KU LNA 10001100 A, Super Low Noise Preamplifier

10000 ... 11000 MHz

Features

- Low noise figure
- Unconditionally stable - no parasitic oscillations in case of poor antenna match
- Milled aluminium case
- Small mechanical dimensions

Important notes

- The preamplifier does not contain built-in coaxial relays!
- Maximum input power 1 mW

Technical specifications:

Frequency range	10000..11000 MHz
Noise figure @ 18 °C	typ. 0.7 dB, max. 0.8 dB
Gain	min. 22 dB
Maximum input power	1 mW
Output power (P1dB)	min. +5 dBm
Output IP3	typ. +15 dBm
Input return loss (S11)	typ. 13 dB, min. 8 dB
Output return loss (S22)	min. 10 dB
Supply voltage	+9 ... 15 V DC
Current consumption	typ. 30 mA
Operating case temp. range	-20 ... +55 °C
Input connector / impedance	Waveguide R100 / WG16 / WR90
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	73 x 40 x 20
Weight	130 g (typ.)

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KU LNA 133 BH, Super Low Noise Amplifier

1200 ... 1400 MHz

Features

- Low noise figure
- High gain
- Reverse polarity protection
- Very good input return loss (S11)
- Solder pin for direct power supply
- Remote power supply via output connector

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment
- Radar receiving systems

Important notes

- Maximum input power 1 mW

Technical specifications:

Frequency range	1200..1400 MHz
Noise figure @ 18 °C	typ. 0.7 dB, max. 0.8 dB
Gain	min. 30 dB
Maximum input power	1 mW
Output IP3	typ. +29 dBm
Input return loss (S11)	min. 15 dB
Output return loss (S22)	min. 10 dB
Supply voltage	+12 V DC
Current consumption	typ. 100 mA
Operating case temp. range	-40 ... +65 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	73 x 30 x 20
Weight	80 g (typ.)

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KU LNA 142 AH, Super Low Noise Preamplifier

1350 ... 1450 MHz

Super Low Noise Amplifier for Radio Astronomy

Description

Our radio astronomy preamplifier for the 1400 MHz band provides an extremely low noise figure. It is excellent for receiving weak signals from space. The preamplifier can be added to the receiving system without additional adaptors because of the male input connector and female output connector.

Features

- Extremely low noise figure
- Good input return loss (low VSWR)
- Unconditionally stable - no parasitic oscillations in case of poor antenna match
- Milled aluminium case
- Small mechanical dimensions

Important notes

- The preamplifier does not contain built-in coaxial relays!
- Maximum input power 1 mW

Technical specifications:

Frequency range	1350..1450 MHz
Noise figure @ 18 °C	0.4 dB +/- 0,05
Gain	typ. 33 dB
Maximum input power	1 mW
Supply voltage	+9 ... 15 V DC
Current consumption	typ. 80 mA
Operating case temp. range	-40 ... +65 °C
Input connector / impedance	N-male, 50 ohms
Output connector / impedance	N-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	73 x 30 x 22
Weight	140 g (typ.)

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KU LNA 152 AH, Super Low Noise Amplifier

1520 ... 1560 MHz

Super Low Noise Amplifier for Satellite Reception

Features

- Low noise figure
- Unconditionally stable - no parasitic oscillations in case of poor antenna match
- Solder pin for direct power supply (feed-through capacitor)
- Remote power supply via output connector

Applications

- Low noise amplifier for satellite reception

Important notes

- Amplifier does not contain a coaxial relay!
- Maximum input power 1 mW

Technical specifications:

Frequency range	1520..1560 MHz
Noise figure @ 18 °C	max. 0.4 dB
Gain	typ. 33 dB
Maximum input power	1 mW
Supply voltage	+9 ... 15 V DC
Current consumption	typ. 65 mA
Operating case temp. range	-20 ... +65°C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	73 x 30 x 20
Weight	140 g (typ.)

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KU LNA 163 BH, Super low noise preamplifier

1500 ... 1700 MHz

Features

- Low noise figure
- High gain
- Reverse polarity protection
- Very good input return loss (S11)
- Solder pin for direct power supply
- Remote power supply via output connector

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment
- Radar receiving systems

Important note

- Maximum input power 1 mW

Technical specifications:

Frequency range	1500..1700 MHz
Noise figure @ 18 °C	typ. 0.7 dB, max. 0.8 dB
Gain	min. 31 dB
Maximum input power	1 mW
Output IP3	typ. 26 dBm
Input return loss (S11)	typ. 18 dB
Output return loss (S22)	typ. 10 dB
Supply voltage	+12 V DC
Current consumption	typ. 100 mA
Operating case temp. range	-40 ... +85°C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	73 x 30 x 20
Weight	80 g (typ.)

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KU LNA 183 BH, Super Low Noise Amplifier

1600 ... 1900 MHz

Features

- Low noise figure
- High gain
- Reverse polarity protection
- Very good input return loss (S11)
- Solder pin for direct power supply
- Remote power supply via output connector

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment
- Radar receiving systems

Important note

- Maximum input power 1 mW

Technical specifications:

Frequency range	1600..1900 MHz
Noise figure @ 18 °C	typ. 0.6 dB, max. 0.7 dB
Gain	min. 29 dB
Maximum input power	1 mW
Output IP3	typ. +33 dBm
Input return loss (S11)	min. 10 dB
Output return loss (S22)	min. 11 dB
Supply voltage	+12 V DC
Current consumption	typ. 100 mA
Operating case temp. range	-20 ... +65°C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	73 x 30 x 20
Weight	80 g (typ.)

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KU LNA 222 AH, Super Low Noise Amplifier

2200 ... 2400 MHz

Satellitenbodenstation **Analoge & Digitale Übertragungsysteme**

Features

- Low noise figure
- High IP3
- Reverse polarity protection
- Solder pin for direct power supply
- Small mechanical dimensions
- Remote power supply via output connector

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment

Important notes

- Amplifier does not contain a coaxial relay!
- Maximum input power 1 mW

Technical specifications:

Frequency range	2200..2400 MHz
Noise figure @ 18 °C	typ. 0.5 dB, max. 0.6 dB NF
Gain	typ. 30 dB
Maximum input power	1 mW
Output IP3	typ. +27 dBm
Supply voltage	+9 ... 15 V DC
Current consumption	typ. 80 mA
Operating case temp. range	-40 ... +65 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	73 x 30 x 20
Weight	90 g (typ.)

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KU LNA 24002600 A, Super Low Noise Amplifier

24000 ... 26000 MHz

Analog & digital transmission systems

Features

- Reverse polarity protection
- Small mechanical dimensions
- Solder pin for direct power supply

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment

Important note

- Maximum input power 1 mW

Technical specifications:

Frequency range	24000..26000 MHz
Noise figure @ 18 °C	typ. 2.5 dB NF, max. 2.8 dB NF
Gain	typ. 23 dB, min. 22 dB
Maximum input power	1 mW
Output power (P1dB)	min. 5 mW
Input return loss (S11)	min. 10 dB
Output return loss (S22)	min. 8 dB
Supply voltage	+9 ... 15 V DC
Current consumption	typ. 70 ... 90 mA
Ambient temperature	-20 ... +65 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	50 x 30 x 17
Weight	50 g (typ.)

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KU LNA 3436 C, Super Low Noise Amplifier

3400 ... 3600 MHz

analog & digital transmission systems **DVB-T** **DVB-S** **COFDM**

Description

The low noise preamplifier KU LNA 3436 C was developed for applications in the frequency range from 3.4 to 3.6 GHz. As example for analog or digital directional radio links with DVBT-DVBS-COFDM and QPSK modulation. A high stimulus capability and simultaneously a low noise figure makes the preamplifier for many applications usable.

Features

- Extremely low noise figure
- Unconditionally stable - no parasitic oscillations in case of poor antenna match
- Professional milled aluminium case
- Small mechanical dimensions
- High IP3 for good large signal performance

Important notes

- Amplifier does not contain a coaxial relay!
- Maximum input power 1 mW

Technical specifications:

Frequency range	3400..3600 MHz
Noise figure @ 18 °C	typ. 0.7 dB, max. 0.8 dB
Gain	typ. 24 dB
Maximum input power	1 mW
Supply voltage	+9 ... 15 V DC
Current consumption	typ. 80 mA
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	73 x 30 x 20
Weight	75 g (typ.)

