PASTERNACK®
THE ENGINEER'S RF SOURCE

24 dBm P1dB, 17 GHz to 24 GHz, Medium Power Broadband Amplifier, 22 dB Gain, 2.92mm

TECHNICAL DATA SHEET PE15A4028

The PE15A4028 distributed amplifier operates across a wide frequency range from 17 GHz to 24 GHz. The design utilizes leading edge GaAs PHEMT MMIC technology for high efficiency and high linearity. Typical performance at 17-20 GHz includes 22 dB of small signal gain, 3.5 dB noise figure, +33 dBm output IP3, and up to +25 dBm of Saturated Power. The design exhibits a very flat gain response across a wide frequency band. Input/output ports are matched for 50 ohms and are DC blocked. The design also incorporates integrated bias sequencing circuitry and voltage regulators to allow for flexible biasing for both the negative and positive voltage supplies. The drop-in package is hermetically sealed with field replaceable 2.92mm connectors. And for added confidence, this rugged package assembly is designed to meet MIL-STD-883 test conditions for Hermeticity and Temperature Cycle.

Features

- Driver Amplifier
- Wide Frequency Band
- GaAs PHEMT MMIC Technology
- Spurious-Free Operation
- Gain 22 dB
- High Output IP3 +33 dBm
- Saturated Output Power up to + 26 dBm typical
- Regulated Supply and Bias Sequencing
- Hermetically Sealed Module
- Mil Spec Compliant
- Field Replaceable 2.92mm Connectors
- -55°C to +85°C Operating Temperature

Applications

- Electronic Warfare
- Electronic Countermeasures
- Microwave Radio
- VSAT
- Radar
- Fiber Optic
- Space Systems
- Test Instrumentation
- Telecom Infrastructure

Electrical Specifications (TA = +25°C, DC Voltage = 12Volts)

Description	Minimum	Typical	Maximum	Units
Frequency Range	17		24	GHz
Gain		22		dB
Output at 1 dB Compression Point		+24		dBm
Operating DC Voltage 1		12		Volts
Operating DC Voltage 2		-5		Volts
Operating Temperature Range (OTR)	-55		+85	°C

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: 24 dBm P1dB, 17 GHz to 24 GHz, Medium Power Broadband Amplifier, 22 dB Gain, 2.92mm PE15A4028

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

Description	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range		17 - 20			20 - 24		GHz
Gain	19	22	24	19	22	24	dB
Gain Flatness		±1.0			±0.5		dB
Gain Variation Over Temperature		-0.03	-0.04		-0.03	-0.04	dB/ °C
Noise Figure		3.5	5.5		4.5	6.5	dB
Input Return Loss		7			7		dB
Output Return Loss		10			10		dB
Output Power For 1 dB Compression (P1dB)	20	23		20	24		dBm
Saturated Output Power (Psat)		25			26		dBm
Output Third Order Intercept (IP3)		33			33		dBm
Positive Supply Current (+Idc)		250			250		mA
Negative Supply Current (-Idc)		5.2			5.2		mA

Mechanical Specifications

Size

Length	1.086 in [27.58 mm]
Width	0.85 in [21.59 mm]
Height	0.36 in [9.14 mm]
Weight	0.09 lbs [40.82 g]
Connector Option	Field Replaceable
Input Connector	2.92mm Female
Output Connector	2.92mm Female

Environmental Specifications

Temperature

Operating Range	-55 to +85 deg C
Storage Range	-65 to +150 deg C

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Temperature Cycling	MIL-STD-883, Method 101C, Cond B
Hermetic Seal	Gross Leak MIL-STD-883 Method 1014C1/Fine Leak MIL-STD-883, Method 1014A2, 5 x 10-8 atm cc
ESD Sensitivity	ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.

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

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.

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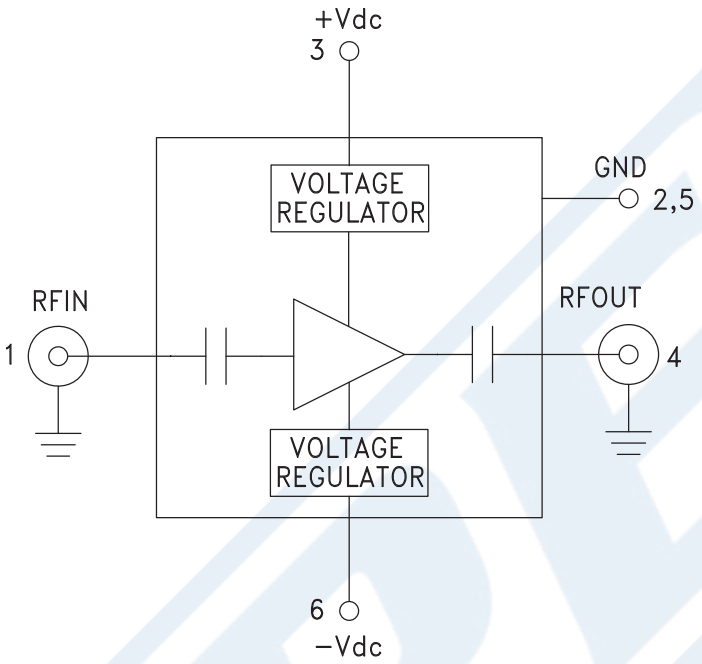
Functional Block Diagram



