

Typical Key Parameters at 23°C

Parameter	Unit	Minimum	Typical	Maximum	Notes
Frequency	GHz	4.0	-	8.0	Customizable
Gain	dB	-	24	-	Customizable
Gain Flatness	dB	-	±1.0	-	Customizable
In/Out VSWR	-	-	1.5:1	-	Customizable
Output P1dB	dBm	-6	0	-	Customizable
DC Power	V@mA	-	+0.5	+0.6	8 mA typ.
Noise Figure	dB	-	0.6	-	@23°C
Outline/Package	-	-	-	-	D4/custom

Absolute Maximum Ratings*

Parameters	Unit	Minimum	Maximum	Notes
Operating Temperature (Case)	K	+4	+350	95% humidity, non-condensing
Storage Temperature (Case)	K	-	+300	95% humidity, non-condensing
RF Input Power	dBm	-	-10	CW
Die Junction Temp (Tj)	°C	-	+150	For GaAs devices
Positive Supply Voltage	V	+0.5	+0.6	At +V DC terminal
Negative Voltage	V	N/A	N/A	Reverse Voltage

Product Features

- Frequency Range = 4.0 to 8.0 GHz
- Typical Noise Temp = 2.1K at 4K case temp
- Typical Gain = 24 dB
- State-of-the-Art PHEMT Technology
- MIL-883, MIL-45208 construction and reliability
- Single +0.5V Biasing @~3 mA at 4K
- No dual power supply or connector needed
- SMA female connectors
- 0.030" diameter pins for DC and GND
- Custom gain and frequency options available

Product Description

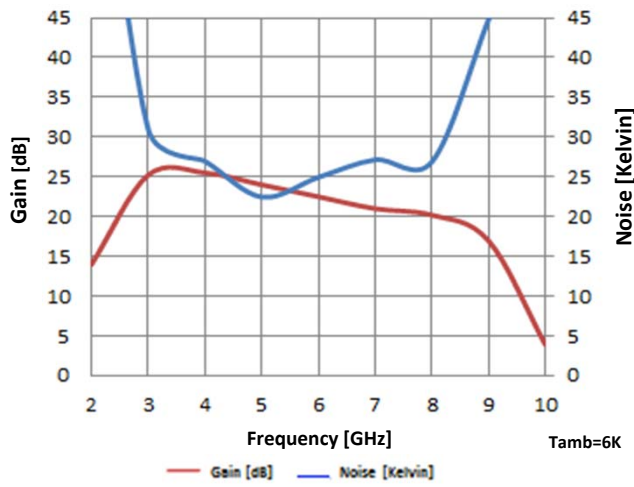
This model APTC2-04000800-2K00-D4 is an octave band LNA which is designed for cryogenic applications down to 2.1K with an industry low Noise Figure of 40K at +23°C case temperature across the band. The LNA has a low gain flatness and VSWR across the entire band.

Applications

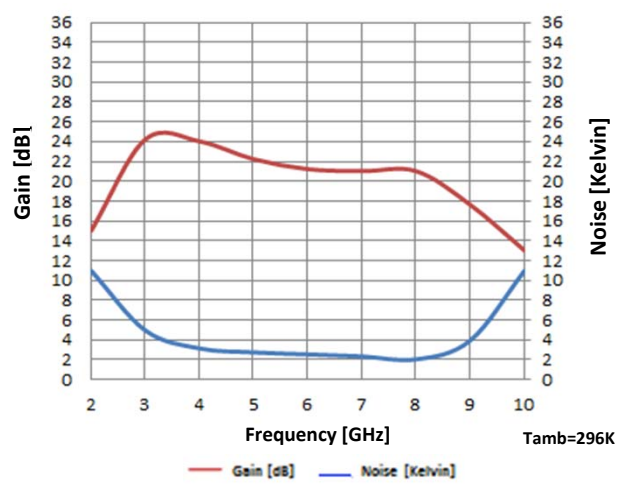
- Radiometers
- Nanophysics (Electron spin resonance)
- Astronomy/Observatory Receivers
- Superconductor Research Labs
- Satellite Earth Stations