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KU LNA 4450 A, Super Low Noise Amplifier

4400 ... 5000 MHz

Preliminary data!

Features

- Low noise figure
- High gain
- Reverse polarity protection
- Solder pin for direct power supply

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment

Important note

- Maximum input power 1 mW

Technical specifications:

Frequency range	4400..5000 MHz
Noise figure @ 18 °C	typ. 0.8 dB, max. 0.9 dB NF
Gain	min. 24 dB
Maximum input power	1 mW
Output power (P1dB)	typ. 20 mW (+13 dBm)
Output IP3	typ. +23 dBm (4750 MHz)
Input return loss (S11)	min. 6 dB
Output return loss (S22)	min. 9 dB
Supply voltage	+8 ... 14 V DC
Current consumption	typ. 110 mA
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	50 x 30 x 17
Weight	40 g (typ.)

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KU LNA 4450 B, Super Low Noise Amplifier

4400 ... 5000 MHz

Features

- Low noise figure
- High gain
- High IP3
- Reverse polarity protection
- Small mechanical dimensions
- Solder pin for direct power supply
- Remote power supply via output connector

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment

Important note

- Maximum input power 1 mW

Technical specifications:

Frequency range	4400..5000 MHz
Noise figure @ 18 °C	typ. 1,0 dB
Gain	typ. 28 dB
Maximum input power	1 mW
Output power (P1dB)	typ. 25 mW (+14 dBm)
Output IP3	typ. 24 dBm
Input return loss (S11)	typ. 6 dB
Output return loss (S22)	typ. 9 dB
Supply voltage	+6 ... 14 V DC
Current consumption	typ. 90 mA
Operating case temp. range	-20 ... +55 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	23 x 24.5 x 9
Weight	15 g (typ.)

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KU LNA BB 0112 A, Low Noise Broadband Amp.

100 ... 12000 MHz

Test equipment **EMC** **analog & digital transmission systems**

Features

- Large bandwidth
- Solder pin for direct power supply
- Reverse polarity protection
- Small mechanical dimensions

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment

Important note

- Maximum input power 1 mW

Technical specifications:

Frequency range	100..12000 MHz
Noise figure @ 18 °C	typ. 6 dB
Gain	typ. 20 dB
Maximum input power	1 mW
Supply voltage	+12 ... 15 V DC
Current consumption	typ. 100 mA
Operating case temp. range	-20 ... +65°C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	50 x 30 x 17
Weight	40 g (typ.)

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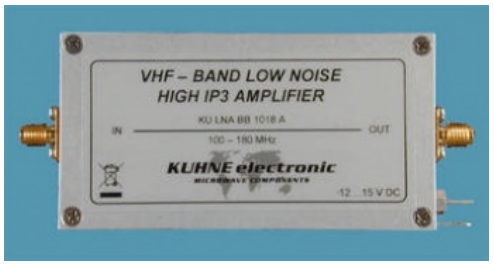
KU LNA BB 1018 A, Low Noise Broadband Amplifier

100 ... 180 MHz

analog & digital transmission systems **high IP3**



Description

This high linear preamplifier was developed for applications in VHF communication band. It is suitable especially for applications where a high intermodulation distortion ratio and at the same time a high input sensitivity are used. The coupling happened through 3dB hybrids, which guarantee an excellent input SWR and linearity of the preamplifier. The voltage supply via coax cable (remote power supply) or direct at the case is possible.

Features

- Low noise figure
- Large bandwidth
- High IP3 and high output power
- Very good input return loss (S11)
- Static protection (ESD) at preamplifier input
- Overvoltage protection and reverse polarity protection
- Remote power supply via output connector
- Solder pin for direct power supply
- Milled aluminium case

Applications

- Analog and digital transmission systems
- Suitable for large signal environments
- Amplifier for low power applications
- Driver amplifier

Important notes

- Maximum input power +20 dBm (100 mW)

Technical specifications:

Frequency range	100..180 MHz
Noise figure @ 18 °C	typ. 1.0 dB, max. 1.3 dB NF
Gain	min. 20 dB
Gain flatness	max. +/- 2 dB
Maximum input power	100 mW
Output power (P1dB)	typ. 630 mW (+28 dBm)
Output power (Psat)	min. 1000 mW (+30 dBm)
Output IP3	typ. 44 dBm
Input return loss (S11)	min. 10 dB
Output return loss (S22)	typ. 15 dB
Supply voltage	+12 ... 15 V DC
Current consumption	typ. 400 mA
Operating case temp. range	-20 ... +55 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms

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Case	milled aluminium
Dimensions (mm)	78 x 41 x 22
Weight	100 g (typ.)

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KU LNA BB 1020 A, Low Noise Broadband Amplifier

1000 ... 2000 MHz

Description

This high linear preamplifier was developed in 1...2 GHz directional radio link. It is suitable especially for applications where a high intermodulation distortion ratio and at the same time a high input sensitivity are used. As example for RADAR preamplifiers or for digital directional radio distance with DVBT-DVBS-COFDM and QPSK modulation. The coupling happend through 3dB hybrids, which guarantee an excellent input SWR and linearity of the preamplifier. A high stimulus capability and simultaneously a low noise figure makes the preamplifier for many applications usable. The voltage supply via coax cable (remote power supply) or direct at the case is possible.

Features

- Low noise figure
- High IP3
- Good input return loss (S11)
- Static protection (ESD) at preamplifier input
- Overvoltage protection and reverse polarity protection
- Remote power supply via output connector
- Solder pin for direct power supply

Application

- Analog and digital transmission systems
- Measurement and laboratory equipment

Important notes

- Amplifier does not contain a coaxial relay!
- Maximum input power 10 mW

Technical specifications:

Frequency range	1000..2000 MHz
Noise figure @ 18 °C	typ. 0.8 dB, max. 1.0 dB NF
Gain	min. 28 dB
Maximum input power	10 mW
Output power (P1dB)	typ. 200 mW (+23 dBm)
Output IP3	typ. +37 dBm
Input return loss (S11)	min. 10 dB
Output return loss (S22)	typ. 10 dB
Supply voltage	+12 ... 15 V DC
Current consumption	typ. 350 mA
Operating case temp. range	-20 ... +65°C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	78 x 41 x 22
Weight	100 g (typ.)

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KU LNA BB 1522 A, Low Noise Broadband Amplifier

1500 ... 2200 MHz

Features

- Low noise figure
- High IP3
- Good input return loss (S11)
- Static protection (ESD) at preamplifier input
- Overvoltage protection and reverse polarity protection
- Remote power supply via output connector
- Solder pin for direct power supply

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment

Important notes

- Amplifier does not contain a coaxial relay!
- Maximum input power 5 mW

Technical specifications:

Frequency range	1500..2200 MHz
Noise figure @ 18 °C	typ. 0.8 dB, max. 1.0 dB NF
Gain	min. 27 dB
Maximum input power	5 mW
Output power (P1dB)	typ. 80 mW (+19 dBm)
Output power (Psat)	min. 100 mW (+20 dBm)
Output IP3	typ. 36 dBm
Input return loss (S11)	min. 13 dB
Output return loss (S22)	typ. 10 dB
Supply voltage	+12 ... 15 V DC
Current consumption	typ. 250 mA
Operating case temp. range	-20 ... +65°C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	78 x 41 x 22
Weight	100 g (typ.)

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KU LNA BB 2001200 A, Low Noise Amplifier

2000 ... 12000 MHz

analog & digital transmission systems **high IP3** **test equipment**

Features

- Large bandwidth
- Low noise figure
- High gain
- High IP3
- Reverse polarity protection
- Small mechanical dimensions
- Solder pin for direct power supply
- Remote power supply via output connector

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment

Important note

- Maximum input power 1 mW

Technical specifications:

Frequency range	2000..12000 MHz
Noise figure @ 18 °C	2,0..2,6 dB (2000...8000 MHz)
	2,5..3,0 dB (8000...12000 MHz)
Gain	typ. 30 dB, min. 28 dB
Maximum input power	1 mW
Output power (P1dB)	typ. 13 dBm (2000 ... 8000 MHz)
	typ. 7 dBm (8000 ... 12000 MHz)
Output IP3	typ. 18 dBm (2000 ... 8000 MHz)
	typ. 10 dBm (8000 ... 12000 MHz)
Input return loss (S11)	typ. 10 dB
Supply voltage	+8 ... 14 V DC
Current consumption	typ. 100 mA
Operating case temp. range	-20 ... +55 °C
Case	milled aluminium
Dimensions (mm)	23 x 24.5 x 9
Weight	15 g (typ.)