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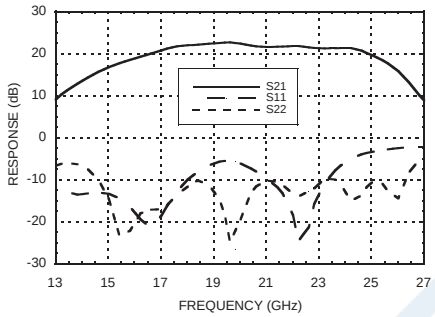
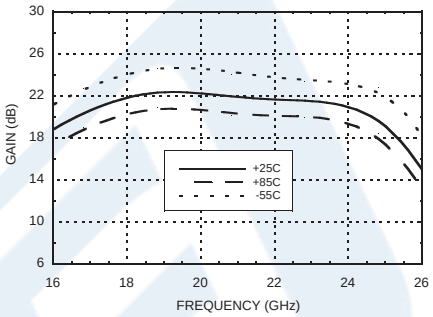
Typical Performance Data

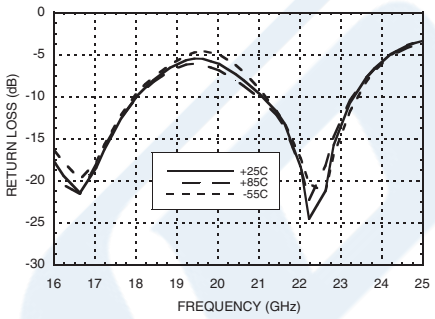
Gain & Return Loss



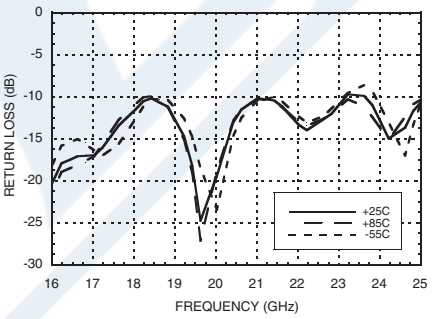
Gain vs. Temperature



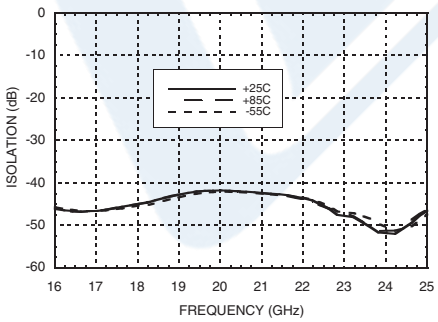
Input Return Loss vs. Temperature



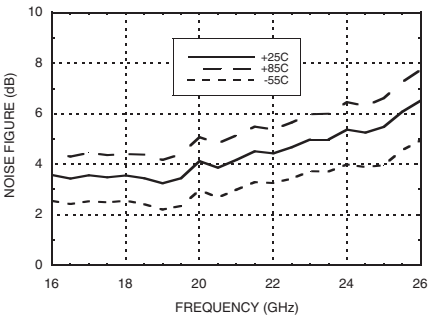
Output Return Loss vs. Temperature



Reverse Isolation vs. Temperature



Noise Figure vs. Temperature



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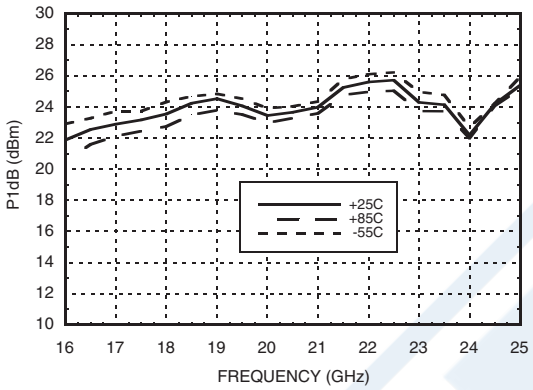
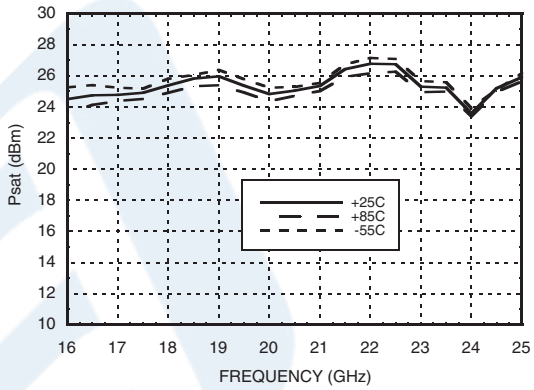
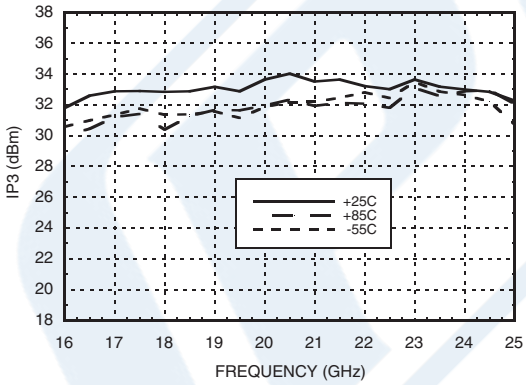
P1dB vs. Temperature



Psat vs. Temperature



Output IP3 vs. Temperature



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24 dBm P1dB, 17 GHz to 24 GHz, Medium Power Broadband Amplifier, 22 dB Gain, 2.92mm from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

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URL: http://www.pasternack.com/24-ghz-medium-power-broadband-amplifier-22-db-gain-2.92mm-pe15a4028-p.aspx

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PE15A4028 CAD Drawing

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