

AR S6G18C Series



NEW higher power variants now available

RETHINKING SOLID-STATE AMPLIFIERS



INTRODUCTION

Introducing the Enhanced S6G18C Series from AR, with new higher power variants.

Leveraging the proven microelectronic design of the field proven S6G18C series, these cutting edge amplifiers are now available in 125-watt, 250-watt, and 450-watt power levels. The modular design and solid-state technology is scalable to 1000 watts and beyond, ensuring unmatched performance and adaptability.

Why Choose the AR S6G18C Solid State Series

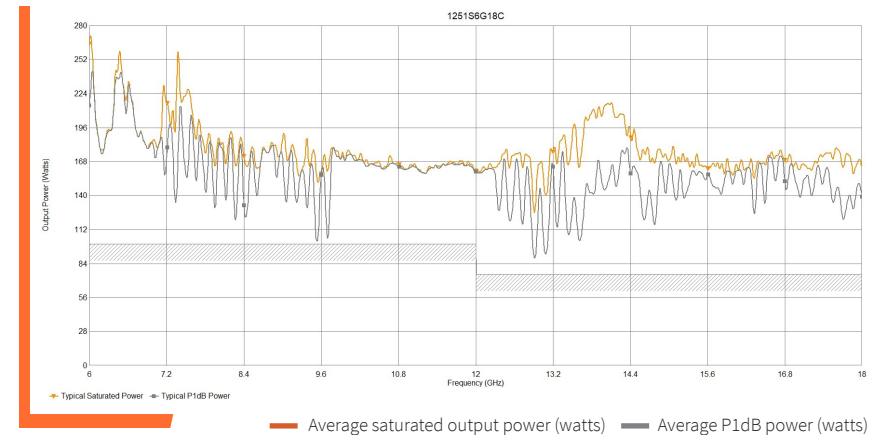
Designed as an advanced alternative to traditional TWT-based amplifiers, the S6G18C series provides:

- **Superior Linear Performance** for precision output.
- **Improved Harmonic Performance**, achieving up to -20 dBc (versus -3 dBc in TWT).
- **Enhanced Reliability** with no single critical failure points like TWT tubes.
- **Swift Maintenance** thanks to modular construction.
- **Improved Cost of Ownership**, reducing downtime and eliminating the need for expensive backup units.



Applications:

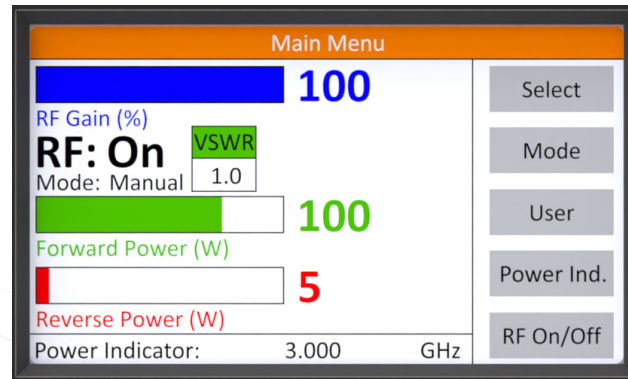
- Radiated Immunity: ISO11452-1 ISO11452-2, MIL-STD461G (RS103), MIL-STD464D, DO160 Sections 20.5 (Anechoic Chamber Method) or Section 20.6 (Reverberation Chamber Method)
- Military Systems
- Component Test
- Scientific Research



PRODUCT FEATURES

Intuitive touchscreen interface

The intuitive touchscreen interface offers several key benefits. It simplifies user interaction, making it easy to access and adjust settings with minimal training or technical expertise. This interface enhances operational efficiency by providing clear, real-time feedback, allowing users to monitor performance metrics and make quick adjustments on the fly. The touchscreen also enables faster navigation, reducing the time needed to set up or troubleshoot the amplifier.



