

Power Amplifiers

Evaluation boards for Power Amplifiers are available on request.

GaAs PHEMT MMIC Power Amplifier 17-21 GHz

A 3-stage MMIC power amplifier that provides 22 dBm of saturated power and >29% PAE, with 5 dBm input power from a 3 V supply voltage and 220 mA current.

GaAs PHEMT MMIC Power Amplifier 27-31 GHz

A 3-stage MMIC power amplifier that provides 20 dBm of saturated power and >17% PAE, with 3 dBm input power, from a 3 V supply voltage and 210 mA current.

10 W GaN MMIC High Power Amplifier 17-20.5 GHz

A high power MMIC amplifier fabricated on Space Qualified 0.25 um GaN on SiC. This MMIC delivers >10 W saturated output power across the band, with power-added efficiency in excess of 25% and large-signal gain of 20 dB.

Available as a surface mount ceramic package or a solid state module

10 W High Power Amplifier Module 17-20.5 GHz

An integrated high power amplifier module delivering over 10 W of saturated power. The module is biased from a single 20-28 V DC supply and activated through an enable signal. The modules dimensions are 63x60x25 mm.

Features

- >22 dBm saturated output power
- 21 dB small signal gain
- <0.5 dB gain flatness

Features

- >20 dBm saturated output power
- 20 dB small signal gain
- <1.0 dB gain flatness

Features

- Power >10 W saturated
- 25 dB small signal gain
- 20 dB large signal gain
- Integrated power detector

Features

- Power >10 W saturated
- Integrated temperature and power detector
- 24 dB small signal gain

Low Noise Amplifiers

Evaluation boards for Low Noise Amplifiers are available on request.

GaAs PHEMT MMIC Low Noise Amplifier 17-21 GHz & 27-31 GHz

A 3-stage MMIC low noise amplifier that provides up to 20dB of stable gain, with a noise figure of 2.5dB from a 4V supply voltage and 41mA current.

Features

- 20 dB gain
- 2.5 dB noise figure
- Unconditionally stable

Dividers

GaAs PHEMT MMIC Frequency Divider 23.9- 24.8 GHz

A frequency divider MMIC that covers input frequencies from 23.9-24.8 GHz and outputs the divided frequencies from 11.95-12.4 GHz.

Features

- 11.95-12.4 GHz output frequency
- >3 dBm output power

Mixers

IQ MMIC Mixer 17-21 GHz

An I/Q MMIC diode mixer with integrated quadrature coupler for single side-band (LO-IF/LO-RF) operation in either up or downconverter modes.

Features

- 17-21 GHz RF
- 2-7 GHz IF
- 10 dB conversion loss
- 13 dBm LO drive

IQ MMIC Mixer 27-31 GHz

An I/Q MMIC diode mixer with integrated quadrature coupler for single sideband (LO+IF / RF-LO) operation in both up and downconverter modes.

Features

- 27-31 GHz
- 15 dB conversion loss
- 13 dBm LO drive
- >19 dB LO-RF isolation

Mixers

GaAs MMIC Sub-Harmonic Mixer 22.5-25 GHz

A GaAs sub-harmonic mixer, covering frequencies from 22.5 to 25 GHz with LO signals in the range of 10.8 to 13.6 GHz. This MMIC incorporates an anti-parallel diode pair and is usable for LO drive levels of <10 dBm.

Features

- 22.5-25 GHz
- <16 dB conversion loss
- Low LO drive level requirement

Multiplier

GaAs MMIC x2 Frequency Multiplier 30-46 GHz

A wideband passive Schottky diode frequency multiplier MMIC that transforms frequencies from 15-23 GHz into 30-46 GHz. This MMIC provides 7 dBm output power with ± 1 dB conversion loss variation at an input drive level of 18 dBm.

Features

- 15-23 GHz input
- 30-46 GHz output
- 11 dB conversion loss
- 7 dBm output power

Oscillators

GaAs PHEMT MMIC Voltage Controlled Oscillator 23.5-24.8 GHz

A bare die voltage controlled oscillator MMIC with integrated sub-harmonic mixer and using a tuning voltage between 0 and 1.6 V. This MMIC provides a constant 15 dBm output power over all tuning voltages.

Features

- 15 dBm output power
- Integrated sub-harmonic mixer for phase stability

GaAs PHEMT MMIC Voltage Controlled Oscillator 23.25-24.25 GHz

A bare die voltage controlled oscillator MMIC with integrated sub-harmonic mixer and using a tuning voltage between 0 and 1 V. This MMIC provides a constant 15 dBm output power over all tuning voltages.

Features

- 15 dBm output power
- Integrated F/2 signal generation

Phase Shifters

Variable Phase Shifter MMIC 17-21 GHz

A MMIC analogue phase shifter enabling more than 350° phase variation with excellent matching and very low insertion loss variation over all phases and frequencies (± 1.9 dB), and excellent phase tracking over all frequencies (less than $\pm 15^\circ$).

Features

- 6 dB insertion loss
- 9 dB return loss
- 350° phase variation

Variable Phase Shifter MMIC 25.5-32.5 GHz

A MMIC analogue phase shifter enabling 360° phase variation with very low insertion loss variation over all phases and frequencies (± 2 dB), and excellent phase tracking over all frequencies (less than $\pm 25^\circ$).

Features

- 7 dB insertion loss
- 5 dB return loss
- >360° phase variation

Phase Shifter with Integrated Power Amplifier 17-21 GHz

A MMIC analogue phase shifter core chip with integrated power amplifier that enables more than 360° phase variation with excellent matching, 15 dB gain with less than ± 2 dB variation and less than $\pm 15^\circ$ phase tracking.

Features

- 15 dB gain
- 10 dB return loss
- >360° phase variation
- 22.5 dBm output power

Integrated Circuits

K & Ka-band



Phase Shifters

Phase Shifter with Integrated Power Amplifier 27-32.5 GHz

A MMIC analogue phase shifter core chip with integrated power amplifier that enables more than 360° phase variation, supplies typically 17 dB gain with low variation and excellent phase tracking with less than $\pm 20^\circ$.

Features

- 17 dB gain
- 5 dB input return loss
- 10 dB output return loss
- >360° phase variation
- 20 dBm output power

Switch

GaAs Diode SPDT Switch 18-29 GHz

An SPDT Schottky diode based switch that covers frequencies from 18-29 GHz with very low loss (2 dB) when closed and isolation greater than 10 dB when open.

Features

- 18-29 GHz
- 2 dB insertion loss
- 10 dB isolation
- 10 dB return loss (closed)

Up/Downconverters

GaAs PHEMT Upconverter Core Chip 17-21 GHz

An integrated IQ mixer and medium power amplifier MMIC that upconverts frequencies from 3-7 GHz into the 17-21 GHz.

Features

- 3-7 GHz input
- >10 dB conversion gain
- 20 dBm saturated power

GaAs PHEMT Upconverter Core Chip 27-31 GHz

An integrated IQ mixer and medium power amplifier MMIC that upconverts frequencies from 3-7 GHz into 27-31 GHz.

Features

- 3-7 GHz input
- >10 dB conversion gain
- 20 dBm saturated power

GaAs PHEMT Downconverter Core Chip 17-21 GHz

An integrated low noise amplifier and IQ mixer MMIC that downconverts frequencies from 17-21 GHz into 3-7 GHz.

Features

- 3-7 GHz output
- >6 dB conversion gain
- 2.5 dB noise figure

Contact Our Team For A Quote Today

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