



Aigtek

Acoustic Power Amplifier

Ultrasonic Power Amplifier

RF Power Amplifier

Underwater Acoustic Power Amplifier

High Voltage Power Amplifier

Power Amplifier Module

Amplifier Selection Manual

2023



Xi'an Aigtek Electronic Technology Co., Ltd.

www.aigtek.com

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*The content of this selection manual is subject to change without prior notice. Please request the latest product specifications from our company before ordering.

Amplifier Model Selection Guide



1. Bandwidth

It refers to the frequency at which the sine wave curve input signal attenuates to 70.7% of the true signal amplitude, that is -3dB point. The amplifier must have enough bandwidth to amplify and monitor the input signal.

2. Voltage

When choosing the amplifier, it is necessary to consider whether the output voltage is enough in combination with the -3dB bandwidth. If the test has higher requirements on the voltage, a certain voltage margin should be reserved.

3. Current

According to the impedance of the tested load, the amplifier which can meet the test current demand is selected.

4. Voltage gain

If the input signal is a specific voltage signal, the voltage gain should be considered when selecting the amplifier.

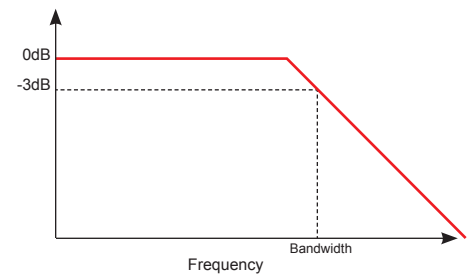
5. Load

According to the test conditions of the tested load, verify whether the selected amplifier meets the requirements.

6. Options

Digital Monitor: 14 bit vertical resolution, with voltage and current back reading function, voltage and current waveform display function.

Programmable interface.



ATA-1000 Series Wide Band Amplifier



Main features

- High bandwidth 22MHz
- BNC output connector
- Voltage gain numerically adjustable
- One key saving common settings

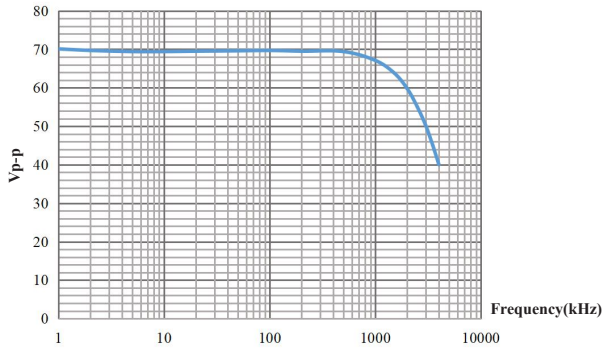
Applications

- Electronic experiments in universities and colleges
- MEMS
- Ultrasonic tests
- To drive the electromagnetic field
- Wireless power transmission

Technical Parameters

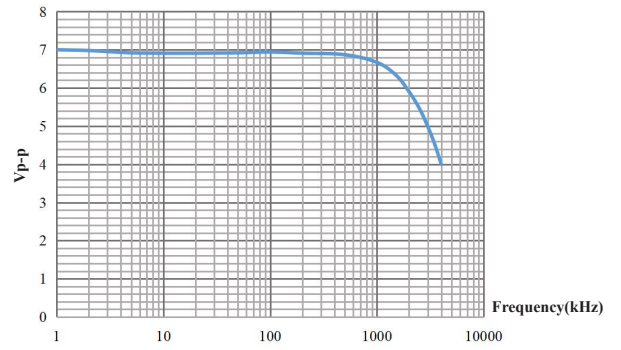
Model	ATA-1372A	Model	ATA-1222A
Form of output	Single output	Class of operation	Class AB
Bandwidth(-3dB)	DC~3MHz	Bandwidth	100kHz~22MHz
Maximum output voltage	70Vp-p (±35Vp)	Rated output power	20W
Maximum output current	1Ap (DC~50Hz)	P1dB output power	40W
	2Ap (>50Hz)	Power gain power	40dB(20dB~40dB/0.5dB step adjustable)
Maximum output power	70Wp	Input signal of the rated output power	316mVrms/2mW/3dBm (40dB gain 1MHz)
Voltage gain	x0~40 (0.1 step/1 step)	Lossless maximum input signal	1Vrms/20mW/13dBm
Upper limit of load R_L	≥ 33Ω (DC~50Hz)	Input resistance	50Ω
	≥ 15.5Ω (>50Hz)	Output resistance	50Ω
Slew rate	≥ 467V/μs	Third harmonic level	< -25dBc@20W,1MHz
Output resistance	≤ (2Ω+0.4μH)	Input connector	BNC
Input resistance	50Ω / 10kΩ	Output connector	BNC
Input amplitude	0~10Vp-pMAX	Stability	can drive passive loads and reactance loads
Output voltage error	≤ ±2%FS@1kHz	Cooling mode	air cooling
Total harmonic distortion(THD)	≤ 1%@1kHz,70Vp-p	Supply voltage:	AC110~240V, 50/60Hz
Zero-point drift of output voltage	≤ ±10mV	Operating temperature:	0°C ~45°C
Signal-noise ratio(SNR)	≥ 70dB	Fuse	2A/250V
Fuse	2A/250V	Storage temperature:	-20° C ~ 50° C
Voltage monitor	100mV/V	Operating humidity:	≤ 80% RH,no condensation
Current monitor	1V/A	Dimension (W*H*D) :	262*163*365 mm
Output connector	BNC		
Protection	Overcurrent protection Over temperature protection		
Signal ground	It is connected with the grounding of the shell and the power line		
Supply voltage	AC110~240V, 50/60Hz		
Operating temperature	0°C ~45°C		
Storage temperature	-20°C ~50°C		
Humidity	≤ 80%RH, no condensation		
Dimension (W*H*D) :	262*163*365 mm		

ATA-1372A



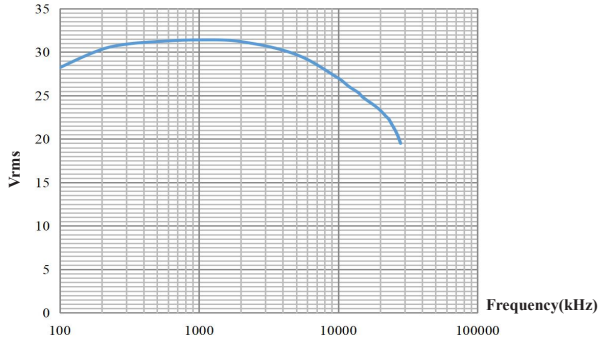
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-1372A



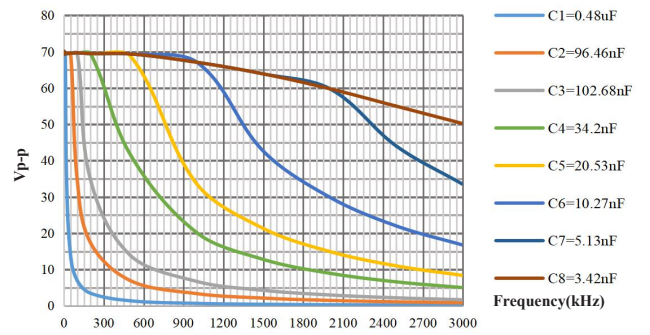
Small signal amplitude-frequency characteristic

ATA-1222A



Amplitude-frequency characteristic
(Maximum output voltage $V_{rms}@50\Omega$)

ATA-1372A



ATA-1372A Capacitive loads curve

ATA-2000 Series High Voltage Amplifier



Main features

- High voltage (1600Vp-p)
- Output current customizable
- Input and output resistance adjustable
- Variable voltage rail

Applications

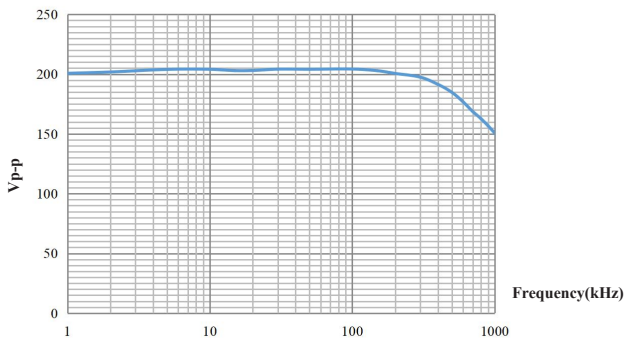
- Electronic experiments in universities and colleges
- MEMS
- Ultrasonic tests
- To drive the electromagnetic field