Multiple interfaces

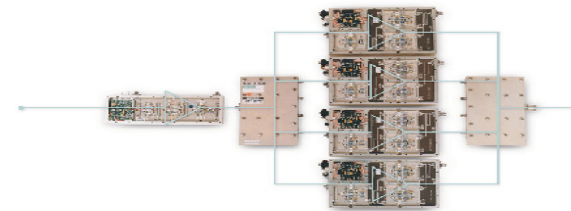
IEEE 488 (GPIB)
USB 2.0
ETHERNET
RS232

Multiple remote control options are available including IEEE 488 (GPIB), USB 2.0, Ethernet, and RS232. These interfaces allow for seamless integration with different control systems and enable efficient data transfer across a range of setups, whether in modern or legacy systems. The versatility of multiple communication protocols ensures compatibility with different devices and networks, supporting remote monitoring and automation.

This ultimately increases operational efficiency and adaptability across diverse testing scenarios.

Modular design

Modular product design offers several advantages, starting with a reduced bill of materials (BOM), as standard components are shared across various models, leading to lower production costs and simplified inventory management.

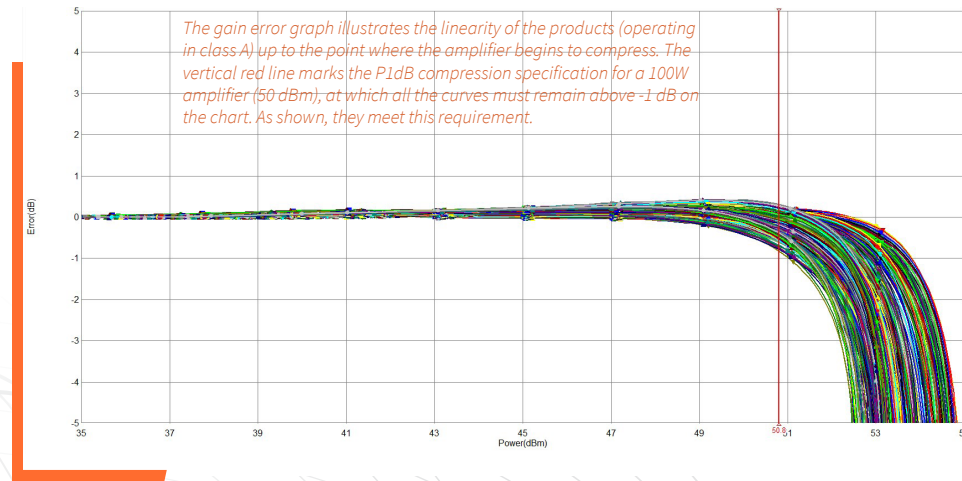


Reduced BOM
Reduced Spare Parts List
Soft Fail
Ease and Speed of Service
Power upgrade paths

It also results in a reduced recommended spare parts list, since fewer unique parts are needed for maintenance or repairs, streamlining logistics and minimizing downtime. The fault protection feature means that when one module fails, the entire system shuts down, protecting the amplifier from additional costly module failures. The ease and speed of service are significantly enhanced, as individual modules can be quickly replaced without needing to disassemble the entire product.



TECHNICAL ADVANTAGES



High Linearity:

Achieve precision and clarity with minimal distortion of complex modulation signals through Class A operation, making the S6G18C the ideal choice for high-fidelity applications across industries.

High Power Output:

Delivering significant power levels, the S6G18C meets the demands of industrial, EMC, aerospace, and defense applications, providing unmatched capability for even the most rigorous requirements.

Wide Frequency Range:

Spanning an impressive range of 6 to 18 GHz, the S6G18C perfectly complements the AR W1000 and S1G6C Series, ensuring seamless integration and versatility.

