



Waveguide Converter Mixer WR-12 From
60 GHz to 90 GHz, IF from DC to 30 GHz And LO Power
of +13 dBm, UG-387/U Flange, E Band

Waveguide Converter Mixers - PEWGMX1005

Features

- WR-12 Waveguide Downconverter Mixer
- Band
- RF/LO Frequency: 60 GHz to 90 GHz
- IF Frequency: DC to 30 GHz
- E Band
- LO Drive: +13 dBm
- Conversion Loss: 10 dB typ
- Isolation: 30 dB typ
- RF Input Power: +17 dBm max
- 50 Ohm Double Balanced Design
- RF/LO Port Waveguide Flange UG-387/U
- IF Port: SMA Female
- Operational Temperature Range -10°C to +45°C
- Rugged and Compact Gold Plated Aluminum Package Design
- RoHS Compliant

Applications

- Test & Measurement
- Military & Commercial
- Communications
- Electronic Warfare
- ELINT
- Research & Development

Description

The PEWGMX1005 is a WR-12 Waveguide Down Converter Mixer, operating across the E Band from 60 GHz to 90 GHz. The IF frequency band is DC to 30 GHz with a nominal LO drive level of +13 dB. Typical performance for the 50 Ohm double balanced mixer design includes 10 dB conversion loss and 30 dB isolation, with a maximum RF input power level of +17 dBm. The rugged and small size gold plated aluminum package supports a UG-387/U waveguide flange pattern at RF and LO ports, and an SMA female connector at the IF port. The mixer design is RoHS compliant and operates across a temperature range from -10°C to +45°C.

Electrical Specifications (@ +25°C)

Description	Minimum	Typical	Maximum	Units
Frequency Range	60		90	GHz
LO Frequency Range	60		90	GHz
IF Frequency Range	DC		30	GHz
RF to LO Isolation		30		dB
Conversion Loss		10		dB
LO Port Power		13		dBm

Electrical Specification Notes:

- 1.) Do not put any foreign objects inside the waveguide. Warranty will be voided
- 2.) Open and short-circuit loads are not recommended at the mixer output
- 3.) Ensure proper 50 Ohm load before applying RF

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Waveguide Converter Mixer WR-12 From 60 GHz to 90 GHz, IF from DC to 30 GHz And LO Power of +13 dBm, UG-387/U Flange, E Band PEWGMX1005](#)



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Mechanical Specifications

Size

Length	1 in [25.4 mm]
Width	1 in [25.4 mm]
Height	1 in [25.4 mm]
Weight	0.156 lbs [70.76 g]
Body Material and Plating	Aluminum, Gold

Absolute Maximum Rating

Parameter	Rating
Operating Temperature	-10°C to +45°C
Storage Temperature	-40°C to +100°C
(LO+RF) Input Power (CW)	+17 dBm

Configuration

Description	RF Port	LO Port	IF Port
Type	WR-12	WR-12	SMA Female
Waveguide Flange	UG-387/U	UG-387/U	

Environmental Specifications

Temperature

Operating Range	-10 to +45 deg C
Storage Range	-40 to +100 deg C

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

Plotted and Other Data

Notes:

