PASTERNACK
an INFINITE brand

40 dB Variable Gain Amplifier, 11 dBm P1dB, 18 GHz to 40 GHz, 20 dB Gain Control, 5 dB NF, 2.92mm

TECHNICAL DATA SHEET PE15A7012

The PE15A7012 is an RF amplifier with voltage variable gain control that covers a broadband frequency from 18 GHz to 40 GHz. The module provides a continuously variable gain control of 20 dB over the entire frequency band which gives the Designer increased dynamic range and the ability to set signal levels. The low control current (typically less than 10 mA) simplifies control driver requirements. The design incorporates the use of GaAs FET and MMIC fixed-gain modules to provide low noise figure and medium power output over the entire frequency band. Typical performance for the 50 ohm design with 0V gain control includes 48 dB small signal gain, 5 dB noise figure, and +11 dBm output P1dB. DC Bias Voltage ranges from +12V to +15V with 350 mA current, and control voltage ranges from 0V for maximum gain to +5V for minimum gain. The rugged Mil Grade aluminum package supports SMA female connectors, has an operational temperature range of 0°C to +50°C, and is designed to meet a series of environmental conditions including Altitude, Vibration, Humidity, and Shock.

Features

- Variable Gain Amplifier
- Frequency Range 18 GHz to 40 GHz
- GaAs FET Semiconductor Technology
- Small Signal Gain 48 dB Typ
- Variable Gain 20 dB
- Output P1dB +11 dBm Typ
- Noise Figure 5 dB Typ
- DC Voltage +12 to +15 Vdc
- DC Current 350 mA
- DC Control Voltage 0V to +5V
- DC Control Current < 10 mA
- 50 Ohm Design
- 0°C to +50°C Operating Temperature
- SMA Female Connectors
- Rugged Mil Grade Aluminum Package Design

Applications

- Aerospace & Defense
- Test & Measurment
- Microwave Radio Systems
- Military & Commercial Communication Systems
- Research & Development
- RF Front Ends
- SATCOM
- Wireless Communications
- Unmanned Systems

Electrical Specifications (TA = +25°C, DC Voltage = 15Volts, DC Current = 350mA)

Description	Minimum	Typical	Maximum	Units
Frequency Range	18		40	GHz
Small Signal Gain	40	48		dB
Gain Flatness			±4.5	dB
Gain Control Range		20		dB
Output at 1 dB Compression Point*	+7	+11		dBm
P1dB at +5 V Gain Control		9.5		dBm
Noise Figure*		5	7	dB
Input VSWR		1.7:1	2.5:1	
Output VSWR		1.9:1	2.5:1	
Operating DC Voltage	12	15	16	Volts
Control Voltage DC	0		5	Volts

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: 40 dB Variable Gain Amplifier, 11 dBm P1dB, 18 GHz to 40 GHz, 20 dB Gain Control, 5 dB NF, 2.92mm PE15A7012

Pasternack Enterprises, Inc. • P.O. Box 16759, Irvine, CA 92623
Phone: (866) 727-8376 or (949) 261-1920 • **Fax:** (949) 261-7451
Sales@Pasternack.com • Techsupport@Pasternack.com

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Control Current DC	10		mA
Operating DC Current	350		mA
Max Input Power		0	dBm

Mechanical Specifications

Size

Length	1.4 in [35.56 mm]
Width	1.39 in [35.31 mm]
Height	0.4 in [10.16 mm]
Weight	0.15 lbs [68.04 g]
Input Connector	2.92mm Female
Output Connector	2.92mm Female

Environmental Specifications

Temperature

Operating Range	0 to +50 deg C
Storage Range	-40 to +100 deg C
Shock	MIL-STD-202F, Method 213B, Condition B
Vibration	MIL-STD-202F, Method 204D, Condition B

Compliance Certifications (see product page for current document)

Notes:

