PASTERNACK®
THE ENGINEER'S RF SOURCE

High Power Bi-Directional Amplifier, 5/20 Watts, 1.35 GHz to 1.39 GHz, 1 us switching, 22 dB Gain, SMA

TECHNICAL DATA SHEET PE15B5001

The PE15B5001 is an L-Band bi-directional amplifier that delivers high quality TX signals while amplifying the RX signal with an advanced LNA to produce the highest possible data rates. The amplifier operates in the 1350 to 1390 MHz frequency range and offers 5 Watts typical Power for 64 QAM and 20 Watts typical Power for 16 QPSK. High efficiency and advanced switching technology meets the requirements of some of the most demanding RF radio systems. The module provides 22 dB typical small signal gain with gain flatness of ±0.5 dB typical. The connectorized SMA module is unconditionally stable, requires typically +28V DC, and operates over the temperature range of -40°C and +80°C.

Features

- 1350 MHz to 1390 MHz Frequency Range
- 20 Watts typ Power for 16 QPSK
- 5 Watts typ Power for 64 QAM
- Small Signal Gain: 22 dB min
- Gain Flatness: ±0.5 typical
- 50 Ohms Input and Output Matched
- Unconditionally Stable

Applications

- L-band Military Radio
- Communication Systems
- High Gain Driver Power Amplifier
- High Gain Output Power Amplifier
- Unmanned Aerial Vehicles (UAV)
- Unmanned Ground Vehicles
- L and S Band Radar
- Commercial Air Traffic Control
- Weather and Earth Observation
- Satellites

Electrical Specifications (TA = +25°C, DC Voltage = 28Volts DC Current = 2,400mA)

Transmit

Description	Minimum	Typical	Maximum	Units
Frequency Range	1.35		1.39	GHz
Power for 802.11b		20		Watts
Power for 802.11g		5		Watts
Gain	21	22	23	dB
Gain Flatness		±0.5	±1.3	dB
Input Return Loss		-12		dB
Operating DC Voltage	24	28	30	Volts
Current Draw 802.11b		2,400		mA
Current Draw 802.11g		900		mA
Switching Time		1	2	uSec

Receive

Description	Minimum	Typical	Maximum	Units
1 dB Compression Point		+0		dBm
Gain		10		dB
Gain Flatness		±0.5	±1.3	dB
Input Return Loss	-8	-10		dB
Noise Figure		2.5		dB

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: High Power Bi-Directional Amplifier, 5/20 Watts, 1.35 GHz to 1.39 GHz, 1 us switching, 22 dB Gain, SMA PE15B5001

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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Current Draw		50	70	mA

Protections

Environmental / Protections				
Parameter	**Min**	**Typ.**	**Max**	**Unit**
Operating Temp. (Housing Temp.)	-40		+80	°C
Storage Temp Range	-65		+150	°C
Weatherproofing		IP64 Equivalent		--
Altitude		0-30,000		ft.
Max RF Input		+30		dBm
Load VSWR @ P1dB		∞ at all amplitudes / phase angles		--

Mechanical Specifications

Size

Length	3.33 in [84.58 mm]
Width	2.69 in [68.33 mm]
Height	0.65 in [16.51 mm]
Weight	0.34 lbs [154.22 g]

Compliance Certifications (visit www.Pasternack.com for current document)

Not RoHS Compliant

Plotted and Other Data

Notes:

- Values at +25 °C, sea level
- ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.
- Heat Sink Required for Proper Operation, Unit is cooled by conduction to heat sink.

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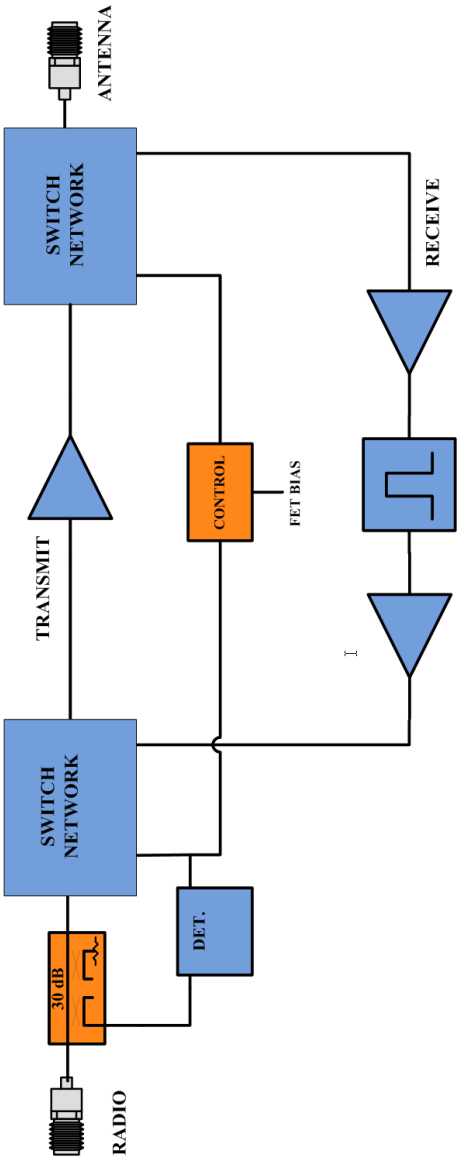
Block Diagram