Technical Parameters

Model	ATA-2021B	ATA-2022B	ATA-2031	ATA-2032	ATA-214
Number of channels	1	2	1	2	1
Form of output	Single output		Single output		Single output
Bandwidth (-3dB)	DC~1MHz		DC~500kHz		DC~500kHz
Maximum output voltage	200Vp-p (± 100 Vp)		300Vp-p (± 150 Vp)		400Vp-p (± 200 Vp)
Range of output voltage	Range1:+40V~-160V		/		/
	Range2:+100V~-100V		/		/
	Range3:+160V~-40V		/		/
Maximum output current	250mA _p (DC~50Hz)		60mA _p (DC~50Hz)		150mA _p (DC~50Hz)
	500mA _p (>50Hz)		120mA _p (>50Hz)		300mA _p (>50Hz)
Maximum output power	50W _p		18W _p		60W _p
Fuse	2A/250V	5A/250V	2A/250V		2A/250V
Voltage gain	x0~60 (0.1 step/1 step)		x0~50 (0.1 step/1 step)		x0~100 (0.1 step/1 step)
Upper limit of load R _L	$\geq 395\Omega$ (DC~50Hz)		$\geq 2.45k\Omega$ (DC~50Hz)		$\geq 1323\Omega$ (DC~50Hz)
	$\geq 195\Omega$ (>50Hz)		$\geq 1.2k\Omega$ (>50Hz)		$\geq 657\Omega$ (>50Hz)
DC offset	± 160 V (0.1V step/1V step)		/		/
Voltage range of DC offset	Range1:+40V~-160V		/		/
	Range2:+100V~-100V		/		/
	Range3:+160V~-40V		/		/
Output resistance	5 Ω /50 Ω (Customizable)		50 Ω /2.5k Ω (Customizable)		10 Ω /2.5k Ω (Customizable)
Slew rate	≥ 445 V/ μ s		≥ 334 V/ μ s		≥ 444.3 V/ μ s
Input resistance	50 Ω / 10k Ω		50 Ω / 5k Ω		
Voltage monitor	20mV/V		100:1		
Current monitor	2V/A		/		
Supply voltage	AC110~240V, 50/60Hz				
Input amplitude	0~10Vp-pMAX				
Output voltage error	$\leq \pm 3\%$ FS@1kHz				
Total harmonic distortion (THD)	$\leq 0.1\%$ @1kHz,100Vp-p				
Zero-point drift of output voltage	$\leq \pm 0.1$ V				

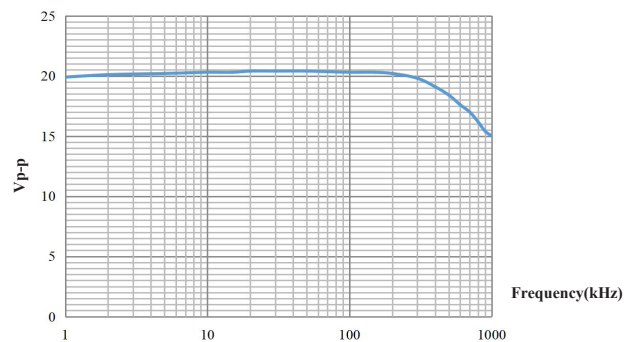
Signal-noise ratio(SNR)	≥ 80dB
Output connector	4mm Banana socket
Protection	Overcurrent protection
Signal ground	It is connected with the grounding of the shell and the power line
Operating temperature	0°C ~45°C
Storage temperature	-20°C ~50°C
Humidity	≤ 80%RH,no condensation
Size (w * h * d)	365*163*365mm 440*163*470mm 365*163*365mm 365*163*365mm 365*163*365mm

ATA-2021B



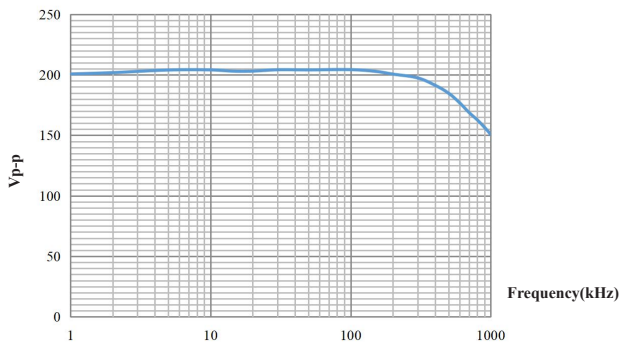
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-2021B



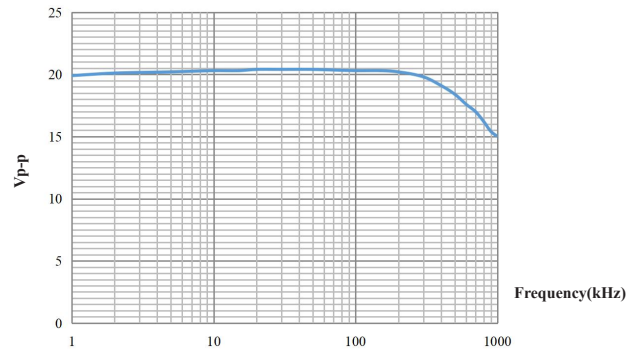
Small signal amplitude-frequency characteristic

ATA-2022B



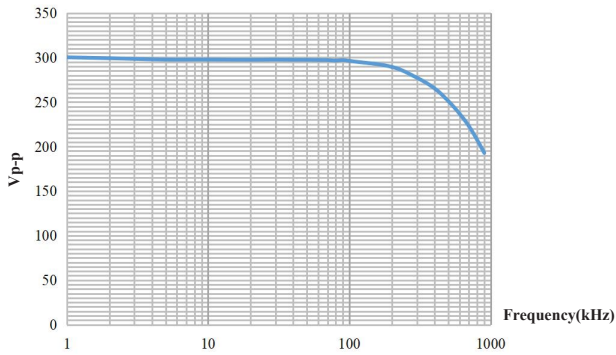
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-2022B



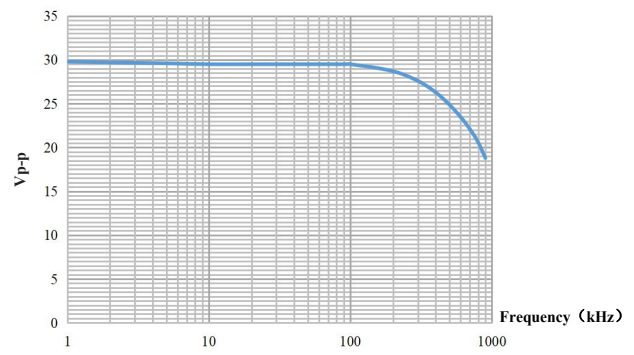
Small signal amplitude-frequency characteristic

ATA-2031



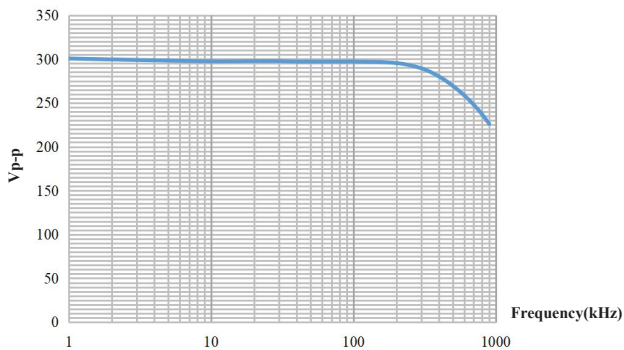
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-2031



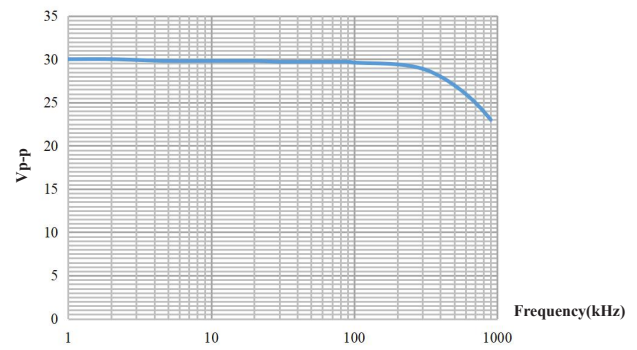
Small signal amplitude-frequency characteristic

ATA-2032



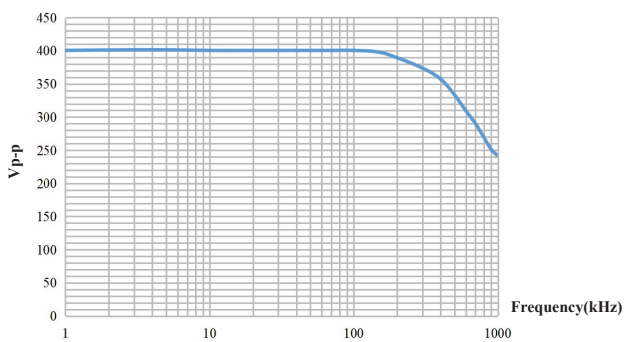
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-2032



