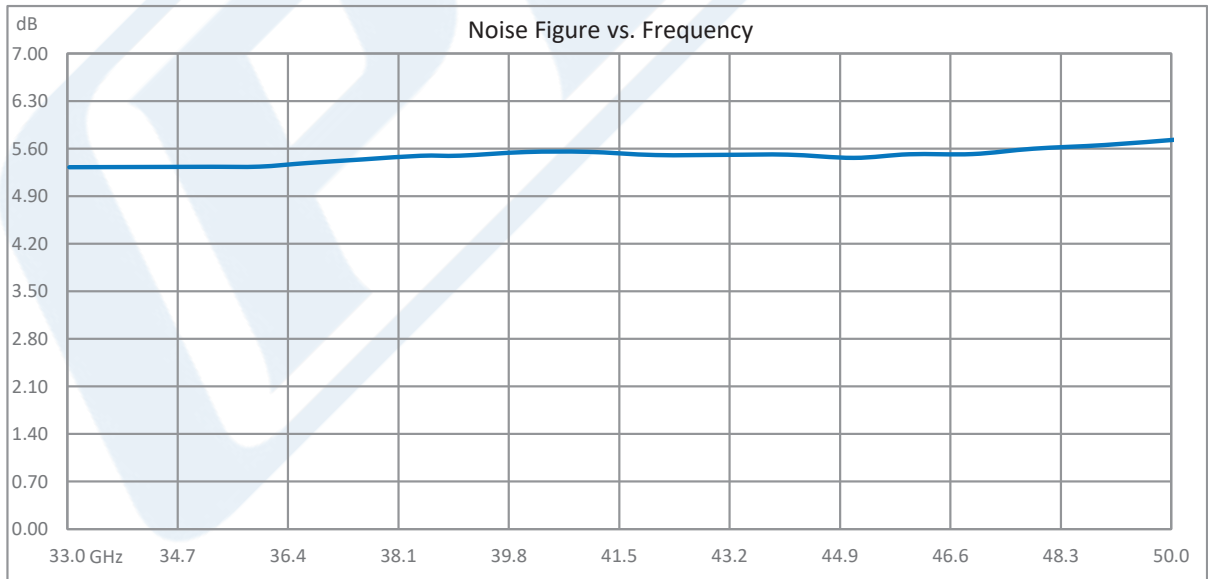
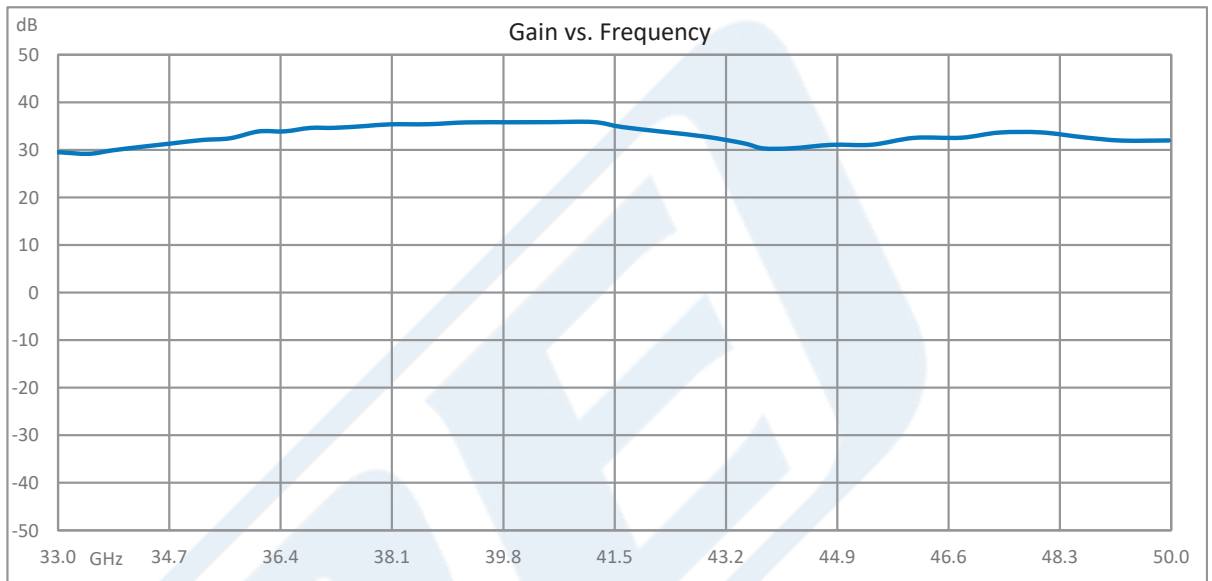
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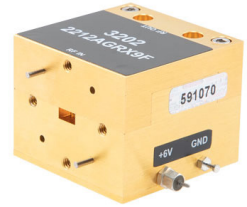
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Typical Performance Data