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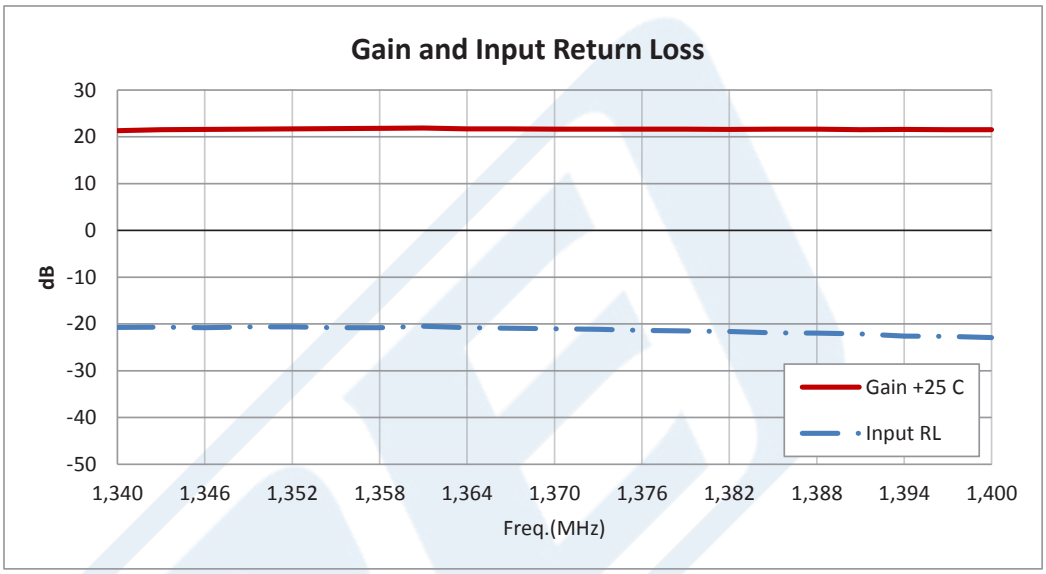
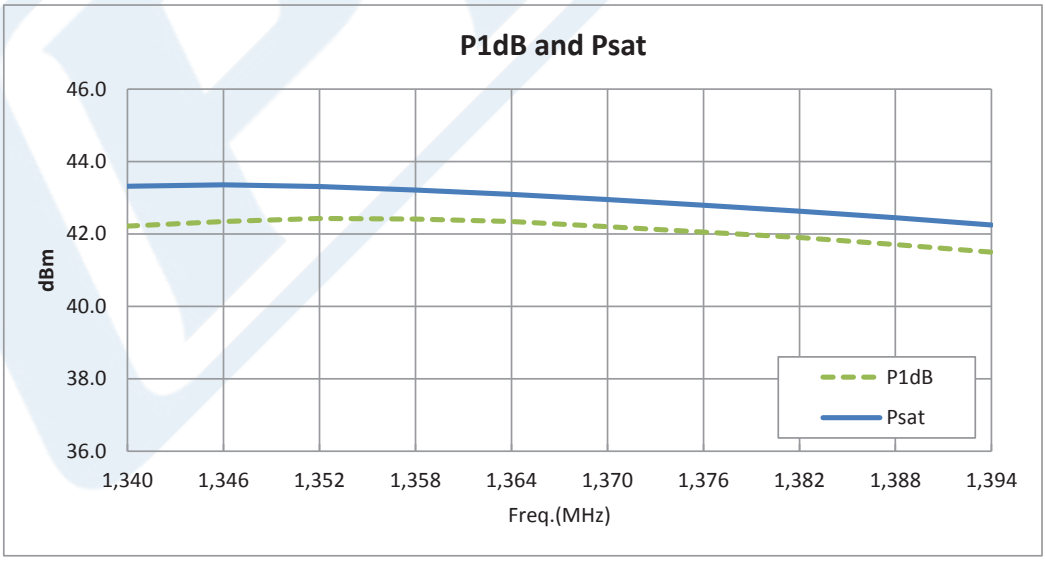
Typical Performance Data





