KU PA 170220-30 A, RF Power Amplifer

1700 ... 2200 MHz • 30 W

The power amplifier is developed both for digital and analog transmission systems. By the use of LD-MOSFET technology high efficiency and low current consumption are reached at the same time.

Features

- LD-MOSFET-technology
- Reverse polarity protection
- Monitor output for forward power detection (DC voltage)
- Milled aluminium case

Applications

- WIMAX radio systems
- COFDM – systems with modulation QPSK, QAM
- Analog transmission systems
- Measurement and 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	1700..2200 MHz
Input power for P1dB	typ. 17 dBm, min. 14 dBm
Maximum input power	+23 dBm
Output power P1dB	min. 44.7 dBm (CW)
	min. 30 W (CW)
Output power P3dB	min. 46 dBm
	min. 40 W
Output power COFDM (1)	min. 40 dBm
	min. 10 W
Gain (small signal)	typ. 30 dB, min. 28 dB
Gain flatness (small signal)	typ. +/- 1.5 dB
Harmonic rejection	typ. 30 dB, min. 25 dB @ 44.7 dBm
IM3 (2)	typ. 40 dBc @ 41.7 dBm PEP
	typ. 25 dBc @ 44.7 dBm PEP
Efficiency	typ. 35 %, min. 30 % @ 46 dBm
Supply voltage	+28 V DC
Quiescent current	typ. 0.5 A
Current consumption @ P3dB	typ. 4.5 A
Forward detection	yes (diode detector)
VSWR of load	max. 1.8 : 1
Operating case temp. range	-20 ... +55 °C

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Input connector / impedance	SMA-female / 50 ohms
Output connector / impedance	SMA-female / 50 ohms
Case	milled aluminium
Dimensions (mm)	80 x 60 x 20
Weight	140 g (typ.)
(1)	Measured with QAM 64, single carrier, EVM: 2%
(2)	Measured 2-tone, frequency spacing: 1 MHz

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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

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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

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KU PA 230250-20 A, GaAs-FET Power Amplifier

2300 ... 2500 MHz • 20 W

Features

- GaAs FET technology
- High linearity (class A operation)
- Good harmonic rejection
- Isolator for protection against high VSWR
- Reverse polarity protection
- Monitor outputs for forward and reverse power detection (DC voltage)
- Adjustable ALC (automatic level control)
- ON / OFF control with DC voltage (ON at 5 ... 14 V)

Applications

- Multichannel Multipoint Distribution Service (MMDS)
- Digital broadcast systems (DVB-T, DVB-S)
- COFDM systems using modulation types 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	2300..2500 MHz
Input power for P1dB	typ. -9 dBm
Maximum input power	-5 dBm
Output power P1dB	typ. 43.8 dBm, min. 43 dBm (CW)
	typ. 24 W, min. 20 W (CW)
Output power P3dB	min. 44 dBm (CW)
	min. 25 W (CW)
Output power COFDM (1)	min. 38.4 dBm (1)
	min. 7 W
Gain (small signal)	typ. 54 dB, min. 53 dB
Gain flatness (small signal)	typ. +/- 1 dB
Harmonic rejection	typ. 60 dB, min. 55 dB @ 43 dBm
IM3 (2)	min. 40 dBc @ 40 dBm PEP (2)
Efficiency	min. 20 % @ 43 dBm (CW)
Input return loss (S11)	min. 15 dB
ON voltage	+5 ... 14 V DC
Supply voltage	+11 ... 14 V DC
Current consumption @ P1dB	typ. 8 A
Forward detection	yes (diode detector)
Reflected power detection	yes (diode detector)

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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)	212 x 64 x 22
Weight	500 g (typ.)
(1)	Measured with QAM 64, single carrier, EVM: 2%
(2)	Measured 2-tone, frequency spacing: 1 MHz

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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

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Output power P1dB	typ. 42.5 dBm, min. 41.7 dBm (CW)
	typ. 18 W, min. 15 W (CW)
Output power P3dB	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

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KU PA 250270-20 A, GaAs-FET Power Amplifier

2500 ... 2700 MHz • 20 W

Features

- GaAs FET technology
- High linearity (class A operation)
- Good harmonic rejection
- Isolator for protection against high VSWR
- Reverse polarity protection
- Monitor outputs for forward and reverse power detection (DC voltage)
- Adjustable ALC (automatic level control)
- ON / OFF control with DC voltage (ON at 5 ... 14 V)