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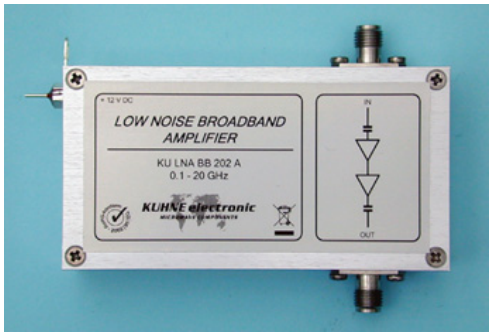
KU LNA BB 202 A, Low Noise Broadband Preamplifier

100 ... 20000 MHz



Features

- Large bandwidth
- Low noise figure
- Very good input return loss (S11)
- Solder pin for direct power supply
- Reverse polarity protection
- Milled aluminium case

Applications

- Measurement and laboratory equipment
- Analog and digital transmission systems

Technical specifications:

Frequency range	100..20000 MHz
Noise figure @ 18 °C	typ. 3.5 dB, max 5.5 dB
Gain	25 ... 28 dB
Gain flatness	max. +/- 3 dB
Output IP3	min. +27 dBm (100 ... 5000 MHz)
Input return loss (S11)	typ. 10 dB
Output return loss (S22)	typ. 10 dB
Supply voltage	+12 ... 14 V DC
Current consumption	typ. 190 mA
Operating case temp. range	-20 ... +65°C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	78 x 41 x 22
Weight	100 g (typ.)

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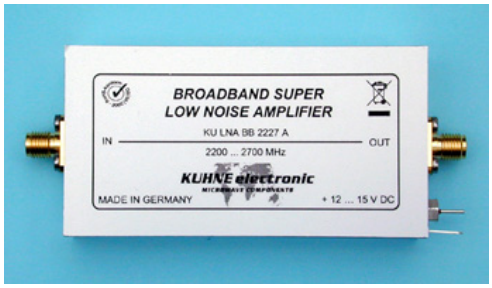
KU LNA BB 2227 A, Low Noise Broadband Amplifier

2200 ... 2700 MHz



Features

- Low noise figure
- High IP3
- Internal band-pass filter
- Good input return loss (S11)
- Static protection (ESD) at preamplifier input
- Overvoltage protection and reverse polarity protection
- Remote power supply via output connector
- Solder pin for direct power supply

Applications

- Digital broadcast systems (DVB-T, DVB-S)
- Multichannel Multipoint Distribution Service (MMDS)
- Analog and digital transmission systems
- Measurement and laboratory equipment

Important notes

- Amplifier does not contain a coaxial relay!
- Maximum input power 5 mW

Technical specifications:

Frequency range	2200..2700 MHz
Noise figure @ 18 °C	typ. 0.9 dB, max 1.2 dB
Gain	min. 25 dB
Maximum input power	5 mW
Output power (P1dB)	typ. 200 mW (+23 dBm)
Output IP3	typ. +33 dBm
Input return loss (S11)	typ. 13 dB
Output return loss (S22)	typ. 10 dB
Supply voltage	+12 ... 15 V DC
Current consumption	typ. 250 mA
Operating case temp. range	-40 ... +65 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	78 x 41 x 22
Weight	110 g (typ.)

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KU LNA BB 2240 A, Low Noise Broadband Preamplifier

225 ... 400 MHz

Description

The high linear preamplifier KU LNA BB2240 A is designed for the UHF communications band. It features best large signal performance and a low noise figure. Internally it uses 3dB hybrids for input and output coupling. This leads to good input return loss, output return loss and high third order intercept point (IP3). The preamplifier contains a bias-T for remote power supply via coaxial cable and a solder pin for direct power supply.

Features

- Low noise figure
- Large bandwidth
- High IP3 and high output power
- Very good input return loss (S11)
- Static protection (ESD) at preamplifier input
- Overvoltage protection and reverse polarity protection
- Remote power supply via output connector
- Solder pin for direct power supply
- Milled aluminium case

Applications

- Analog and digital transmission systems
- Suitable for large signal environments
- Amplifier for low power applications
- Driver amplifier

Important note

- Maximum input power +20 dBm (100 mW)

Technical specifications:

Frequency range	225..400 MHz
Noise figure @ 18 °C	typ. 1.1 dB, max. 1.5 dB
Gain	typ. 20 dB
Gain flatness	max. +/- 2.5 dB
Maximum input power	100 mW
Output power (P1dB)	typ. 630 mW (+28 dBm)
Output power (Psat)	min. 1000 mW (+30 dBm)
Output IP3	typ. 44 dBm
Input return loss (S11)	typ. 15 dB, min. 11 dB
Output return loss (S22)	typ. 15 dB, min. 11 dB
Supply voltage	+12 ... 15 V DC
Current consumption	typ. 400 mA
Operating case temp. range	-20 ... +55 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	78 x 41 x 22
Weight	100 g (typ.)

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KU LNA BB 3000 A, Low Noise Broadband Amplifier

10 ... 3000 MHz

analog & digital transmission systems **test equipment**

Description

This low noise broad band amplifier is designed to cover the frequency range from 10...3000 MHz with a gain of 25...30 dB. The noise figure is max. 2.5 dB.

Features

- Large bandwidth
- Solder pin for direct power supply
- Reverse polarity protection
- Small mechanical dimensions

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment

Important notes

- Amplifier does not contain a coaxial relay!
- Maximum input power 1 mW

Technical specifications:

Frequency range	10..3000 MHz
Noise figure @ 18 °C	typ. 1.5 dB, max 2.5 dB
Gain	25 ... 30 dB
Maximum input power	1 mW
RF input protection	PIN diodes
Output IP3	min. +26 dBm, typ. +30 dBm
Supply voltage	+12 ... 15 V DC
Current consumption	typ. 150 mA
Operating case temp. range	-40 ... +85°C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	50 x 30 x 17
Weight	45 g (typ.)

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KU LNA BB 3000 C-N, Low Noise Broadband Amplifier

10 ... 3000 MHz

analog & digital transmission systems **test equipment**

Description

This low noise broad band amplifier is designed to cover the frequency range from 10...3000 MHz with a gain of 25...30 dB. The noise figure is max. 2.5 dB.

Features

- Large bandwidth
- Solder pin for direct power supply
- Reverse polarity protection
- Small mechanical dimensions

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment

Important notes

- Amplifier does not contain a coaxial relay!
- Maximum input power 1 mW

Technical specifications:

Frequency range	10..3000 MHz
Noise figure @ 18 °C	typ. 1.5 dB, max 2.5 dB
Gain	25 ... 30 dB
Maximum input power	1 mW
RF input protection	PIN diodes
Output IP3	min. +26 dBm, typ. +30 dBm
Supply voltage	+12 ... 15 V DC
Current consumption	typ. 150 mA
Operating case temp. range	-40 ... +85°C
Input connector / impedance	N-female, 50 ohms
Output connector / impedance	N-male, 50 ohms
Case	milled aluminium
Dimensions (mm)	50 x 30 x 22
Weight	100 g (typ.)

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KU LNA BB 2533 A, Low Noise Broadband Amplifier

Description

Features

Application

Important notes

Technical specifications:

Frequency range	2500..3300 MHz
Noise figure @ 18 °C	typ. 1.2 dB, max. 1.3 dB
Gain	typ. 33 dB, min. 31 dB
Maximum input power	2 mW
Output IP3	typ. +30 dBm
Input return loss (S11)	typ. 12 dB
Output return loss (S22)	typ. 10 dB
Supply voltage	+12 ... 15 V DC
Current consumption	typ. 120 mA
Operating case temp. range	-20 ... +65°C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	78 x 41 x 22
Weight	110 g (typ.)

