

2 x Arctic Silver 5, High perf. heat conductive paste

As an enhancement of the Arctic Silver 3 the new heat-conductive paste Arctic Silver 5 features a heat conductance of 9.0 W/mK and better. Ranking first on the market of high performance heat-conductive pastes this product is intended to be used together with cooling actions of high-power amplifiers. The aim is to extend lifetime and to achieve better efficiency by operating amplifiers and transistors with lower temperatures. The applicable temperature range is - 50 ... + 130 °C.
Due to optimum consistency the application is easy to handle.



Technical specifications

Amount: 3.5 g
Thermal resistance: 0.0127 °C - cm²/W
Heat conductance: 9.0 W/mK and better

- contains 99,9% silver
- contains silver-, aluminium and zinc oxide
- Depending on the used heatsink and the operating behaviour of the system the run-in period can extend up to 200 hours!

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

KU PA 200250-18A, RF Power amplifier

2000 ... 2500 MHz • 18 W

analog & digital transmission systems ISM band jamming



Heat Sinks

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

Heat Sinks

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

KU PA 230270-18 A, RF Power Amplifier

2300 ... 2700 MHz • 18 W

analog & digital transmission systems ISM band jamming



Heat Sinks

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) 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

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 @ 1 kHz	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

KU UP 5457 A - Up Converter

5400 ... 5700 MHz

The converter KU UP 5457 A is designed for radio link systems in the range from 5400 MHz to 5700 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.



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)	400 ... 700 MHz
Frequency range (RF)	5400 ... 5700 MHz
LO frequency	5000 MHz
LO accuracy @ 18 °C	+/- 2 ppm
LO frequency stability	+/- 3 ppm
Phase noise @ 1kHz	typ. -85 dBc/Hz
Phase noise @ 10 kHz	typ. -92 dBc/Hz
Phase noise @ 100 kHz	typ. -100 dBc/Hz
Gain	typ. 17 dB, min 15 dB
Maximum input power	max. 5 mW (+7 dBm)
Output power (P1dB)	typ. 100 mW (+20 dBm)
Maximum case temperature	+55 °C
Supply voltage	+12 ... +14 V DC
Current consumption	typ. 430 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 5659 A, Up Converter

5600 ... 5900 MHz



Features

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

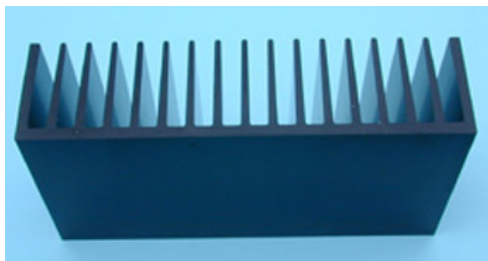
Applications

- Digital broadcast systems (DVB-T, DVB-S)
- Analog and digital transmission systems

Technical specifications:

Frequency range (IF)	400 ... 700 MHz
Frequency range (RF)	5600 ... 5900 MHz
LO frequency	5200 MHz
LO accuracy @ 18 °C	+/- 2 ppm
LO frequency stability	+/- 3 ppm
Phase noise @ 1kHz	typ. -85 dBc/Hz
Phase noise @ 10 kHz	typ. -92 dBc/Hz
Phase noise @ 100 kHz	typ. -100 dBc/Hz
Gain	typ. 17 dB, min 15 dB
Maximum input power	max. 5 mW (+7 dBm)
Output power (P1dB)	typ. 100 mW (+20 dBm)
Maximum case temperature	+55 °C
Supply voltage	+12 ... +14 V DC
Current consumption	typ. 430 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

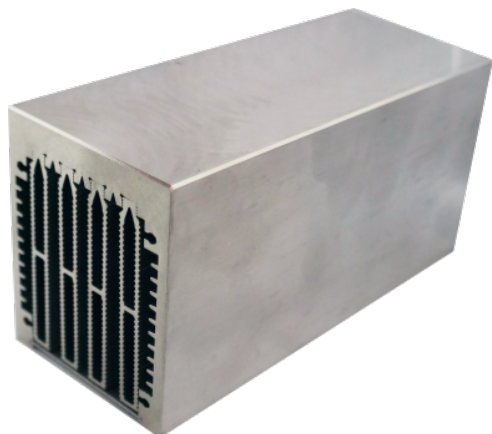
SK 120 - 75 heat sink



Technical specifications:

K / W	1.25
Material	Aluminium, black anodized
Dimensions (mm)	150 x 75 x 40
Weight	470 g (typ.)

