



WR-15 Waveguide Low Noise Amplifier, V Band, 50 GHz to 75 GHz, 31 dB Gain, +13 dBm P1dB, UG-385/U Flange

## Waveguide Low Noise Amplifiers - PEWGA3204

### Features

- WR-15 Waveguide Low Noise Amplifier
- UG-385/U Flange
- 50 GHz to 75 GHz
- V Band
- Small Signal Gain 31 dB typ
- Noise Figure 4.8 dB typ
- VSWR 2.2:1 typ
- Output P1dB +13 dBm typ
- Output Psat +14 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-385/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 & Commercial Communications
- Military Electronic Systems
- Research & Development

### Description

The PEWGA3204 is a WR-15 Waveguide Low Noise Amplifier, operating across the V Band from 50 GHz to 75 GHz. This 50 Ohm design exhibits impressive typical performance which includes 31 dB gain, 4.8 dB noise figure, and +13 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-385/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 = 90mA)

Description	Minimum	Typical	Maximum	Units
Frequency	50		75	GHz
Small Signal Gain		31		dB
P1 dB		13		dBm
Psat		+14		dBm
Noise Figure		5	5.5	dB
VSWR		2.2:1		
RF Input Power			-5	dBm
Operating DC Voltage <sup>1,4</sup>	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-15 Waveguide Low Noise Amplifier, V Band, 50 GHz to 75 GHz, 31 dB Gain, +13 dBm P1dB, UG-385/U Flange PEWGA3204](#)



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### 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	0.937 in [23.8 mm]
Weight	0.2 lbs [90.72 g]
Body Material and Plating	Aluminum, Gold
Design	
DC Bias Connector	
Flange	UG-385/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:

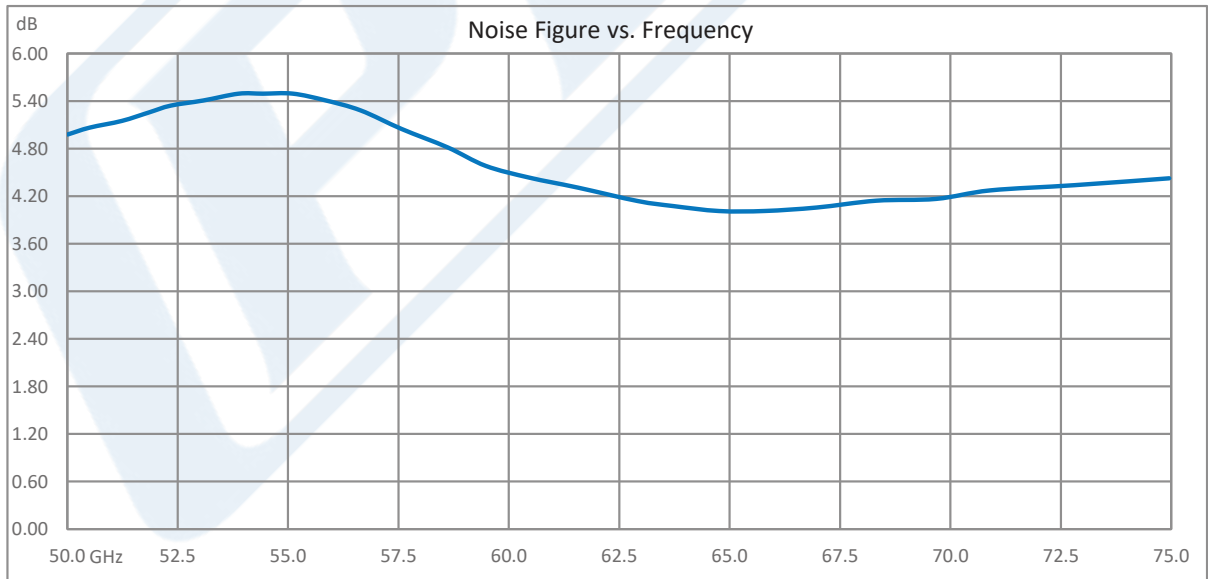
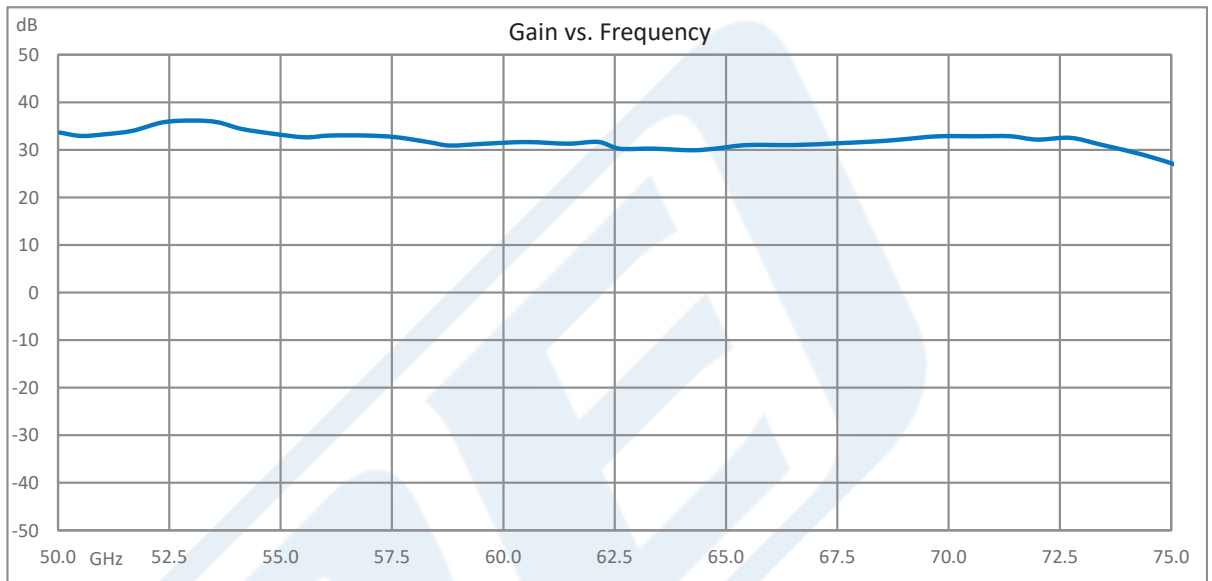
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Typical Performance Data