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KU LNA BB 050700 A, Broadband Low Noise Amplifier

500 ... 7000 MHz

Monitoring systems test equipment

This super low noise wideband amplifier was designed to cover the 500 ... 7000 MHz. The noise figure is typ. 1.6 dB at 40 dB gain. Concurrently the broadband amplifier comes with a high IP3 and a output power of >100 mW. With this outstanding performences, this amplifier may be used for many applications.

Features

- High IP3
- Large bandwidth
- Reverse polarity protection
- Solder pin for direct power supply
- Small mechanical dimensions
- Super Low Noise
- Remote power supply via output connector

Applications

- Measurement and laboratory equipment
- Broadband amplifier for spectrum analysis
- Low noise broadband amplifier for monitoring systems
- Broadband power amplifier for networkanalysis (sweep oscillators)

Important notes

- Amplifier does not contain a coaxial relay!

Technical specifications:

Frequency range	500..7000 MHz
Noise figure @ 18 °C	typ. 1.5 dB, max. 1.9 dB
Gain	typ. 40 dB, min. 37 dB
Gain flatness	max. +/- 2 dB
Maximum input power	-3 dBm
Output power (P1dB)	typ. 20 dBm
Output IP3	typ. +30 dBm
Input return loss (S11)	typ. 10 dB, min. 7 dB
Supply voltage	+9 ... 15 V DC
Current consumption	160mA
Operating case temp. range	-40 ... +65 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	50 x 30 x 17
Weight	50 g (typ.)
Feature	Remote power supply via RF output

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KU LNA 640700 A, Low Noise Broadband Amplifier

6400 ... 7000 MHz

Features

- Extremely low noise figure
- Reverse polarity protection
- Unconditionally stable. No parasitic oscillations in case of poor antenna match
- Milled aluminium case

Applications

- Deep space communications

Important notes

- Amplifier does not contain a coaxial relay!
- Maximum input power 1 mW

Technical specifications:

Frequency range	6400..7000 MHz
Noise figure @ 18 °C	typ. 0.8 dB
Gain	min. 30 dB
Maximum input power	1 mW
Supply voltage	+8 ... 12 V DC
Current consumption	typ. 90 mA
Operating case temp. range	-20 ... +65°C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	50 x 30 x 17
Weight	50 g (typ.)

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KU LNA 8000 B, Super Low Noise Amplifier

8000 ... 8450 MHz

Super Low Noise Amplifier for Satellite Reception

Features

- Extremely low noise figure
- Reverse polarity protection
- Unconditionally stable. No parasitic oscillations in case of poor antenna match
- Milled aluminium case

Applications

- Deep space communications

Important notes

- Amplifier does not contain a coaxial relay!
- Maximum input power 1 mW

Technical specifications:

Frequency range	8000..8450 MHz
Noise figure @ 18 °C	typ. 0.8 dB
Gain	min. 28 dB
Maximum input power	1 mW
Output power (P1dB)	typ. 31,6 mW (+15 dBm)
Output IP3	typ. 25 dBm
Input return loss (S11)	min. 10 dB
Supply voltage	+12 ... 15 V DC
Current consumption	typ. 90 mA
Operating case temp. range	-20 ... +65°C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	50 x 30 x 17
Weight	45 g (typ.)

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KU LNA 8000 B WG, Super Low Noise Amplifier

8000 ... 8450 MHz

Super Low Noise Amplifier for Satellite Reception

Features

- Extremely low noise figure
- Reverse polarity protection
- Unconditionally stable. No parasitic oscillations in case of poor antenna match
- Milled aluminium case

Applications

- Deep space communications

Important notes

- Amplifier does not contain a coaxial relay!
- Maximum input power 1 mW

Technical specifications:

Frequency range	8000..8450 MHz
Noise figure @ 18 °C	typ. 0.8 dB
Gain	typ. 32 dB
Maximum input power	1 mW
Input return loss (S11)	typ. 10 dB
Supply voltage	+12 ... 15 V DC
Current consumption	typ. 90 mA
Operating case temp. range	-20 ... +65°C
Input connector / impedance	Waveguide R100 / WG16 / WR90
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	73 x 40 x 20
Weight	110 g (typ.)

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KU LNA BB 050700 B, Broadband Low Noise Amplifier

500 ... 7000 MHz

Monitoring systems test equipment
- Low ripple
- High bandwidth
- Good input and output matching
- Reverse polarity protection
- Super-small mechanical dimensions

The low noise broadband preamplifier KU LNA BB 050700 B impresses with a very low ripple of typ. +/- 1 dB over the wide frequency range from 500 MHz to 7 GHz. Gain and noise figure are typically 21 dB and 1.6 dB, respectively. Furthermore, the LNA shows a high IP3 and an output power of more than 100 mW. These outstanding technical properties result in a wide range of possible applications.

Features

- High IP3
- Reverse polarity protection
- Solder pin for direct power supply
- Super Low Noise
- Remote power supply via output connector
- Low ripple
- High bandwidth
- Good input and output matching
- Reverse polarity protection
- Super-small mechanical dimensions

Applications

- Measurement and laboratory equipment
- Broadband amplifier for spectrum analysis
- Low noise broadband amplifier for monitoring systems
- Broadband power amplifier for networkanalysis (sweep oscillators)

Important notes

- Amplifier does not contain a coaxial relay!

Technical specifications:

Frequency range	500..7000 MHz
Noise figure @ 18 °C	typ. 1.6 dB, max. 2 dB @ 7 GHz
Gain	typ. 21 dB, min. 18 dB @ 7 GHz
Gain flatness	max. +/- 2 dB
Maximum input power	16 dBm
Output power (P1dB)	typ. 20 dBm
Output IP3	typ. 30 dBm, min. 27 dBm
Input return loss (S11)	min. 10 dB
Supply voltage	+9 ... 14 V DC
Current consumption	typ. 80 mA
Operating case temp. range	-40 ... +65 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium

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Dimensions (mm)	23 x 24.5 x 9
Weight	15 g (typ.)
Feature	Remote power supply via RF output

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KU LNA 163 BH-TM, Super low noise preamplifier

1500 ... 1700 MHz

Features

- Low noise figure
- High gain
- Reverse polarity protection
- Very good input return loss (S11)

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment
- Radar receiving systems

Important notes

- Maximum input power 1 mW
- Mating connector type is Amphenol MS3106E10SL-3S, not part of delivery

Technical specifications:

Frequency range	1500..1700 MHz
Noise figure @ 18 °C	typ. 0.7 dB, max. 0.8 dB
Gain	min. 31 dB
Maximum input power	1 mW
Output IP3	typ. 26 dBm
Input return loss (S11)	typ. 18 dB
Output return loss (S22)	min. 10 dB
Supply voltage	+9 ... 15 V DC
Current consumption	typ. 100 mA
Operating case temp. range	-40 ... +85°C
Input connector / impedance	N-female, 50 ohms
Output connector / impedance	N-female, 50 ohms
Case	Case incl. V2A mounting clamp, IP43
Dimensions (mm)	145 x 70 x 98
Feature	Remote power supply via RF output
Feature 2	3-pin connector MS3102E series for power supply

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KU LNA 4450 A-TM, Super Low Noise Amplifier

4400 ... 5000 MHz

Features

- Low noise figure
- High gain
- Reverse polarity protection

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment

Important notes

- Maximum input power 1 mW
- Mating connector type is Amphenol MS3106E10SL-3S, not part of delivery

Technical specifications:

Frequency range	4400..5000 MHz
Noise figure @ 18 °C	typ. 0.8 dB, max. 0.9 dB NF
Gain	min. 24 dB
Maximum input power	1 mW
Output power (P1dB)	typ. 20 mW (+13 dBm)
Output IP3	typ. +23 dBm (4750 MHz)
Input return loss (S11)	min. 6 dB
Output return loss (S22)	min. 9 dB
Supply voltage	+8 ... 14 V DC
Current consumption	typ. 110 mA
Operating case temp. range	-40 ... +85°C
Input connector / impedance	N-female, 50 ohms
Output connector / impedance	N-female, 50 ohms
Case	Case incl. V2A mounting clamp, IP43
Dimensions (mm)	115 x 56 x 82
Feature	Remote power supply via RF output
Feature 2	3-pin connector MS3102E series for power supply

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KU LNA BB 3000 N-TM, Low Noise Broadband Amplifier

10 ... 3000 MHz

Analog & digital transmission systems Test equipment

- High bandwidth
- Reverse polarity protection
- V2A mounting clamp incl.
- Water-resistant case – perfectly suitable for outdoor operation

The broadband low-noise amplifier KU LNA BB 3000 N-TM was particularly developed by KUHNE for outdoor application. Due to the waterproof housing and the attached mounting clamp, the LNA is perfectly suitable for mounting it directly on the mast and close to the antenna.