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## Waveguide Low Noise Amplifiers - PEWGA3202

### Absolute Maximum Rating

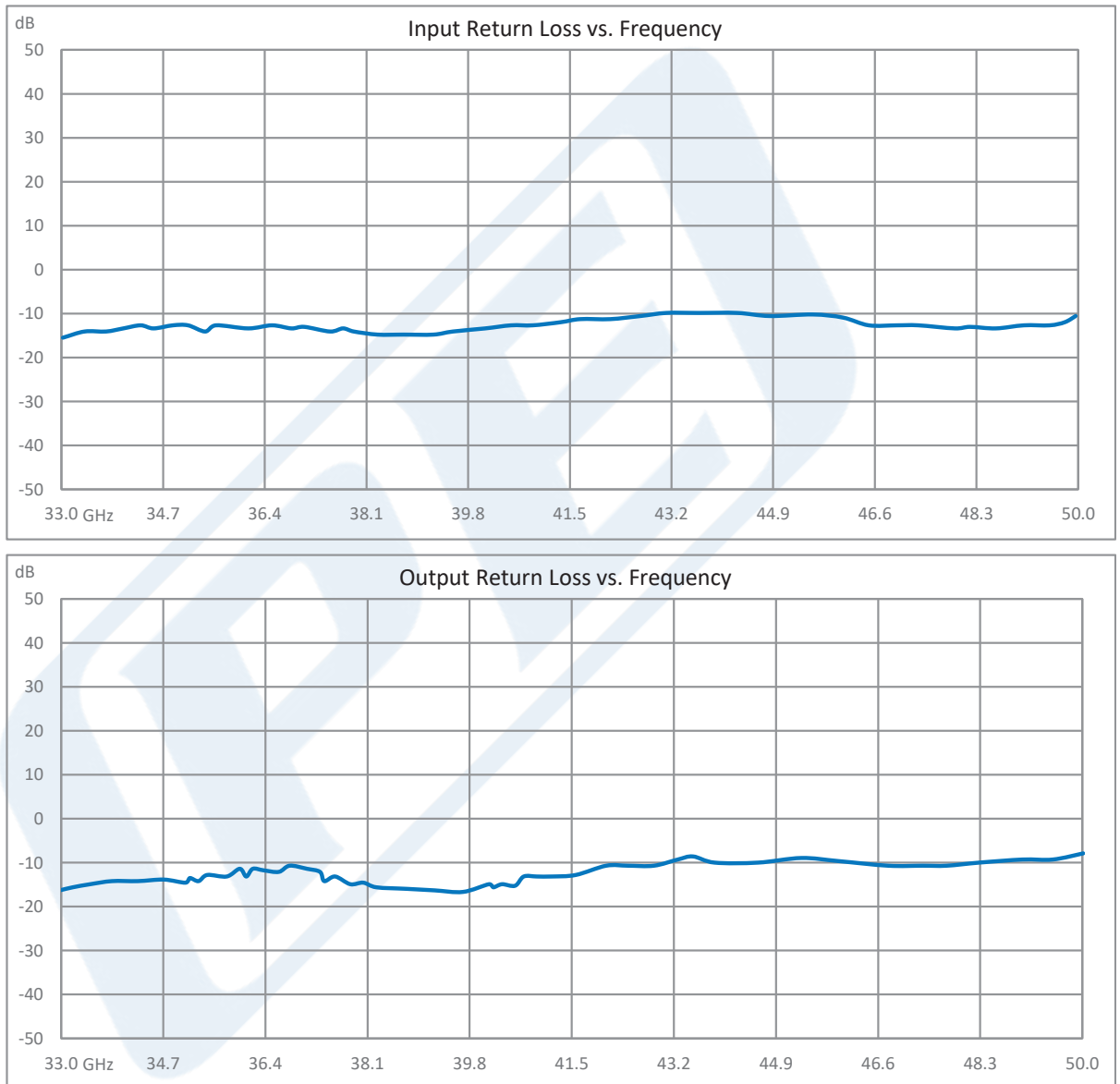
Parameter	Rating
Operating Temperature	-40°C to +80°C
Storage Temperature	-40°C to +100°C
Total Power Dissipation	6.5W
Input Power (CW)	+5dBm
DC Operating Voltage	+12Vdc