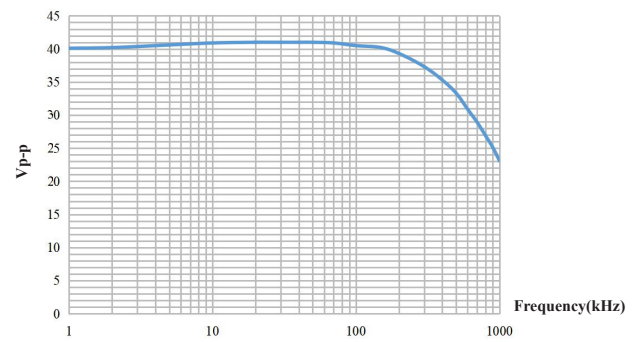
Small signal amplitude-frequency characteristic

ATA-214



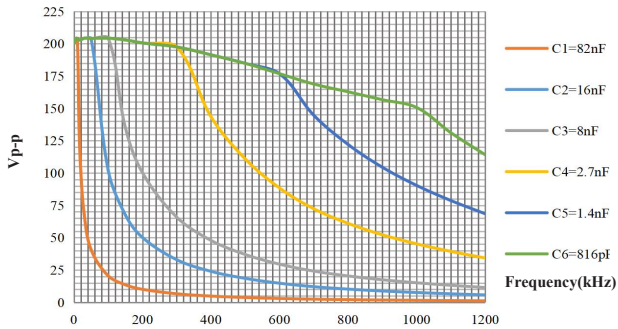
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-214



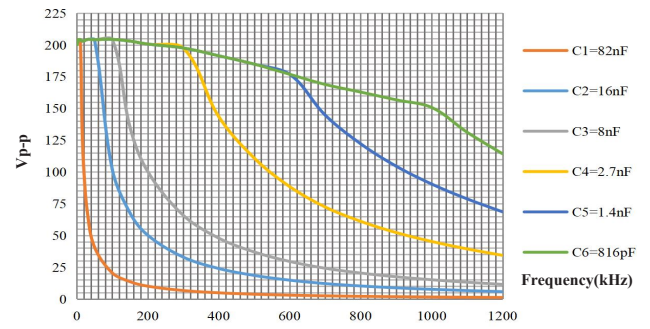
Small signal amplitude-frequency characteristic

ATA-2021B



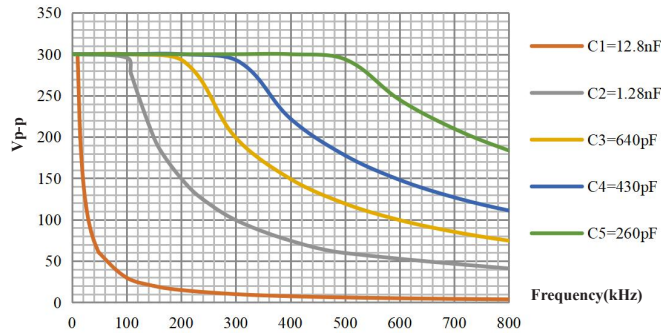
ATA-2021B Capacitive loads curve

ATA-2022B



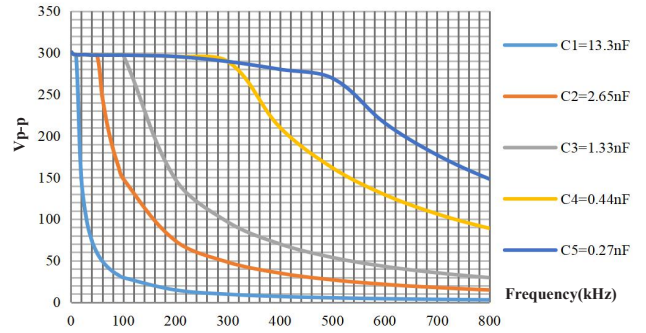
ATA-2022B Capacitive loads curve

ATA-2031



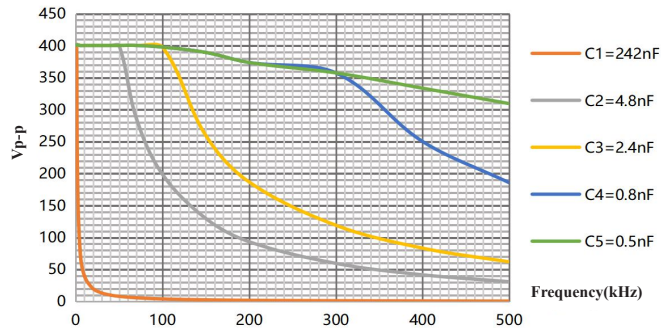
ATA-2031 Capacitive loads curve

ATA-2032



ATA-2032 Capacitive loads curve

ATA-214



ATA-214 Capacitive loads curve

ATA-2000 Series High Voltage Amplifier



Main features

- High voltage (1600Vp-p)
- Output current customizable
- Input and output resistance adjustable
- 100:1 voltage monitor

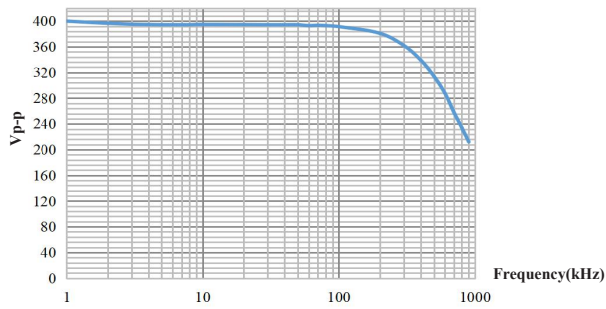
Applications

- Electronic experiments in universities and colleges
- MEMS
- Ultrasonic tests
- To drive the electromagnetic field

Technical Parameters

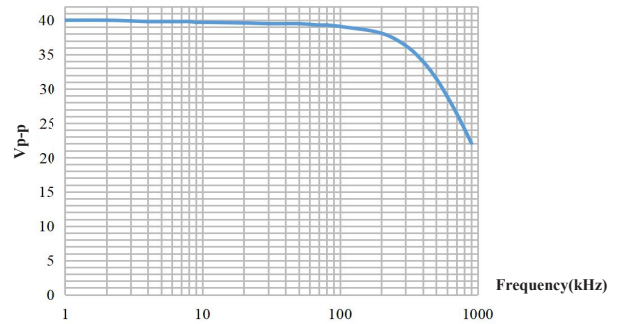
Model	ATA-2041	ATA-2042	ATA-2081	ATA-2082	ATA-2161
Number of channels	1	2	1	2	1
Form of output	Single output		Single output		Differential output
Bandwidth (-3dB)	DC~500kHz		DC~200kHz		DC~150kHz
Maximum output voltage	400Vp-p (± 200 Vp)		800Vp-p (± 400 Vp)		1600Vp-p (± 800 Vp)
Maximum output current	50mA _p (DC~50Hz)		20mA _p (DC~50Hz)		20mA _p (DC~50Hz)
	100mA _p (>50Hz)		40mA _p (>50Hz)		40mA _p (>50Hz)
Maximum output power	20W _p		16W _p		32W _p
Voltage gain	x0~60 (0.1 step/1 step)		x0~120 (0.1 step/1 step)		x0~240 (0.1 step/1 step)
Upper limit of load R _L	$\geq 3.95k\Omega$ (DC~50Hz)		$\geq 19.9k\Omega$ (DC~50Hz)		$\geq 39.8k\Omega$ (DC~50Hz)
	$\geq 1.95k\Omega$ (>50Hz)		$\geq 9.9k\Omega$ (>50Hz)		$\geq 19.8k\Omega$ (>50Hz)
Output resistance	50 Ω /2.5k Ω (Customizable)		100 Ω /5k Ω (Customizable)		200 Ω /10k Ω (Customizable)
Slew rate	$\geq 445V/\mu s$		$\geq 356V/\mu s$		$\geq 534V/\mu s$
Input resistance	50 Ω / 5k Ω				
Input amplitude	0~10Vp-pMAX				
Output voltage error	$\leq \pm 3\%FS@1kHz$				
Voltage monitor	100:1				
Total harmonic distortion (THD)	$\leq 0.1\%@1kHz,100Vp-p$				
Zero-point drift of output voltage	$\leq \pm 0.3V$				
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	AC110~240V, 50/60Hz				
Fuse	2A/250V				
Operating temperature	0 $^{\circ}C$ ~45 $^{\circ}C$				
Storage temperature	-20 $^{\circ}C$ ~50 $^{\circ}C$				
Humidity	$\leq 80\%RH$,no condensation				
Size (w * h * d)	365*163*365mm				