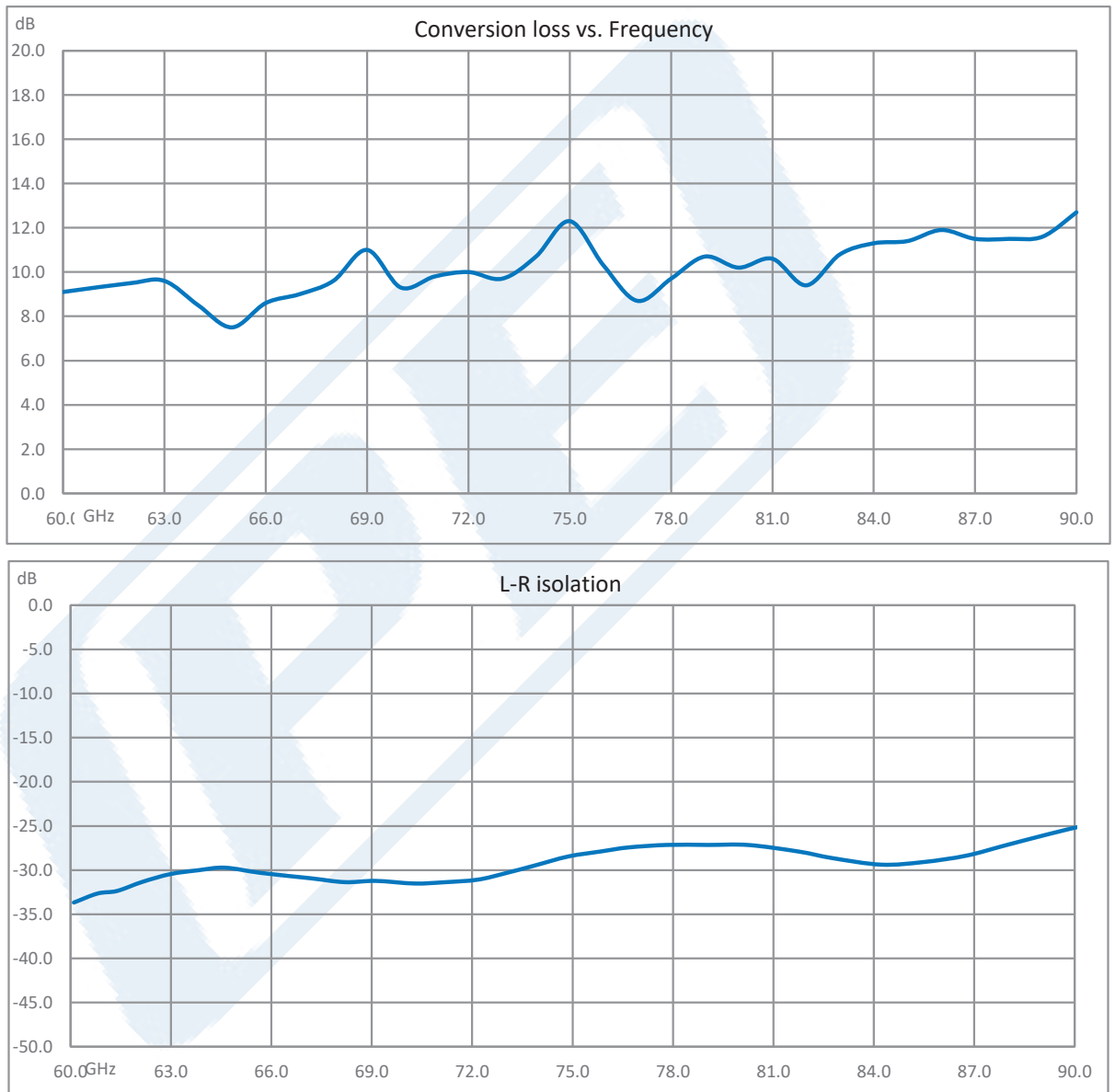
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Waveguide Converter Mixer WR-12 From 60 GHz to 90 GHz, IF from DC to 30 GHz And LO Power of +13 dBm, UG-387/U Flange, E Band PEWGMX1005](#)



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Typical Performance Data



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Waveguide Converter Mixer WR-12 From 60 GHz to 90 GHz, IF from DC to 30 GHz And LO Power of +13 dBm, UG-387/U Flange, E Band 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.