Description

The KU LNA BB 3000 N-TM has a bandwidth from 10 MHz to 3000 MHz, making it suitable for a variety of radio-frequency applications. Furthermore, the low noise figure of typically 1.5 dB, the gain of up to 30 dB, and the direct attachment close to the antenna minimize the noise figure of the receiver. Furthermore, the ease of handling is further enhanced by the PIN diode-based reverse polarity protection.

Features

- High bandwidth
- Reverse polarity protection
- Water-resistant case
- V2A mounting clamp

Applications

- Analog and digital transmission systems
- Measurement equipment

Important notes

- Maximum input power 1 mW
- Mating connector type is Amphenol MS3106E10SL-3S, not part of delivery

Technical specifications:

Frequency range	10..3000 MHz
Noise figure @ 18 °C	typ. 1.5 dB, max 2.5 dB
Gain	25 ... 30 dB
Maximum input power	1 mW
RF input protection	PIN diodes
Output IP3	min. +26 dBm, typ. +30 dBm
Supply voltage	+12 ... 15 V DC
Current consumption	typ. 150 mA
Operating case temp. range	-40 ... +85°C
Input connector / impedance	N-female, 50 ohms
Output connector / impedance	N-female, 50 ohms
Case	Case incl. V2A mounting clamp, IP43 water resistant case incl. V2A mounting clamp
Dimensions (mm)	115 x 56 x 82
Feature	Remote power supply via RF output

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Feature 2	3-pin connector MS3102E series for power supply

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KU LNA 220240 A, Super Low Noise Amplifier

2200 ... 2400 MHz

Satellite ground station **analog & digital transmission systems**

Features

- Low noise figure
- High IP3
- Reverse polarity protection
- Solder pin for direct power supply
- Small mechanical dimensions
- Remote power supply via output connector

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment
- Satellite ground stations

Important notes

- Amplifier does not contain a coaxial relay!
- Maximum input power 1 mW

Technical specifications:

Frequency range	2200..2400 MHz
Noise figure @ 18 °C	typ. 0.4 dB, max. 0.5 dB
Gain	typ. 58 dB (+/-2 dB)
Maximum input power	1 mW
Output power (P1dB)	typ. 19 dBm
Output IP3	typ. +27 dBm
Supply voltage	+9 ... 15 V DC
Current consumption	typ. 110 mA
Operating case temp. range	-40 ... +65 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	73 x 30 x 20
Weight	90 g (typ.)

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KU LNA 1090-2 A TM, Selective Low Noise Amplifier

1070 ... 1110 MHz

ADS-B Automatic Dependent Surveillance Broadcast IFF

- High IP3 for excellent large-signal performance
- Very low noise figure
- ESD protection at LNA input
- Built-in bias tee for remote power supply via coaxial cable
- Built-in band-pass filter

Description

The highly linear low-noise amplifier KU LNA 1090-2 A TM is a very narrow-band LNA with a very low noise figure of typically 0.5 dB. It is specially designed for applications in the IFF (identification friend or foe) frequency range at 1090 MHz. The amplifier has a two-pole bandpass filter between the two amplifier stages to suppress signals outside the useful band effectively. Furthermore, this amplifier is characterized by its outstanding large-signal performance.

Features

- High IP3 for excellent large-signal performance
- Very low noise figure
- ESD protection at LNA input
- Built-in bias tee for remote power supply via coaxial cable
- Built-in band-pass filter

Applications

- Low Noise Amplifier for Avionics

Important note

- Maximum input power 1 mW

Technical specifications:

Frequency range	1070..1110 MHz
Noise figure @ 18 °C	typ. 0.5 dB, max. 0.6 dB NF
Gain	min. 30 dB
Maximum input power	1 mW
Supply voltage	+8 ... 15 V DC
Current consumption	typ. 130 mA
Operating case temp. range	-40 ... +65 °C
Input connector / impedance	N-female, 50 ohms
Output connector / impedance	N-female, 50 ohms
Case	water resistant case incl. V2A mounting clamp
Dimensions (mm)	109 x 85 x 60
Weight	330 g (typ.)

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KU LNA BB 17002650 A, Broadband Amplifier

17000 ... 26500 MHz

Analog & digital transmission systems Measurement and laboratory equipment

- Low noise figure
- High bandwidth
- Good input and output matching
- Reverse polarity protection
- Small mechanical dimensions

The low-noise broadband pre-amplifier KU LNA BB 17002650 A was particularly developed by KUHNE for use in double-digit GHz range. Thus, the amplifier is particularly suitable for laboratory operation and the extension of measuring equipment as well as for use in broadband high-frequency transmission systems.

Description

The KU LNA BB 17002650 A has a bandwidth of 17 GHz to 26.5 GHz and is thus suitable for a variety of applications in the radio-frequency (RF) and microwave range. Furthermore, the low noise figure of between 2.8 dB and 3 dB in the range from 17 GHz to 24 GHz and between 3 dB and 2.4 dB from 24 GHz to 26.5 GHz with a gain of 23 dB minimizes the noise figure of the receiver. The PIN diode-based reverse polarity protection furthermore increases user-friendliness.

Features

- Low noise figure
- High bandwidth
- Good input and output matching
- Reverse polarity protection
- Small mechanical dimensions

Applications

- Analog and digital transmission systems
- Measurement and laboratory equipment

Important note

- Maximum input power 1 mW

Technical specifications:

Frequency range	17000..26500 MHz
Noise figure @ 18 °C	2,8..3 dB (17000...24000 MHz)
	3..3,4 dB (24000...26500 MHz)
Gain	typ. 23 dB
Maximum input power	1 mW
Output power (P1dB)	min. 5 mW
Input return loss (S11)	typ. 10 dB
Supply voltage	+9 ... 15 V DC
Current consumption	typ. 80 mA
Operating case temp. range	-20 ... +65°C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	26 X 25 X 9 mm

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Weight	40 g (typ.)

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KU LNA BB 0515-2 B N-TM, Broadband Amplifier

5 ... 1500 MHz

monitoring systems **test equipment** **high IP3**

Description

This super low noise wideband amplifier was designed to cover the 5 ... 1500 MHz frequency range. The noise figure is typ. 1.2 dB at 20 dB gain. Simultaneously the broadband amplifier has a high IP 3 and a output power of > 100 mW. With this outstanding performences, this amplifier may be used for many applications. The amplifier is coupled via a high pass filter for suppressing frequencies below 5 MHz.

Features

- High IP3
- Large bandwidth
- Reverse polarity protection

Applications

- Measurement and laboratory equipment
- Broadband amplifier for spectrumanalysis
- Low noise broadband amplifier for watchingsystems
- Broadband power amplifier for networkanalysis (sweep oscillators)
- Suitable for large signal environments
- CATV Distribution amplifier

Important notes

- Amplifier does not contain a coaxial relay!
- Maximum input power +12 dBm.

