

ATA-4000 High Voltage Power Amplifier

High voltage, high power

Input and output resistance adjustable

The voltage gain is roughly adjusted by

1 times of step and fine by 0.1 times of step

DC bias 0.1V step adjustable



Technical Index

Bandwidth (-3dB) up to DC~3MHz

Output voltage up to 310Vp-p ($\pm 155Vp$)

Maximum output current 4Arms

Introduction

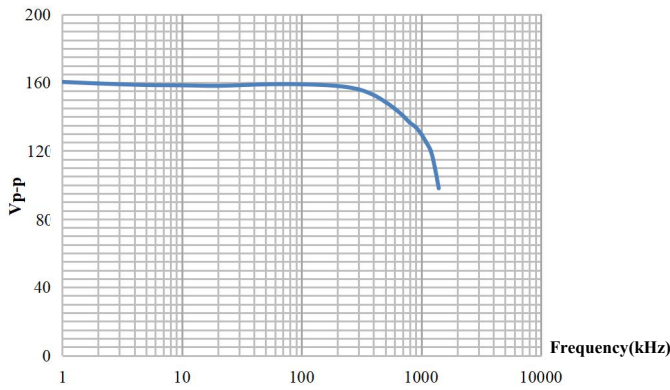
ATA-4000 series is an ideal high voltage power amplifier that can amplify AC and DC signals. The maximum output voltage of 310Vp-p ($\pm 155Vp$) and 452Wp power can drive high-voltage power load. Voltage gain and DC bias are fine adjustable, providing customers with rich test options.

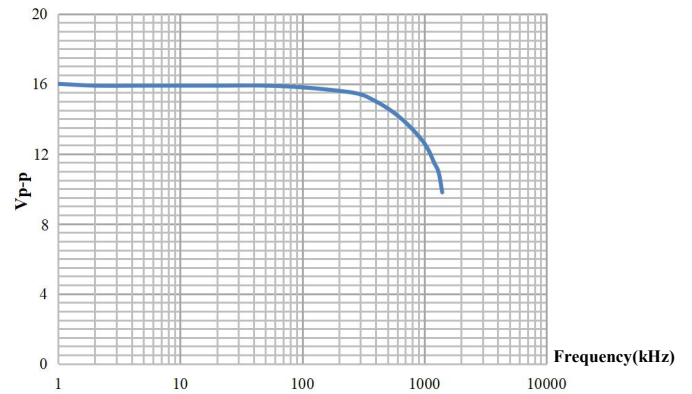
| Model | ATA-4011 | ATA-4012 | ATA-4014 |
|---------------------------------|--|--|--|
| Output form | Single output | Single output | Single output |
| Bandwidth (-3dB) | DC~1MHz | DC~1MHz | DC~1MHz |
| Maximum output voltage | 160Vp-p ($\pm 80Vp$) | 160Vp-p ($\pm 80Vp$) | 160Vp-p ($\pm 80Vp$) |
| Maximum output current | 0.5Ap (DC-50Hz) | 1Ap (DC-50Hz) | 2Ap (DC-50Hz) |
| | 1.41Ap, 1Arms (>50Hz) | 2.82Ap, 2Arms (>50Hz) | 5.65Ap, 4Arms (>50Hz) |
| Maximum output power | 112.8Wp | 225.6Wp | 452Wp |
| Fuse | 5A/250V | 8A/250V | 8A/250V |
| Voltage gain | $x0\sim 50(0.1\text{step}/1\text{step})$ | $x0\sim 50(0.1\text{step}/1\text{step})$ | $x0\sim 50(0.1\text{step}/1\text{step})$ |
| Load R_L upper limit | $\geq 159\Omega$ (DC-50Hz) | $\geq 79.5\Omega$ (DC-50Hz) | $\geq 39.75\Omega$ (DC-50Hz) |
| | $\geq 55.7\Omega$ (>50Hz) | $\geq 27.9\Omega$ (>50Hz) | $\geq 13.91\Omega$ (>50Hz) |
| Output impedance | $1\Omega + 2\mu H$ | $0.5\Omega + 1.2\mu H$ | $0.25\Omega + 0.6\mu H$ |
| Slew Rate | $\geq 356V/\mu s$ | $\geq 356V/\mu s$ | $\geq 356V/\mu s$ |
| DC bias | $\pm 75V(0.1V\text{step})$ | $\pm 75V(0.1V\text{step})$ | $\pm 75V(0.1V\text{step})$ |
| Input impedance | 50 Ω / 5k Ω | | |
| Input amplitude | 0~10Vp-pMAX | | |
| Output voltage error | $\leq \pm 3\%FS@1kHz$ | | |
| Voltage monitoring | 100:1 ($\pm 5\%$) | | |
| Total harmonic distortion (THD) | $\leq 0.1\%@1kHz, 100Vp-p$ | | |

