

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.)

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.)

KU LNC 2027 B PRO, Down Converter

2000 ... 2700 MHz

This converter was developed for MMDS applications. The S-band is converted to the UHF range 167-867 MHz. By the use of the latest semiconductors, optimized band pass filters and a SAW oscillator, a high dynamic range and low phase noise of only -98 dBc/Hz @ 10 kHz are achieved. Due to low frequency drift of typ. +/- 3 ppm within 0...+40 °C the converter may be used for all digital modulation types. Typical applications are DVB-S, DVB-T, WCS, COFDM and QPSK.



Features

- Low noise figure
- Large bandwidth
- Low phase noise oscillator
- High frequency stability of the oscillator
- High linearity
- Overvoltage protection and reverse polarity protection
- Remote power supply via output connector

Applications

- Multichannel Multipoint Distribution Services (MMDS)
- Digital broadcast systems (DVB-T, DVB-S)
- Analog and digital transmission systems

Technical specifications:

Frequency range (RF)	2000..2700 MHz
Maximum input power	1 mW (0dBm)
Frequency range (IF)	167..867 MHz
Noise figure @ 18 °C	typ. 1.0 dB, max. 1.3 dB
Gain @ 25 °C	typ. 30 dB
Output IP3	18 dBm
LO frequency	1833 MHz
LO accuracy @ 18 °C	+/- 2 ppm
LO frequency stability	+/- 3 ppm
Phase noise @ 1 kHz	typ. -93 dBc/Hz
Phase noise @ 10 kHz	typ. -98 dBc/Hz
Phase noise @ 100 kHz	typ. -104 dBc/Hz
Supply voltage	+9 ... +18 V DC
Current consumption	typ. 300 mA
Maximum case temperature	+55 °C
Input connector / impedance	N-female, 50 ohms
Output connector / impedance	N-female, 50 ohms
Case	milled Aluminium, water resistant milled aluminium, IP43
Weight	230 g
Remote power supply via IF	yes

Bias Tees

KU PA 200250-18A, RF Power amplifier

2000 ... 2500 MHz • 18 W

analog & digital transmission systems ISM band jamming



Description

With the KU PA 200250-18 A Kuhne electronic puts a S-BAND power amplifier for the frequency range 2000...2500 MHz on the market. This power amplifier is developed for digital applications and can be supplied with a huge voltage range of 16...26 V.

Another highlight to comparable power amplifiers is the TRUE-RMS monitor output for observing the output power. With this feature it is possible to assign the monitor voltage to a defined output power regardless of the type of modulation.

With the integrated ALC (automatic level control) it is possible to adjust the output power to a desired power level. This level is kept constant over the whole frequency range.

Through the use of LDMOS-technique a high efficiency is reached. This results in lower current consumption and longer running time of battery powered systems.

Furthermore an isolator for protecting the power amplifier in case of bad VSWR and a monitor output for controlling the reflected power is implemented, as well as a protective function against polarity reversal and voltage spikes.

Features

- LDMOS technology
- Isolator for protection against high VSWR
- Reverse polarity protection
- Adjustable ALC (automatic level control)
- True-RMS Detector output for forward detection (DC voltage)
- Monitor output for forward and reverse power detection (DC voltage)
- Logic ON / OFF control (ON at 5 ... 14 V)

Applications

- Digital broadcast systems (DVB-T, DVB-S)
- COFDM systems using modulation types QPSK, QAM
- Multichannel Multipoint Distribution Service (MMDS)
- Analog transmission systems

Important notes

Please notice the following:

- The technical specifications refer to room temperature.
- The power amplifier doesn't contain any coaxial relays.
- The recommended combination of heat sink and fan(s) is only specified for an ambient temperature of 25 °C.
- Further information about dimensioning of heat sinks is available on our FAQ site.