Technical specifications:

Frequency range	5..1500 MHz
Noise figure @ 18 °C	typ. 1.2 dB, max 2.0 dB NF (30 ... 1500 MHz)
Gain	typ. 20 dB, min. 18 dB
Maximum input power	10 mW
Output IP3	typ. +33 dBm
Input return loss (S11)	min. 6 dB (30 MHz ... 1500 MHz)
	typ. 7 dB
Supply voltage	+12 ... 14 V DC
Current consumption	typ. 90 mA
Operating case temp. range	-40 ... +85°C
Input connector / impedance	N-female, 50 ohms
Output connector / impedance	N-female, 50 ohms
Case	Case incl. V2A mounting clamp, IP43
	water resistant case incl. V2A mounting clamp
Dimensions (mm)	115 x 56 x 82
Feature	Remote power supply via RF output
Feature 2	3-pin connector MS3102E series for power supply

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KU LNA 500590 A, Low Noise Amplifier

5000 ... 5900 MHz

Features

- Low noise figure
- High gain
- High IP3 for good large signal performance
- Very good input return loss (S11)
- Unconditionally stable – no parasitic oscillations in case of poor antenna match
- Static protection (ESD) at preamplifier input
- Solder pin for direct power supply
- Remote power supply via output connector
- Milled aluminium case
- Small mechanical dimensions

Applications

- Digital broadcast systems (DVB-T, DVB-S)
- COFDM systems using modulation types QPSK, QAM
- Analog and digital transmission systems

Important note

- Maximum input power 2 mW

Technical specifications:

Frequency range	5000..5900 MHz
Noise figure @ 18 °C	typ. 1.5 dB, max. 1.8 dB NF
Gain	typ. 27 dB, min. 26 dB
Maximum input power	2 mW
Output power (P1dB)	typ. 19 dBm
Output IP3	typ. +27 dBm
Input return loss (S11)	11
Output return loss (S22)	min. 9 dB
Supply voltage	+9 ... 30 V DC
Current consumption	typ. 60 mA
Operating case temp. range	-40 ... +65 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	50 x 30 x 17
Weight	50 g (typ.)

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KU LNA BB 0012650 A, Low Noise Broadband Amplifier

10 ... 26500 MHz

Analog & digital transmission systems Measurement and laboratory equipment Pulse Amplification

- Low noise figure
- High bandwidth
- Good gain flatness
- Reverse polarity protection
- Small mechanical dimensions

The low-noise broadband pre-amplifier KU LNA BB 0012650 A was particularly developed by KUHNE for broadband use from 10 MHz up to 26.5 GHz. Thus, the amplifier is particularly suitable for laboratory operation and the extension of measuring equipment as well as for use in broadband high-frequency transmission systems and broadband pulse amplification.

Description

The KU LNA BB 0012650 A has a bandwidth of 10 MHz to 26.5 GHz and is thus suitable for a variety of applications in the radio-frequency (RF) and microwave range, in particular for the amplification of broadband pulsed signals. Furthermore, the KU LNA BB 0012650 A is characterized by a low noise figure of between 2 dB and 7 dB and a gain of typically 30 dB with a gain flatness of ±2 dB. The PIN diode-based reverse polarity protection furthermore increases user-friendliness.

Features

- Low noise figure
- High bandwidth
- Good gain flatness
- Reverse polarity protection
- Small mechanical dimensions

Technical specifications:

Frequency range	10..26500 MHz
Noise figure @ 18 °C	min. 2 dB, max. 7 dB
Gain	min. 25 dB, typ. 30 dB
Maximum input power	10 mW
Output power (P1dB)	min. 10 dBm
Output IP3	min. 20 dBm
Input return loss (S11)	min. 8 dB
Output return loss (S22)	min. 8 dB
Supply voltage	min. 12 V DC, max. 36 V DC
Current consumption	typ. 220 mA
Operating case temp. range	-40 ... +65 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	56 x 44 x 12
Weight	74 g (typ.)

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KU LNA 750850 A WG, Low Noise Amplifier

7500 ... 8500 MHz

Analog & digital transmission systems Satelite ground station Communication systems

- Extremely low noise figure
- Remote power supply via output connector possible
- Low-power enable input pin
- Reverse polarity protection

The KU LNA 750850 A WG is KUHNE's newest X-band super low-noise amplifier and was particularly developed for low-noise receive applications, e.g., satellite ground station equipment. Thanks to the combination of an extremely low noise figure, a high gain and high P1dB and IP3, very weak input signals can be amplified with low noise to a power level that is easy to process. The RF input using a WR112 waveguide promises low-loss coupling to the antenna system.

Description

The KU LNA 750850 A WG has a bandwidth of 7.5 GHz to 8.5 GHz and is therefore suitable for a variety of applications in the X-band microwave range, e.g., for the amplification of weak satellite signals in low-noise receivers. Moreover, the KU LNA 750850 A WG shows a gain of typically 65 dB and a very low noise figure of typ. in between 0.7 dB and 0.8 dB. A low power enable pin and reverse polarity protection furthermore increase user friendliness.

Features

- Extremely low noise figure
- Remote power supply via output connector possible
- Low-power enable input pinReverse polarity protection

Technical specifications:

Frequency range	7500..8500 MHz
Noise figure @ 18 °C	typ. 0.7 dB, max. 0.85 dB (0.8 GHz ... 8.5 GHz)
	typ. 0.8 dB, max. 0.95 dB (7.5 GHz ... 8.0 GHz)
Gain	typ. 65 dB
Gain flatness	typ. +/- 1 dB
Maximum input power	1 mW
Output power (P1dB)	typ. 13 dBm
Output IP3	typ. +23 dBm
Input return loss (S11)	typ. 8 dB, min. 6 dB
Output return loss (S22)	typ. 15 dB, min. 10 dB
Supply voltage	+9 ... 15 V DC
Current consumption	typ. 220 mA
Operating case temp. range	-40 ... +65 °C
Input connector / impedance	Waveguide WR84 / WG15 / WR112
Output connector / impedance	N-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	99.2 X 76 X 63.5
Weight	440 g (typ.)

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KU LNA 200250 A-SMA, Super Low Noise Pre-Amplifier

2000 ... 2500 MHz

Analog & digital transmission systems Satelite ground station Communication systems

- Extremely low noise figure
- Remote power supply via output connector possible
- Low-gain mode via solder pin
- Reverse polarity protection

The super low-noise pre-amplifier KU LNA 200250 A was particularly developed by Kuhne for S-band receive applications, e.g., satellite ground station equipment. The combination of an extremely low noise figure, high P1dB and IP3, and switchable low-gain mode ensures a very high dynamic range.

Description

The KU LNA 200250 A has a bandwidth of 2 GHz to 2.5 GHz and is thus suitable for a variety of applications in the S-band microwave range, in particular for the amplification of weak satellite signals in low-noise receivers. Furthermore, the KU LNA 200250 A is characterized by a very low noise figure of typ. 0.35 dB and a gain of typically 53 dB. By connecting the second solder pin to ground, the gain can be decreased to typ. 35 dB without affecting the noise performance. The reverse polarity protection furthermore increases user-friendliness.

Features

- Extremely low noise figure
- Remote power supply via output connector
- Low-gain mode via solder pin
- Reverse polarity protection

Technical specifications:

Frequency range	2000..2500 MHz
Noise figure @ 18 °C	typ. 0.35 dB
	max. 0.5 dB
Gain	typ. 53 dB in high-gain mode
	typ. 35 dB in low-gain mode
Gain flatness	typ. +/- 3 dB in high-gain mode
	typ. +/- 2.5 dB in low-gain mode
Maximum input power	10 mW
Output power (P1dB)	typ. +21 dBm
Output IP3	typ. +35 dBm
Input return loss (S11)	typ. 12 dB
	min. 8 dB
Output return loss (S22)	typ. 15 dB
	min. 12 dB
Supply voltage	+9 ... 15 V DC
Current consumption	typ. 110 mA
Operating case temp. range	-40 ... +65 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium

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Dimensions (mm)	73 x 30 x 22
Weight	110 g (typ.)

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Tel.: +49 (0) 9293 - 800 640
Fax: +49 (0) 9293 - 800 6420

KU LNA BB 8001200A, Broadband Low Noise Amplifier

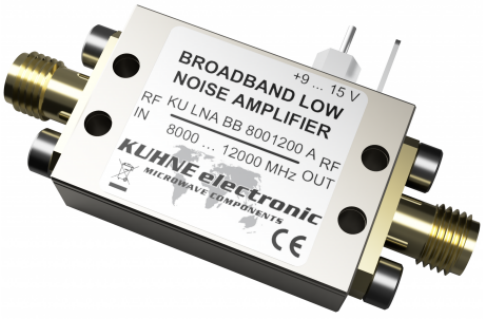
8000 ... 12000 MHz

Analog & digital transmission systems Measurement and laboratory equipment Communication systems

Driver amplifier for X-band power amplifiers

- Low noise figure
- High output power with typ. 0.5 W P1dB
- Small mechanical dimensions
- Reverse polarity protection

The KU LNA BB 8001200 A is KUHNE's latest low-noise broadband preamplifier and was developed as a preamplifier or driver amplifier for use in confined spaces. Due to its compact design, it can be used flexibly and, thanks to its noise figure (NF) of typ. 3 dB and its 1 dB compression point (P1dB) of typ. 27 dBm, it is suitable for a variety of applications in the X-band.



