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42 dB Gain, 16 dBm P1dB, 0.1 GHz to 18 GHz, Broadband AC Low Noise Amplifier, Bench-Top, 110/220VAC, 2.2 dB Noise Figure, SMA

TECHNICAL DATA SHEET PE15A63028

The PE15A63028 is an AC powered Bench-Top Low Noise Amplifier that operates across an broadband frequency range from 100 MHz to 18 GHz. This 50 Ohm highly linear design exhibits impressive typcial performance that includes 42 dB gain, 2.2 dB noise figure, +16 dBm P1dB, and +27 dBm output IP3. Maximum RF input power (CW) is -12 dBm. The rugged MIL Grade aluminium package is finished in gray paint and has SMA Female connectors at the RF input and output ports, and an indicator light on the front panel. The rear panel supports an IEC 320-C14 AC power socket (IEC 320-C13 plug required), a fuse compartment, an On/Off switch, and a dedicated package common ground connector. The module supports a wide operating AC voltage range from 110VAC to 220VAC with 60 mA supply current. Designed for high reliabiltiy, the package supports an integrated heatsink and cooling fan and is suitable for outdoor operation (moisture exposure dependent on temperaure and humidity conditions). The amplifier has an operational temperature range from -40°C to +85°C and meets a series of environmental test conditions including Altitude, Vibration, Humidity, and Shock.

Features

- AC Powered Bench-Top Low Noise Amplifier/100 MHz to 18 GHz
- High Linearity
- Small Signal Gain 42 dB typ
- Low Noise FIgure 2.2 dB typ
- VSWR 1.5:1 typ
- Output P1dB +16 dBm typ
- Output Psat +19 dBm typ
- Ouput IP3 +27 dBm typ
- AC Supply 110-220VAC @ 60 mA
- Max RF Input Power (CW) -12 dBm
- 50 Ohm Design
- Integrated Heatsink and Cooling Fan
- RF Input and Output SMA Female Connectors
- On/Off Switch and Indicator Light
- Operational Temperature Range -40°C to +85°C
- Rugged MIL Grade Aluminum Package Design with Gray Paint finish
- Guaranteed Environmental Test Conditions Altitude, Vibration, Humidity, Shock

Applications

- Test & Measurement
- 5G Communication
- Wireless Infrastructure
- Military & Commercial Communications
- Military Electronic Systems
- Research & Development
- Microwave Radio
- VSAT
- Fiber Optics

Electrical Specifications (TA= 25°C)

Description	Minimum	Typical	Maximum	Units
Frequency Range	0.1		18	GHz
Gain	38	42		dB
Gain Flatness		±1.25		dB
Gain Variation over Temp.		±2.75		dB/°C
Output at 1 dB Compression Point	+12	+16		dBm
Saturation Output Power		+19		dBm
Output 3rd Intercept Point		+27		dBm
Reverse Isolation		-70		dB
Noise Figure		2.2	4	dB
Input VSWR		1.5:1	2:1	
Output VSWR		1.5:1	2:1	

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Operating AC Voltage		110 to 220	VAC
Supply Current (AC 110-220V)		60	mA
Operating Temperature Range (OTR)	-40	+85	°C

Performance by Frequency

Biasing Up Procedure		Power OFF Procedure	
Step 1	Connect input and output with 50 Ohm source and load with in band return loss better than 10dB.	Step 1	Flip switch to “OFF” position
Step 2	Connect AC Plug	Step 2	Remove AC Plug
Step 3	Flip switch to “ON” position	Step 3	Remove RF Connection

Absolute Maximum Rating

Parameter	Rating
Supply Voltage	110V to 230V AC
RF Input Power (RFIN)*	-12dBm

*Note: Maximum RF input power is defined to protect the amplifier from damage. Input power may be increased at the users ownrisk to achieve the full output power of the amplifier. Please reference gain and power curves and monitor the temperature.

Mechanical Specifications

Size

Length	6.46 in [164.08 mm]
Width	5.83 in [148.08 mm]
Height	2.28 in [57.91 mm]
Weight	2.57 lbs [1.17 kg]
Input Connector	SMA Female
Output Connector	SMA Female

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Environmental Specifications

Temperature

Operating Range	-40 to +85 deg C
Storage Range	-50 to +105 deg C
Humidity	100% RH at 35ºc, 95%RH at 40ºc
Shock	20G for 11msec half sine wave,3 axis both directions
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Altitude	30,000 ft.

