

# ULTRA LOW NOISE POWER SUPPLY MODULE

**ABPSM-ULN-A**



**RoHS  
Compliant**



## FEATURES:

- AC Adapter Input Voltage 100VAC to 240VAC; 50Hz and 60Hz cycles – World Wide Capability
- Four DC Output Ports, 1.8V, 2.5V, 3.3V & 5.0V
- Current Sourcing Capability 200mA max each port
- Exceptional low noise density;  $< 7\text{nV} / \sqrt{\text{Hz}}$  @ 1kHz offset Typical
- Better than  $0.30\mu\text{Vrms}$  over 0.1Hz to 1kHz bandwidth (best-in-class)
- Convenient, Ultra Low Noise Solution offering most common bias levels
- Portable - Small form factor [3.50" \* 1.50" \* 0.65"] Machined Aluminum enclosure
- No external heat sinking is required
- Low Cost

## APPLICATIONS:

- Lab Grade Power Supply designed to replace bulky & noisy power supplies for everyday use
- A must have for Noise Sensitive Measurements such as, S/N ratio, Spectral Purity, Jitter, Phase Noise & Harmonic Distortion
- Ideal for testing circuits including:
  - Audio
  - Medical Diagnostic
  - RF
  - Jitter Sensitive Digital
  - Microwave

## STANDARD SPECIFICATIONS:

| Parameter              | Description                       | Value / Units (max)        |
|------------------------|-----------------------------------|----------------------------|
| Nominal Voltages       | +1.8V, +2.5V, +3.3V, +5.0V        |                            |
| Voltage Accuracy       | Initial accuracy at T=25°C        | $< \pm 0.25\%$             |
|                        | T=0 °C to T=+70 °C                | $< \pm 0.30\%$             |
| Maximum Output Current | T=25 °C                           | 200mA                      |
| Load Regulation        | $\Delta$ Load = 1mA to 200mA      | 5mV                        |
| Output Impedance       | Max. Output Impedance @ each port | 0.20 $\Omega$              |
| Voltage Output Noise   | Noise Density @ 100Hz             | 80 nV / $\sqrt{\text{Hz}}$ |
|                        | Noise Density @ 1kHz              | 25 nV / $\sqrt{\text{Hz}}$ |
|                        | Noise Density @ 10kHz             | 20 nV / $\sqrt{\text{Hz}}$ |

## OUTLINE DIMENSIONS:



ABRACON IS  
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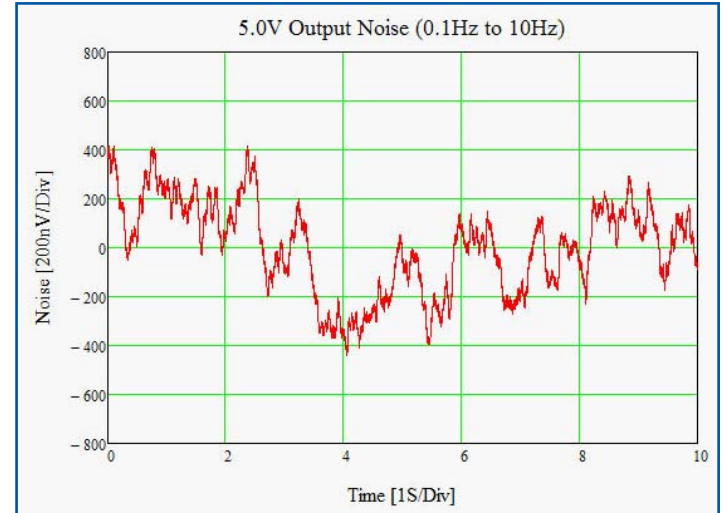
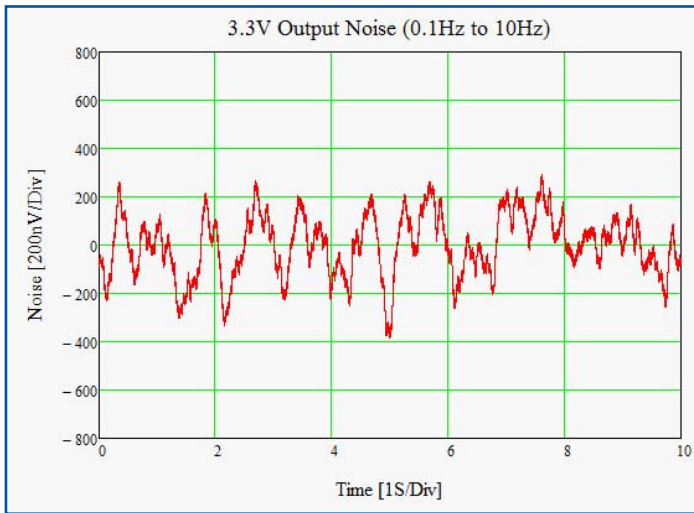
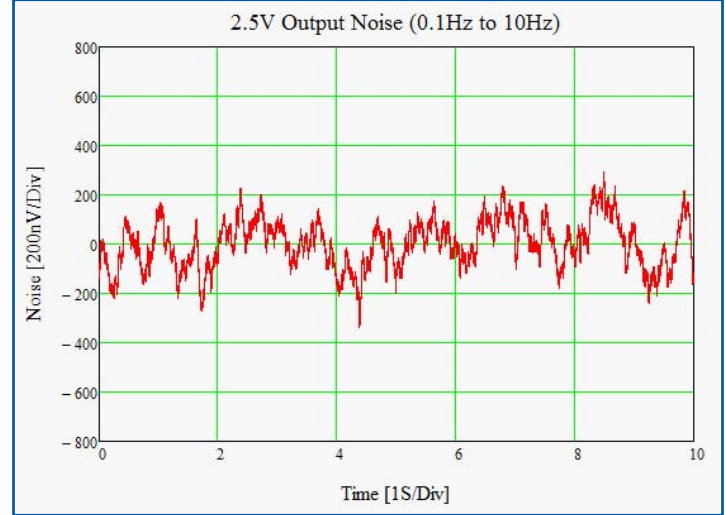
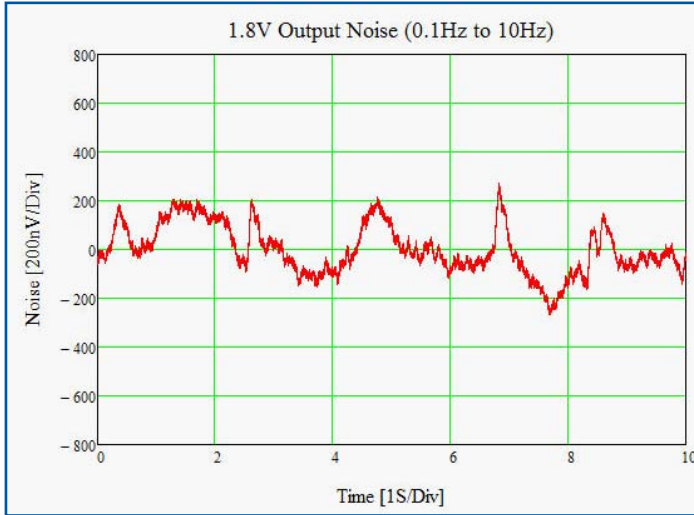
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ABPSM-ULN-A