Description

The KU LNA BB 8001200 A has a bandwidth of 8 GHz to 12 GHz, covers the entire X-band microwave range and thus enables many possible applications. For example, the KU LNA BB 8001200 A can be used as a low-noise preamplifier for receivers with moderate to high input powers, as a driver amplifier for X-band power amplifiers and as a signal amplifier for laboratory applications. With a gain of typically 30 dB, signals up to a power of almost 1 mW can be amplified linearly.

Features

- Low noise figure
- High output power with typ. 0.5 W P1dB
- Small mechanical dimensions
- Reverse polarity protection

Technical specifications:

Frequency range	8000..12000 MHz
Noise figure @ 18 °C	typ. 3 dB, max. 4 dB
Gain	typ. 30 dB
Gain flatness	typ. +/- 2 dB
Maximum input power	10 mW
Output power (P1dB)	typ. 27 dBm
Output IP3	typ. +31 dBm
Input return loss (S11)	typ. 10 dB, min. 8 dB
Output return loss (S22)	typ. 9 dB, min. 6 dB
Supply voltage	+9 ... 15 V DC
Current consumption	typ. 230 mA
Operating case temp. range	-40 ... +65 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	28.7 X 19.3 X 8.4
Weight	15 g (typ.)

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KU LNA 700900 A WG, Low Noise Amplifier

7000 ... 9000 MHz

Analog & digital transmission systems Satelite ground station Communication systems

Extremely low noise figure covering a wide frequency range in X-band

Remote power supply via output connector possible

Low-power enable input pin

Reverse polarity protection

Description

The KU LNA 700900 A WG is KUHNE's new X-band super low-noise amplifier and was particularly developed for low-noise receive applications, e.g., satellite ground station equipment. Thanks to the combination of an extremely low noise figure, high bandwidth and gain as well as high P1dB and IP3, very weak input signals can be amplified with low noise to an easy to process power level. The RF input using a WR112 waveguide promises low-loss coupling to the antenna system.

Features

- Extremely low noise figure covering a wide frequency range in X-band
- Remote power supply via output connector possible
- Low-power enable input pin
- Reverse polarity protection

Technical specifications:

Frequency range	7000..9000 MHz
Noise figure @ 18 °C	typ. 0,75 dB, max. 0,9 dB (8,0 GHz ... 9,0 GHz)
	typ. 0,85 dB, max. 1,0 dB (7,0 GHz ... 8,0 GHz)
Gain	typ. 63 dB
Gain flatness	max. +/- 2 dB
Maximum input power	1 mW
Output power (P1dB)	typ. 13 dBm, min. 10 dBm
Output IP3	typ. 20 dBm, min. 17 dBm
Input return loss (S11)	typ. 8 dB, min. 5 dB
Output return loss (S22)	typ. 15 dB, min. 10 dB
Supply voltage	+9 ... 15 V DC
Current consumption	typ. 220 mA
Operating case temp. range	-40 ... +65 °C
Input connector / impedance	Waveguide WR84 / WG15 / WR112
Output connector / impedance	N-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	99.2 X 76 X 63.5
Weight	440 g (typ.)

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KU LNA BB 8001240A, Broadband Low Noise Amplifier

8000 ... 12400 MHz

Analog & digital transmission systems Measurement and laboratory equipment Communication systems Driver amplifier for X-band power amplifiers

Low noise figure

High output power with typ. 25 dBm P1dB

Small mechanical dimensions

Reverse polarity protection

The KU LNA BB 8001240 A is KUHNE's latest low-noise broadband preamplifier and was developed as a preamplifier or driver amplifier for use in confined spaces. Due to its compact design, it can be used flexibly and, thanks to its noise figure (NF) of typ. 2,5 to 4 dB and its 1 dB compression point (P1dB) of typ. 27 dBm, it is suitable for a variety of applications in the X-band.

Description

The KU LNA BB 8001240 A has a bandwidth of 8 GHz to 12.4 GHz, covers the entire X-band microwave range and thus enables many possible applications. For example, the KU LNA BB 8001240 A can be used as a low-noise preamplifier for receivers with moderate to high input powers, as a driver amplifier for X-band power amplifiers and as a signal amplifier for laboratory applications. With a gain of typically 34 dB, signals can be amplified linearly.

Features

- Low noise figure
- High output power with typ. 0.3 W P1dB
- Small mechanical dimensions
- Reverse polarity protection

Technical specifications:

Frequency range	8000..12400 MHz
Noise figure @ 18 °C	typ. 2.5 dB, max. 4 dB
Gain	typ. 34 dB
Gain flatness	4,5 dB (+/-)
Maximum input power	10 mW
Output power (P1dB)	typ. 25 dBm
Output IP3	typ. +34 dBm
Input return loss (S11)	min. 10 dB
Output return loss (S22)	min. 10 dB
Supply voltage	+9 ... 15 V DC
Current consumption	typ. 230 mA
Operating case temp. range	-40 ... +65 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	28.7 X 19.3 X 8.4
Weight	15 g (typ.)

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KU LNA BB 3050 B, Low Noise Broadband Amplifier

350 ... 500 MHz

Low gain flatness
Typ. 1 W output power
High IP3
Very good input return loss (S11)

The current model (350..500 MHz) continues to offer the excellent properties of its predecessor. Gain has increased to a total of 24 dB and ripple is now +/-1.5 dB!

Description

The low-noise broadband preamplifier KU LNA BB 3050 B achieves excellent large-signal immunity. Even strong signals are easily amplified linearly. The saturation power of the amplifier is typically 1 watt. The low-noise amplifier can therefore also be used in low-power applications or as a driver amplifier.

Features

- Low noise figure
- Large bandwidth
- High IP3 and high output power
- Very good input return loss (S11)
- Static protection (ESD) at preamplifier input
- Overvoltage protection and reverse polarity protection
- Remote power supply via output connector
- Solder pin for direct power supply-Milled aluminium case

Applications

- Analog and digital transmission systems
- Suitable for large signal environments
- Amplifier for low power applications
- Driver amplifier

Important notes

- Maximum input power +20 dBm (100 mW)

Technical specifications:

Frequency range	350..500 MHz
Noise figure @ 18 °C	typ. 1.2 dB, max. 1.3 dB
Gain	min. 20 dB, typ. 24 dB
Gain flatness	max. +/- 1,5 dB
Maximum input power	100 mW
Output power (P1dB)	typ. 630 mW (+28 dBm)
Output power (Psat)	typ. 1000 mW
Output IP3	typ. +40 dBm
Input return loss (S11)	typ. 20 dB
Output return loss (S22)	typ. 15 dB, min. 13 dB
Supply voltage	+12 ... 15 V DC

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Low Noise Amplifiers

Current consumption	typ. 400 mA
Operating case temp. range	-20 ... +65°C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	78 x 41 x 22
Weight	100 g (typ.)

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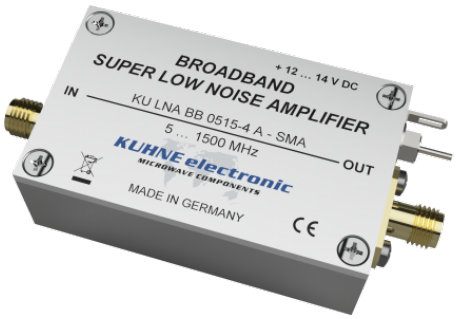
KU LNA BB 0515-4 A SMA, Broadband Amplifier

5 ... 1500 MHz
Monitoring systems Test equipment - High IP3
- Large bandwidth
- Reverse polarity protection
- Solder pin for direct power supply
- Small mechanical dimensions

Kuhne electronic introduces the KU LNA BB 0515-4 A SMA, a broadband preamplifier for the VHF, UHF and L frequency bands. In addition to the large bandwidth, the amplifier is characterized by a high linearity, making it perfect for use in the fields of high-frequency measurements and monitoring systems.