Compliance Certifications (see product page for current document)

Plotted and Other Data

Notes:

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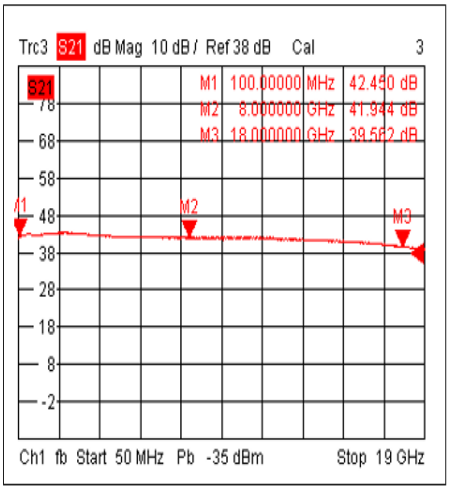


42 dB Gain, 16 dBm P1dB, 0.1 GHz to 18 GHz, Broadband AC Low Noise Amplifier, Bench-Top, 110/220VAC, 2.2 dB Noise Figure, SMA

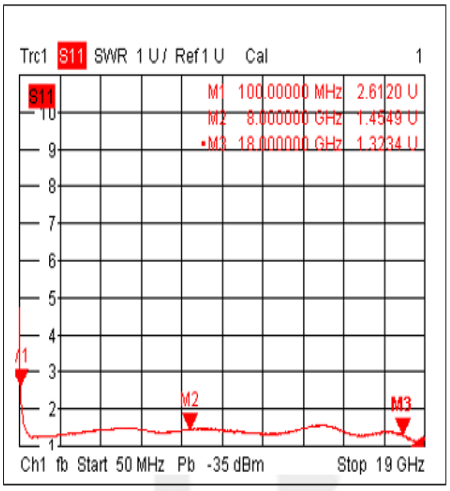
TECHNICAL DATA SHEET PE15A63028

Typical Performance Data

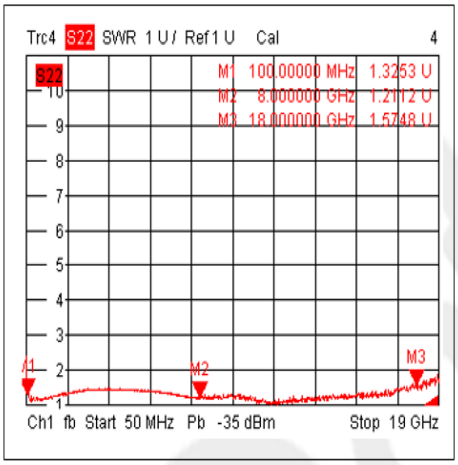
Gain@+25°C



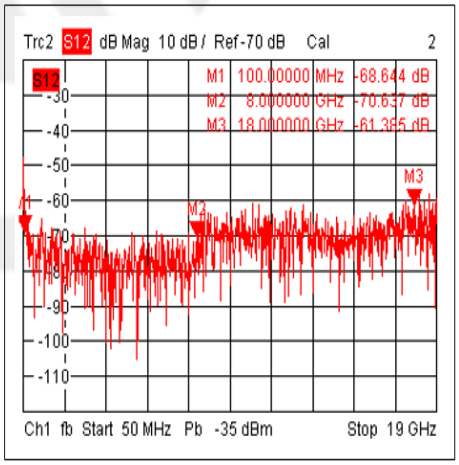
Input VSWR@+25°C



Output VSWR@+25°C



Isolation@+25°C



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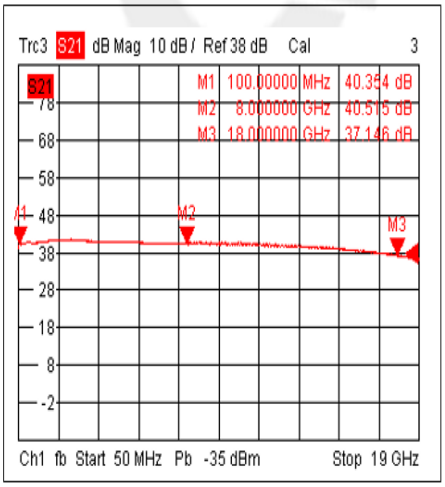