High Efficiency:

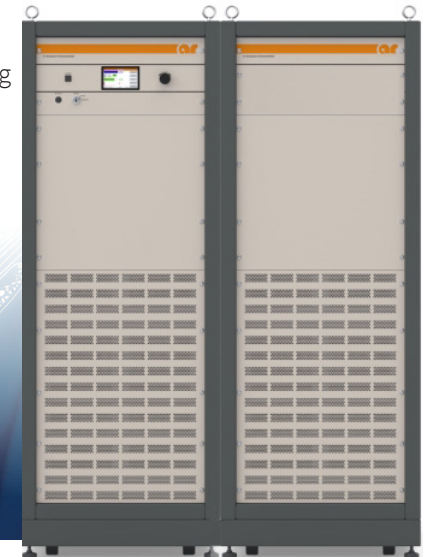
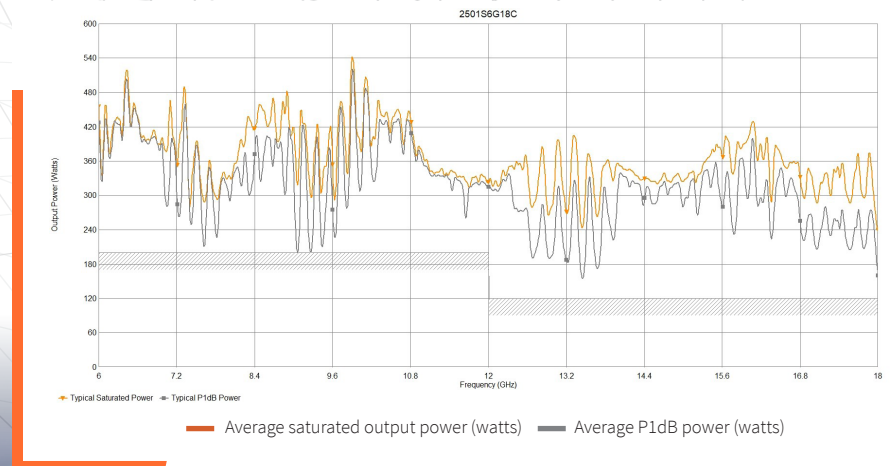
Engineered for optimized energy usage, the S6G18C reduces heat generation and operating costs, ensuring sustainability without compromising performance.

Unmatched Reliability:

Built on a robust solid-state architecture, the S6G18C offers exceptional reliability with a long operational lifespan, even in challenging VSWR environments. Say goodbye to the vulnerabilities of traditional tube-based systems.

Advanced Thermal Management:

Innovative thermal management systems guarantee stable performance, effectively preventing overheating to ensure uninterrupted operation in the most demanding conditions.

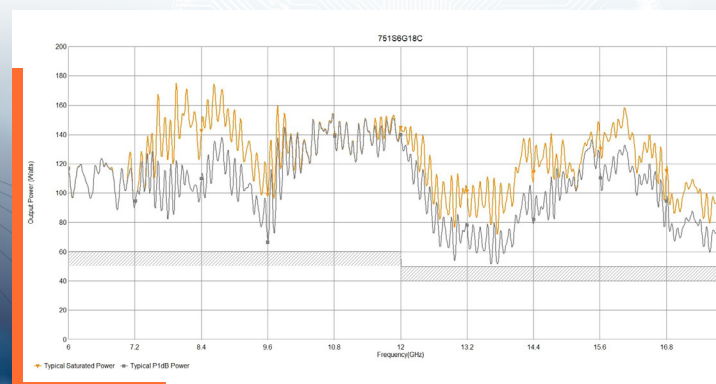
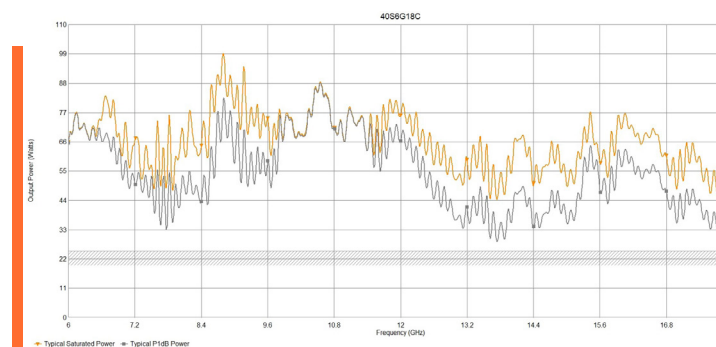
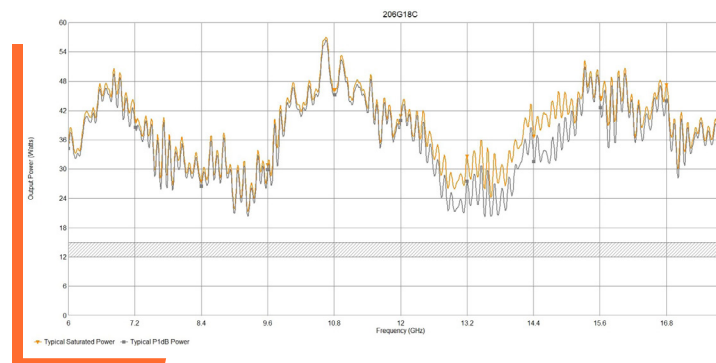


