

TREK 2100HF

High-frequency, high-speed, and high voltage power amplifier with an all-solid-state design for high slew rate and low-noise operation for high power applications.



The Trek® 2100 HF is a high-frequency, high-speed, wide bandwidth amplifier for high power applications. It incorporates an all-solid-state design for highly reliable low-noise operation, thus achieving accurate output response and high slew rates, even in highly capacitive loads. Full power frequency response of the amplifier is essentially flat up to 2 MHz. No overshoot or instability of the waveform occurs due to the amplifier's unique dual feedback feature.

PRODUCT HIGHLIGHTS

- Incorporates all-solid state design for highly reliable low noise operation
- Achieves accurate output rates and high slew rates even in highly capacitive loads
- Full power frequency response is essentially flat up to 2 MHz
- Dual feed-back feature ensures “no overshoot” or instability of waveform
- RoHS compliant
- NIST-traceable Certificate of Compliance provided with each unit shipped

TYPICAL APPLICATIONS

- Dielectric material characterization
- Electro-optic modulation
- Ion beam control
- MEMS
- Piezoelectric driving and control
- Ultrasonics

AT A GLANCE

Output Voltage Range

0 to ± 150 VDC or peak AC

Output Current Range

0 to ± 300 mADC

Slew Rate

2 kV/ μ s, typical

Large Signal Bandwidth (-3 dB)

DC to greater than 2.6 MHz

Small Signal Bandwidth (-3 dB)

DC to greater than 3 MHz

DC Voltage Gain

50 V/V

TREK 2100HF HIGH VOLTAGE POWER AMPLIFIER

TECHNICAL DATA

Performance Specifications

| | | |
|------------------------|--|---|
| Output Voltage Range | 0 to ±150 VDC or peak AC | |
| Output Current Range | 0 to ±300 mA DC | |
| Input Voltage Range | 0 to ±3 VDC or peak AC | |
| Input Impedance | 50 Ω, nominal | |
| DC Voltage Gain | 50 V/V | |
| Offset Voltage | Less than ±100 mV | |
| Output Noise | Less than 50 mV p-p | |
| Slew Rate | Greater than 2000 V/μs (10 to 90%) | |
| Small Signal Bandwidth | DC to greater 3 MHz (-3dB) | |
| Large Signal Bandwidth | DC to greater than 2.6 MHz (-3dB) | |
| Stability | Delay Time: Less than 6 mV/minute, noncumulative | Drift with Temp: Less than 150 ns (input to output) |

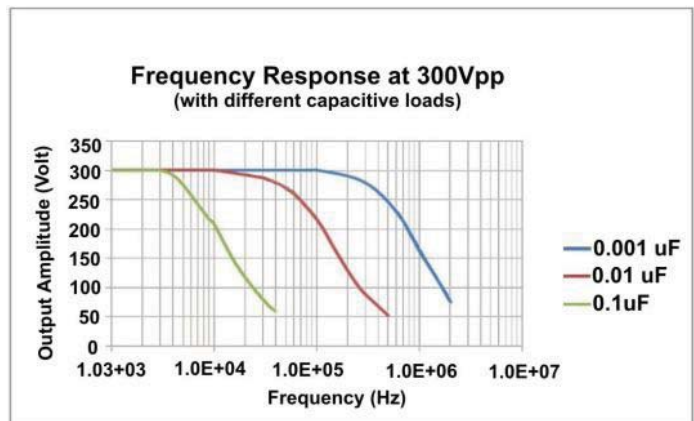
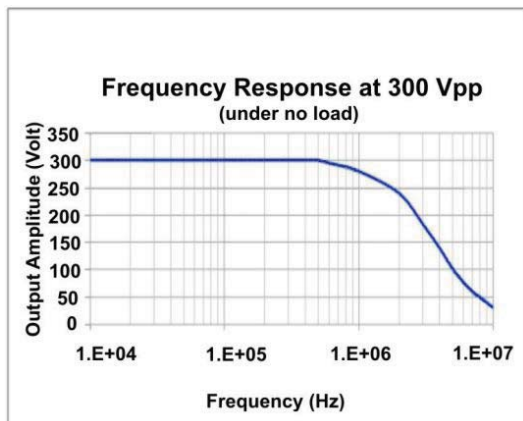
Mechanical Specifications

| | |
|------------------------|---|
| Dimensions (H x W x D) | 141 x 213 x 336 mm (5.57 x 8.38 x 13.22 in) |
| Weight | 6.8 kg (15 lb) |
| HV Connector | BNC Connector |

Electrical Specifications

| | |
|-------------|---|
| Input Power | 90 to 127 VAC, at 48 to 63 Hz or 180 to 250 VAC, at 48 to 63 Hz |
|-------------|---|

FREQUENCY RESPONSE



TREK 2100HF HIGH VOLTAGE POWER AMPLIFIER

REFERENCE NUMBERS

Included Accessories

| PN | Description |
|--------|--|
| 23435 | Operator's Manual |
| 47508 | HV Output Cable (3 m) |
| Varies | Line Cord, Spare Fuses (selected per geographic destination) |

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ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

PRECISION | POWER | PERFORMANCE

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