Applications

- Multichannel Multipoint Distribution Service (MMDS)
- Digital broadcast systems (DVB-T, DVB-S)
- COFDM systems using modulation types 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	2500..2700 MHz
Input power for P1dB	typ. -8 dBm
Maximum input power	-6 dBm
Output power P1dB	typ. 44 dBm, min. 43 dBm (CW)
	typ. 25 W, min. 20 W (CW)
Output power P3dB	min. 44 dBm (CW)
	min. 25 W (CW)
Output power COFDM (1)	min. 38.4 dBm (1)
	min. 7 W
Automatic level control (ALC)	yes (adjustable ALC)
Gain (small signal)	typ. 53 dB, min. 50 dB
Gain flatness (small signal)	typ. +/- 1.5 dB (ALC not aktive)
Harmonic rejection	typ. 60 dB, min. 55 dB @ 43 dBm
IM3 (2)	min. 40 dBc @ 40 dBm PEP (2)
Efficiency	min. 20 % @ 43 dBm (CW)
Input return loss (S11)	min. 10 dB
ON voltage	+5 ... 14 V DC
Supply voltage	+11 ... 14 V DC
Quiescent current	typ. 7.5 A
Current consumption	typ. 8 A

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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)	212 x 64 x 22
Weight	500 g (typ.)
(1)	Measured with QAM 64, single carrier, EVM: 2%
(2)	Measured 2-tone, frequency spacing: 1 MHz

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KU PA 330360-16 A, MOSFET-Power Amplifier

3300 ... 3600 MHz • 16 W

The power amplifier is developed both for digital and analog transmission systems. The wide frequency range covers as well the WIMAX-band as the amateur radio band equally. The power amplifier is developed with latest 28 V - LDMOS - technology.

Features

- LD-MOSFET-technology
- Reverse polarity protection
- Monitor output for forward power detection (DC voltage)
- Milled aluminium case

Applications

- WIMAX radio systems
- COFDM – systems with modulation 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	3300..3600 MHz
Input power for P1dB	typ. 20 dBm
Maximum input power	27 dBm
Output power P1dB	min. 42 dBm
	min. 16 W
Output power P3dB	min. 44.1 dBm (CW)
	min. 26 W
Output power COFDM (1)	typ. 39 dBm, min. 37.7 dBm
	typ. 8 W, min. 6 W
Gain (small signal)	typ. 27 dB, min. 24 dB
Gain flatness (small signal)	typ. +/- 1 dB
Harmonic rejection	typ. 32 dB, min. 28 dB @ 41.7 dBm
IM3 (2)	typ. 30 dBc @ 40 dBm PEP
Efficiency	typ. 30 % @ 43 dBm (CW)
Input return loss (S11)	typ. 11 dB, min. 8 dB
ON voltage	+9 ... 14 V DC
Supply voltage	+28 V DC
Quiescent current	typ. 380 mA
Current consumption @ P1dB	typ. 2.5 A
Forward detection	yes (diode detector)
VSWR of load	max. 1.8 : 1
Operating case temp. range	-20 ... +55 °C

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Input connector / impedance	SMA-female / 50 ohms
Output connector / impedance	SMA-female / 50 ohms
Case	milled aluminium
Dimensions (mm)	80 x 60 x 20
Weight	140 g (typ.)
(1)	Measured with QAM 64, single carrier, EVM: 2%
(2)	Measured 2-tone, frequency spacing: 1 MHz

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KU PA 340360-13 A, power amplifier

3400 ... 3600 MHz • 13 W

This power amplifier provides high linearity. An isolator at the output protects the semiconductor devices from reverse power. Very good harmonic rejection is achieved. Two detector outputs allow permanent monitoring of forward and reverse power. Typical applications of this amplifier are digital broadcast and communication systems like Digital Video Broadcast (DVB) or Digital Multimedia Broadcast (DMB). The amplifier contains an automatic level control (ALC). The desired output power can be adjusted continuously, from nearly zero to the maximum output power.

Features

- GaAs FET technology
- High linearity (class A operation)
- Good harmonic rejection
- Isolator for protection against high VSWR
- Reverse polarity protection
- Monitor outputs for foward and reverse power detection (DC voltage)
- Adjustable ALC (automatic level control)
- ON / OFF control with DC voltage (ON at 5 ... 14 V DC)

Applications

- Digital broadcast systems (DVB, DMB)
- COFDM systems using modulation types QPSK, QAM
- Analog transmission systems
- With reduced power suitable for DATV (digital amateur television)