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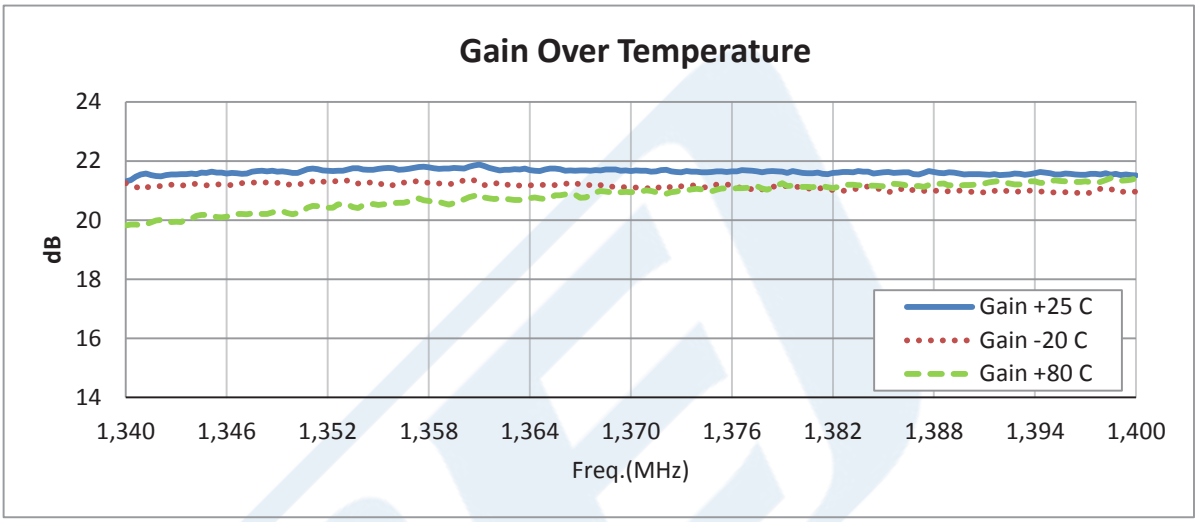

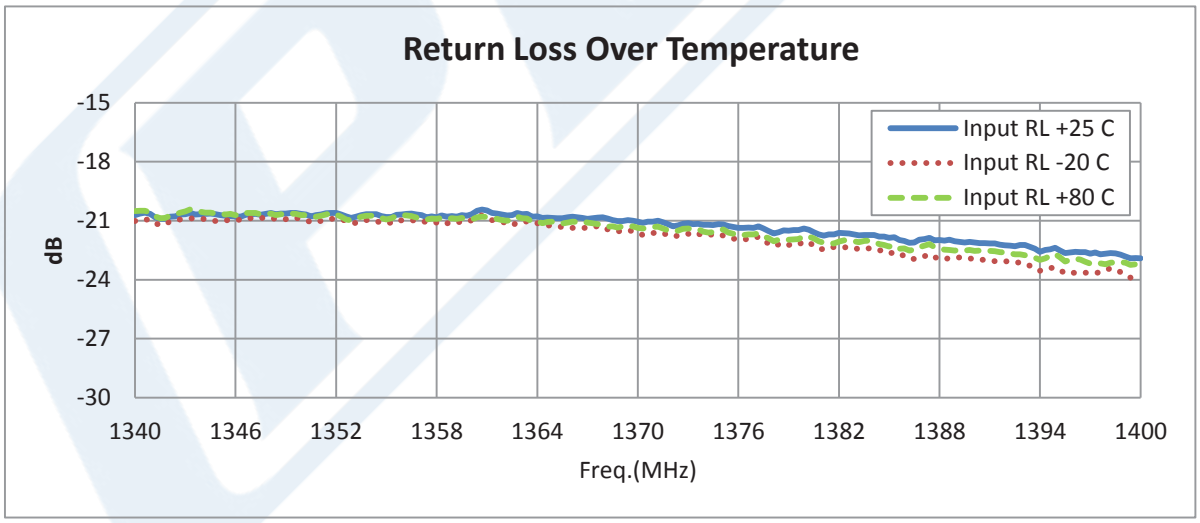

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URL: http://www.pasternack.com/high-power-bi-directional-amplifier-5-20-watts-1.39-ghz-sma-pe15b5001-p.aspx