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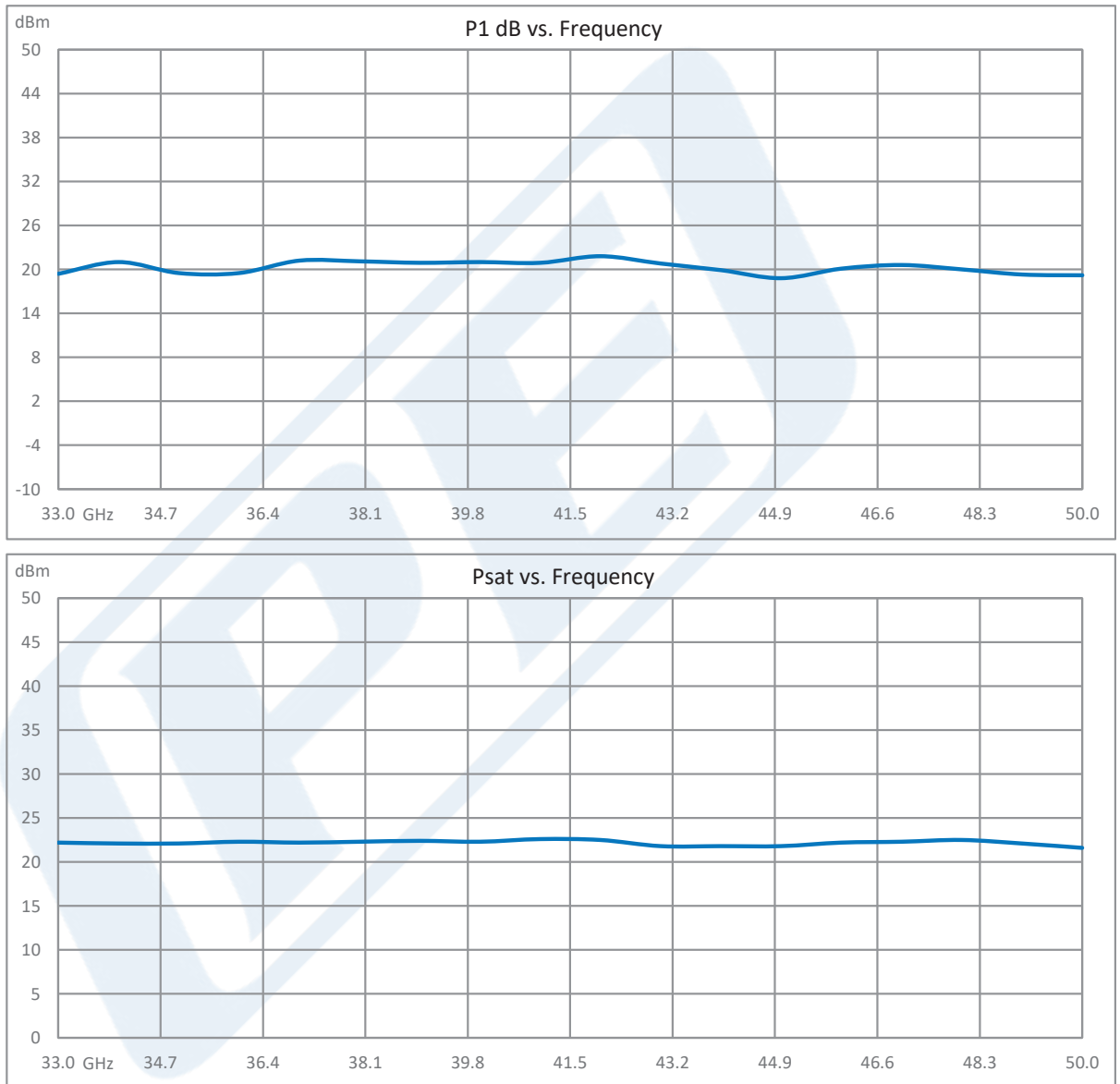


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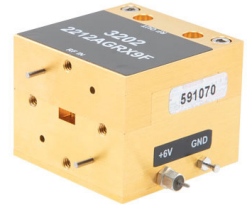


