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# Mini-Circuits Introduces 2 Wideband, High-Efficiency GaN Power Amplifiers

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**Content**

Mini-Circuits today announced the release of two GaN-on-SiC HEMT MMIC power amplifiers designed to meet the demanding power, bandwidth, and linearity requirements of defense, communications, satellite, and test applications.

The new GNA-63-5W+ operates from 10 MHz to 6 GHz, providing more than 6 W output power with typical saturated output power of +38.5 dBm. The amplifier delivers a typical large-signal gain of 12 dB and a typical power-added efficiency of 35%, with gain flatness better than ±1 dB.

For applications requiring greater output power through 2.5 GHz, the new GNA-252-5W+ covers 10 MHz to 2.5 GHz and delivers more than 8 W output power. It achieves a typical saturated output power of +40 dBm, a typical large-signal gain of 13.5 dB, a typical power-added efficiency of 47%, and gain flatness better than ±0.5 dB.

Both amplifiers combine high efficiency, flat gain, and strong linearity to support longer signal coverage, increased link margin, and improved signal-detection capability. Their low intermodulation distortion helps preserve signal integrity in high-fidelity and multicarrier systems. At an output level of +26 dBm per tone, the GNA-63-5W+ provides typical IM3 of -32 dBc and IM5 of -56 dBc, while the GNA-252-5W+ provides typical IM3 of -30 dBc and IM5 of -57 dBc.

The devices are internally matched to 50 ohms at the RF input and output, eliminating the need for an external matching network and helping designers reduce component count, board area and development time. Both operate from a +28 V supply with a quiescent current of 400 mA and support operating temperatures from -55°C to +95°C.

The GNA-63-5W+ is supplied in a 5 × 5 mm, 32-lead QFN-style package, while the GNA-252-5W+ is offered in a smaller 4 × 4 mm, 20-lead QFN-style package. Their compact surface-mount construction provides low-inductance RF transitions, effective thermal contact to the PCB and compatibility with high-volume assembly processes.

Target applications include:

- Land-mobile and military radio systems
- Radar, electronic warfare and electronic countermeasure systems
- Satellite communications
- Cellular infrastructure

- Test and measurement equipment

The GNA-63-5W+ and GNA-252-5W+ are available on the Mini-Circuits website.

**Supporting Links:**

https://www.minicircuits.com/WebStore/dashboard.html?model=GNA-63-5W%2B

https://www.minicircuits.com/WebStore/dashboard.html?model=GNA-252-5W%2B

**Tags:**

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**About Us:**

**Heading :** About Mini-Circuits

Mini-Circuits makes the building blocks that shape the wireless world. From communications networks and critical national security systems to life-saving diagnostic imaging, quantum computing and more, we support the world's most innovative companies in building a faster, smarter, more connected future with the power of RF, microwave and millimeter wave technology. Headquartered in Brooklyn, New York with design, manufacturing and sales locations around the world, we're a diverse, rapid-growth corporation that hasn't outgrown what it means to treat our team members, customers, suppliers and partners like family. 20,000+ customers prefer Mini-Circuits for the demanding quality standards, design and manufacturing capabilities, sales and applications support, and supply chain stability that have earned the industry's trust since 1968.