Technical specifications:

Frequency range	2000..2500 MHz
Input power for P1dB	typ. 0 dBm, max. 5 dBm
Maximum input power	+7 dBm

Output power P1dB	min. 42.5 dBm (CW) min. 18 W (CW)
Output power P3dB	typ. 44.7 dBm, min. 44 dBm (CW) typ. 30 W, min 25 W (CW)
Output power COFDM (1)	typ. 39 dBm, min. 36 dBm typ. 8 W, min. 4 W
Automatic level control (ALC)	yes (adjustable ALC)
Gain (small signal)	min. 40 dB
Gain flatness (small signal)	typ. +/- 2.5 dB
Harmonic rejection	typ. 50 dB, min. 45 dB @ 42.5 dBm
VSWR protection	Isolator
IM3 (2)	min. 35 dBc @ 40 dBm PEP
Efficiency	min. 20 % @ 42.5 dBm
Input return loss (S11)	min. 10 dB
ON voltage	+5 ... 14 V DC
Supply voltage	+16 ... 26 V DC
Quiescent current @ Vcc (min)	850 mA
Quiescent current @ Vcc (max)	550 mA
Power consumption @ P1dB	typ. 110 W
Forward detection	yes (True RMS detector)
Reflected power detection	yes (diode detector)
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)	178 x 60 x 21
Weight	300 g (typ.)
(1)	Measured with QAM 64, single carrier, EVM: 2%
(2)	Measured 2-tone, frequency spacing: 1 MHz

Bias Tees

KU PA 230270-18 A, RF Power Amplifier

2300 ... 2700 MHz • 18 W

analog & digital transmission systems ISM band jamming



Description

With the KU PA 230270-18 A Kuhne electronic puts a S-BAND power amplifier for the frequency range 2300...2700 MHz on the market. This power amplifier is developed for digital applications and can be supplied with a huge voltage range of 11...26 V.

Another highlight to comparable power amplifiers is the TRUE-RMS monitor output for observing the output power. With this feature it is possible to assign the monitor voltage to a defined output power regardless of the type of modulation.

With the integrated ALC (automatic level control) it is possible to adjust the output power to a desired power level. This level is kept constant over the whole frequency range.

Through the use of LDMOS-technique a high efficiency is reached. This results in lower current consumption and longer running time of battery powered systems.

Furthermore an isolator for protecting the power amplifier in case of bad VSWR and a monitor output for controlling the reflected power is implemented, as well as a protective function against polarity reversal and voltage spikes.

Features

- LDMOS technology
- Isolator for protection against high VSWR
- Reverse polarity protection
- Adjustable ALC (automatic level control)
- True-RMS Detector output for forward detection (DC voltage)
- Monitor output for forward and reverse power detection (DC voltage)
- Logic ON / OFF control (ON at 5 ... 14 V)

Applications

- Digital broadcast systems (DVB-T, DVB-S)
- COFDM systems using modulation types QPSK, QAM
- Multichannel Multipoint Distribution Service (MMDS)
- Analog transmission systems

Important notes

Please notice the following:

- The technical specifications refer to room temperature.
- The power amplifier doesn't contain any coaxial relays.
- The recommended combination of heat sink and fan(s) is only specified for an ambient temperature of 25 °C.
- Further information about dimensioning of heat sinks is available on our FAQ site.

Technical specifications:

Frequency range	2300..2700 MHz
Input power for P1dB	typ. 1.2 dBm, max. 5 dBm
Maximum input power	+7 dBm

Output power P1dB	typ. 42.5 dBm, min. 41.7 dBm (CW)
Output power P3dB	typ. 18 W, min. 15 W (CW)
	min. 44 dBm (CW)
	min. 25 W (CW)
Output power COFDM (1)	min. 37 dBm
	min. 5 W
Gain (small signal)	min. 44 dB
Gain flatness (small signal)	typ. +/- 2 dB
Harmonic rejection	typ. 50 dB, min. 48 dB @ 42.5 dBm
IM3 (2)	typ. 43 dBc, min. 40 dBc @ 37 dBm PEP
Efficiency	min. 25 % @ 42.5 dBm (CW)
Input return loss (S11)	min. 12 dB
ON voltage	+5 ... 14 V DC
Supply voltage	+11 ... 26 V DC
Quiescent current @ Vcc (min)	1.1 A
Quiescent current @ Vcc (max)	0.54 A
Power consumption	typ. 40 W @ 37 dBm
Forward detection	yes (True RMS detector)
Reflected power detection	yes (diode detector)
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)	178 x 60 x 21
Weight	300 g (typ.)
(1)	Measured with QAM 64, single carrier, EVM: 2%
(2)	Measured 2-tone, frequency spacing: 1 MHz