PRODUCT SPECIFICATION

MODEL	20S6G18C		
Frequency	6 to 18 GHz	VSWR Protection	Infinite
Psat (min)	20 Watts	Line Power (typ)	600W
P1dB (min)	15 Watts	Dimensions	(H) 4U, (W) 19, (D) 25.1 inch
Gain (min)	45 dB	Weight	20.4 kg
2nd Harmonic (max)	-20 dBc	RF Connectors	RF Input = N-Type Female RF Output = N-Type Female

MODEL	40S6G18C		
Frequency	6 to 18 GHz	VSWR Protection	Infinite
Psat (min)	40 Watts	Line Power (typ)	700W
P1dB (min)	25 Watts	Dimensions	(H) 4U, (W) 19, (D) 25.1 inch
Gain (min)	51 dB	Weight	22.7 kg
2nd Harmonic (max)	-20 dBc	RF Connectors	RF Input = N-Type Female RF Output = N-Type Female

MODEL	75S6G18C		
Frequency	6 to 18 GHz	2nd Harmonic (max)	-20 dBc
Psat 6-12GHz (min)	75 Watts	VSWR Protection	Infinite
Psat 12-18GHz (min)	65 Watts	Line Power (typ)	1200W
P1dB 6-12GHz (min)	60 Watts	Dimensions	(H) 4U, (W) 19, (D) 25.1 inch
P1dB 12-18GHz (min)	50 Watts	Weight	25.9 kg
Gain (min)	50 dB	RF Connectors	RF Input = N-Type Female RF Output = N-Type Female