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	3400..3600 MHz
Input power for P1dB	typ. -13 dBm
Maximum input power	0 dBm
Output power P1dB	typ. 41.1 dBm, min. 40.8 dBm
	typ. 13 W, min. 12 W
Output power P3dB	min. 42.3 dBm
Output power COFDM (1)	typ. 34.7 dBm, min. 34 dBm
	typ. 3 W, min. 2.5 W
Gain (small signal)	typ. 55 dB, min. 53 dB
Gain flatness (small signal)	+/-0.5 dB (typ.)
Harmonic rejection	min. 45 dB @ 41.7 dBm (CW)
IM3 (2)	min. 35 dBc @ 37 dBm PEP
Efficiency	min. 24 % @ 41.7 dBm (CW)
Input return loss (S11)	min. 13 dB
ON voltage	+5 ... 14 V DC
Supply voltage	+12 ... 14 V DC

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Quiescent current	typ. 4.3 A
Current consumption @ P1dB	typ. 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

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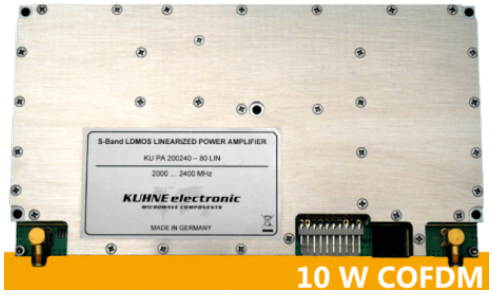
KU PA 200240-80 LIN, LDMOS Power Amplifier

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)

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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.)

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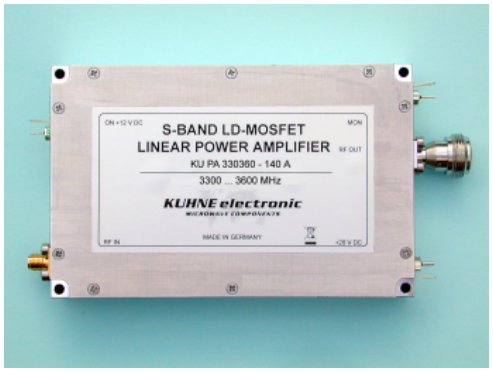
KU PA 330360-140 A, MOSFET Power Amplifier

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.)

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(1) Measured 2-tone, frequency spacing: 1 MHz

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KU LO 20 RACK

Oscillator in rackmount case

Technical specifications:

Output frequency	20200 MHz
Output power	typ. 1 mW
Crystal frequency	105.21 MHz
Output / Impedance	SMA-female / 50 ohms
Dimensions (mm)	

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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

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)

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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.)

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KU PA 200270-10 A, GaN-HEMT Power Amplifier

Based on GaN HEMT technology, the amplifier module achieves energy efficiencies greater than 40% over the entire 2000-2700MHz bandwidth at 10W output power.

Description

Based on GaN HEMT technology, the amplifier module achieves energy efficiencies greater than 40% over the entire 2000-2700MHz bandwidth at 10W output power. The amplifier is temperature compensated and, despite its high gain (47dB), features a very low gain ripple of typically +/- 0.5dB across the full bandwidth.
The high efficiency in combination with an extended operating temperature range of -20 ... + 80°C allows the use of the amplifier module even under suboptimal cooling conditions. An overtemperature shutdown at +80°C (with automatic restart) protects the module from overheating.
The RF output tolerates arbitrary mismatch without causing instability or damage.
In addition to the standard version with + 28V operating voltage (version A), the amplifier module is also available with wide-range supply voltage input (version B, +10 ... + 50V operating voltage).
The module provides low-impedance monitoring outputs for measurement and monitoring of forward and backward power as well as operating temperature. Power supply, control and monitoring signals are provided via a robust I/O interface (9-pin Sub-D connector) with protection against reverse polarity, overvoltage and EMI.

Features

- High efficiency and bandwidth
- Very low ripple, noise figure and good harmonic rejection over the entire bandwidth
- Robust I/O interface via Sub-D connector with monitoring outputs for forward and backward power as well as temperature
- Extended operating temperature range -20 ... + 80 ° C
- Available with wide-range supply voltage input +10 ... 50V (version B)

Applications

- Plasma generation and microwave heating in process engineering and scientific applications
- RF Measurement setups, EMC testing
- Radar
- Jammer
- Analog & Digital Transmission Systems

Technical specifications:

Frequency range	2000..2700 MHz
Maximum input power	+30 dBm
Output power P3dB	40 dBm (min.) (CW)
	10 W (min.) (CW)
Gain (small signal)	47.5 dB (typ.)
Gain flatness (small signal)	+/-0.75 dB (typ.)
Noise figure @ 18 °C	1.5 dB (typ.)
Harmonic rejection	40 dB (typ.)
Over temperature protection	yes

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IM3 (2)	30 dBc (typ.) @ 40 dBm PEP
Efficiency	45 % (typ.) @ P3dB
Input return loss (S11)	13 dB (typ.)
ON voltage	+3 ... +50 V DC
Supply voltage	+28 V DC
Quiescent current	150 mA (typ.)
Current consumption	1 A (max.)
Forward detection	yes (log. detector)
Reflected power detection	yes (log. detector)
VSWR of load	infinite
Operating case temp. range	-20 ... +80 °C
Input connector / impedance	SMA-female / 50 ohms
Output connector / impedance	SMA-female / 50 ohms
Case	milled aluminium
Dimensions (mm)	85 X 85 X 40
Weight	500 g (typ.)