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PE15B5001 CAD Drawing

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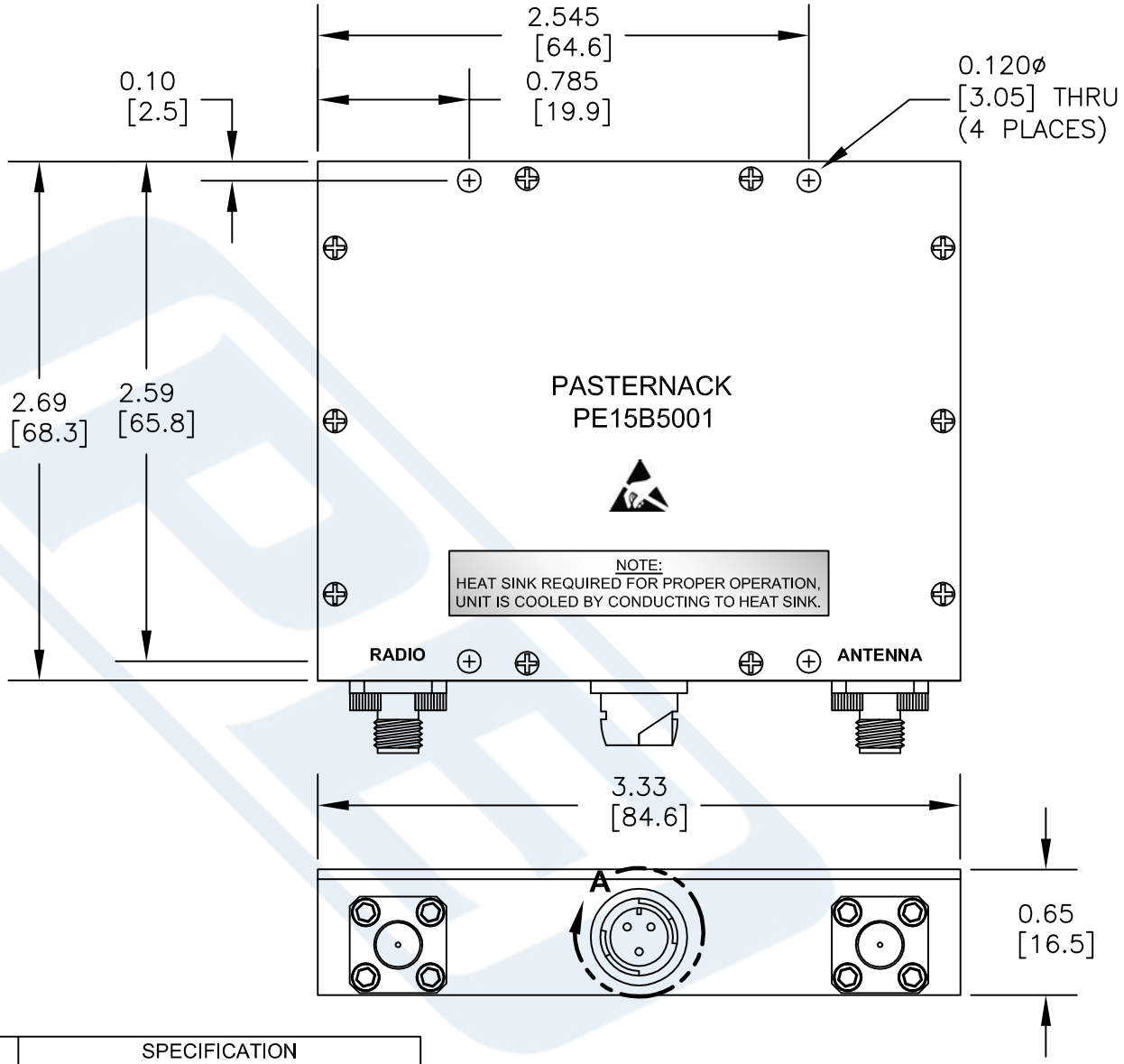

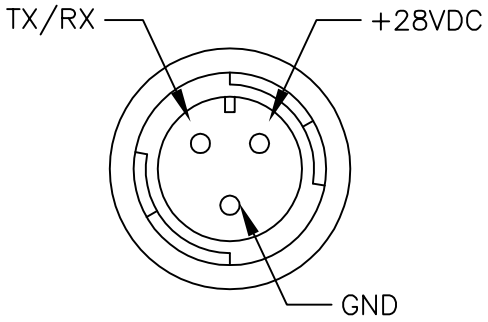

View A

PIN	DESCRIPTION	SPECIFICATION
TX/RX	Not Connected since AUTO SWITCHING is active	
GND	Ground	---
+VDC	DC Supply	+28 VDC

NOTE:
HEAT SINK REQUIRED FOR PROPER OPERATION,
UNIT IS COOLED BY CONDUCTING TO HEAT SINK.

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DWG TITLE

PE15B5001

NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].

FSCM NO. 53919	CAD FILE 012915	SCALE N/A	SIZE A	150