

Product Features

- Frequency Range = 17.7 – 20.2 GHz
- **Typical Noise figure = < = 1.5 dB**
- High Gain (50 dB)
- Gain Flatness < ± 0.5 dB
- Typical I/O VSWR <1.3:1/1.3:1
- Reverse Voltage Protection
- State-of-the-Art PHEMT Technology
- MIL-883, MIL-45208 construction and reliability
- Painted, Weatherproof package
- WR-42 Input and Output Flanges

Product Description

The product is a K-Band, high gain, low noise waveguide amplifier with very low input and output return loss. It is designed mainly for receiving systems for radar, SATCOM and other telecom applications.

Application

- Satellite Communications (SATCOM)
- Radar System
- Telemetry
- Point-to-Point System
- VSAT terminals

Key Parameters

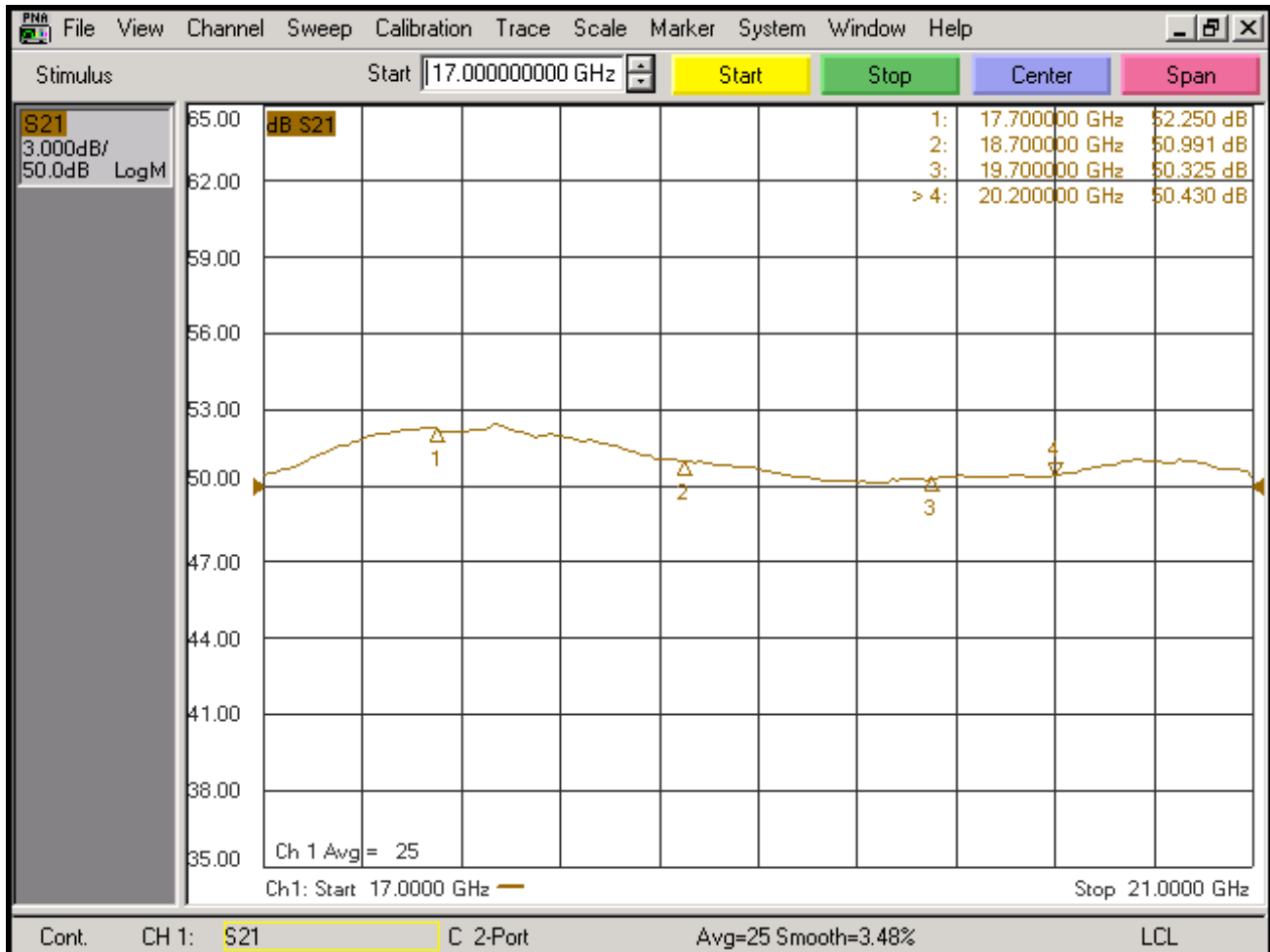
Parameter	Unit	Minimum	Typical	Maximum	Notes
Frequency	GHz	17.7	-	20.2	Customizable
Gain	dB	50	52	-	Customizable
Gain Flatness	dB	-	±1.5	±1.5	Customizable
In/Out VSWR	-	-	1.2	1.3	Customizable
Output P1dB	dBm	+8	+12	-	Customizable
DC Power	V@mA	+18		+18	@230 mA
Noise Figure	dB	-	2.0	2.1	23°C
Outline/Package	-	-	-	-	Custom