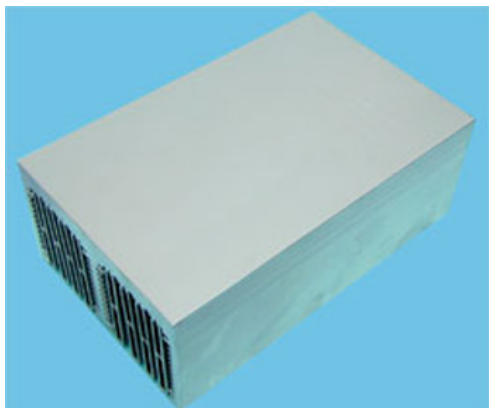
SK 150 - 62 heat sink



Technical specifications:

K / W	0.21 at 5 m/s
Material	aluminium blank, flat milled base
Dimensions (mm)	150 x 62 x 75
Weight	800 g (typ.)
Suitable Fansize (mm)	60 x 60

SK 200 - 125 High-performance-heat sink



Technical specifications:

K / W	0.09 at 5 m/s
Material	aluminium blank, flat milled base
Dimensions (mm)	200 x 125 x 75
Weight	2200 g (typ.)
Suitable Fansize (mm)	60 x 60

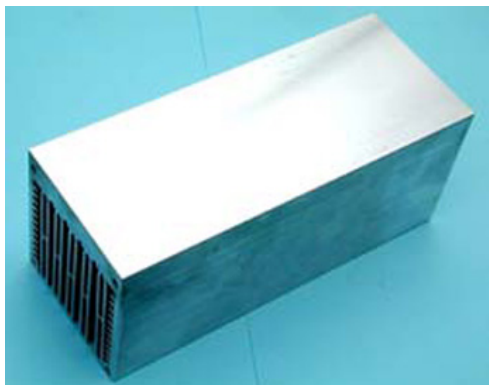
SK 200 - 160 High-performance-heat sink



Technical specifications:

K / W	0.065 at 5 m/s
Material	aluminium blank, flat milled base
Dimensions (mm)	200 x 160 x 85
Weight	3500 g (typ.)
Suitable Fansize (mm)	80 x 80

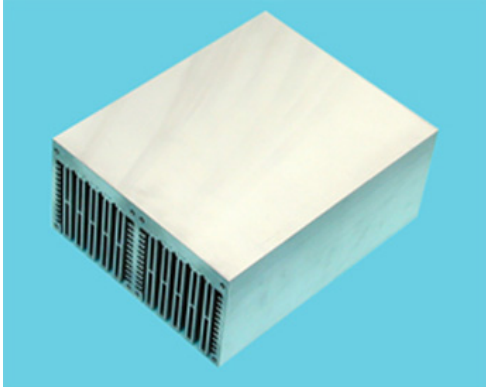
SK 200 - 80 High-performance-heat sink



Technical specifications:

K / W	0.13 at 5 m/s
Material	aluminium blank, flat milled base
Dimensions (mm)	200 x 80 x 85
Weight	1700 g (typ.)
Suitable Fansize (mm)	80 x 80

