eVerest™
RF Power Delivery Systems

As the semiconductor industry speeds toward a new inflection, the eVerest™ RF generator fills the need for transformational plasma control.

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eVerest's configurable multi-level pulsing enables instantaneous or user-defined transition timing. Additionally, high-speed, high-accuracy model-based frequency tuning with wide frequency sweep range provides greater process stability and control. These capabilities, plus faster setpoint response, controlled overshoot at the beginning of pulsing states, and sophisticated PowerInsight by Advanced Energy™ IoT intelligence empower process innovation for the next technology node.

BENEFITS

- Enables novel process development for < 2 nm deposition and etch profiles
- Provides reliable ignition with RF stability independent of cable length
- Integrates seamlessly into any plasma system
- Increases process space and widens stability window
- Backed by worldwide product and application support from local service centers

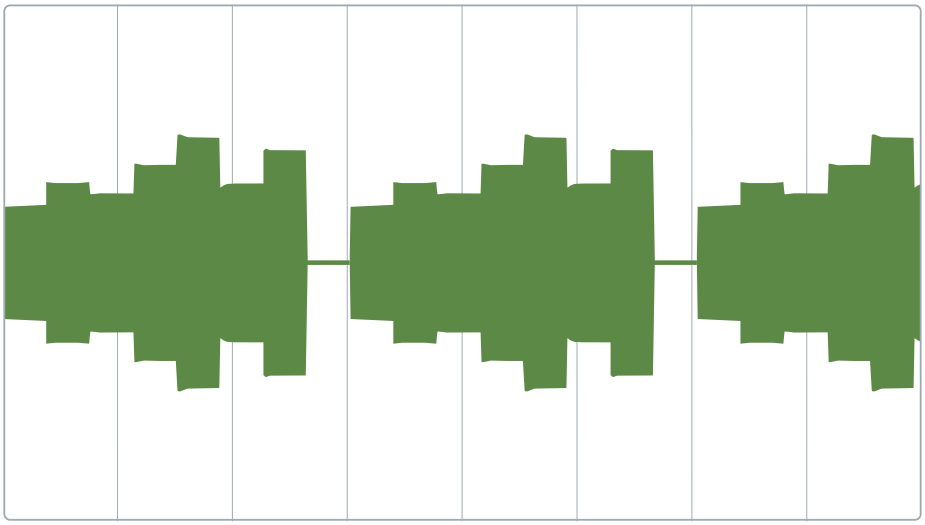
FEATURES

- Full RF delivery system, multiple options for matching solutions, and intelligent synchronization
- Speed and control within programmable multi-level pulse profiles
- High-speed RF output response and pulse-state rise/fall times
- Up to ±10% frequency tuning range
- Designed-in dP/dZ stability
- PowerInsight by Advanced Energy™ embedded or system-level IoT ecosystem

SEMICONDUCTOR APPLICATIONS

- Etch
- PVD
- PECVD
- ALE
- ALD

Speed and Control within Programmable Pulse Profiles

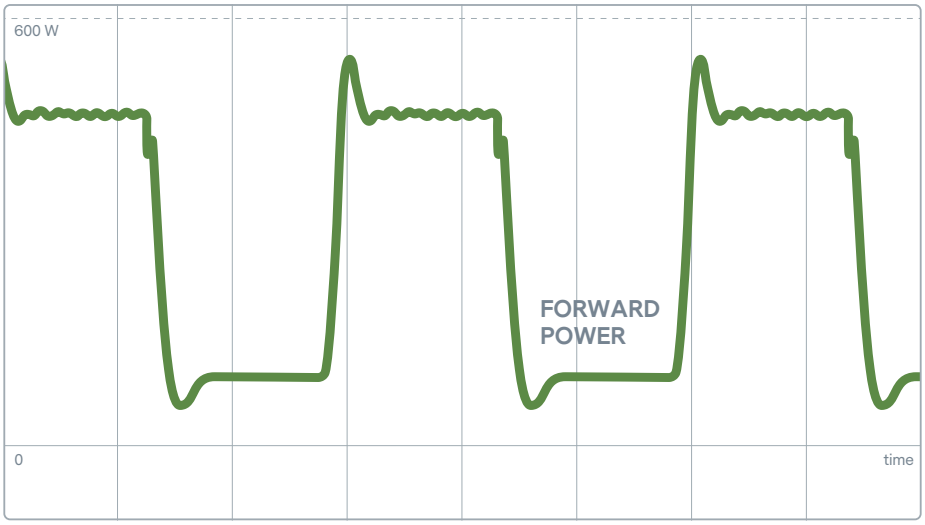


Eight-level pulsing

Dynamically control multi-level pulsing.