## TYPICAL PERFORMANCE CURVES - LOW FREQUENCY NOISE



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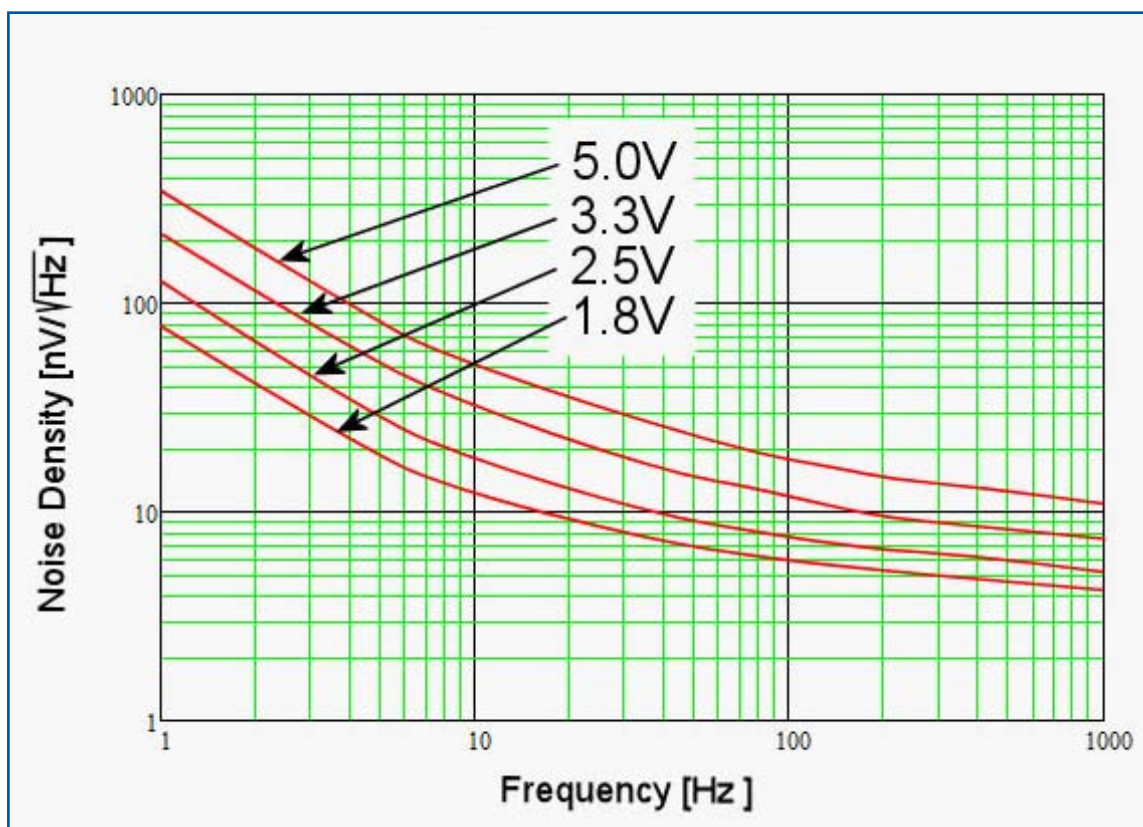
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## LOW FREQUENCY NOISE DENSITY PROFILE



## PRODUCT SUMMARY

- ABPSM-ULN-A Power Supply Module is designed to aid engineers seeking ultra clean power source for bench testing
- Ideally suited for Audio, RF, DDS,  $\mu$ Wave circuits and product testing
- Low cost, small form-factor solution – can be incorporated on production lines for final testing of electronic products
- Eliminates noise-contribution-uncertainty from the power source; during design characterization, design validation, product testing in both design & production environment
- A must have to test VCOs, Crystal Oscillators, PLL Synthesizers, Mixers, Amplifiers and any sub-circuit requiring ultra clean power source
- A low cost replacement for expensive Power Supply solutions, while offering superior noise performance
- Abracon is currently designing single-channel-board-level solutions that can be incorporated in customer designs to bias noise sensitive circuitry. Please contact Abracon for further details.

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