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KU PA 200270-10 B, GaN-HEMT Power Amplifier

Based on GaN HEMT technology, the amplifier module achieves energy efficiencies greater than 40% over the entire 2000-2700MHz bandwidth at 10W output power.

Description

Based on GaN HEMT technology, the amplifier module achieves energy efficiencies greater than 40% over the entire 2000-2700MHz bandwidth at 10W output power. The amplifier is temperature compensated and, despite its high gain (47dB), features a very low gain ripple of typically +/- 0.5dB across the full bandwidth.
The high efficiency in combination with an extended operating temperature range of -20 ... + 80°C allows the use of the amplifier module even under suboptimal cooling conditions. An overtemperature shutdown at +80°C (with automatic restart) protects the module from overheating.
The RF output tolerates arbitrary mismatch without causing instability or damage.
In addition to the standard version with + 28V operating voltage (version A), the amplifier module is also available with wide-range supply voltage input (version B, +10 ... + 50V operating voltage).
The module provides low-impedance monitoring outputs for measurement and monitoring of forward and backward power as well as operating temperature. Power supply, control and monitoring signals are provided via a robust I/O interface (9-pin Sub-D connector) with protection against reverse polarity, overvoltage and EMI.

Features

- High efficiency and bandwidth
- Very low ripple, noise figure and good harmonic rejection over the entire bandwidth
- Robust I/O interface via Sub-D connector with monitoring outputs for forward and backward power as well as temperature
- Extended operating temperature range -20 ... + 80 ° C
- Available with wide-range supply voltage input +10 ... 50V (version B)

Applications

- Plasma generation and microwave heating in process engineering and scientific applications
- RF Measurement setups, EMC testing
- Radar
- Jammer
- Analog & Digital Transmission Systems

Technical specifications:

Frequency range	2000..2700 MHz
Maximum input power	+30 dBm
Output power P3dB	40 dBm (min.) (CW)
	10 W (min.) (CW)
Gain (small signal)	47.5 dB (typ.)
Gain flatness (small signal)	+/-0.75 dB (typ.)
Noise figure @ 18 °C	1.5 dB (typ.)
Harmonic rejection	40 dB (typ.)
Over temperature protection	yes

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IM3 (2)	30 dBc (typ.) @ 40 dBm PEP
Efficiency	40 % (typ.) @ P3dB
Input return loss (S11)	13 dB (typ.)
ON voltage	+3 ... +50 V DC
Supply voltage	+10 ... 50 V DC
Quiescent current	160mA (typ.) @ 28V DC
Current consumption	3 A (max.) @ 10V DC
Forward detection	yes (log. detector)
Reflected power detection	yes (log. detector)
VSWR of load	infinite
Operating case temp. range	-20 ... +80 °C
Input connector / impedance	SMA-female / 50 ohms
Output connector / impedance	SMA-female / 50 ohms
Case	milled aluminium
Dimensions (mm)	85 X 85 X 40
Weight	500 g (typ.)

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KU PA 270330-10 A, Power amplifier

Description

Based on GaN HEMT technology, the amplifier module achieves typical energy efficiencies of 48% over the entire 2700-3300MHz bandwidth at 10W output power.
The amplifier features high gain (37dB) and a gain ripple of typically +/- 2dB across the full bandwidth.
The module provides a monitoring output for monitoring of forward power.
The power supply input features protection against reverse polarity and overvoltage.

Features

- GaN technology
- High efficiency
- Reverse polarity protection
- Monitor output for forward power detection (DC voltage)
- Logic ON / OFF control (ON at +5 ... 14 V DC)

Applications

- Measurement, Laboratory equipment

Important notes

- 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	2700..3300 MHz
Maximum input power	+10 dBm
Output power P3dB	min. 40 dBm (CW)
	min. 10 W (CW)
Gain (small signal)	typ. 40 dB, min. 37 dB
Gain flatness (small signal)	typ. +/- 2 dB
Harmonic rejection	typ. 22 dB @ 40 dBm
Efficiency	typ. 48 % @ 40 dBm (CW)
ON voltage	+5 ... 14 V DC
Supply voltage	+27 ... 29 V DC
Quiescent current	typ. 300 mA
Forward 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)	78 x 41 x 22 mm
Weight	120 g (typ.)

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