Access new energy regimes and distributions.

Programmable Overshoot

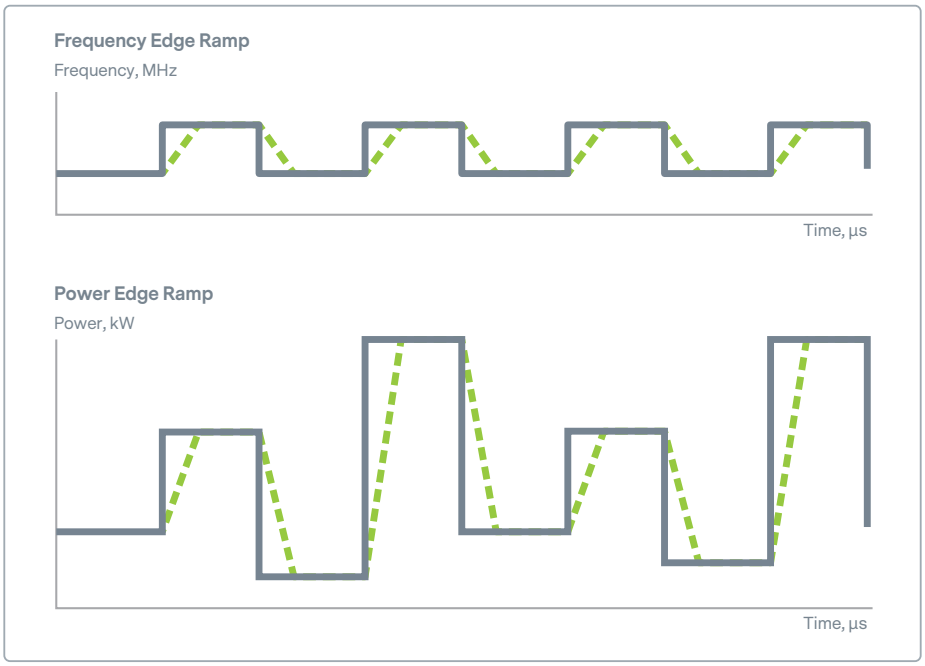


13 MHz

Achieve reliable ignition.

Maintain plasma in processes with longer off pulse states.

Power/Frequency Ramp

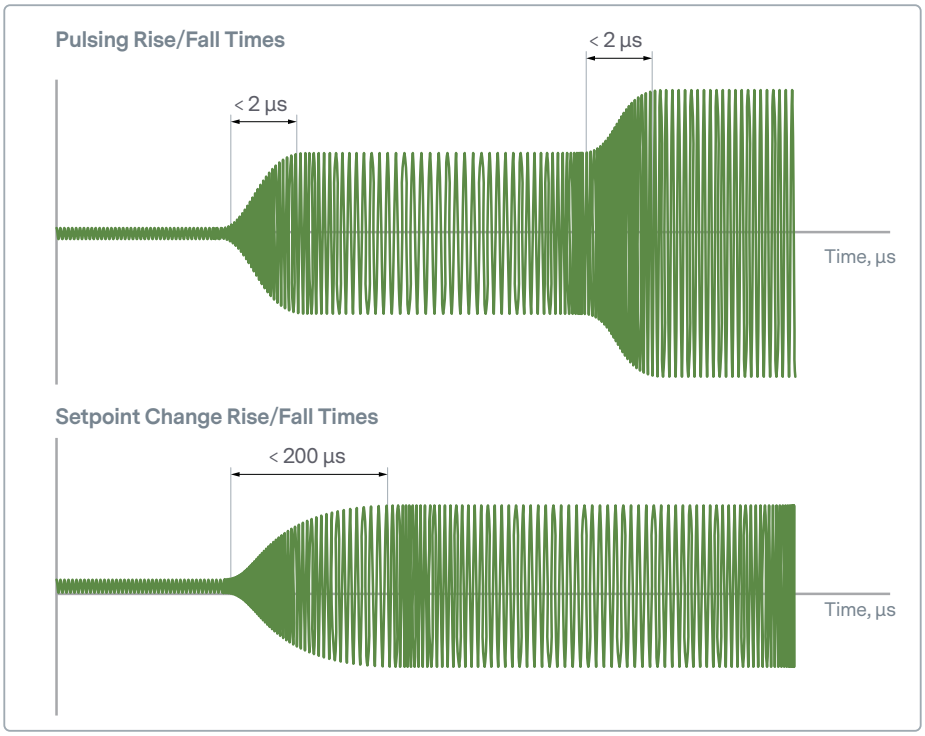


Mitigate transients.