- *At 0V Gain Control
- DC Bias to the RF input may damage the Amplifier

Plotted and Other Data

- Values at +25 °C, sea level

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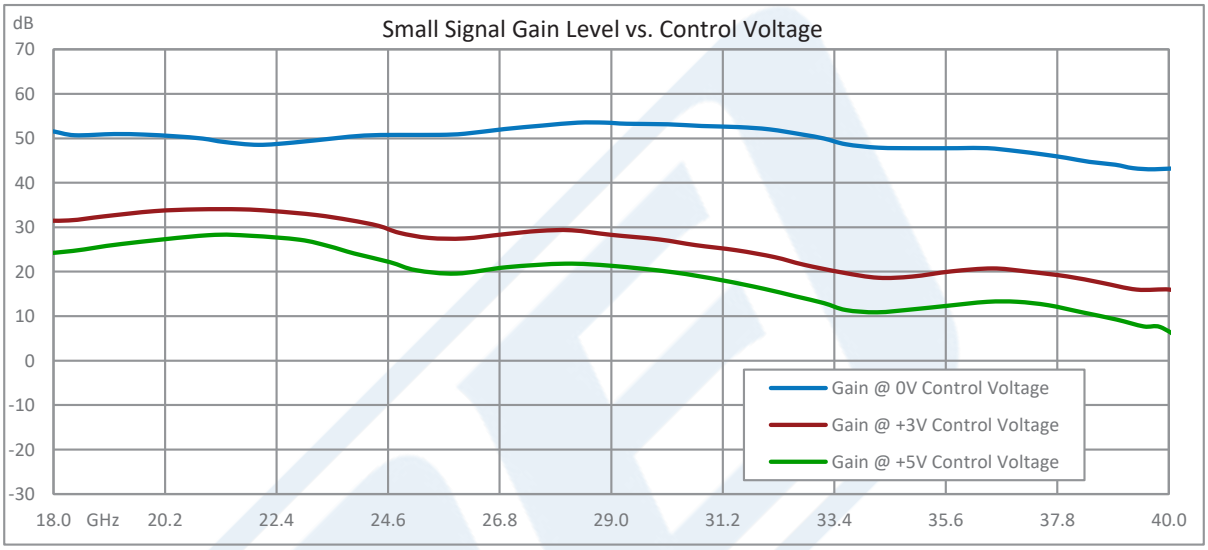
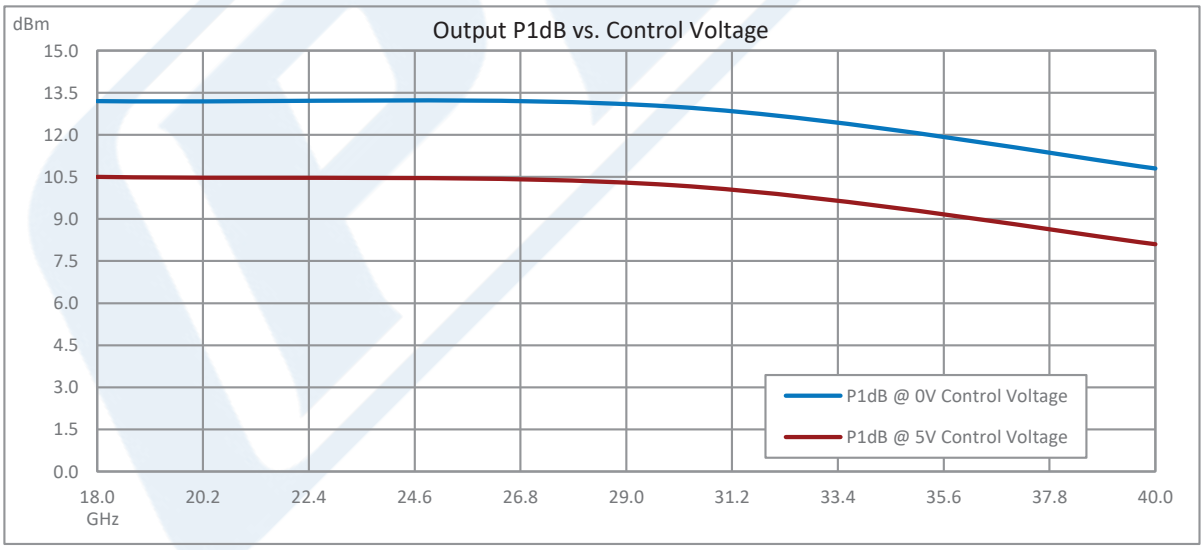
Typical Performance Data





