

## 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	x0~50(0.1step/1 step)	x0~50(0.1step/1 step)	x0~50(0.1step/1 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	$\pm 75V$ (0.1Vstep)	$\pm 75V$ (0.1Vstep)	$\pm 75V$ (0.1Vstep)
Input impedance	50 $\Omega$ / 5k $\Omega$		
Input amplitude	0~10Vp-pMAX		
Output voltage error	$\leq \pm 3\%FS@1kHz$		
Voltage monitoring	100:1 ( $\pm 5\%$ )		

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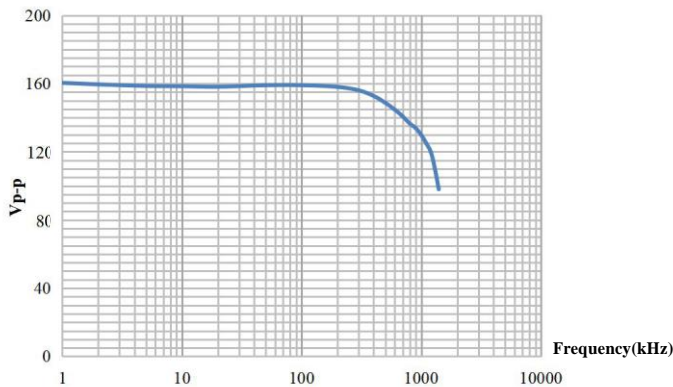
Total harmonic distortion (THD)	$\leq 0.1\% @ 1\text{kHz}, 100\text{Vp-p}$		
Output voltage zero-point drift	$\leq \pm 0.1\text{V}$		
Signal-noise ratio(SNR)	$\geq 80\text{dB}$		
Output Connector	4mm Banana socket		
Protection	Overcurrent protection		
Signal Ground	It is connected with the grounding 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	$\leq 80\% \text{RH}$ , 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( $\pm 155\text{Vp}$ )	310Vp-p( $\pm 155\text{Vp}$ )	150Vp-p( $\pm 75\text{Vp}$ )
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 $\Omega$ + 3.2uH	0.5 $\Omega$ + 1.6uH	0.5 $\Omega$ + 1.2uH
Slew Rate	$\geq 345\text{V}/\mu\text{s}$	$\geq 345\text{V}/\mu\text{s}$	$\geq 1000\text{V}/\mu\text{s}$
DC bias	$\pm 150\text{V}$ (0.1Vstep)	$\pm 150\text{V}$ (0.1Vstep)	$\pm 75\text{V}$ (0.1Vstep)
Input impedance	50 $\Omega$ / 5k $\Omega$		
Input amplitude	0~10Vp-pMAX		
Output voltage error	$\leq \pm 3\% \text{FS} @ 1\text{kHz}$		
Voltage monitoring	100:1 ( $\pm 5\%$ )		
Total harmonic distortion (THD)	$\leq 0.1\% @ 1\text{kHz}, 100\text{Vp-p}$		
Output voltage zero-point drift	$\leq \pm 0.1\text{V}$		
Signal-noise ratio(SNR)	$\geq 80\text{dB}$		

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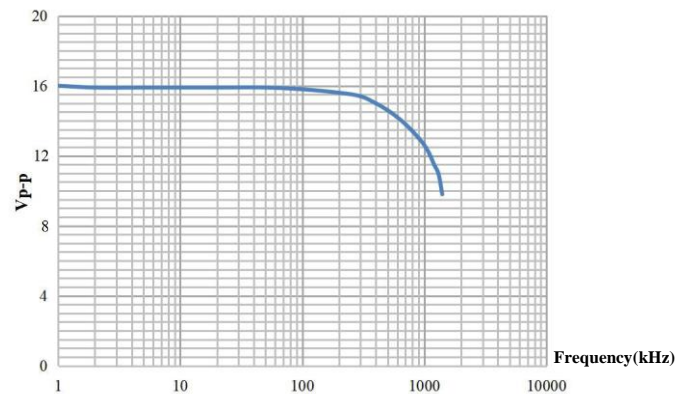
Output Connector	4mm Banana socket		
Protection	Overcurrent protection		
Signal Ground	It is connected with the grounding of the shell and the power line		
Supply voltage	AC220V±10%, 50Hz		
Operating temperature	0°C~45°C		
Storage temperature	-20°C~50°C		
Humidity	≤80% RH, no condensation		
Size(W * H * D)	440*163*470mm	440*163*470mm	440*163*470mm