| | | | |
|---------------------------------|--|---------------|---------------|
| Output voltage zero-point drift | $\leq \pm 0.1V$ | | |
| Signal-noise ratio(SNR) | $\geq 80dB$ | | |
| Output Connector | 4mm Banana socket | | |
| Protection | Overcurrent protection | | |
| Signal Ground | It is connected with the grounding of the shell and the power line | | |
| Supply voltage | AC220V $\pm 10\%$, 50Hz | | |
| Operating temperature | 0°C~45°C | | |
| Storage temperature | -20°C~50°C | | |
| Humidity | $\leq 80\%$ RH, no condensation | | |
| Size(W * H * D) | 440*163*470mm | 440*163*470mm | 440*163*470mm |

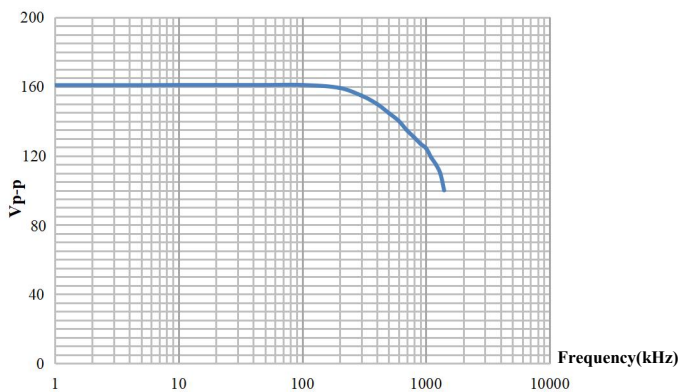
| Model | ATA-4051 | ATA-4052 | ATA-4315 |
|---------------------------------|--|------------------------------|------------------------------|
| Output form | Single output | Single output | Single output |
| Bandwidth (-3dB) | DC~500kHz | DC~500kHz | DC~3MHz |
| Maximum output voltage | 310Vp-p($\pm 155Vp$) | 310Vp-p($\pm 155Vp$) | 150Vp-p($\pm 75Vp$) |
| Maximum output current | 0.5Ap(DC-50Hz) | 1Ap(DC-50Hz) | 0.5Ap(DC-50Hz) |
| | 1.41Ap,1Arms (>50Hz) | 2.82Ap,2Arms (>50Hz) | 1.41Ap,1Arms (>50Hz) |
| Maximum output power | 218.55Wp | 437.1Wp | 105Wp |
| Fuse | 8A/250V | 10A/250V | 5A/250V |
| Voltage gain | x0~100(0.1step/1 step) | x0~100(0.1step/1 step) | x0~50(0.1step/1 step) |
| Load R_L upper limit | $\geq 309\Omega$ (DC-50Hz) | $\geq 154.5\Omega$ (DC-50Hz) | $\geq 149.5\Omega$ (DC-50Hz) |
| | $\geq 108.93\Omega$ (>50Hz) | $\geq 54.46\Omega$ (>50Hz) | $\geq 52.7\Omega$ (>50Hz) |
| Output impedance | $1\Omega + 3.2\mu H$ | $0.5\Omega + 1.6\mu H$ | $0.5\Omega + 1.2\mu H$ |
| Slew Rate | $\geq 345V/\mu s$ | $\geq 345V/\mu s$ | $\geq 1000V/\mu s$ |
| DC bias | $\pm 150V$ (0.1Vstep) | $\pm 150V$ (0.1Vstep) | $\pm 75V$ (0.1Vstep) |
| Input impedance | 50 Ω / 5k Ω | | |
| Input amplitude | 0~10Vp-pMAX | | |
| Output voltage error | $\leq \pm 3\%$ FS@1kHz | | |
| Voltage monitoring | 100:1 ($\pm 5\%$) | | |
| Total harmonic distortion (THD) | $\leq 0.1\%$ @1kHz, 100Vp-p | | |
| Output voltage zero-point drift | $\leq \pm 0.1V$ | | |
| Signal-noise ratio(SNR) | $\geq 80dB$ | | |
| Output Connector | 4mm Banana socket | | |
| Protection | Overcurrent protection | | |
| Signal Ground | It is connected with the grounding of the shell and the power line | | |