Enhance process stability.

Configure performance during transitions into unstable process regions.

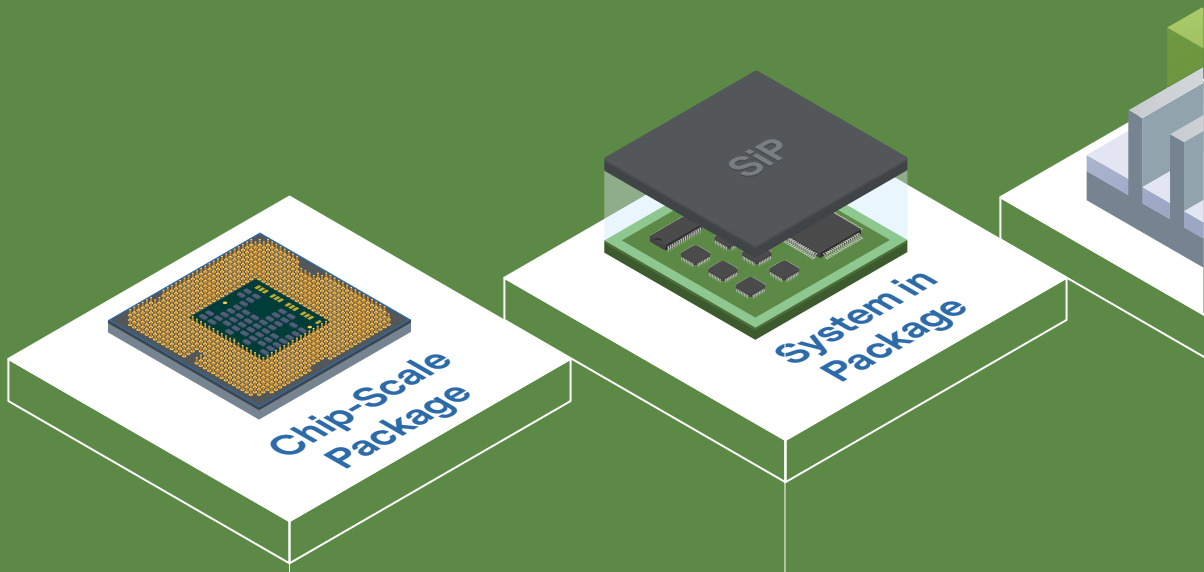
Fast Rise/Fall Times



Increase etch and deposition rates with instantaneous pulsing.

Over 20 Years of Full RF Systems

Advanced Energy has offered full RF delivery systems for over 20 years, with multiple options for matching solutions and intelligent SyncTech™ synchronization.



