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

© Kuhne electronic GmbH
Scheibenacker 3 | 95180 Berg | Germany
Tel.: +49 (0) 9293 - 800 640
Fax: +49 (0) 9293 - 800 6420

S-Band

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.)

© Kuhne electronic GmbH
Scheibenacker 3 | 95180 Berg | Germany
Tel.: +49 (0) 9293 - 800 640
Fax: +49 (0) 9293 - 800 6420

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

© Kuhne electronic GmbH
Scheibenacker 3 | 95180 Berg | Germany
Tel.: +49 (0) 9293 - 800 640
Fax: +49 (0) 9293 - 800 6420

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.)

© Kuhne electronic GmbH
Scheibenacker 3 | 95180 Berg | Germany
Tel.: +49 (0) 9293 - 800 640
Fax: +49 (0) 9293 - 800 6420