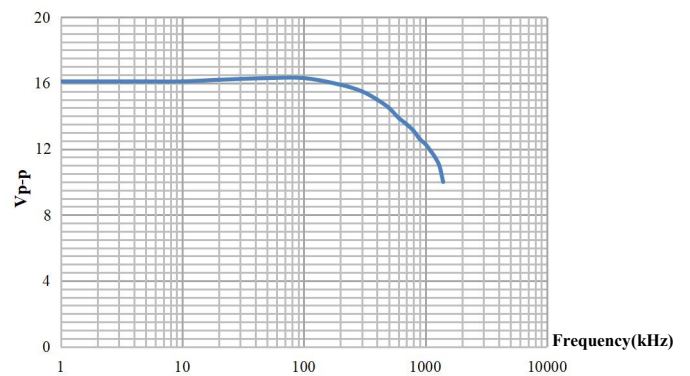
| | | | |
|-----------------------|--------------------------|---------------|---------------|
| Supply voltage | AC220V±10%, 50Hz | | |
| Operating temperature | 0°C~45°C | | |
| Storage temperature | -20°C~50°C | | |
| Humidity | ≤80% RH, no condensation | | |
| Size(W * H * D) | 440*163*470mm | 440*163*470mm | 440*163*470mm |

ATA-4011

 Amplitude-frequency characteristic
 (Maximum output voltage Vp-p)

ATA-4011


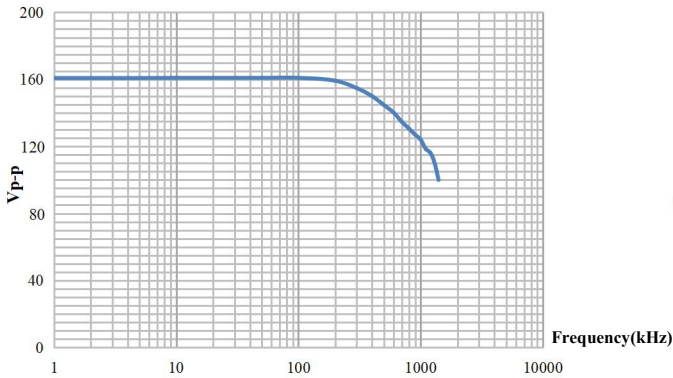
Small signal amplitude-frequency characteristic

ATA-4012

 Amplitude-frequency characteristic
 (Maximum output voltage Vp-p)