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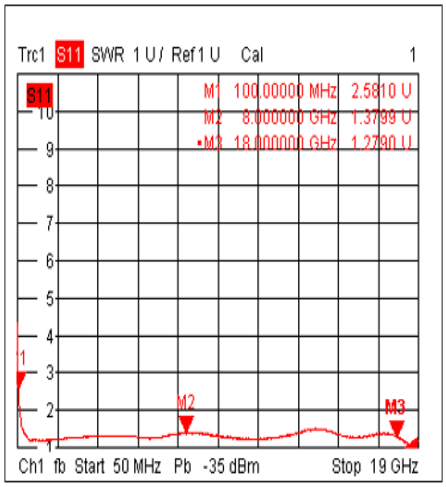
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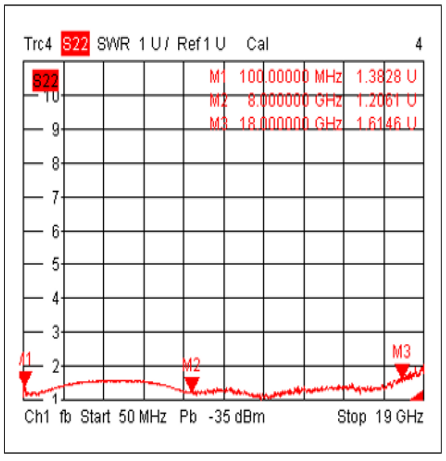
Gain@-40℃



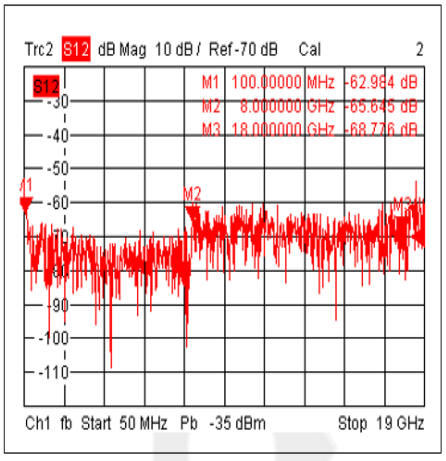
Input VSWR @-40℃



Output VSWR @-40℃



Isolation @-40℃



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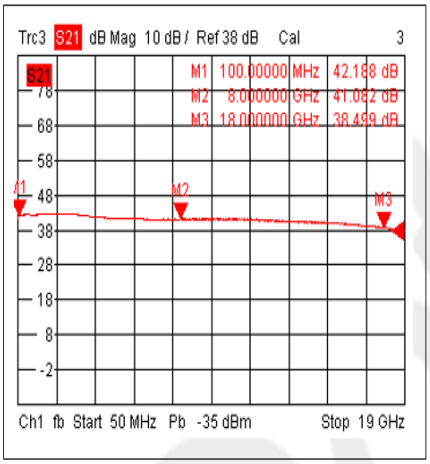
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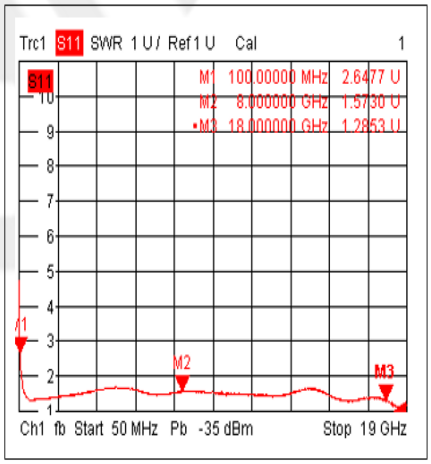
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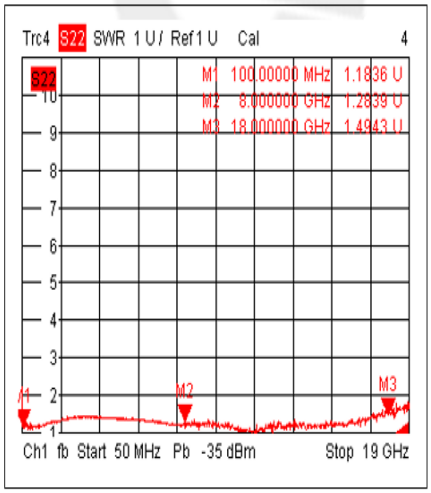
Gain@+85℃