KU PA 510590-10 A, RF Power Amplifier

5100 ... 5900 MHz • 10 W

analog & digital transmission systems ISM band jamming



Features

- GaAs FET technology
- High linearity
- Low EVM
- Isolator for protection against high VSWR
- Adjustable ALC (automatic level control)
- Reverse polarity protection
- Over temperature protection
- Monitor outputs for forward and reverse power detection (DC voltage)
- Logic ON / OFF control (ON at +5 ... 14 V DC)

Applications

- Digital transmission and broadcast systems (DVB, WiMAX)
- COFDM systems using QPSK, QAM
- Analog transmission systems

Important notes

Please notice the following:

- The technical specifications refer to room temperature.
- The power amplifier doesn't contain any coaxial relays.
- The recommended combination of heat sink and fan(s) is only specified for an ambient temperature of 25 °C.
- Further information about dimensioning of heat sinks is available on our FAQ site.

Technical specifications:

Frequency range	5100..5900 MHz
Input power for P1dB	typ. +7 dBm
Maximum input power	+10 dBm
Output power P1dB	typ. 40 dBm, min. 39.5 dBm (CW) typ. 10 W, min. 9 W (CW)
Output power COFDM (1)	typ. 34.7 dBm, min. 34 dBm typ. 3 W, min. 2 W
Automatic level control (ALC)	yes (adjustable ALC)
Gain (small signal)	min. 35 dB
Gain flatness (small signal)	typ. +/- 1 dB
Harmonic rejection	typ. 60 dB, min. 50 dB @ 39.5 dBm min. 40 dB @ 5100 MHz
VSWR protection	Isolator
Over temperature protection	yes
IM3 (2)	typ. 40 dBc @ 33 dBm PEP typ. 38 dBc @ 36 dBm PEP
Efficiency	typ. 18 %, min. 14 % @ 39.5 dBm (CW)
ON voltage	+5 ... 14 V DC
Supply voltage	+12 ... 14 V DC

Quiescent current	typ. 4 A, max. 5.3 A
Current consumption	typ. 4.5 A, max. 5.5 A
Forward detection	yes (diode detector)
Reflected power detection	yes (diode detector)
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)	158 x 60 x 20
Weight	320 g (typ.)
(1)	Measured with QAM 64, single carrier, EVM: 2%
(2)	Measured 2-tone, frequency spacing: 1 MHz

KU UP 2123 A, Up Converter

2100 ... 2300 MHz

The converter KU UP 2123 A is designed for radio link systems in the range from 2100 MHz to 2300 MHz. It features a high frequency stability and high linearity. High spurious rejection is achieved by internal band pass filters. There is no need for additional external filters! Typical applications are radio link systems or digital video transmissions using DVB-T and DVB-S. Together with the power amplifier KU PA 210230-20 B an output power of more than 20 watts CW can be achieved.



Features

- Low phase noise oscillator
- High frequency stability of the oscillator
- High linearity
- Reverse polarity protection

Applications

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

Technical specifications:

Frequency range (IF)	540 ... 740 MHz
Frequency range (RF)	2100 ... 2300 MHz
LO frequency	1560 MHz
LO accuracy @ 18 °C	+/- 2 ppm
LO frequency stability	+/- 3 ppm
Phase noise @ 1kHz	typ. -98 dBc/Hz
Phase noise @ 10 kHz	typ. -107 dBc/Hz
Phase noise @ 100 kHz	typ. -116 dBc/Hz
Gain	typ. 17 dB, min 15 dB
Maximum input power	max. 5 mW (+7 dBm)
Output power (P1dB)	typ. 50 mW (+17 dBm)
Supply voltage	+12 ... +14 V DC
Current consumption	typ. 240 mA
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	126 x 64 x 22
Weight	310 g

KU UP 2325 A, Up Converter

2300 ... 2500 MHz

The converter KU UP 2325 A is designed for radio link systems in the range from 2300 MHz to 2500 MHz. It features a high frequency stability and high linearity. High spurious rejection is achieved by internal band pass filters. There is no need for additional external filters! Typical applications are radio link systems or digital video transmissions using DVB-T and DVB-S. Together with the power amplifier KU PA 230250-20 B an output power of more than 20 watts CW can be achieved.