ATA-2041



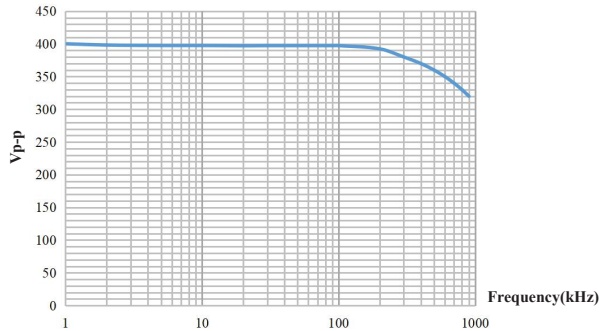
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-2041



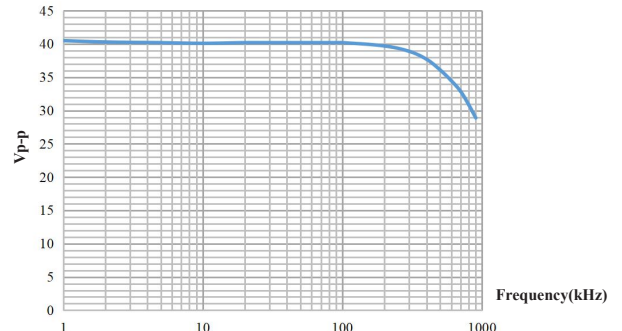
Small signal amplitude-frequency characteristic

ATA-2042



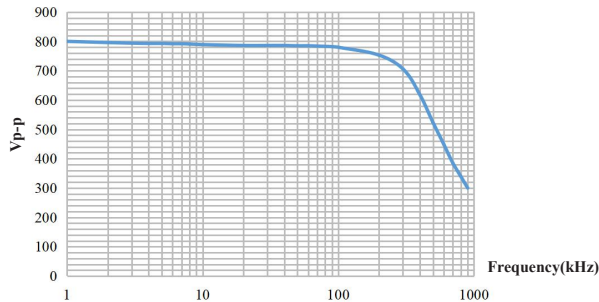
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-2042



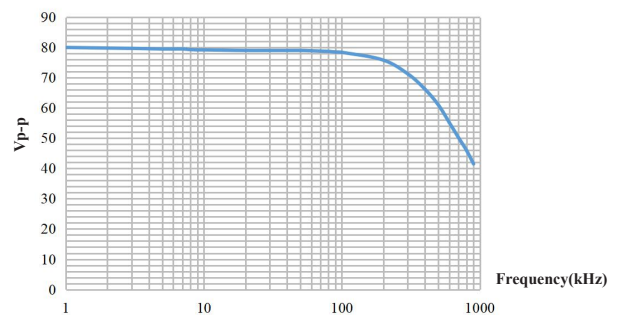
Small signal amplitude-frequency characteristic

ATA-2081



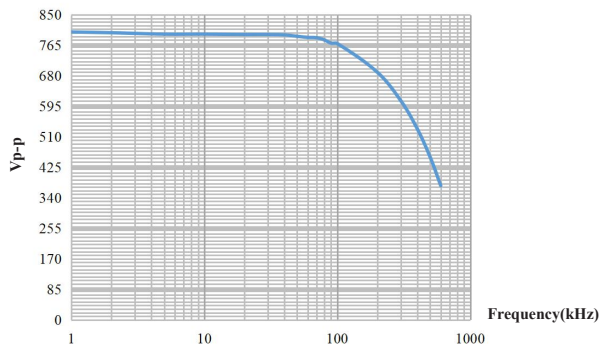
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-2081



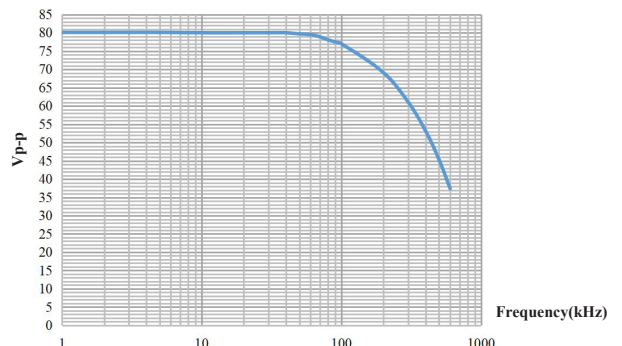
Small signal amplitude-frequency characteristic

ATA-2082



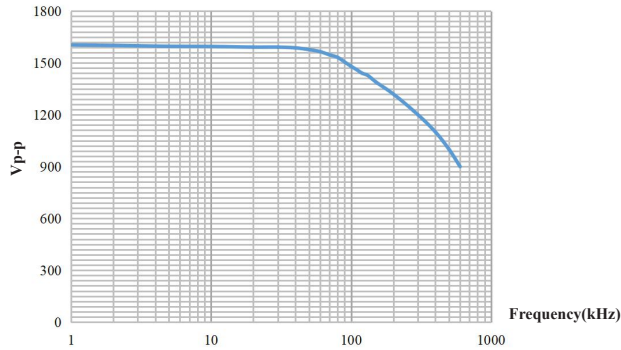
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-2082



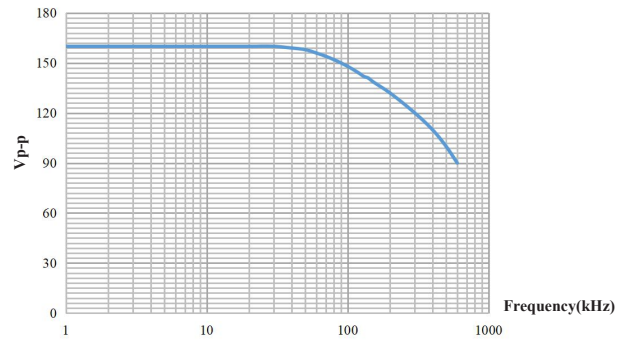
Small signal amplitude-frequency characteristic

ATA-2161



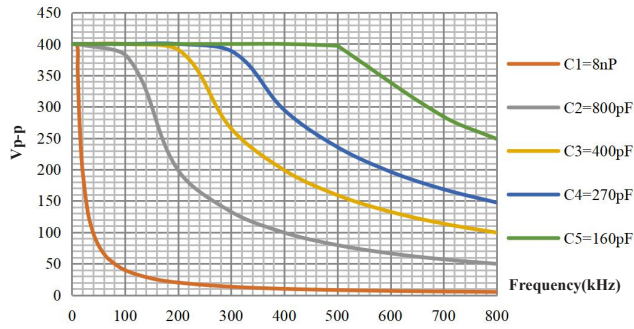
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-2161



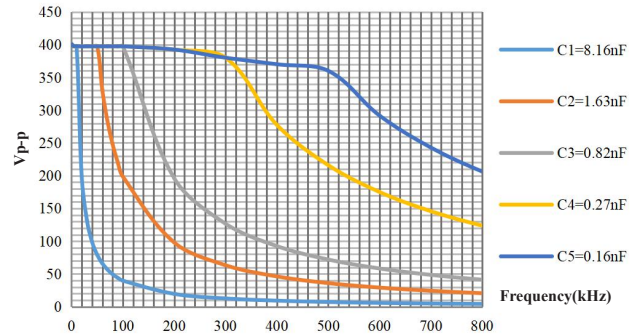
Small signal amplitude-frequency characteristic

ATA-2041



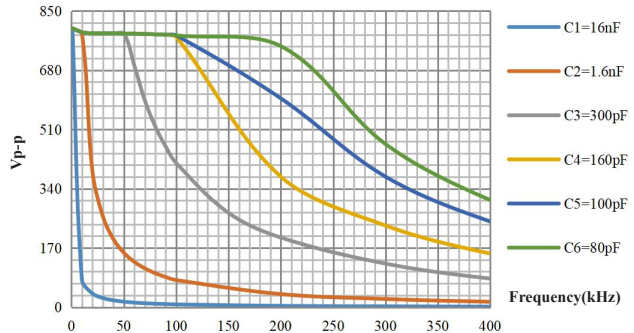
ATA-2041 Capacitive loads curve

ATA-2042



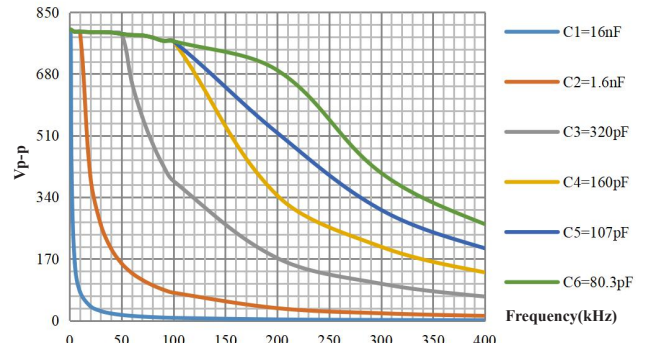
ATA-2042 Capacitive loads curve

ATA-2081



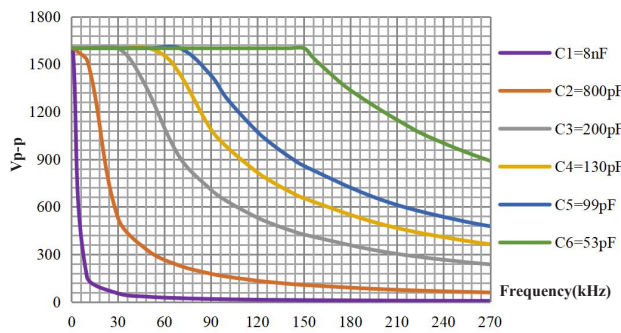
ATA-2081 Capacitive loads curve

ATA-2082



ATA-2082 Capacitive loads curve

ATA-2161



ATA-2161 Capacitive loads curve

ATA-3000 Series Power Amplifier



Main features

- Maximum output power 810Wp
- Bandwidth (-3dB) DC~100kHz
- Maximum output current 18Ap
- Voltage gain numerically adjustable