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WR-22 Waveguide Low Noise Amplifier, Q Band, 33 GHz to 50 GHz, 32 dB Gain, 20.5 dBm P1dB, UG-383/U Flange from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

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URL: <https://www.pasternack.com/wr-22-waveguide-low-noise-amplifier-q-band-50-ghz-pewga3202-p.aspx>

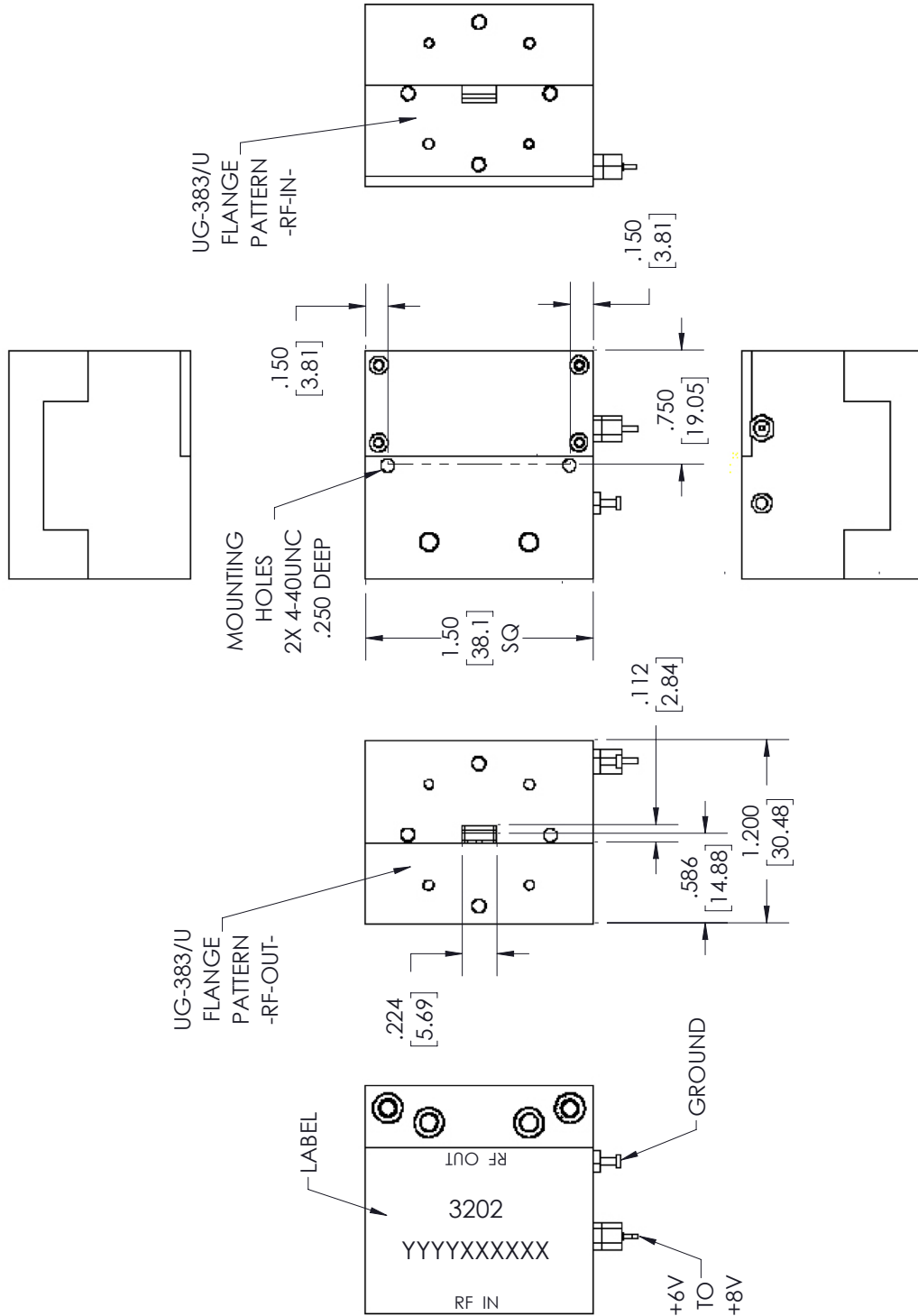
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# PEWGA3202 CAD Drawing

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



THIRD-ANGLE PROJECTION

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SHEET 1 OF 1

SCALE N/A

REV A

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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

ITEM NO. PEWGA3202

SIZE A CAGE CODE 53919 DRAWN BY BPUCHASKI

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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

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