** 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.*

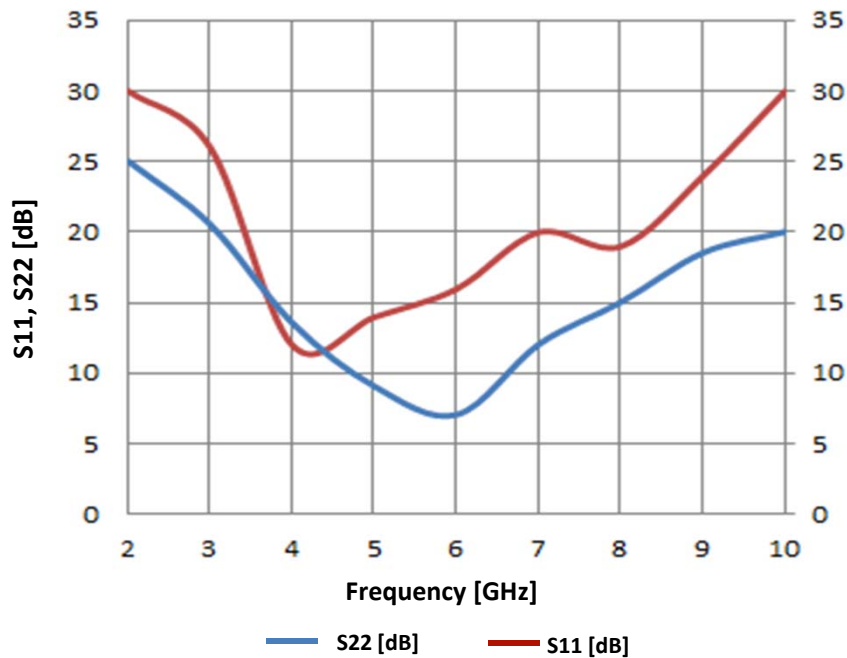
Gain and Noise



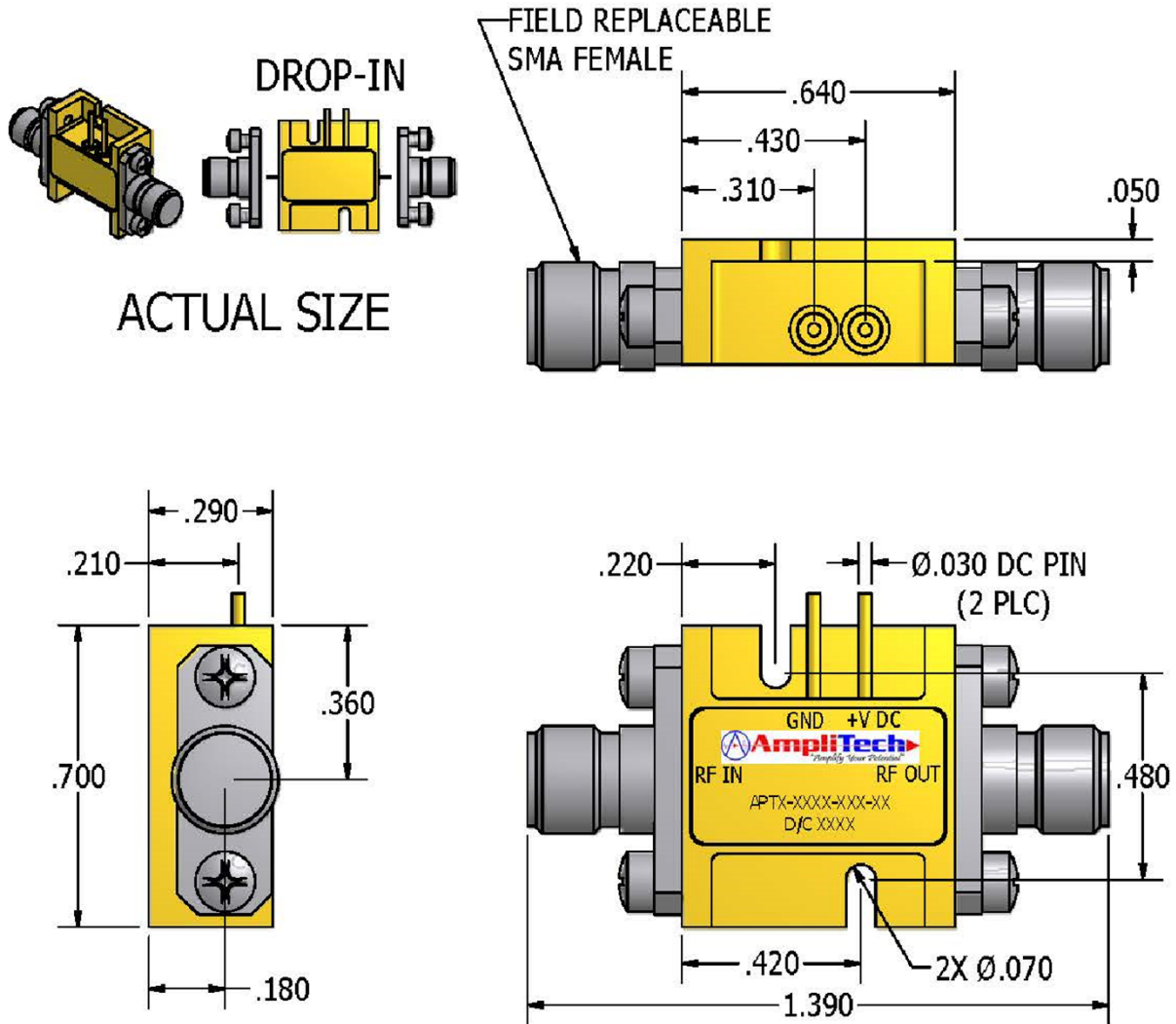
Gain and Noise



In/Out Return Loss



Outline Drawing



Note: Custom outline options available