Features

- Low phase noise oscillator
- High frequency stability of the oscillator
- High linearity
- Reverse polarity protection

Applications

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

Technical specifications:

Frequency range (IF)	597 ... 797 MHz
Frequency range (RF)	2300 ... 2500 MHz
LO frequency	1703 MHz
LO accuracy @ 18 °C	+/- 2 ppm
LO frequency stability	+/- 3 ppm
Phase noise @ 1kHz	typ. -95 dBc/Hz
Phase noise @ 10 kHz	typ. -98 dBc/Hz
Phase noise @ 100 kHz	typ. -110 dBc/Hz
Gain	typ. 17 dB, min 15 dB
Maximum input power	max. 5 mW (+7 dBm)
Output power (P1dB)	typ. 50 mW (+17 dBm)
Supply voltage	+12 ... +14 V DC
Current consumption	typ. 240 mA
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	126 x 64 x 22
Weight	310 g

Bias Tees

KU PA 200240-80 LIN, LDMOS Power Amplifier

2000 ... 2400 MHz • 8 W COFDM

Linear S-Band Power Amplifier

- Digital predistortion (DPD)
- Remote control via serial interface



Description

Find a detailed description under downloads.

Features

- LDMOS technology
- High linearity (build-in linearizer)
- Good harmonic rejection
- Isolator for protection against high VSWR
- Adjustable ALC (automatic level control)
- True-RMS Detector output for forward and reverse power detection (DC voltage)
- Logic ON / OFF control (ON at 3 ... 14 V)
- serial interface

Applications

- Digital broadcast systems (DVB-T, DVB-S)
- COFDM systems using modulation types QPSK, QAM
- Multichannel Multipoint Distribution Service (MMDS)

Important notes

Please notice the following:

- The technical specifications refer to room temperature.
- The power amplifier doesn't contain any coaxial relays.
- The recommended combination of heat sink and fan(s) is only specified for an ambient temperature of 25 °C.
- Further information about dimensioning of heat sinks is available on our FAQ site.

Technical specifications:

Frequency range	2000..2400 MHz
Input power	+5 ... 10 dBm
Maximum input power	+10 dBm
Output power COFDM (1)	typ. 10 W, min. 8 W
Automatic level control (ALC)	yes (adjustable ALC)
Gain flatness (small signal)	typ. +/- 1 dB
Harmonic rejection	typ. 60 dB @ 40 dBm
VSWR protection	Isolator
ON voltage	+3 ... 14 V DC
Supply voltage	+28 ... 32 V DC
Quiescent current	typ. 1.1 A
Current consumption	typ. 2.8 A
Forward detection	yes (True RMS detector)
Reflected power detection	yes (True RMS detector)

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)	184 x 100 x 20
Weight	550 g (typ.)

KU PA 330360-40 LIN, LDMOS Power Amplifier

3300 ... 3600 MHz • 4 ... 5 W COFDM

Linear S-Band Power Amplifier

- Digital predistortion (DPD)
- Remote control via serial interface



5 W COFDM

Description

Find a detailed description under downloads.

Features

- LDMOS technology
- High linearity (build-in linearizer)
- Good harmonic rejection
- Isolator for protection against high VSWR
- Adjustable ALC (automatic level control)
- True-RMS Detector output for forward and reverse power detection (DC voltage)
- Logic ON / OFF control (ON at 3 ... 14 V)
- serial interface

Applications

- Digital broadcast systems (DVB-T, DVB-S)
- COFDM systems using modulation types QPSK, QAM
- Multichannel Multipoint Distribution Service (MMDS)

Important notes

Please notice the following:

- The technical specifications refer to room temperature.
- The power amplifier doesn't contain any coaxial relays.
- The recommended combination of heat sink and fan(s) is only specified for an ambient temperature of 25 °C.
- Further information about dimensioning of heat sinks is available on our FAQ site.