ATA-4012


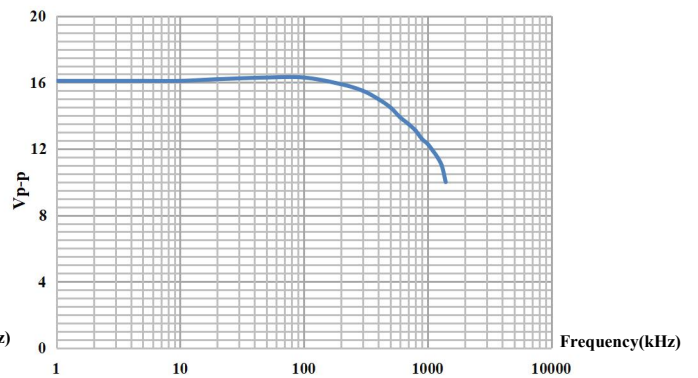
Small signal amplitude-frequency characteristic

ATA-4014



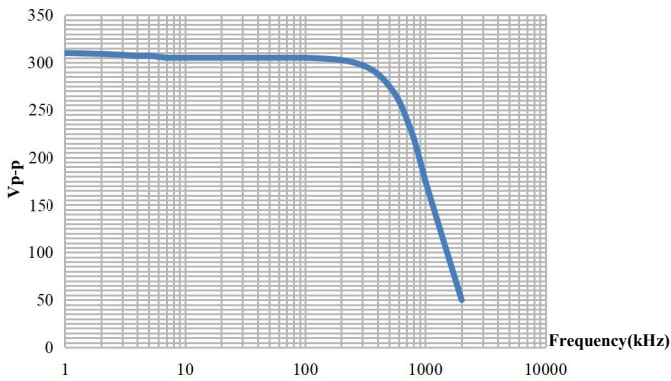
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-4014



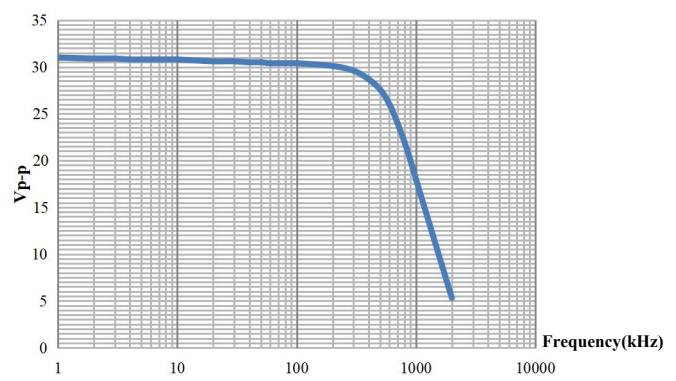
Small signal amplitude-frequency characteristic

ATA-4051



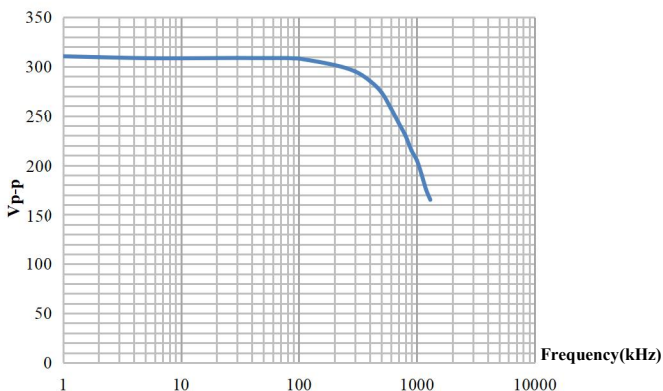
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-4051