Absolute Maximum Ratings*

Parameters	Unit	Minimum	Maximum	Notes
Operating Temperature (Case)	°C	-40	+95	95% humidity, non-condensing
Storage Temperature (Case)	°C	-54	+115	95% humidity, non-condensing
RF Input Power	dBm	-	+16	CW
Die Junction Temp (Tj)	°C	-	+150	For GaAs devices
Positive Supply Voltage	V	-	+16	At +V DC terminal
Negative Voltage	V	-	-10	Reverse Voltage

* Stresses above those listed under "Absolute Maximum Rating" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability. All STANDARD units are packaged in Aluminum housings that are layered with electroless Nickel and then plated with Gold to eliminate contamination of other adjacent electronic components.

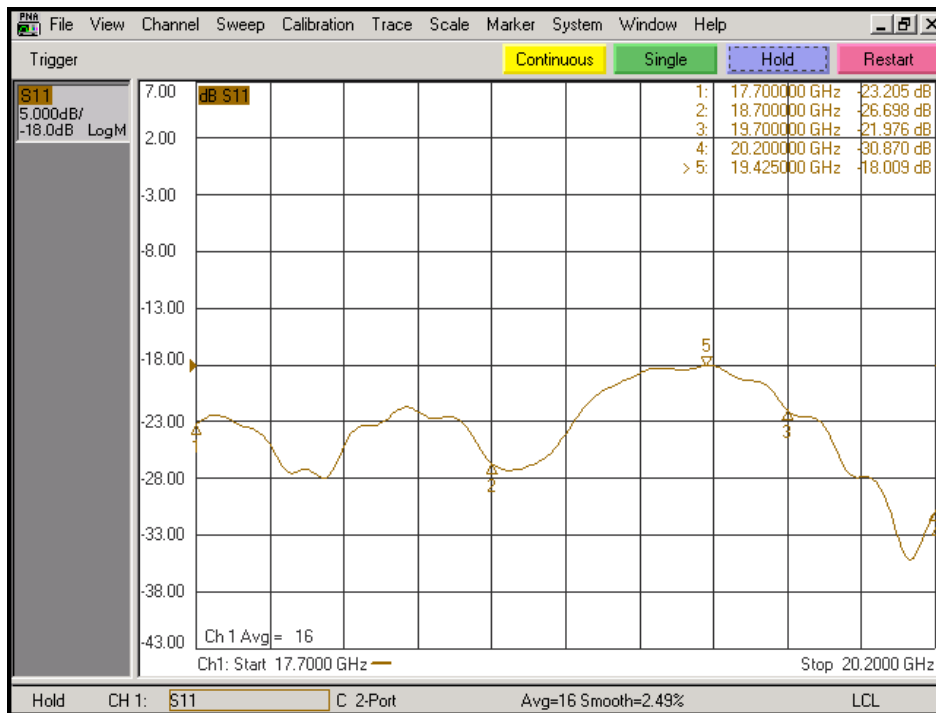
Typical Measured Data



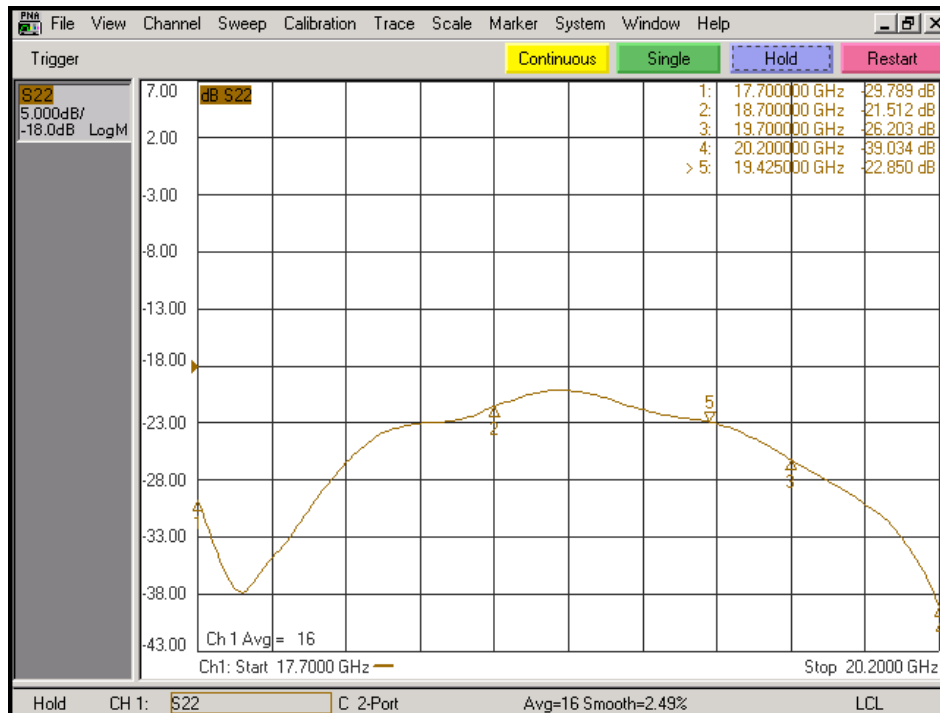
Data taken with Agilent N5242 PNA-X Vector Network Analyzer

Typical Data Continued

Input Return Loss



Output Return Loss



Data taken with Agilent N5242 PNA-X Vector Network Analyzer

Typical Data Continued

IMPORTANT – MUST USE HEAT SINK IF CASE TEMPERATURE EXCEEDS 50°C

Specifications at 23°C			
Frequency	17.7- 20.2 GHz	Output Power @ 1dB Comp. Pt:	+ 20 dBm
Gain	50 dB min.	Voltage/Current: DC Power	+15 VDC @250 mA, nom.
Gain Flatness	± 1 dB max	Measured Current:	248 mA
VSWR Input	1.3:1	Max. Noise Figure:	1.5 dB
VSWR Output	1.3:1 Z=50 Ohms	Outline: Model:	D22 10159B/10049A