Technical specifications:

Frequency range	3300..3600 MHz
Input power	+5 ... 10 dBm
Maximum input power	+10 dBm
Output power COFDM (1)	typ. 5 W, min. 4 W
Automatic level control (ALC)	yes (adjustable ALC)
Gain flatness (small signal)	typ. +/- 1 dB
Harmonic rejection	typ. 50 dB @ 37 dBm
VSWR protection	Isolator
ON voltage	+3 ... 14 V DC
Supply voltage	+28 ... 32 V DC
Quiescent current	typ. 0.8 dB
Current consumption	typ. 2.0 A @ 5 W
Forward detection	yes (True RMS detector)
Reflected power detection	yes (True RMS detector)

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)	184 x 100 x 20
Weight	550 g (typ.)

KU BT 6000 N, Bias Tee

10 ... 6000 MHz

Bias Tee for remote power supply of preamplifiers and converters via the coaxial cable.



up to 6 GHz

Technical specifications:

Frequency range	10..6000 MHz
Insertion loss	max. 1 dB
Insertion loss	typ. 0.6 dB @ 10 MHz
Insertion loss	typ. 0.6 dB @ 2000 MHz
Insertion loss	typ. 0.6 dB @ 4000 MHz
Insertion loss	typ. 0.8 dB @ 6000 MHz
Isolation (RF-DC)	30 dB (typ.)
Voltage range	0..30 V DC
Current rating	3 A (max.)
max. RF power	1 W
DC-connector	BNC-female
Input connector (DC output) / impedance	N-female, 50 ohms
Output connector / impedance	N-female, 50 ohms
Case	milled Aluminium
Dimensions (mm)	50 x 30 x 22
Weight	100 g (typ.)

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

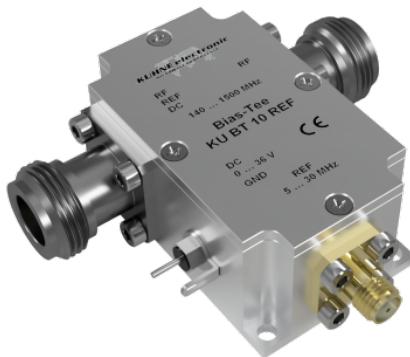
Important note

- 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.)

KU BT 10 REF, Bias Tee



Technical specifications:

Frequency range	140..1500 MHz
Voltage range	0..36 V DC
Current rating	0.25 A (max.)
max. RF power	0.10 W
DC-connector	Feedthrough capacitor
Input connector (DC output) / impedance	N-female, 50 ohms
Output connector / impedance	N-female, 50 ohms
Additional port / frequency	10 MHz
Case	milled Aluminium
Dimensions (mm)	50 x 30 x 22
Weight	100 g (typ.)

KU BT 6000 SMA, Bias Tee

10 ... 6000 MHz

Bias Tee for remote power supply of preamplifiers and converters via the coaxial cable.



Features

- Low insertion loss
- Large bandwidth

Application

- Remote power supply of tower mounted low noise converters and low noise amplifiers

Technical specifications:

Frequency range	10..6000 MHz
Insertion loss	max. 1 dB
Insertion loss	typ. 0.6 dB @ 10 MHz
Insertion loss	typ. 0.6 dB @ 2000 MHz
Insertion loss	typ. 0.6 dB @ 4000 MHz
Insertion loss	typ. 0.8 dB @ 6000 MHz
Isolation (RF-DC)	30 dB (typ.)
Voltage range	0..30 V DC
Current rating	3 A (max.)
max. RF power	1 W
DC-connector	BNC-female
Input connector (DC output) / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled Aluminium
Dimensions (mm)	50 x 30 x 22
Weight	100 g (typ.)