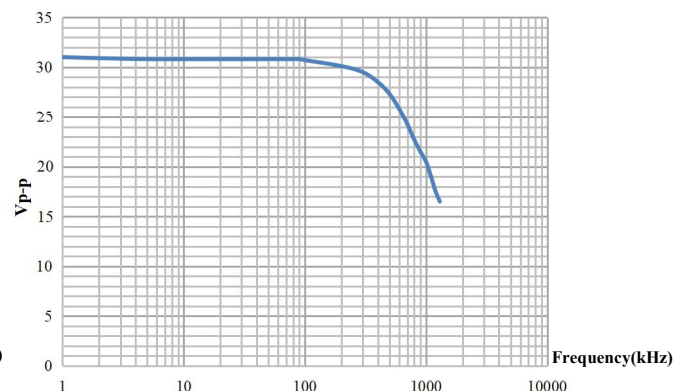
Small signal amplitude-frequency characteristic

ATA-4052

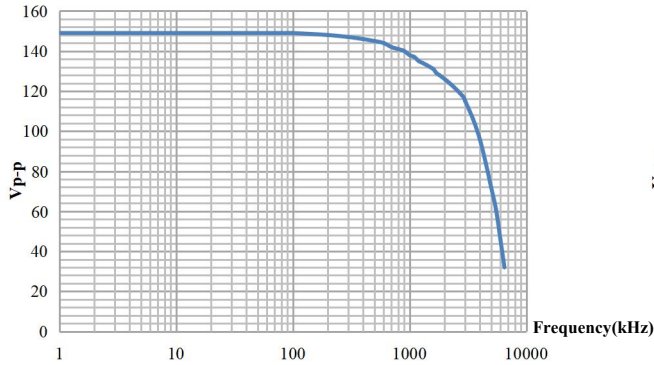


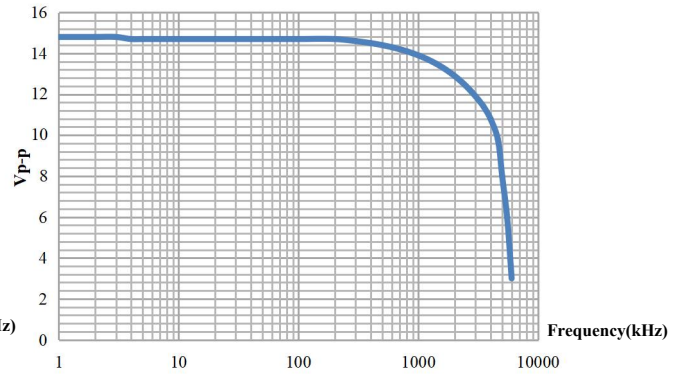
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-4052