### ATA-4011



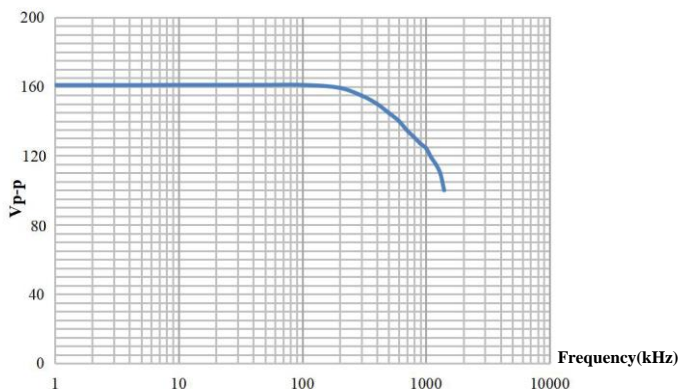
Amplitude-frequency characteristic  
(Maximum output voltage Vp-p)

### ATA-4011



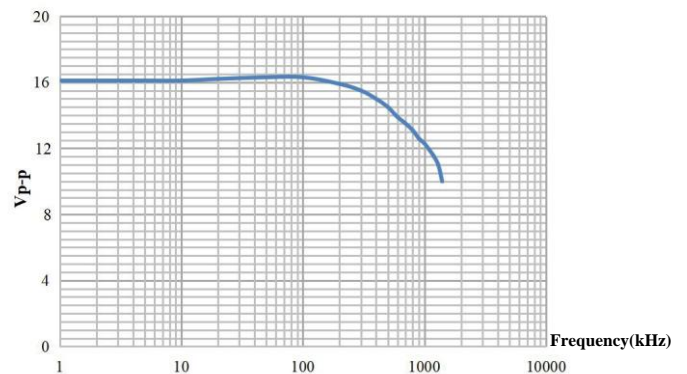
Small signal amplitude-frequency characteristic

### ATA-4012



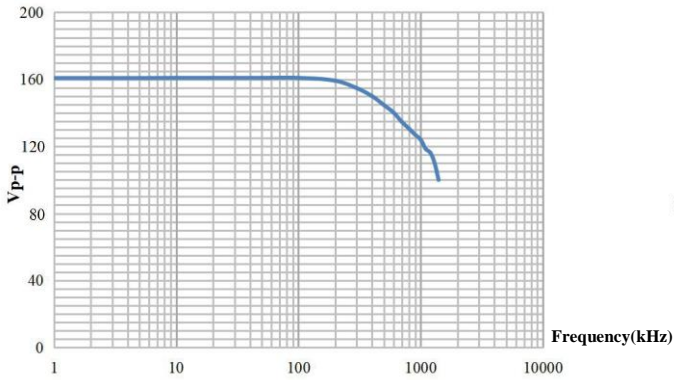
Amplitude-frequency characteristic  
(Maximum output voltage Vp-p)

### ATA-4012



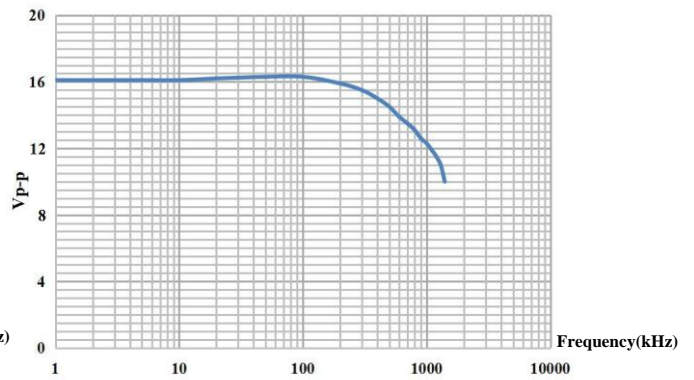
Small signal amplitude-frequency characteristic