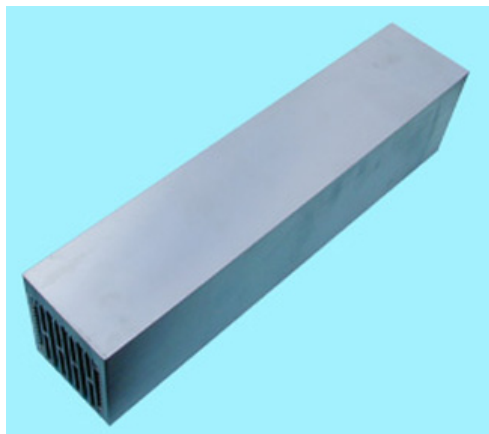
SK 300 - 240 - 120 High-performance-heat sink



Technical specifications:

K / W	0,026 at 5 m/s
Material	aluminium blank, flat milled base
Dimensions (mm)	300 X 240 X 120
Weight	10500 g (typ.)
Suitable Fansize (mm)	120 X 120

SK 300 - 62 High-performance-heat sink



Technical specifications:

K / W	0.15 at 5 m/s
Material	aluminium blank, flat milled base
Dimensions (mm)	300 x 62 x 75
Weight	1600 g (typ.)
Suitable Fansize (mm)	60 x 60

WK 15 -12 Liquid cold plate

Liquid cold plate for different cooling liquids



Technical specifications:

Material	Mounting plate: milled aluminium, Tube: copper
Cooling Fluid	H2O, Glycol/H2O, de-ionized water, oil, POA ...
Dimensions (mm)	152 x 127 x 15.2
CU Tube outer / inner diameter	9.5 mm / 7.0 mm
Weight	900 g (typ.)

KU UP 3436 A, Up Konverter

3400 ... 3600 MHz

The up converter KU UP 3436 A converts the UHF band from 400 to 600 MHz up to the frequency range from 3400 to 3600 MHz. Internal filters provide high spurious rejection and image rejection. Due to low phase noise and high frequency stability of the local oscillator at 3000 MHz, the up converter is suitable for analog and digital communication systems.

Typical applications are Multichannel Multipoint Distribution Systems (MMDS) using QPSK modulation and DVB-T or DVB-S systems. The output power of 20 mW can be increased to several watts by the use of an additional power amplifier.

See also section > Power Amplifiers > 3.4 GHz.

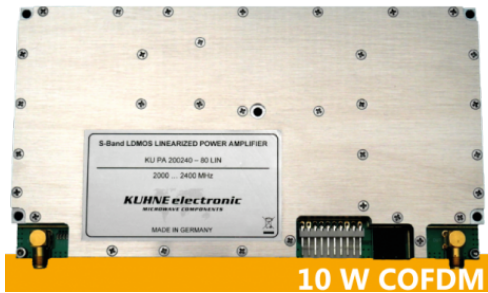


Technical specifications:

Frequency range (IF)	400 ... 600 MHz
Frequency range (RF)	3400 ... 3600 MHz
LO frequency	3000 MHz
LO accuracy @ 18 °C	+/- 20 kHz
LO frequency stability	+/- 2.5 ppm
Phase noise @ 100 kHz	typ. -112 dBc/Hz
Image rejection	typ. 50 dB
Gain	23 dB
Gain flatness	+/- 2 dB
Input power	typ. 0.1 mW (-10 dBm)
Maximum input power	max. 3 mW
Output power (P1dB)	min. 20 mW (+13 dBm)
Output power (Psat)	min. 17 dBm (50 mW)
Supply voltage	+9 ... +14 V DC
Current consumption	typ. 230 mA
Input connector / impedance	SMA-female, 50 ohms
Output connector / impedance	SMA-female, 50 ohms
Case	milled aluminium
Dimensions (mm)	82 x 64 x 22
Weight	200 g

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



Heat Sinks

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

Heat Sinks

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.)

WK 22-16 Water Heatsink

Liquid heat sink for water and other cooling liquids

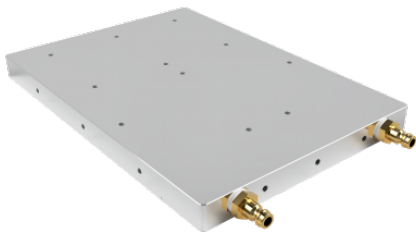
The highest possible cooling capacity in the smallest possible space

Suitable for MKU PA 23 CM 1200W A

Liquid heat sink for dissipating large amounts of heat with a small footprint. Is an effective system to cool power modules. It is suitable for water pH 6.5-8.5 with anti-corrosion agent and other fluids.

