Low Noise Converter

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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