ATA-4014



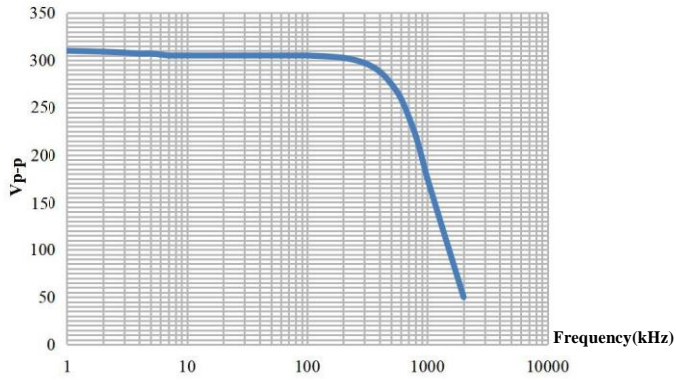
Amplitude-frequency characteristic  
(Maximum output voltage  $V_{p-p}$ )

ATA-4014



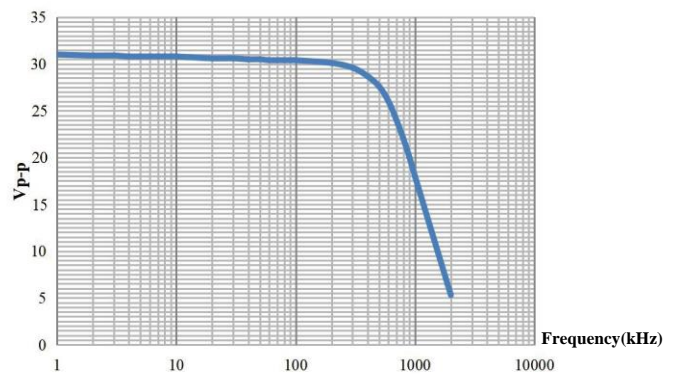
Small signal amplitude-frequency characteristic

ATA-4051



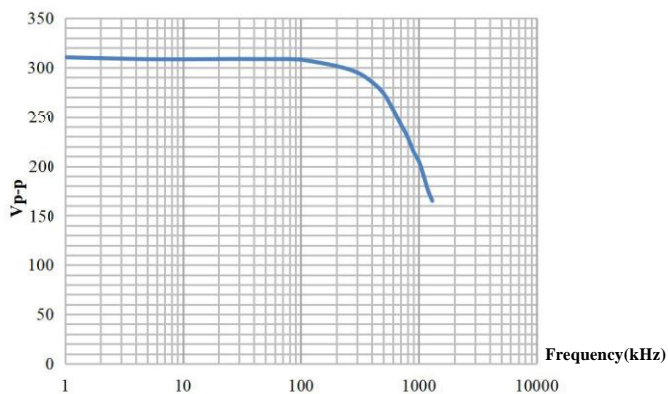
Amplitude-frequency characteristic  
(Maximum output voltage  $V_{p-p}$ )

ATA-4051



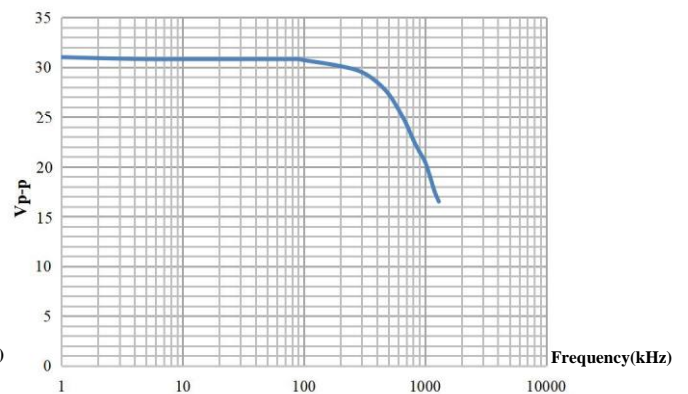
Small signal amplitude-frequency characteristic