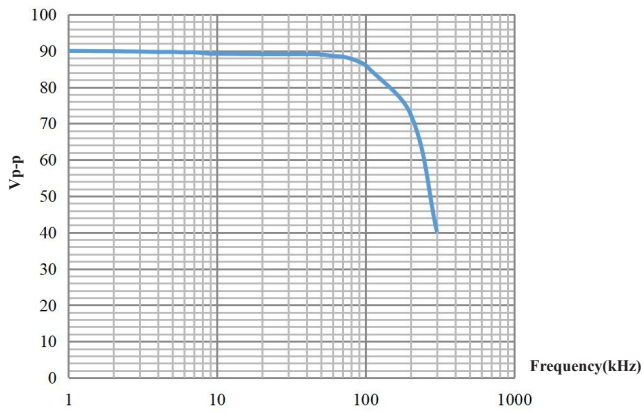
Applications

- Electronic experiments in universities and colleges
- MEMS
- Ultrasonic tests
- To drive the electromagnetic field

Technical Parameters

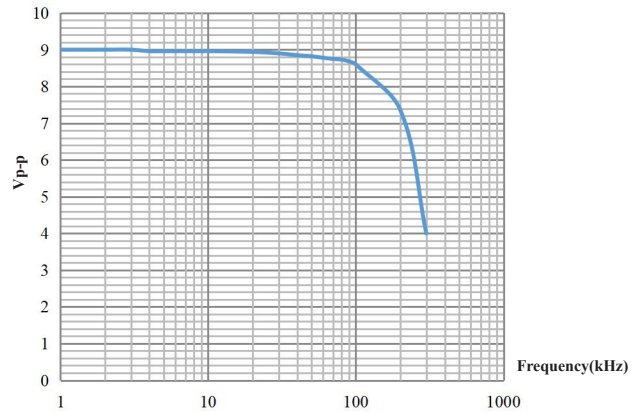
Model	ATA-3040B	ATA-3080	ATA-3090B
Form of output	Single output	Differential output	Single output
Bandwidth (-3dB)	DC~100kHz	DC~100kHz	DC~100kHz
Maximum output voltage	90Vp-p (± 45 Vp)	180Vp-p (± 90 Vp)	90Vp-p (± 45 Vp)
Maximum output current	4Ap (DC~50Hz)	4Ap (DC~50Hz)	9Ap (DC~50Hz)
	8Ap (>50Hz)	8Ap (>50Hz)	18Ap (>50Hz)
Maximum output power	360Wp	720Wp	810Wp
Fuse	8A/250V	8A/250V	10A/250V
Voltage gain	x0~30 (0.1 step/1 step)	x0~60 (0.1 step/1 step)	x0~30 (0.1 step/1 step)
Upper limit of load R_L	$\geq 10.75\Omega$ (DC~50Hz)	$\geq 22\Omega$ (DC~50Hz)	$\geq 4.75\Omega$ (DC~50Hz)
	$\geq 5.13\Omega$ (>50Hz)	$\geq 10.75\Omega$ (>50Hz)	$\geq 2.25\Omega$ (>50Hz)
Output resistance	0.5 Ω /50 Ω (Customizable)	0.5 Ω /100 Ω (Customizable)	0.25 Ω /50 Ω (Customizable)
Slew rate	≥ 20 V/ μ s	≥ 40 V/ μ s	≥ 20 V/ μ s
Input resistance	50 Ω /10k Ω	50 Ω /5k Ω	50 Ω /10k Ω
Voltage monitor	50mV/V	/	50mV/V
Current monitor	200mV/A	/	200mV/A
Supply voltage	AC110~240V, 50/60Hz		
Input amplitude	0~10Vp-pMAX		
Output voltage error	$\leq \pm 3\%$ FS@1kHz		
Total harmonic distortion (THD)	$\leq 0.1\%$ @1kHz,90Vp-p		
Zero-point drift of output voltage	$\leq \pm 0.3$ V		
Signal-noise ratio(SNR)	≥ 80 dB		
Output connector	4mm Banana socket		
Protection	Overcurrent protection		
Signal ground	It is connected with the grounding of the shell and the power line		
Operating temperature	0 $^{\circ}$ C ~45 $^{\circ}$ C		
Storage temperature	-20 $^{\circ}$ C ~50 $^{\circ}$ C		
Humidity	$\leq 80\%$ RH, no condensation		
Size (w * h * d)	440*163*470mm		

ATA-3040B



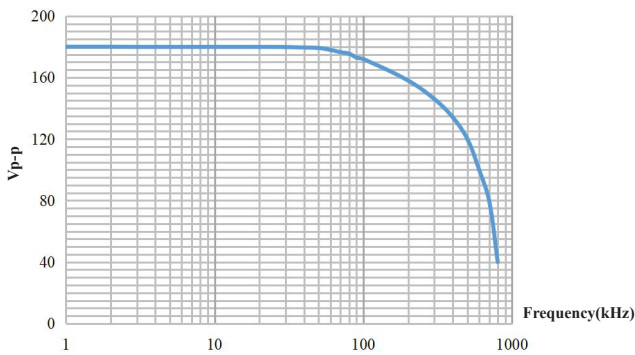
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-3040B



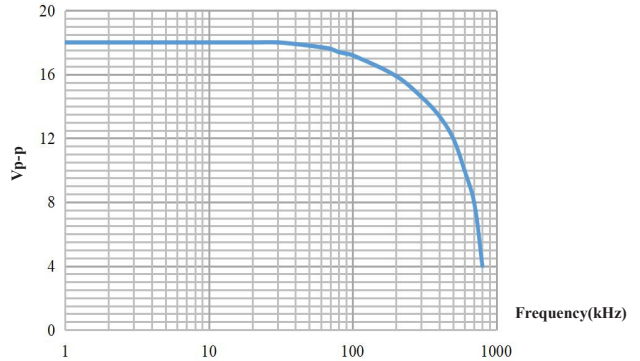
Small signal amplitude-frequency characteristic

ATA-3080



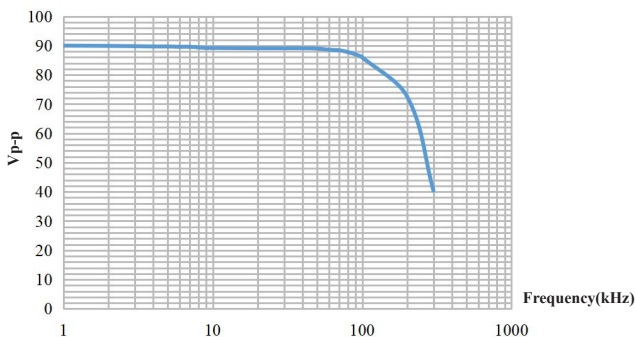
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-3080



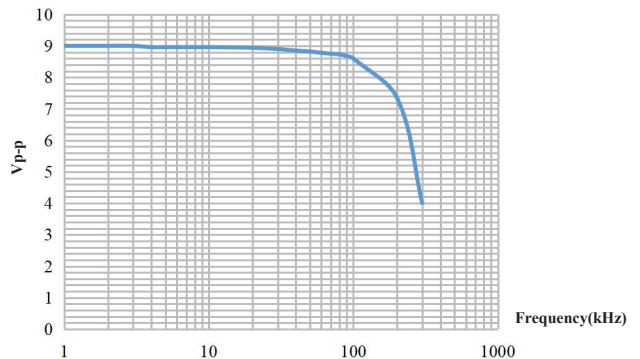
Small signal amplitude-frequency characteristic