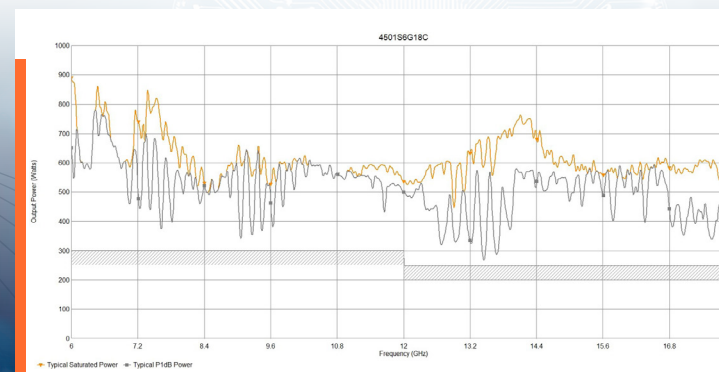
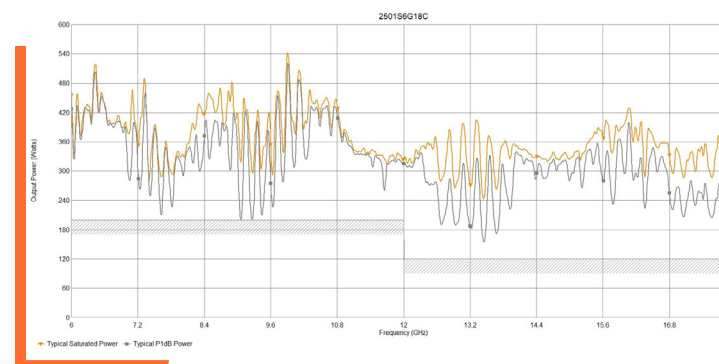
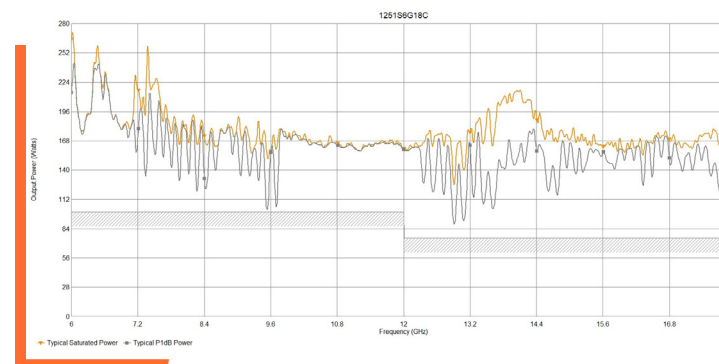


PRODUCT SPECIFICATION

NEW MODEL	125S6G18C		
Frequency	6 to 18 GHz	2nd Harmonic (max)	-17 dBc
Psat 6-12GHz (min)	125 Watts	VSWR Protection	06:01
Psat 12-18GHz (min)	100 Watts	Line Power (typ)	2750W
P1dB 6-12GHz (min)	100 Watts	Dimensions	(H) 10U (W) 19, (D) 25.1 inch
P1dB 12-18GHz (min)	75 Watts	Weight	54 kg
Gain (min)	52 dB	RF Connectors	RF Input = N-Type Female RF Output = WRD650

NEW MODEL	250S6G18C		
Frequency	6 to 18 GHz	2nd Harmonic (max)	-17 dBc
Psat 6-12GHz (min)	250 Watts	VSWR Protection	06:01
Psat 12-18GHz (min)	200 Watts	Line Power (typ)	4500W
P1dB 6-12GHz (min)	200 Watts	Dimensions	(H) 16U, (W) 19, (D) 39.2 inch
P1dB 12-18GHz (min)	120 Watts	Weight	88 kg
Gain (min)	55 dB	RF Connectors	RF Input = N-Type Female RF Output = WRD650