ATA-4052



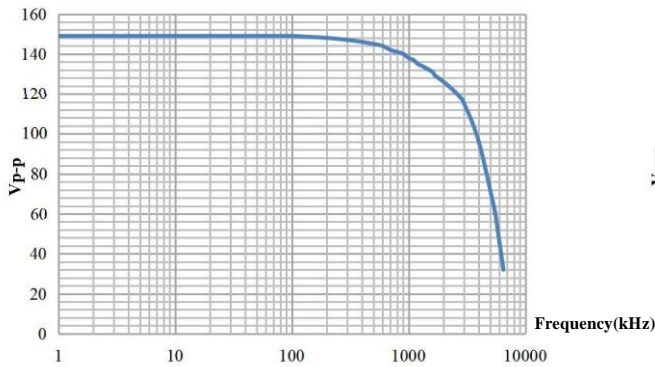
Amplitude-frequency characteristic  
(Maximum output voltage  $V_{p-p}$ )

ATA-4052



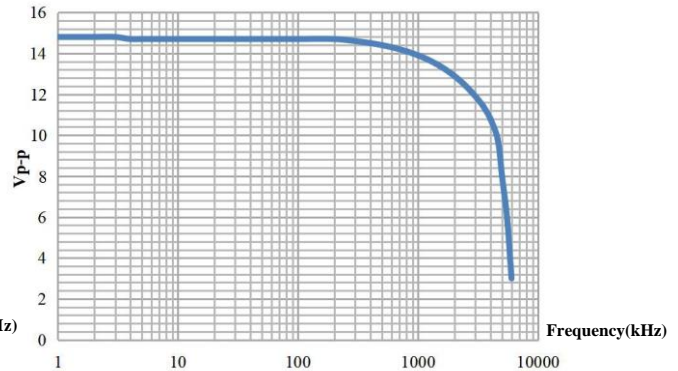
Small signal amplitude-frequency characteristic

ATA-4315



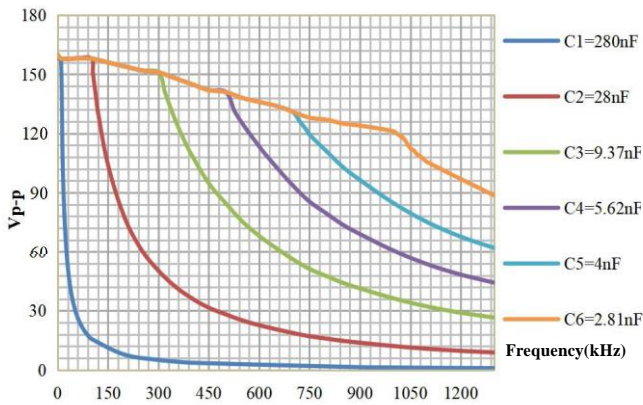
Amplitude-frequency characteristic  
(Maximum output voltage Vp-p)

ATA-4315



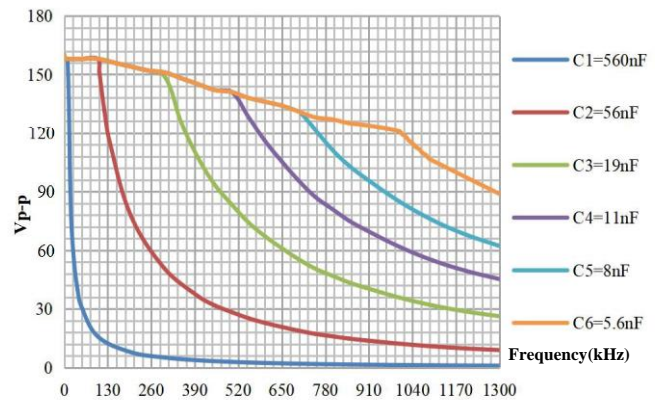
Small signal amplitude-frequency characteristic