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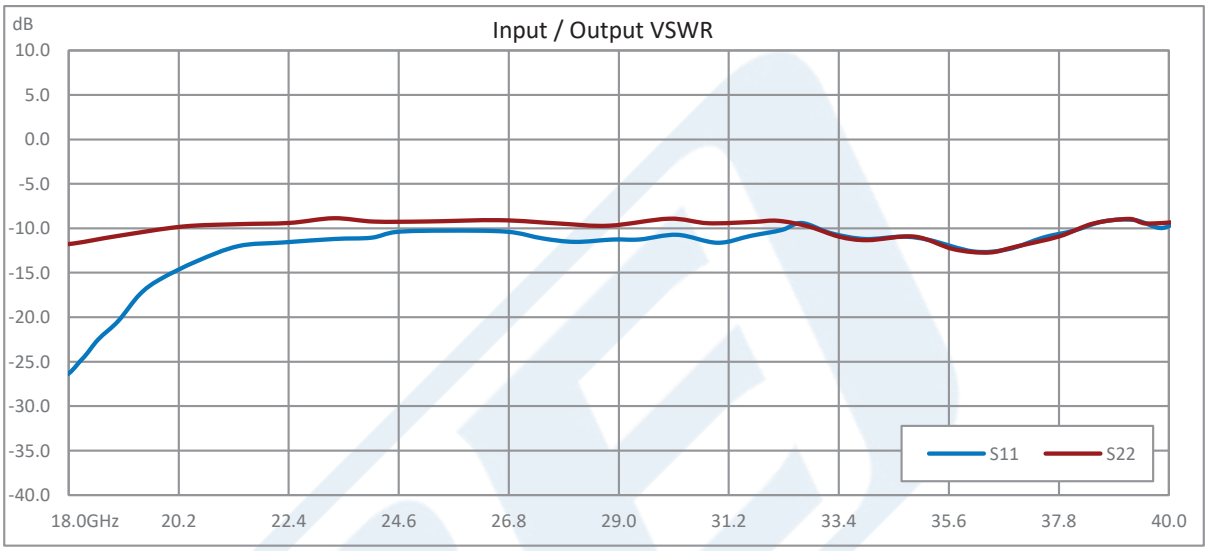

40 dB Variable Gain Amplifier, 11 dBm P1dB, 18 GHz to 40 GHz, 20 dB Gain Control, 5 dB NF, 2.92mm from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

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URL: https://www.pasternack.com/40-db-gain-variable-gain-amplifier-292mm-pe15a7012-p.aspx