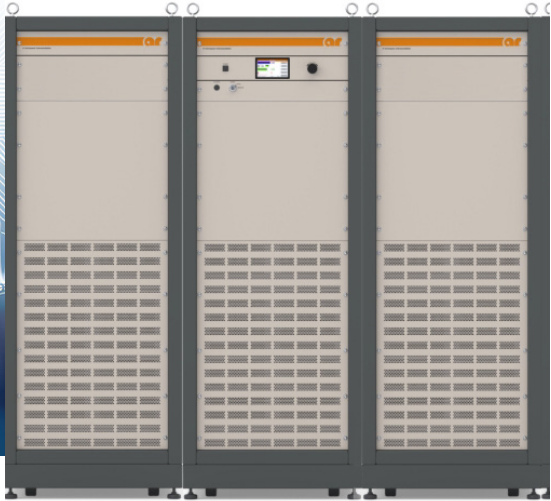
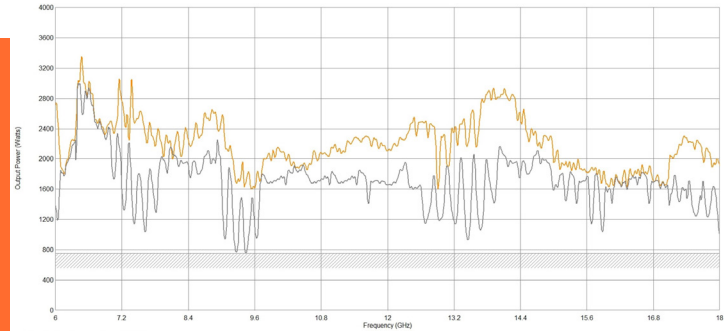
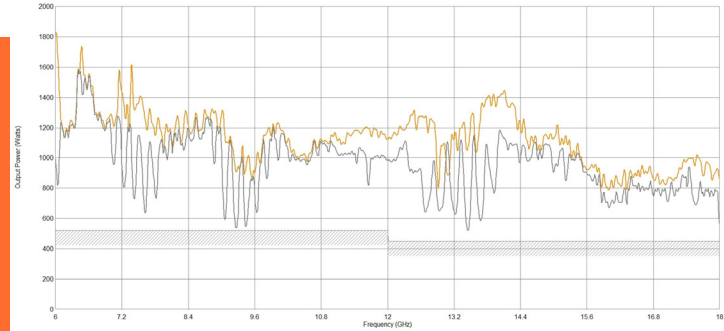
NEW MODEL	450S6G18C		
Frequency	6 to 18 GHz	2nd Harmonic (max)	-16 dBc
Psat 6-12GHz (min)	450 Watts	VSWR Protection	03:01
Psat 12-18GHz (min)	350 Watts	Line Power (typ)	9000W
P1dB 12-18GHz (min)	300 Watts	Dimensions	(H) 30U, (W) 60, (D) 37.6 inch
P1dB 12-18GHz (min)	250 Watts	Weight	412 kg
Gain (min)	58 dB	RF Connectors	RF Input = N-Type Female RF Output = WRD650



PRODUCT SPECIFICATION

NEW MODEL	750S6G18C		
Frequency	6 to 18 GHz	2nd Harmonic (max)	-15 dBc
Psat 6-12GHz (min)	800 Watts	VSWR Protection	1.67:1 (Foldback @ 25%)
Psat 12-18GHz (min)	550 Watts	Line Power (typ)	18000 W
P1dB 6-12GHz (min)	520 Watts	Dimensions (in)	2 x 35U Rack (W)22.6 x (H)60.6 x (D)37.6
P1dB 12-18GHz (min)	450 Watts	Weight	854 kg
Gain (min)	61 dB	RF Connectors	RF Input = N-Type Female RF Output = WRD650

NEW MODEL	1500S6G18C		
Frequency	6 to 18 GHz	2nd Harmonic (max)	-15 dBc
Psat 6-12GHz (min)	15000 Watts	VSWR Protection	1.67:1 (Foldback @ 25%)
Psat 12-18GHz (min)	1000 Watts	Line Power (typ)	35000 W
P1dB 6-18GHz (min)	750 Watts	Dimensions	3 x 35U Rack (W)67.8 x (H)70.7 x (D)37.6
		Weight	1248 kg
Gain (min)	55 dB	RF Connectors	RF Input = N-Type Female RF Output = WRD650