ATA-4011



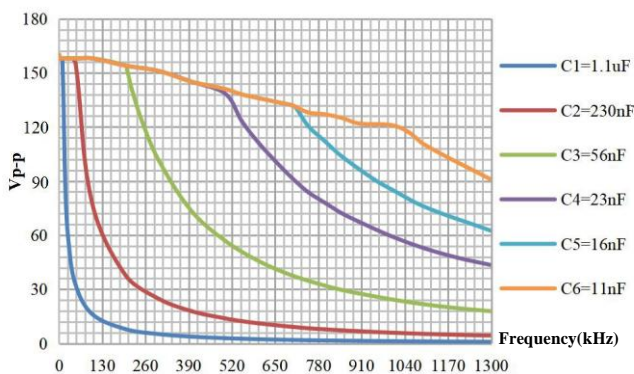
ATA-4011 Capacitive loads curve

ATA-4012



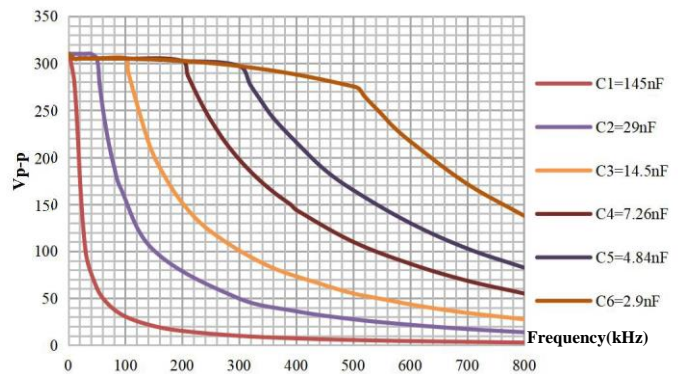
ATA-4012 Capacitive loads curve

ATA-4014



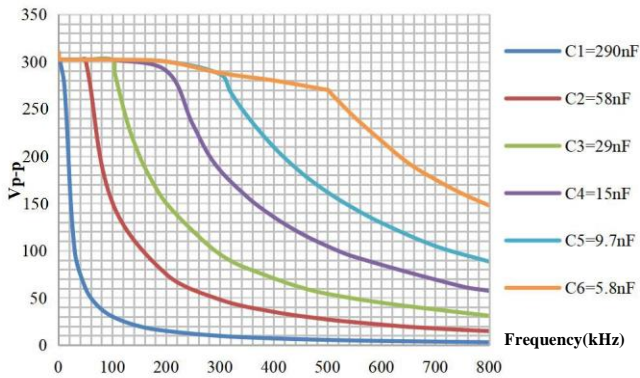
ATA-4014 Capacitive loads curve

ATA-4051



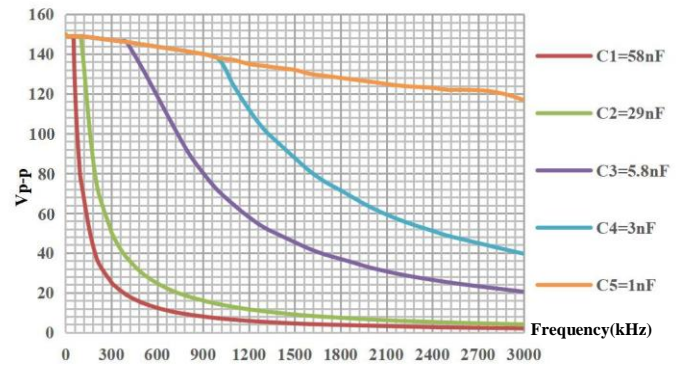
ATA-4051 Capacitive loads curve

ATA-4052



ATA-4052 Capacitive loads curve

ATA-4315



ATA-4315 Capacitive loads curve