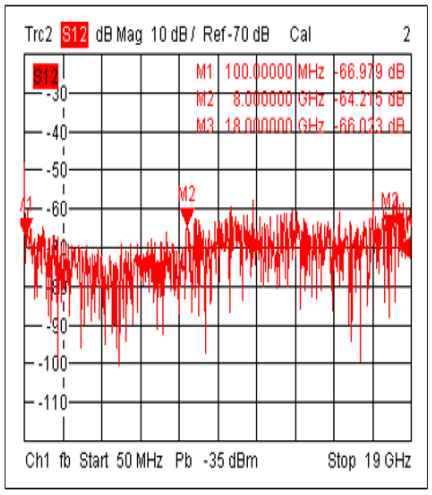
Input VSWR @+85℃



Output VSWR@+85℃



Isolation@+85℃



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URL: https://www.pasternack.com/43-db-gain-27-dbm-ip3-2.5-db-18-ghz-low-noise-broadband-amplifier-sma-pe15a63028-p.aspx

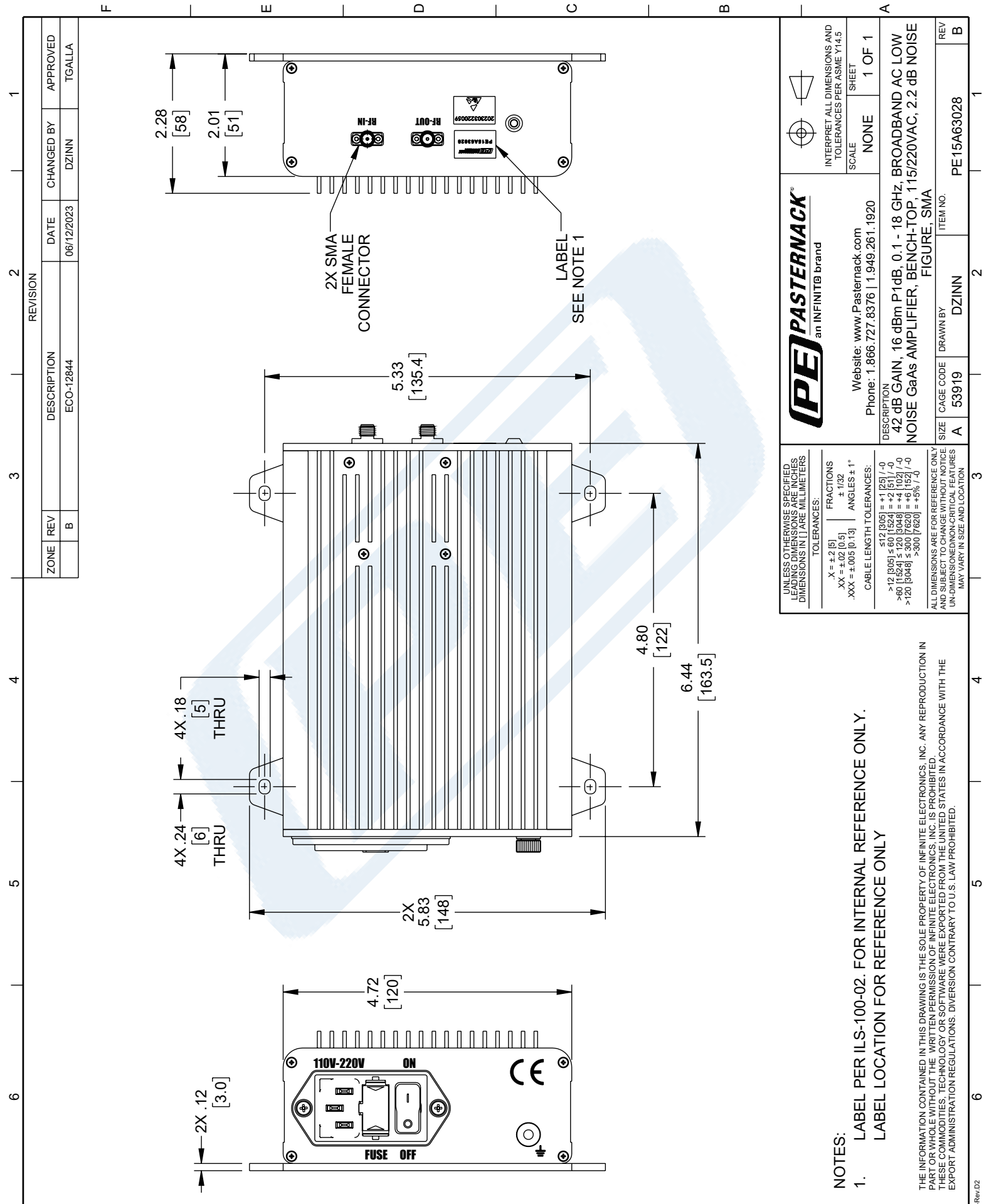
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PE15A63028 CAD Drawing

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