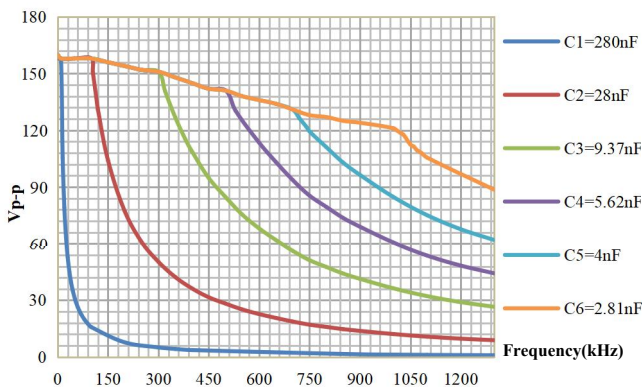


Small signal amplitude-frequency characteristic

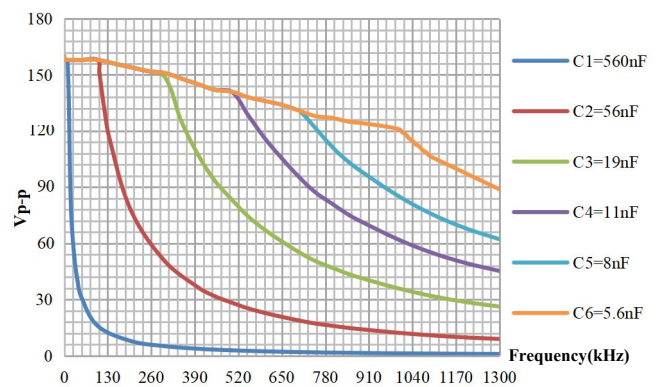
ATA-4315

 Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-4315


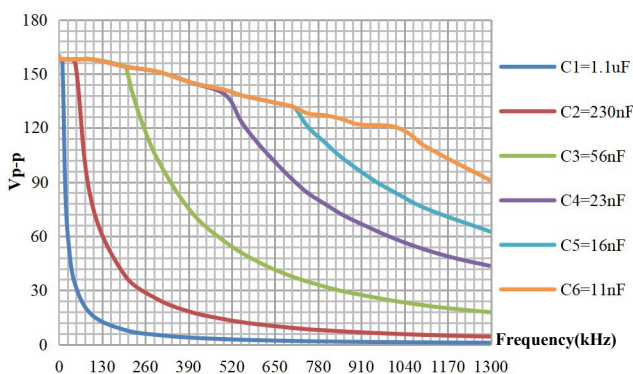
Small signal amplitude-frequency characteristic

ATA-4011


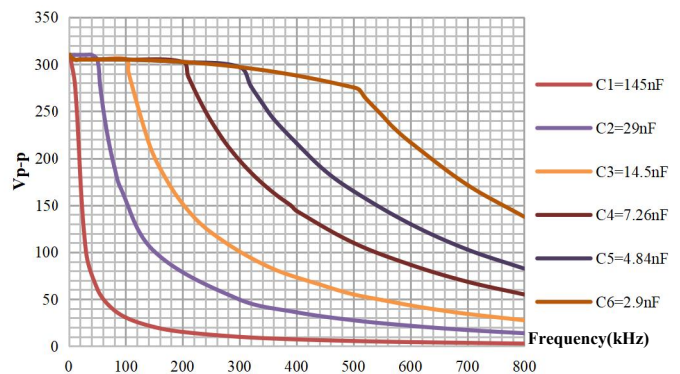
ATA-4011 Capacitive loads curve

ATA-4012


ATA-4012 Capacitive loads curve

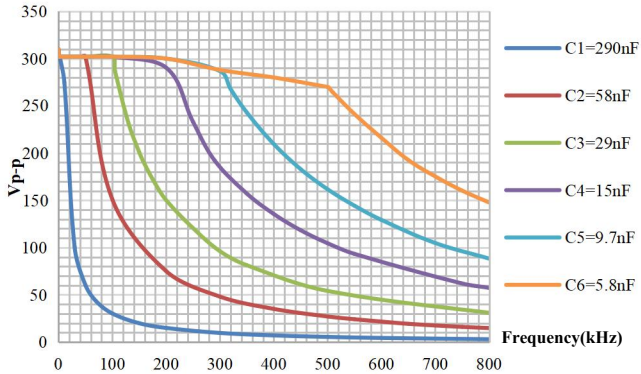
ATA-4014


ATA-4014 Capacitive loads curve

ATA-4051


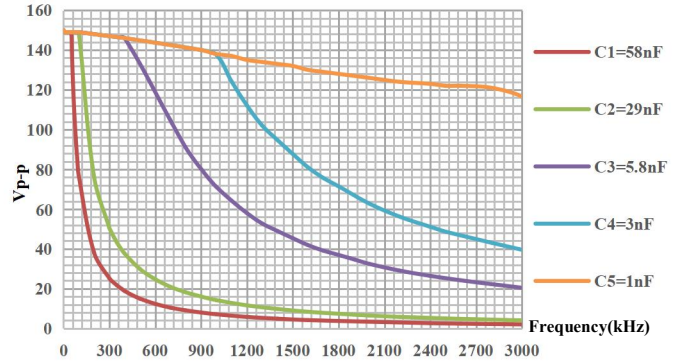
ATA-4051 Capacitive loads curve

ATA-4052



ATA-4052 Capacitive loads curve

ATA-4315



ATA-4315 Capacitive loads curve

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