RF Plasma Generators



RFG
Digital/Analog



APEX®
Digital/Analog

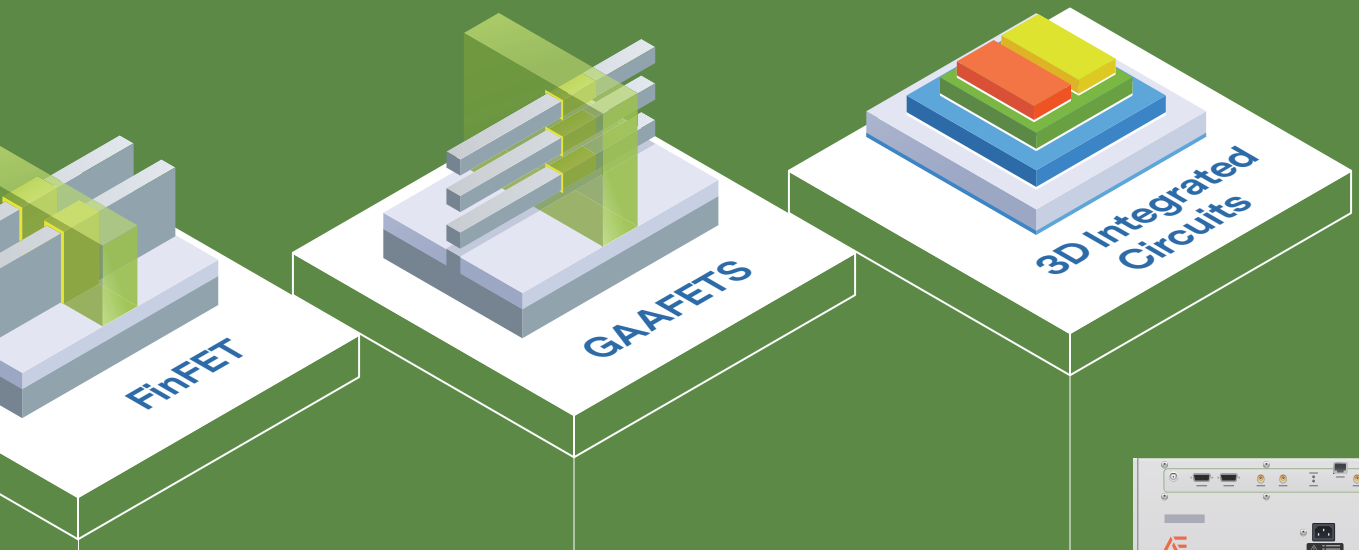
RF Match Networks



Navigator®
All Digital

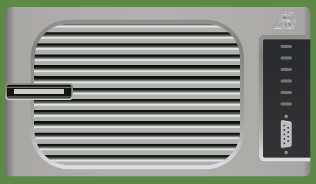


Navigator®
All Digital





eVos™
Tunable Ion Energy



Paramount®
Higher Density



Paramount®+
Digital Control



eVerest™
Accelerated Digital Control



Navigator® II
Model-Based



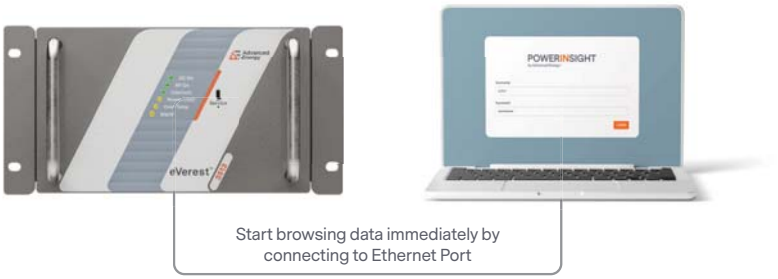
Navigator® II
Model-Based



NavX™ Matching Network
MLP Tuning
In-State Pulse Tuning

PowerInsight by Advanced Energy™ Data Ecosystem

The eVerest™ RF power supply's embedded or system-level IOT platform offers a leap ahead in data collection, resolution, visualization, and analysis.



BENEFITS

- Reduced "No Problem Found" returns and faster troubleshooting turnaround
- Reduced need to open chamber to install an oscilloscope
- Continuous, long-term data collection
- Plug-and-play operation
- Actionable insights and data-driven decision making
- Cybersecurity

FEATURES

- Auto-reconnect after generator power cycle
- Configurable onboard oscilloscope data recording in nanoseconds for critical events (FastDAQ™)
- Comprehensive list of data fields for troubleshooting, unit health monitoring, and correlation analysis
- Real-time and historical data access via web browser without installing software
- Exclusive customer control of data with local or remote access
- Customizable dashboards
- Tailor-made algorithms based on AE's decades of experience
- Virtually unlimited historical data storage

Specifications

eVerest RF Generator	
General Specifications [1]	
RF Output Power	3.5 to 10 kW
Frequencies	1 to 60 MHz
Power Accuracy into 50 Ω	± 1 W or ± 1% of setpoint, whichever is greater
Auto Frequency Tuning	Available
Pulse State Time	11 µsec to 250 msec
Available Communication Interfaces	EtherCAT®, RS-232, Ethernet

[1] Electrical specifications vary by model number. Please contact an AE representative for more information.


Advanced Energy
AC On
RF On
Interlock
Power Limit
Over Temp
Alarm
Service
eVerest™
3513


SyncTech
Interlock
Serial
24V
0.5A
Alrm
Tmp
Lmt
Intlk
RF
AC
PSYNC / ARC
A
B
Service
ENET
x100
x10
x1
Run
Error
In
Out
AE Link - A
AE Link - B
EtherCAT

WORLDWIDE PRODUCT AND APPLICATION SUPPORT

AE field service engineers support your on-site needs, including installation, commissioning, set up, inspection, and more.

AE field applications engineers conduct on-site reviews and consultations to solve challenges and enhance process efficiency and productivity.

AE service centers are located around the world and provide the highest quality repairs to maximize uptime and reduce total cost of ownership.

CERTIFIED SERVICES℠

Advanced Energy®