Description

This super low noise wideband amplifier was designed to cover the 5 ... 1500 MHz frequency range. The noise figure is typ. 1.2 dB at 22 dB gain. Simultaneously the broadband amplifier has a high IP3 and a output power of > 10 mW. With this outstanding performences, this amplifier may be used for many applications. The amplifier is coupled via a high pass filter for suppressing frequencies below 5 MHz.

Features

- High IP3
- Large bandwidth
- Reverse polarity protection
- Solder pin for direct power supply
- Small mechanical dimensions

Applications

- Measurement and laboratory equipment
- Broadband amplifier for spectrumanalysis
- Low noise broadband amplifier for watchingsystems
- Broadband power amplifier for networkanalysis (sweep oscillators)
- Suitable for large signal environments
- CATV Distribution amplifier

Important notes

- Amplifier does not contain a coaxial relay!
- Maximum input power +12 dBm

Technical specifications:

Frequency range	5..1500 MHz
Noise figure @ 18 °C	typ. 1.2 dB, max. 2.0 dB
Gain	min. 20 dB, typ. 22 dB
Maximum input power	12 dBm
Output power (P1dB)	typ. 22 dBm
Output IP3	typ. +37 dBm
Input return loss (S11)	min. 6 dB, typ. 10 dB
Supply voltage	+12 ... 14 V DC
Current consumption	typ. 140 mA
Operating case temp. range	-40 ... +85°C
Input connector / impedance	SMA-female, 50 ohms

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Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	50 x 30 x 17
Weight	50 g (typ.)

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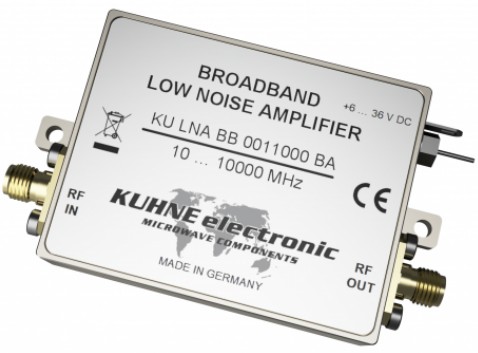
KU LNA BB 0011000-BA, Broadband preamplifier

10 ... 10000 MHz

Analog & digital transmission systems Measurement and laboratory equipment Communication systems Low noise figure

- High bandwidth and simultaneously
- Small mechanical dimensions
- Reverse polarity protection



Description

The KU LNA BB 0011000 BA is KUHNE's latest low-noise broadband preamplifier and was developed as a broadband 14 dB gain block for a large variety of applications. Thanks to its compact design and its low gain ripple of typically ±1 dB, it is very flexible in use.

Features

- Low noise figure
- High bandwidth and simultaneously low gain variations
- Small mechanical dimensions
- Reverse polarity protection

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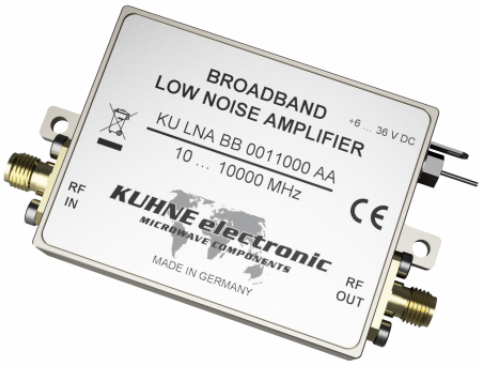
KU LNA BB 0011000-AB Low Noise Broadband Amplifier

10 ... 10000 MHz

Analog & digital transmission systems Measurement and laboratory equipment Communication systems Low noise figure

High bandwidth and simultaneously low gain variations
Small mechanical dimensions
Seven different supply and bias variants available
Reverse polarity protection
Low-gain versions available (14 dB)

The KU LNA BB 0011000 AA is KUHNE's latest low-noise broadband preamplifier and was developed as a broadband 24 dB gain block for a large variety of applications. Thanks to its compact design and its low gain ripple of typically ±1 dB, it is very flexible in use.



Description

The KU LNA BB 0011000 AA has a bandwidth of 10 MHz to 10 GHz, covers the UHF / VHF, L, S, C frequency bands as well as parts of the X band and thus enables many possible applications. For example, the KU LNA BB 0011000 AA can be used as a low-noise preamplifier for broadband receivers, as a driver amplifier for power amplifiers and as a signal amplifier for laboratory applications. A second variant of the LNA with 14 dB gain is also available.

Features

- Low noise figure
- High bandwidth and simultaneously low gain variations
- Small mechanical dimensions
- Seven different supply and bias variants available
- Reverse polarity protection
- Low-gain versions available (14 dB)

Technical specifications:

Frequency range	10..10000 MHz
Noise figure @ 18 °C	typ. 2.3 dB, max. 4.5 dB (200 MHz ... 10 GHz)
	typ. 3 dB, max. 6 dB (100 MHz ... 200 MHz)
Gain	typ. 24 dB (10 MHz ... 8 GHz)
	typ. 22 dB (8 GHz ... 10 GHz)
Gain flatness	typ. +/- 1 dB (10 MHz ... 8 GHz)
	typ. +/- 2.5 dB (8 GHz ... 10 GHz)
Maximum input power	15 dBm
Output power (P1dB)	typ. 18 dBm, min. 15 dBm
Output IP3	typ. 32 dBm, min. 30 dBm
Input return loss (S11)	typ. 10 dB, min. 5 dB
Output return loss (S22)	typ. 10 dB, min. 7 dB (10 MHz ... 100 MHz)
	typ. 15 dB, min. 9 dB (100 MHz ... 10 GHZ)
Supply voltage	+6 ... 36 V DC
Current consumption	typ. 85 mA
Operating case temp. range	-30 ... +85 °C
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled brass
Dimensions (mm)	58 X 45 X 12

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Weight	200 g (typ.)

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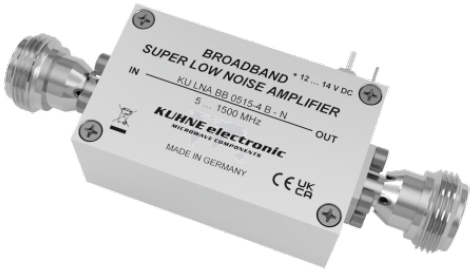
KU LNA BB 0515-4 B N, Broadband Amplifier

5 ... 1500 MHz

Monitoring systems Test equipment

Kuhne electronic introduces the KU LNA BB 0515-4 B N, a broadband preamplifier for the VHF, UHF and L frequency bands. In addition to the large bandwidth, the amplifier is characterized by a high linearity, making it perfect for use in the fields of high-frequency measurements and monitoring systems.



Description

This super low noise wideband amplifier was designed to cover the 5 ... 1500 MHz frequency range. The noise figure is typ. 1.2 dB at 22 dB gain. Simultaneously the broadband amplifier has a high IP3 and a output power of > 10 mW. With this outstanding performences, this amplifier may be used for many applications. The amplifier is coupled via a high pass filter for suppressing frequencies below 5 MHz.

Features

- High IP3
- Large bandwidth
- Reverse polarity protection
- Solder pin for direct power supply
- Small mechanical dimensions

Applications

- Measurement and laboratory equipment
- Broadband amplifier for spectrumanalysis
- Low noise broadband amplifier for watchingsystems
- Broadband power amplifier for networkanalysis (sweep oscillators)
- Suitable for large signal environments
- CATV Distribution amplifier

Important notes

- Amplifier does not contain a coaxial relay!
- Maximum input power +12 dBm

Technical specifications:

Frequency range	5..1500 MHz
Noise figure @ 18 °C	typ. 1.2 dB, max. 2.0 dB
Gain	min. 20 dB, typ. 22 dB
Maximum input power	12 dBm
Output power (P1dB)	typ. 22 dBm
Output IP3	typ. +37 dBm
Input return loss (S11)	min. 6 dB, typ. 10 dB
Supply voltage	+12 ... 14 V DC
Current consumption	typ. 140 mA
Operating case temp. range	-40 ... +85°C
Input connector / impedance	N-female, 50 ohms
Output connector / impedance	N-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	50 x 30 x 17
Weight	50 g (typ.)

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