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## Waveguide Low Noise Amplifiers - PEWGA3204

### Absolute Maximum Rating

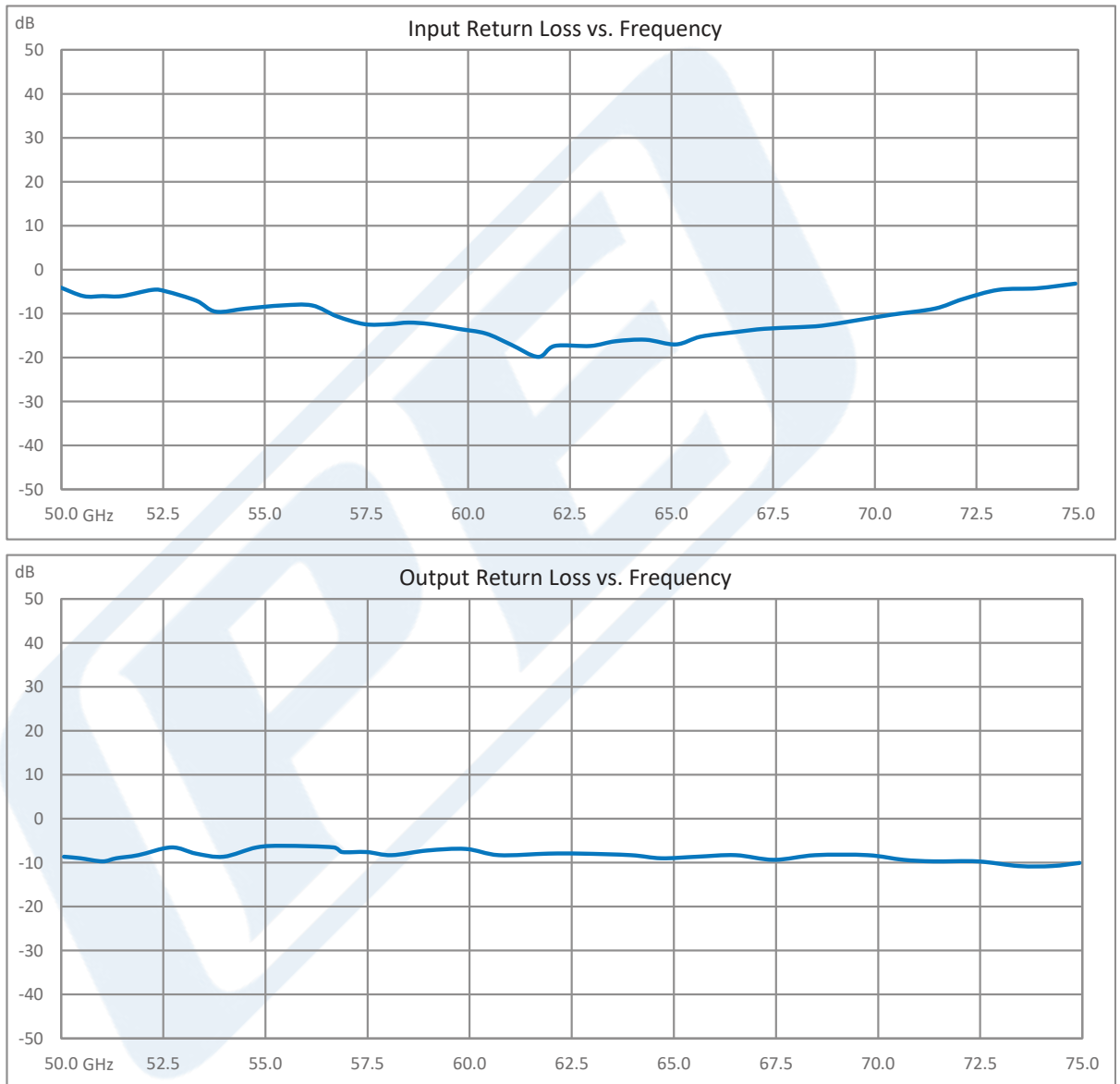
Parameter	Rating
Operating Temperature	-40°C to +80°C
Storage Temperature	-40°C to +100°C
Total Power Dissipation	1.5W
Input Power (CW)	-5dBm
DC Operating Voltage	+12Vdc