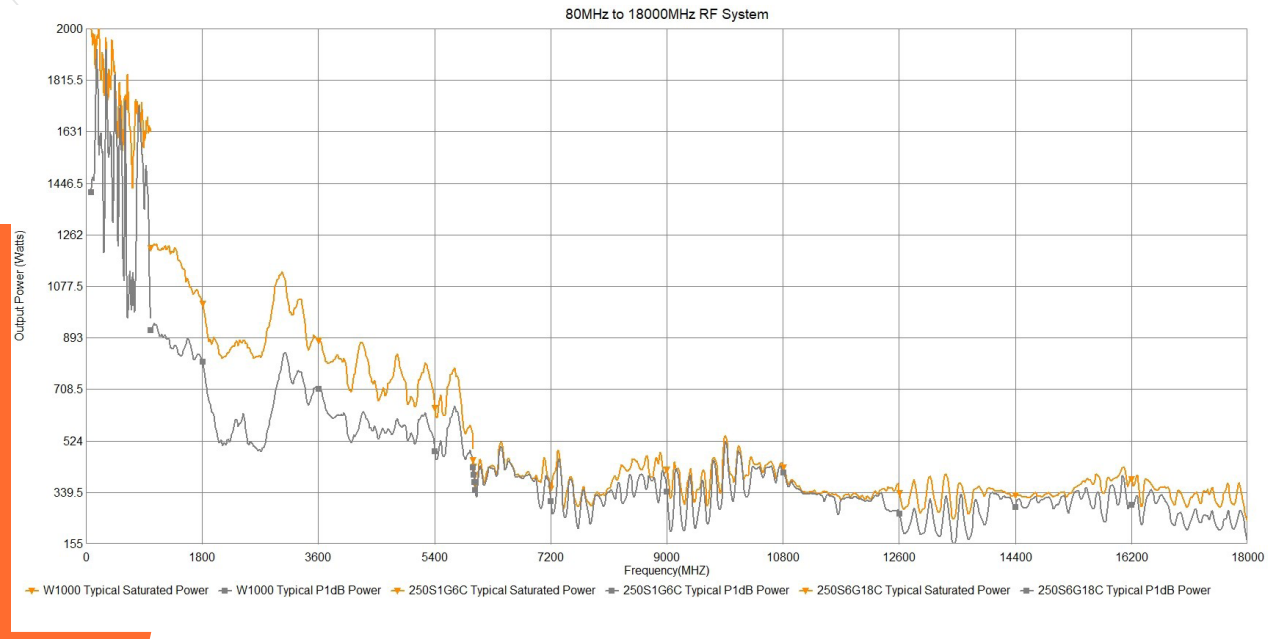


80 MHz TO 18 GHz BANDWIDTH



When combined, the W1000 (80–1000 MHz), S1G6C (1.0–6.0 GHz), and S6G18C (6.0–18.0 GHz) series enable a seamless functional bandwidth from 80 MHz to 18 GHz. The RF system operates across three distinct bands of 80 MHz to 1.0 GHz, 1.0 to 6.0 GHz, and 6.0 to 18.0 GHz delivering future-proof frequency performance up to 18 GHz.

W1000 Series			S1G6 Series			S6G18 Series		
Model	Frequency	P1dB	Model	Frequency	P1dB	Model	Frequency	P1dB
50W1000D	0.050 to 1 GHz	60 Watt	30S1G6C	1 - 6 GHz	35 Watts	20S6G18C	6 to 18 GHz	22 Watts
125W1000A	0.080 to 1 GHz	120 Watt	75S1G6C	1 - 6 GHz	70 Watts	40S6G18C	6 to 18 GHz	45 Watts
150W1000B	0.080 to 1 GHz	125 Watt	125S1G6C	1 - 6 GHz	115 Watts	75S6G18C	6 to 18 GHz	80 Watts
250W1000C	0.080 to 1 GHz	225 Watt	250S1G6C	1 - 6 GHz	275 Watts	125S6G18C	6 to 18 GHz	125 Watt
500W1000C	0.080 to 1 GHz	500 Watts	500S1G6C	1 - 6 GHz	450 Watts	250S6G18C	6 to 18 GHz	200 Watt
1000W1000H	0.080 to 1 GHz	1000 Watt	750S1G6C	1 - 6 GHz	800 Watts	450S6G18C	6 to 18 GHz	400 Watt



RETHINKING SOLID-STATE AMPLIFIERS

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