

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 330360-140 A, MOSFET Power Amplifier

3300 ... 3600 MHz • 140 W



Features

- LDMOS technology
- Reverse polarity protection
- Monitor output for forward power detection (DC voltage)
- ON / OFF control (ON at +12 V)
- Built-in over temperature protection

Applications

- Analog transmission systems
- Laboratory equipment

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 for P1dB	typ. 42 dBm
Maximum input power	43.4 dBm
Output power P1dB	min. 51.4 dBm min. 140 W
Gain (small signal)	typ. 11 dB
Gain flatness (small signal)	typ. +/- 1 dB
Harmonic rejection	typ. 30 dB, min. 25 dB @ 51.7 dBm
Over temperature protection	yes
IM3 (1)	typ. 30 dBc @ 50 dBm PEP
Efficiency	min. 35 % @ 51.7 dBm (CW)
Input return loss (S11)	min. 12 dB
ON voltage	+12 V DC
Supply voltage	+28 V DC
Quiescent current	typ. 2 A
Current consumption @ P1dB	typ. 15 A
Forward detection	yes (diode detector)
Operating case temp. range	-20 ... +55 °C
VSWR of load	max. 1.8 : 1
Input connector / impedance	SMA-female / 50 ohms
Output connector / impedance	N-female / 50 Ohms
Case	milled aluminium
Dimensions (mm)	125x80x20 mm
Weight	440 g (typ.)

(1)

Measured 2-tone, frequency spacing: 1 MHz

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 A
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.)

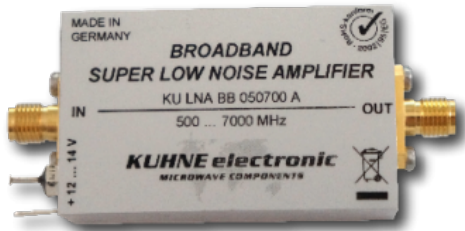
KU LNA BB 050700 A, Broadband Low Noise Amplifier

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 performances, 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 network analysis (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

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.)

KU BDA 240250-25A, Bi-Directional Amplifier

2400 ... 2500 MHz • 37 dBm COFDM

Mesh-Networks WLAN IEEE802.11 COFDM DVB-T & DVB-S

- No external switching signal necessary
- High operating safety
- Easy monitoring of the operating condition



Description

The KU BDA 240250–25 A bi-directional amplifier is designed to support various analog and digital modulation types and signal waveforms in the 2.4 GHz ISM band. The transmitter features LDMOS technology and delivers more than 20 W P1dB power. Switching between transmit and receive path is done automatically depending on the input power level. The receiver's built-in LNA provides a very low noise figure and additional power gain, which enhances the sensitivity of your receiver.

Features

- LDMOS technology
- RX/TX switching depending on input power level
- Circulator for protection against high VSWR
- Status LED for RX/TX indication
- Remote power supply via "Radio" terminal
- Additional pin for direct connection of supply voltage

Applications

- Digital broadcast systems (DVB-T, DVB-S)
- COFDM systems using modulation types QPSK, QAM
- WLAN applications according to IEEE 802.11b/g
- Analog & digital transmission systems

For operating high frequency modules legal instructions in the respective country must be followed. For this product especially the maximum allowed radiated power (EIRP) has to be considered.

Technical specifications:

Frequency range	2400..2500 MHz
Switching time RX/TX	typ. 600 ns, max. 1 us
Output power P1dB	typ. 44 dBm, min. 43 dBm
Input power for P1dB	typ. 20 dBm
Current consumption @ P1dB	typ. 2.4 A
Maximum input power (TX)	max. 25 dBm
Output power P3dB	min. 44 dBm
Output power COFDM (1)	min. 37 dBm
TX gain (small signal)	typ. 25 dB
Flatness TX (small signal)	typ. +/- 1.5 dB
Input return loss (TX)	typ. 15 dB
Noise figure @ 18°C	typ. 1.7 dB, max. 2 dB
RX gain (small signal)	typ. 18 dB, min. 17 dB
Flatness RX (small signal)	typ. +/-1 dB
Output IP3 (2)	typ. 20 dBm

Input return loss (RX)	typ. 15 dB
Supply voltage	+27 ... 30 V DC
Quiescent current RX/TX	typ. 50 mA / typ. 390 mA
Operating case temperatur range	-20 ... +55 °C
Radio connector / impedance	N-female / 50 ohms
Antenna connector / impedance	N-female / 50 ohms
Case	milled aluminium
Dimensions	81.8 x 63.6 x 22
Weight	typ. 250 g
Remote power supply	via radio connector
(1)	Measured with QAM 64, single carrier, EVM: 2%
(2)	Measured 2-tone, frequency spacing: 1 MHz