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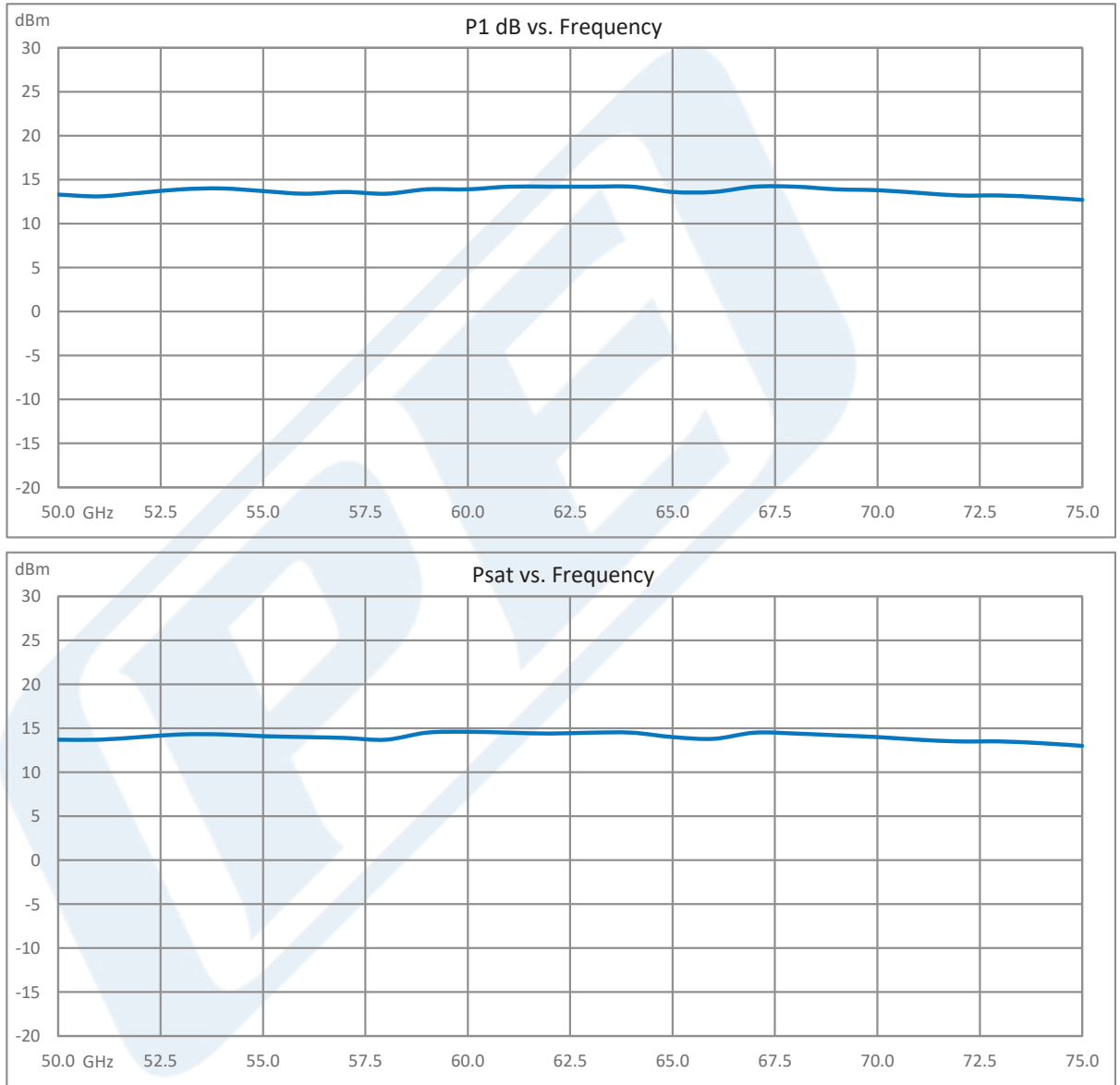