Note: Test data taken with case temperature of +23 °C

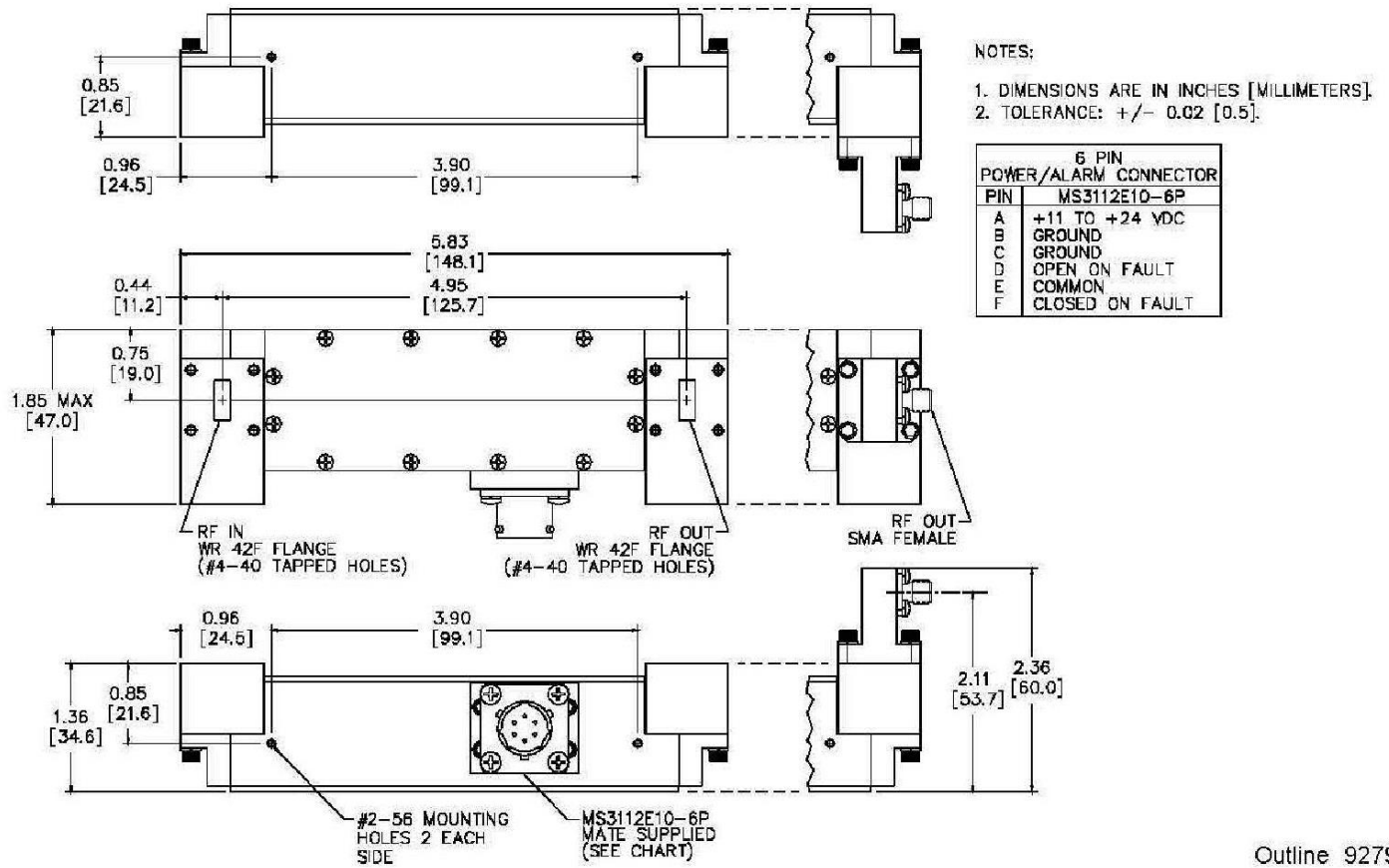
Frequency (GHz)	Gain (dB)	VSWR		Noise Figure (dB)	Output Power @ 1dB Comp. (+dBm)
		In	Out		
17.7	52.2	1.15	1.06	1.35	20.5
18.7	51	1.10	1.17	1.39	20.5
19.7	50.3	1.17	1.11	1.42	21
20.2	50.4	1.08	1.15	1.48	20.5

Data taken at 23°C unless otherwise stated.

Outline Drawing

Standard Ka-Band LNA ...

... and with Option 7, SMA output connector



Outline 9279

Note: Custom outline options available