Included supply:

2x quick coupling suitable for the cooling plate



Description

Liquid heat sinks represent the top performance class of heat sink technology. They are extremely compact and cool particularly efficiently, as they generate significantly more heat dissipate in much less time than passive or fan-assisted heatsinks. Since they also have no moving parts, they are particularly low-maintenance.

Features

- Better heat dissipation than air heatsinks
- Suitable for narrow installation space
- The transfer of the cooling liquid to another location can be easily implemented
- Simple connection to existing cooling circuit possible
- Precisely plane-milled surface of the component mounting surface with very good evenness and low peak-to-valley height
- Plug & Cool

Technical specifications:

Material	aluminium blank, flat milled base
Cooling Fluid	H2O, Glycol/H2O, de-ionized water, oil, POA ...
Operation pressure	max. 2 bar
Flow rate	250 ... 1200 l/h
Water temperature	15 ... 25 °C
Dimensions (mm)	223 x 156 x 16
Connection	NW5-G-18-AG quick release
Weight	1150 g (typ.)

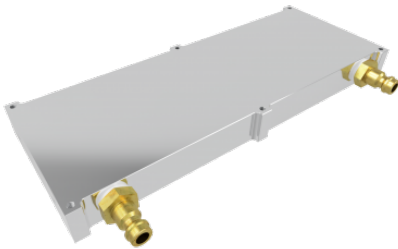
WK 18-07 Water Heatsink

Liquid heat sink for dissipating large amounts of heat with a small footprint. Is an effective system to cool power modules. It is suitable for water pH 6.5-8.5 with anti-corrosion agent and other fluids.

- Liquid heat sink for water and other cooling liquids
- the highest possible cooling capacity in the smallest possible space
- Suitable for KU SG 2.45-450 A

Included supply:

- 2x quick coupling suitable for the cooling plate



Description

Liquid heat sinks represent the top performance class of heat sink technology. They are extremely compact and cool particularly efficiently, as they generate significantly more heat dissipate in much less time than passive or fan-assisted heatsinks. Since they also have no moving parts, they are particularly low-maintenance.

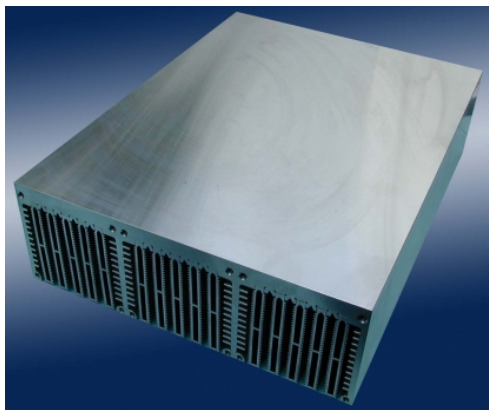
Features

- Better heat dissipation than air heatsinks Suitable for narrow installation space
- The transfer of the cooling liquid to another location can be easily implemented
- Simple connection to existing cooling circuit possible
- Precisely plane-milled surface of the component mounting surface with very good evenness and low peak-to-valley height
- Plug & Cooling

Technical specifications:

Material	aluminium blank, flat milled base
Cooling Fluid	H2O, Glycol/H2O, de-ionized water, oil, POA ...
Operation pressure	max. 4 bar
Flow rate	250 ... 1200 l/h
Water temperature	15 ... 25 °C
Dimensions (mm)	180 x 71 x 18
Connection	NW5-G-18-AG quick release
Weight	400 g (typ.)

SK-300-240, High-performance-heat sink



Technical specifications:

K / W	0.03 at 5 m/s
Material	aluminium blank, flat milled base
Dimensions (mm)	300 x 240 x 80 mm
Weight	8000 g (typ.)
Suitable Fansize (mm)	80 x 80