

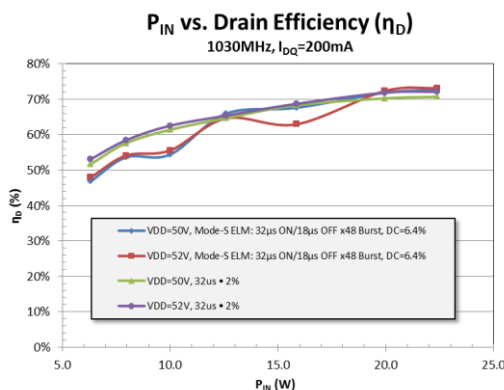
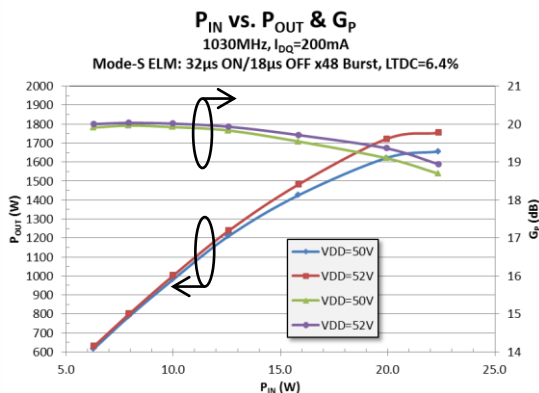
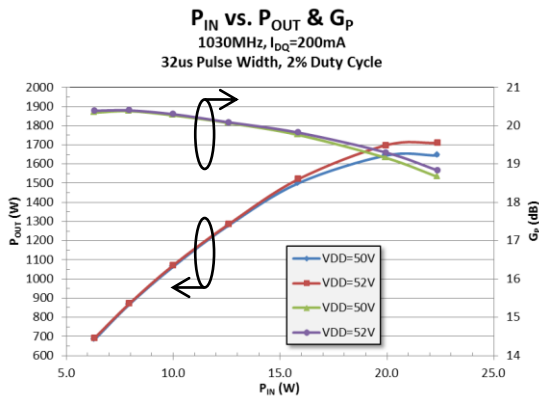
1011GN-1600VG

1600W 1030 MHz L-band Avionics GaN Pulsed Output Stage Power Transistor

Microsemi has developed a reliable GaN-on-SiC transistor that represents the best value design choice for a civilian or military, ground-based or airborne IFF interrogators or mode-S/mode-S ELM transponders power output stage transmitter applications.

The rugged 1011GN-1600VG transistor product delivers 1600W minimum pulsed output power with 18.6 dB typical power gain at 1030 MHz under pulsing formats from 32µs pulse width, 2% duty cycle to Mode-S ELM.

The hermetically sealed single-ended gemini packaged transistor is internally pre-matched for optimal performance and utilizes all gold metallization and eutectic die attach to provide the highest reliability and superior ruggedness.



Applications

- Avionics mode-S ELM
- IFF mode-4 & mode-5 systems
- TCAS systems

Highlights

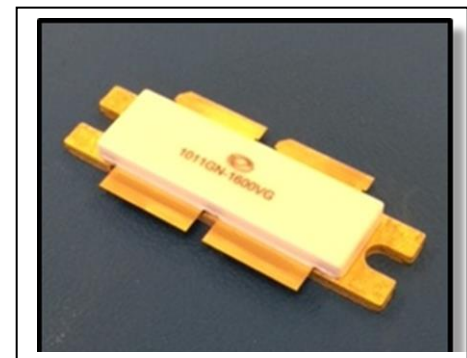
- >1600W pulsed output power
- Compact single ended industry standard Gemini package: 0.400 in. x 1.340 in.
- Single Gate and single Drain bias
- High Efficiency: 70% typical
- High power gain: 18.6 dB
- Multiple pulsing format capability
 - 32 us pulse width, 2% duty cycle pulsing
 - Mode-S ELM pulsing
 - IFF mode-4 & IFF mode-5 pulsing

Benefits

- Ideal for mode-S ELM, TCAS, IFF and standard mode-S avionics applications
- Achieve peak power density output stage designs
- Compact package and high power capability supports excellent size, weight and power (SWaP) advantages

Available Packages

Industry Standard Gemini Package



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Key Performance Characteristics

- >1600W Pulsed Output Power
- Single-Ended Industry Standard Gemini Package
- Achieve Peak Power Density Output Stage Designs
- Single Gate and Single Drain Bias
- 70% Typical Efficiency
- 18.6 dB Power Gain
- Multiple Pulsing Format Capability:
 - 32us Pulse Width, 2% Duty Cycle Pulsing
 - Mode-S ELM Pulsing
 - IFF Mode-4 & Mode-5 Pulsing
- Compact 0.400" x 1.340" 55-Q11A Package
- Best Size, Weight, and Power (SWAP) Advantages

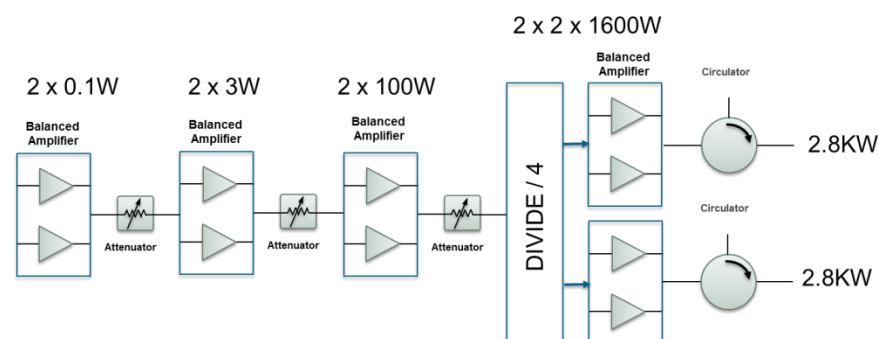
Complementary Products

- 1011GN-250E/EL/EP 250W Driver
- 1011GN-125E/EL/EP 125W Driver
- 0912GN-50LE/LEL/LEP 50W Driver
- 1011GN-30E/EL/EP 30W Driver
- 0912GN-15E/EL/EP 15W Pre-Driver
- DC35GN-15-Q4 15W QFN Pre-Driver

Ordering Information

Part Number	Package
1011GN-1600VG	Ceramic 55-xxx flanged package
1011GN-1600VG-TF	1011GN-VG test fixture

1030 MHz Avionics Amplifier Application Circuit



Microsemi GaN on SiC & Silicon BJT Transistors

Microsemi offers a complete family of continuous wave (CW) and pulsed RF and Microwave Silicon Bipolar Junction transistor and GaN on SiC HEMT transistor products up to 1600W which provide system design solutions for HF, VHF, UHF, and L/S/C-band primary and secondary radar, communications, Industrial-Scientific-Medical (ISM), and Space applications. For more information on Microsemi GaN power transistor solutions visit: www.microsemi.com/product-directory/power-transistor-products-si-bjt-mosfet-gan/3309-transistors-gallium-nitride



Microsemi Corporate Headquarters
 One Enterprise, Aliso Viejo, CA 92656 USA
 Within the USA: +1 (800) 713-4113
 Outside the USA: +1 (949) 380-6100
 Fax: +1 (949) 215-4996
 Email: sales.support@microsemi.com
www.microsemi.com

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