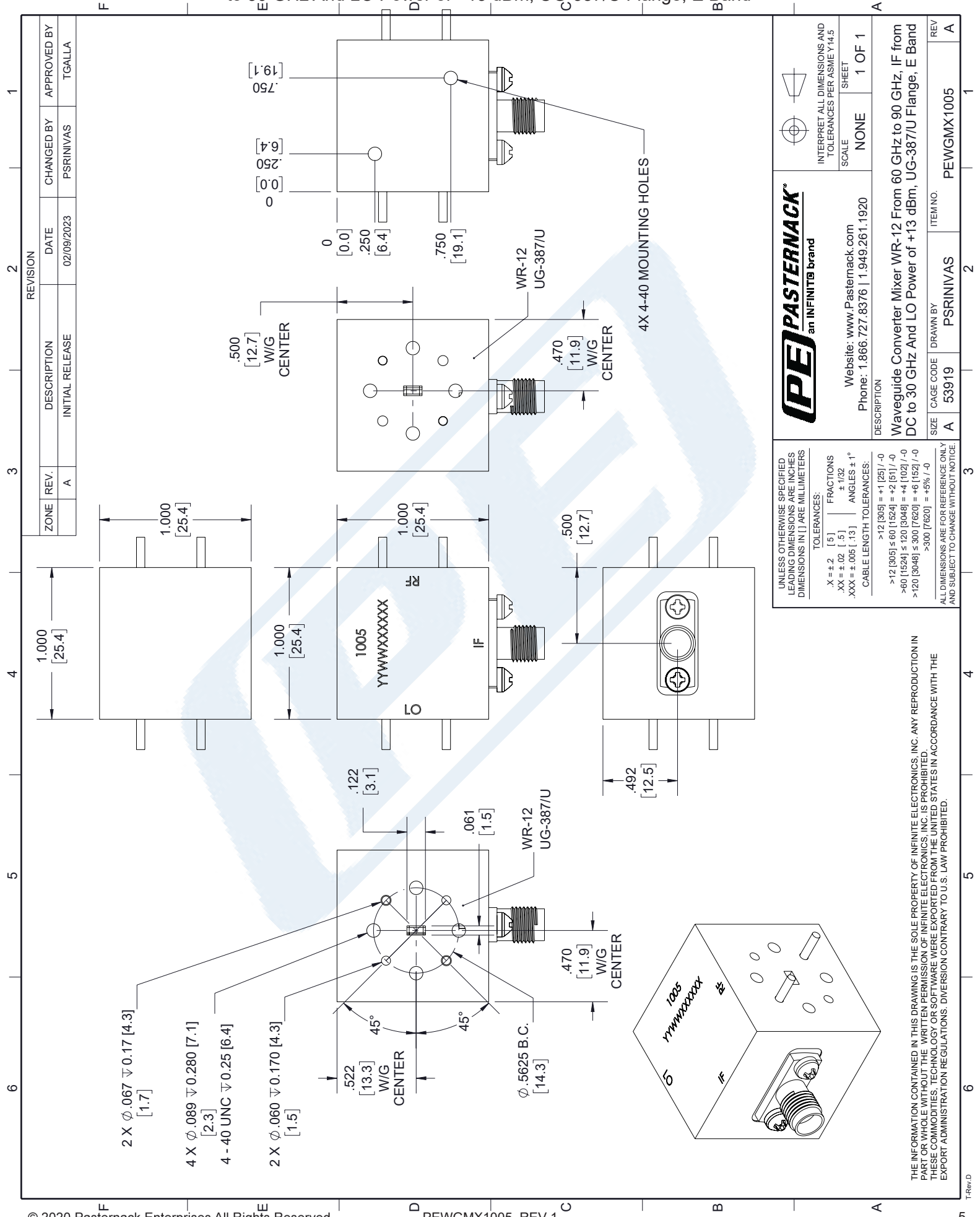
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. 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.

PEWGMX1005 CAD Drawing

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ZONE	REV.	DESCRIPTION	DATE	CHANGED BY	APPROVED BY
	A	INITIAL RELEASE	02/09/2023	PSRINIVAS	TGALLA

REVISION	DATE	CHANGED BY	APPROVED BY
	02/09/2023	PSRINIVAS	TGALLA



INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5

SCALE: NONE

SHEET: 1 OF 1

Website: www.Pasternack.com

Phone: 1.866.727.8376 | 1.949.261.1920

DESCRIPTION: Waveguide Converter Mixer WR-12 From 60 GHz to 90 GHz, IF from DC to 30 GHz And LO Power of +13 dBm, UG-387/U Flange, E Band

SIZE: A

CAGE CODE: 53919

DRAWN BY: PSRINIVAS

ITEM NO.: PEWGMX1005

REV: A

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

TOLERANCES:

X = ± 2 [.5] FRACTIONS

.XX = $\pm .02$ [.5] $\pm 1/32$

.XXX = $\pm .005$ [.13] ANGLES $\pm 1^\circ$

CABLE LENGTH TOLERANCES:

>12 [305] = ± 1 [25] / -0

>12 [305] ≤ 60 [1524] = ± 2 [51] / -0

>60 [1524] ≤ 120 [3048] = ± 4 [102] / -0

>120 [3048] ≤ 300 [7620] = ± 6 [152] / -0

>300 [7620] = $\pm 5\%$ / -0

ALL DIMENSIONS ARE FOR REFERENCE ONLY AND SUBJECT TO CHANGE WITHOUT NOTICE

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