ATA-3090B



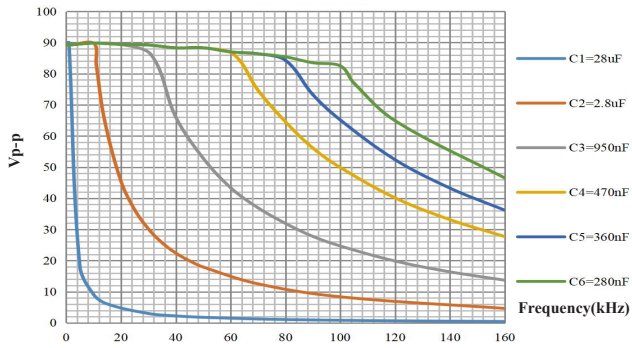
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-3090B



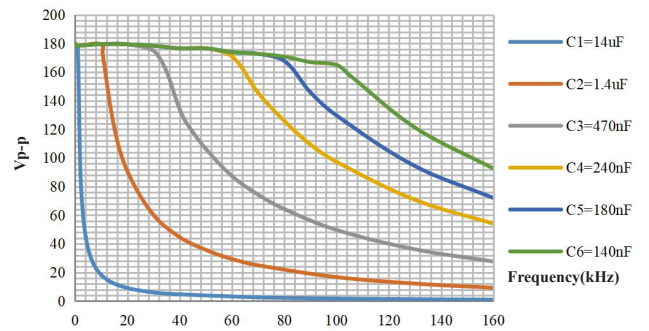
Small signal amplitude-frequency characteristic

ATA-3040B



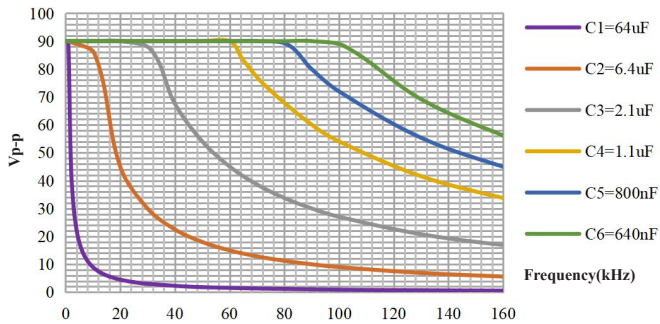
ATA-3040 Capacitive loads curve

ATA-3080



ATA-3080 Capacitive loads curve

ATA-3090B



ATA-3090 Capacitive loads curve

ATA-4000 High Voltage Power Amplifier



Main features

- Output voltage up to 310Vp-p (± 155 Vp)
- Maximum output current 4Arms
- Maximum Bandwidth (-3dB) DC~3MHz
- Maximum output power 452Wp
- DC offset numerically adjustable

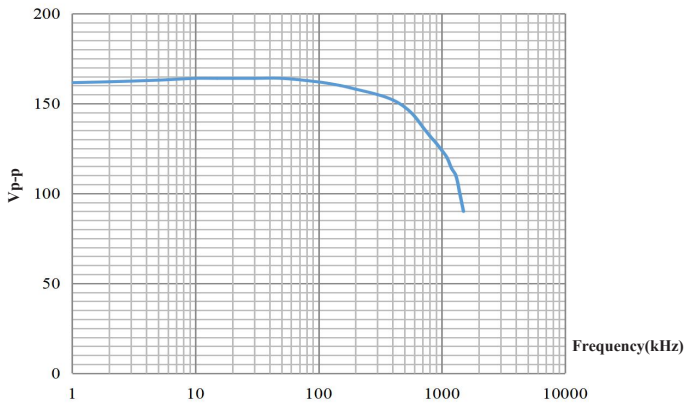
Applications

- Electronic experiments in universities and colleges
- MEMS
- Ultrasonic tests
- To drive the electromagnetic field

Technical Parameters

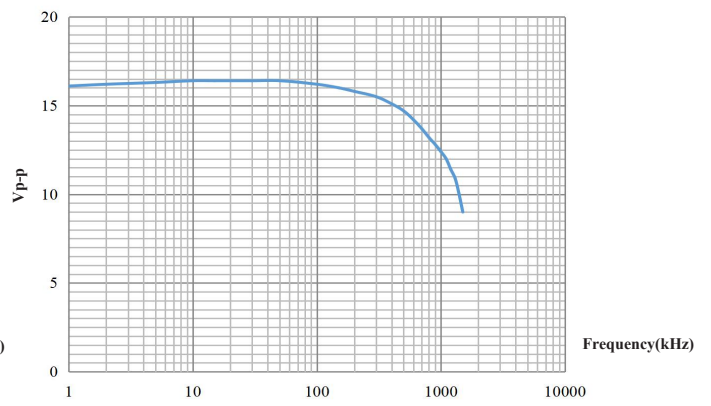
Model	ATA-4011B	ATA-4012B	ATA-4014
Form of output	Single output	Single output	Single output
Bandwidth (-3dB)	DC~1.2MHz	DC~1.2MHz	DC~1MHz
Maximum output voltage	160Vp-p (± 80 Vp)	160Vp-p (± 80 Vp)	160Vp-p (± 80 Vp)
Maximum output current	0.5Ap (DC~50Hz)	1Ap (DC~50Hz)	2Ap (DC~50Hz)
	1.41Ap, 1Arms (>50Hz)	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 (0.1 step/1 step)	x0~50 (0.1 step/1 step)	x0~50 (0.1 step/1 step)
Upper limit of load R_L	$\geq 159\Omega$ (DC~50Hz)	$\geq 79\Omega$ (DC~50Hz)	$\geq 39.75\Omega$ (DC~50Hz)
	$\geq 55.7\Omega$ (>50Hz)	$\geq 27.4\Omega$ (>50Hz)	$\geq 13.91\Omega$ (>50Hz)
Output impedance		$1\Omega + 2\mu\text{H}$	$0.25\Omega + 0.6\mu\text{H}$
Slew rate		$\geq 426\text{V}/\mu\text{s}$	$\geq 356\text{V}/\mu\text{s}$
Input resistance		$50\Omega / 10\text{k}\Omega$	$50\Omega / 5\text{k}\Omega$
Voltage monitor		20mV/V	100:1
Current monitor		1V/A	/
DC offset		$\pm 75\text{V}$ (0.1V step/1V step)	
Supply voltage		AC110~240V, 50/60Hz	
Input amplitude		0~10Vp-pMAX	
Output voltage error		$\leq \pm 3\% \text{FS}@1\text{kHz}$	
Total harmonic distortion (THD)		$\leq 0.1\% @ 1\text{kHz}, 100\text{Vp-p}$	
Zero-point drift of output voltage		$\leq \pm 0.1\text{V}$	
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		
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	

ATA-4011B



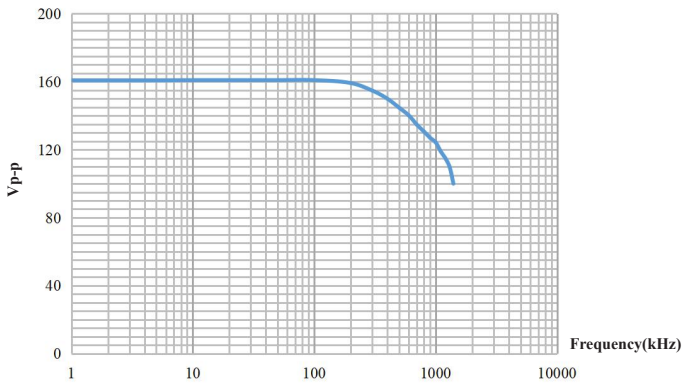
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-4011B



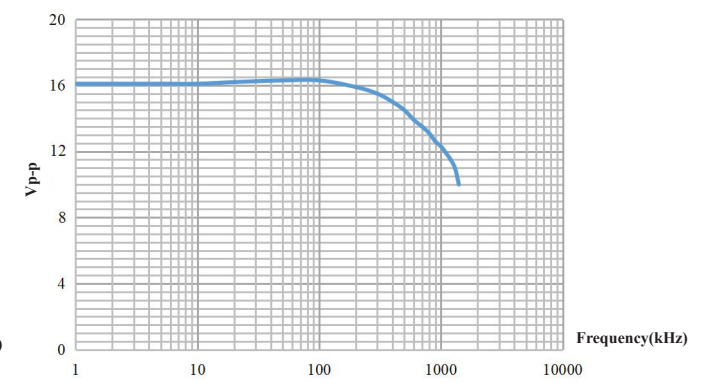
Small signal amplitude-frequency characteristic

ATA-4012B



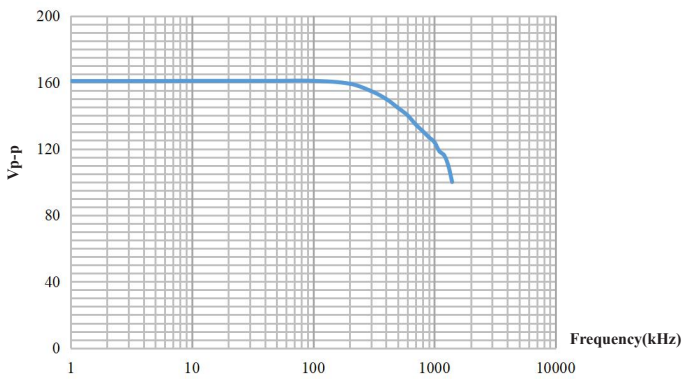
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-4012B