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## Waveguide Low Noise Amplifiers - PEWGA3204

WR-15 Waveguide Low Noise Amplifier, V Band, 50 GHz to 75 GHz, 31 dB Gain, +13 dBm P1dB, UG-385/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-15-waveguide-low-noise-amplifier-v-band-75-ghz-pewga3204-p.aspx>

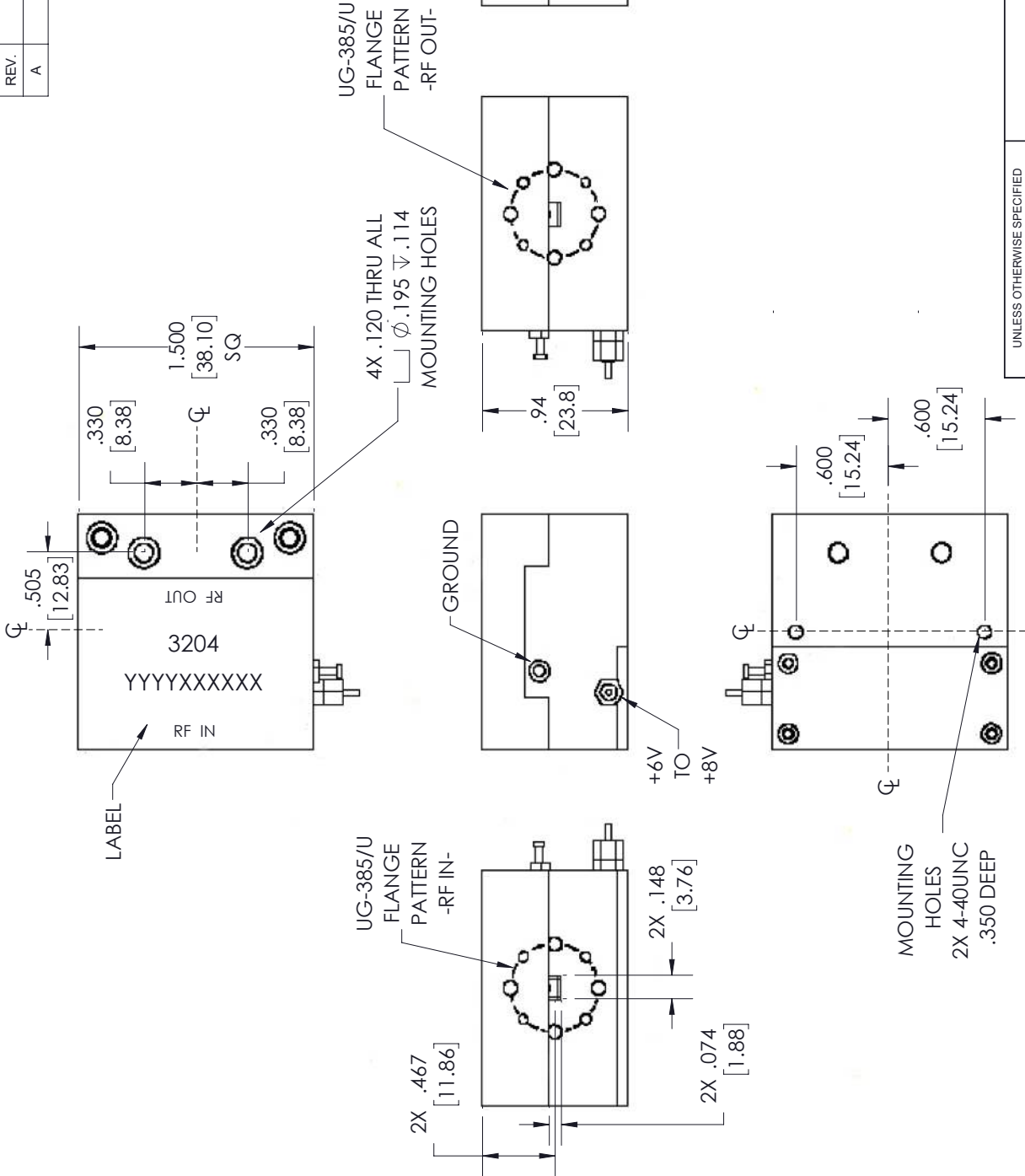
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# PEWGA3204 CAD Drawing

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



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THIRD-ANGLE PROJECTION

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SHEET 1 OF 1  
 SCALE N/A

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

TOLERANCES:  
 X = +2 [5.08] FRACTIONS ±.162  
 .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.

SIZE A CAGE CODE 53919 DRAWN BY BPUCHASKI ITEM NO. PEWGA3204 REV A

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