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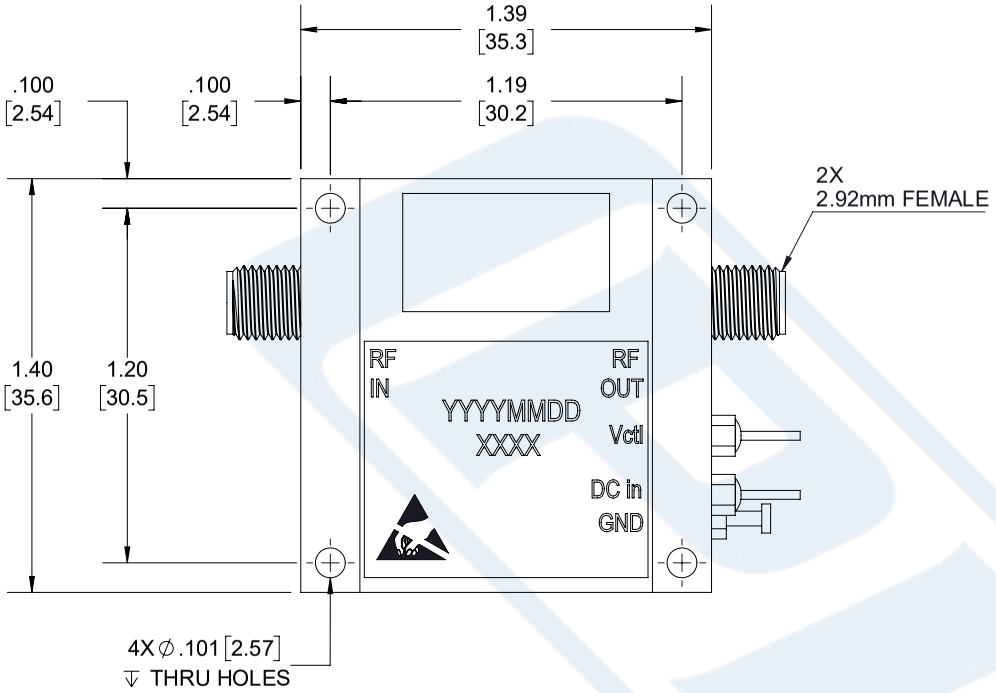
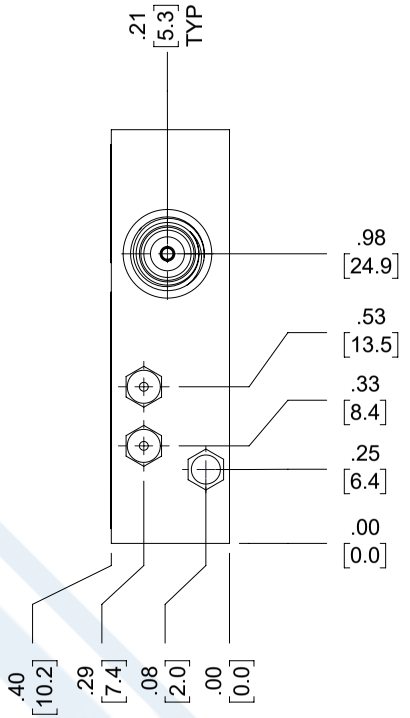
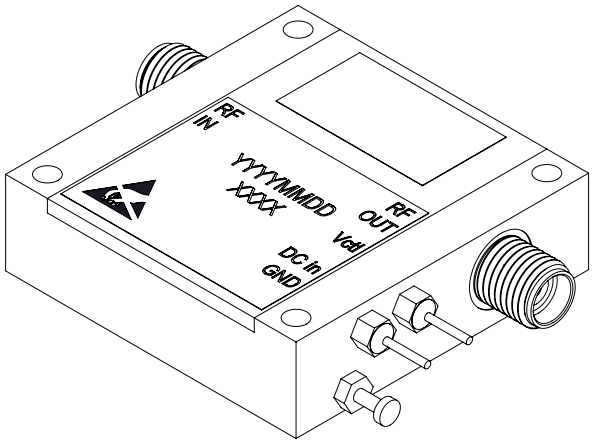
PE15A7012 CAD Drawing

40 dB Variable Gain Amplifier, 11 dBm P1dB, 18 GHz to 40 GHz, 20 dB Gain Control, 5 dB NF, 2.92mm

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	9/1/2020	T.GALLA







LABEL

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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

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

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THIRD-ANGLE PROJECTION

SHEET 1 OF 1
SCALE N/A

SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV
A	53919	K.DANG	PE15A7012	A