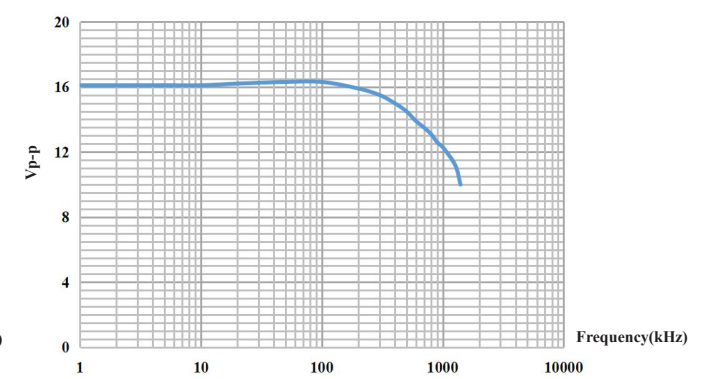
Small signal amplitude-frequency characteristic

ATA-4014



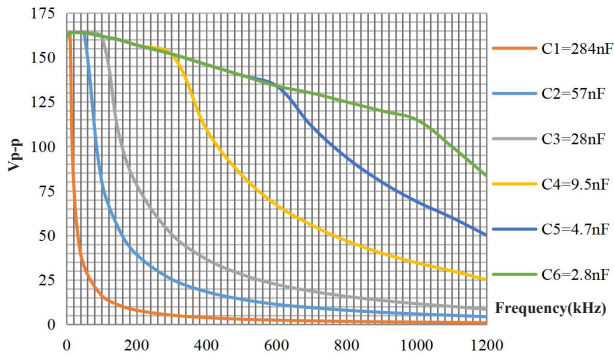
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-4014



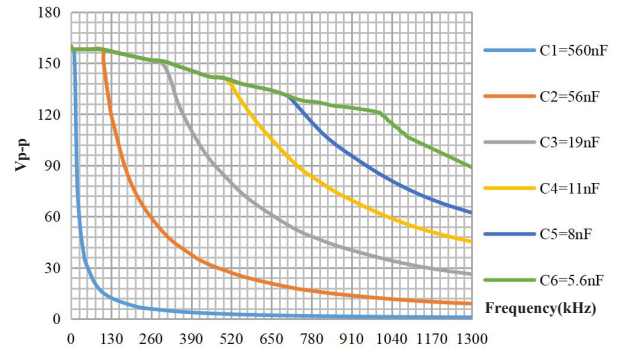
Small signal amplitude-frequency characteristic

ATA-4011B



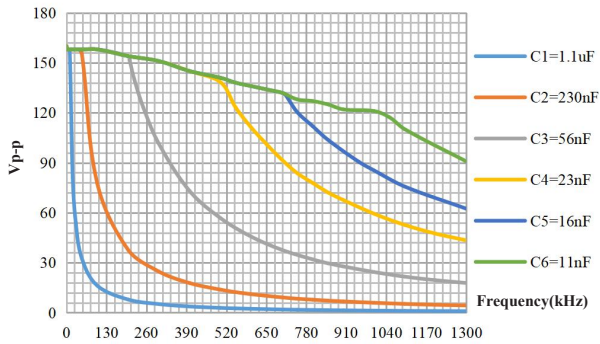
ATA-4011B Capacitive loads curve

ATA-4012B



ATA-4012B Capacitive loads curve

ATA-4014



ATA-4014 Capacitive loads curve

ATA-4000 High Voltage Power Amplifier



Main features

- Output voltage up to 310Vp-p (± 155 Vp)
- Maximum output current 4Arms
- Maximum Bandwidth (-3dB) DC~3MHz
- Maximum output power 452Wp
- DC offset numerically adjustable

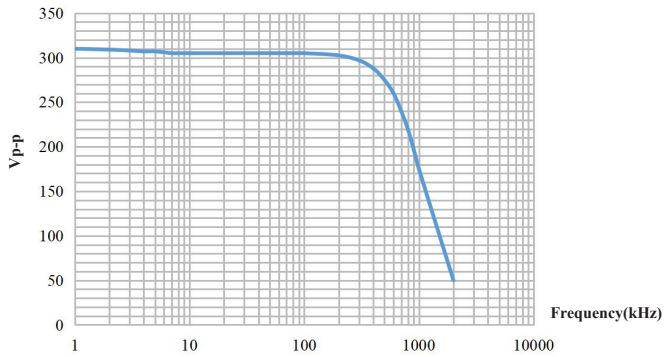
Applications

- Electronic experiments in universities and colleges
- MEMS
- Ultrasonic tests
- To drive the electromagnetic field

Technical Parameters

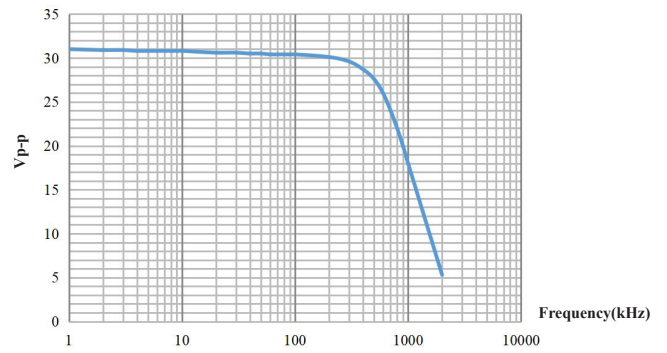
Model	ATA-4051	ATA-4052	ATA-4315
Form of output	Single output	Single output	Single output
Bandwidth (-3dB)	DC~500kHz	DC~500kHz	DC~3MHz
Maximum output voltage	310Vp-p (± 155 Vp)	310Vp-p (± 155 Vp)	150Vp-p (± 75 Vp)
Maximum output current	0.5Ap (DC~50Hz)	1Ap (DC~50Hz)	0.5Ap (DC~50Hz)
	1.41Ap, 1Arms (>50Hz)	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 (0.1 step/1 step)	x0~100 (0.1 step/1 step)	x0~50 (0.1 step/1 step)
Upper limit of load R_L	$\geq 309\Omega$ (DC~50Hz)	$\geq 154.5\Omega$ (DC~50Hz)	$\geq 149.5\Omega$ (DC~50Hz)
	$\geq 108.93\Omega$ (>50Hz)	$\geq 54.46\Omega$ (>50Hz)	$\geq 52.7\Omega$ (Above 50Hz)
Output impedance	$1\Omega + 3.2\mu\text{H}$	$0.5\Omega + 1.6\mu\text{H}$	$0.5\Omega + 1.2\mu\text{H}$
Slew rate	$\geq 345\text{V}/\mu\text{s}$	$\geq 345\text{V}/\mu\text{s}$	$\geq 1000\text{V}/\mu\text{s}$
DC offset	$\pm 150\text{V}$ (0.1V step/ 1V step)	$\pm 150\text{V}$ (0.1V step/ 1V step)	$\pm 75\text{V}$ (0.1V step/ 1V step)
Input impedance	$50\Omega / 5\text{k}\Omega$	$50\Omega / 5\text{k}\Omega$	$50\Omega / 1\text{k}\Omega$
Input amplitude		0~10Vp-pMAX	
Output voltage error		$\leq \pm 3\%\text{FS}@1\text{kHz}$	
Voltage monitor		100:1	
Total harmonic distortion (THD)		$\leq 0.1\%@1\text{kHz}, 100\text{Vp-p}$	
Zero-point drift of output voltage		$\leq \pm 0.1\text{V}$	
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	AC110~240V, 50/60Hz		
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*290*470mm	440*163*470mm

ATA-4051



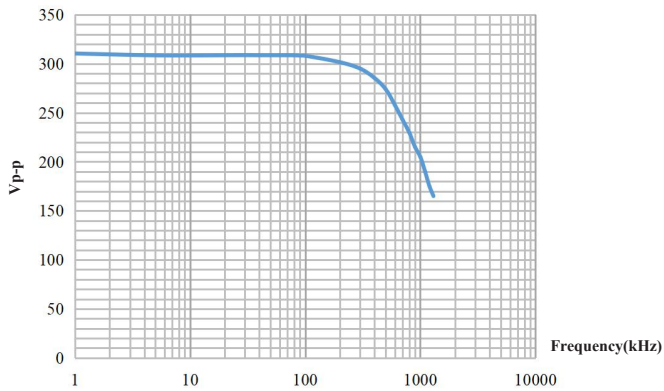
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-4051



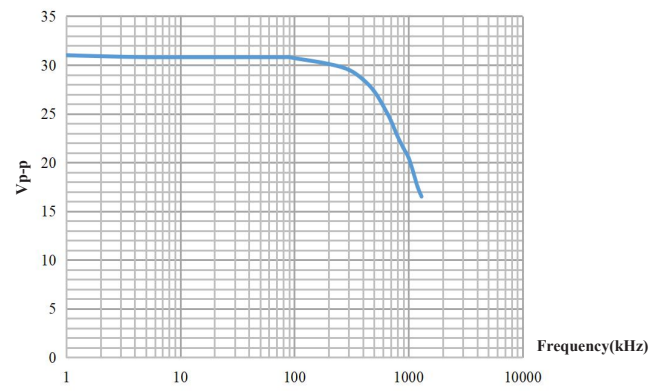
Small signal amplitude-frequency characteristic

ATA-4052



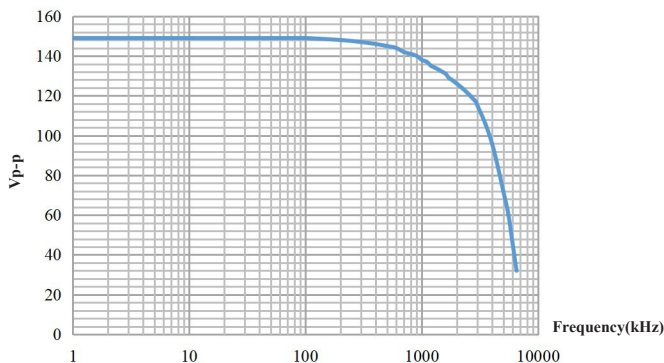
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-4052



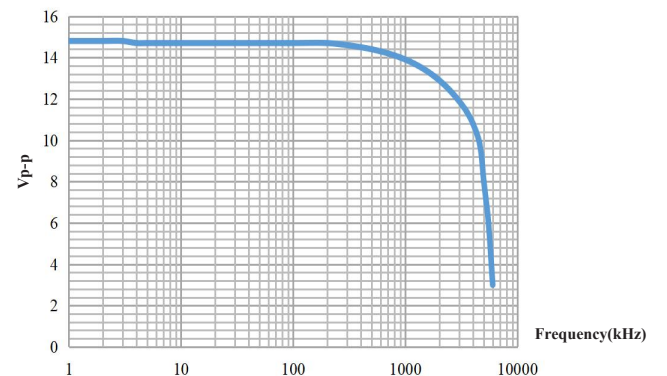
Small signal amplitude-frequency characteristic

ATA-4315



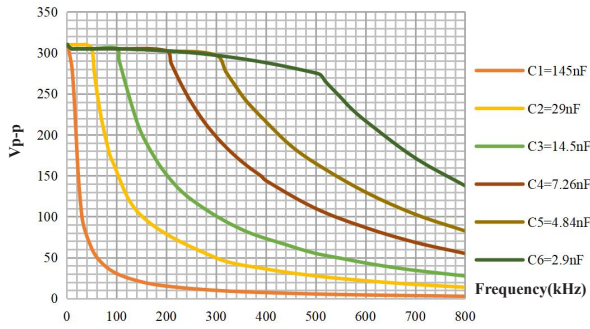
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-4315



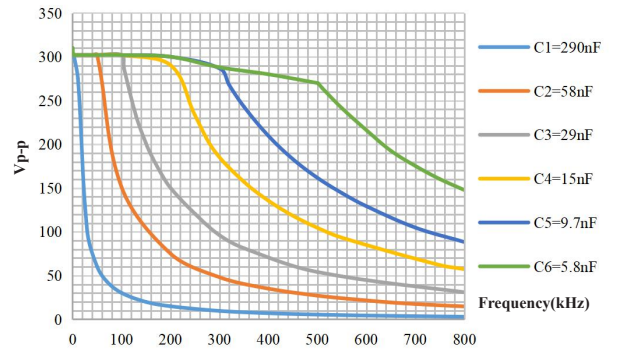
Small signal amplitude-frequency characteristic

ATA-4051



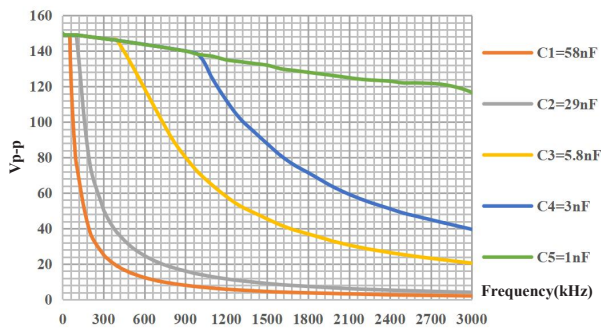
ATA-4051 Capacitive loads curve

ATA-4052



ATA-4052 Capacitive loads curve

ATA-4315



ATA-4315 Capacitive loads curve

ATA-7000 Series High Voltage Amplifier



Main features

- Maximum output voltage 10kVp-p
- Voltage gain numerically adjustable
- Over current protection
- 1000:1 voltage monitor

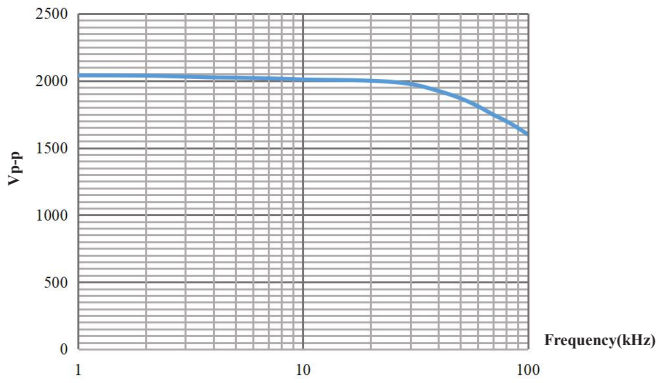
Applications

- AC or DC offset
- Electrophoresis electrophotography
- Electromagnetic modulation
- Electromagnetic deflection
- Material polarization and particle accelerator

Technical Parameters

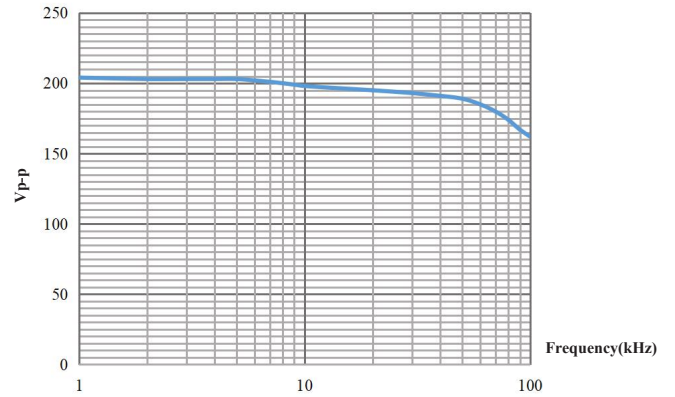
Model	ATA-7010	ATA-7015	ATA-7020
Form of output	Single output	Single output	Single output
Bandwidth (-3dB)	DC~100kHz	DC~80kHz	DC~30kHz
Maximum output voltage	2kVp-p (± 1 kVp)	3kVp-p (± 1.5 kVp)	4kVp-p (± 2 kVp)
Maximum output current	20mA _p (DC~50Hz)	20mA _p (DC~50Hz)	15mA _p (DC~50Hz)
	40mA _p (>50Hz)	40mA _p (>50Hz)	30mA _p (>50Hz)
Maximum output power	40W _p	60W _p	60W _p
Fuse	3A/250V	4A/250V	4A/250V
Voltage gain	x0~1000 (1 step/10 step)	x0~1000 (1 step/10 step)	x0~1000 (1 step/10 step)
Upper limit of load R _L	≥ 49.5 k Ω (DC~50Hz)	≥ 74.5 k Ω (DC~50Hz)	≥ 132.33 k Ω (DC~50Hz)
	≥ 24.5 k Ω (>50Hz)	≥ 37 k Ω (>50Hz)	≥ 65.67 k Ω (>50Hz)
Output resistance	500 Ω	500 Ω	1k Ω
Slew rate	≥ 445 V/ μ s	≥ 534 V/ μ s	≥ 267 V/ μ s
Output voltage error	$\leq \pm 1\%$ @(DC,1kV)	$\leq \pm 1\%$ @(DC,1.5kV)	$\leq \pm 1\%$ @(DC,2kV)
Total harmonic distortion(THD)	$\leq 1\%$ @1kHz,1kVp-p	$\leq 1\%$ @1kHz,2.4kVp-p	$\leq 1\%$ @1kHz,3.2kVp-p
Input resistance		10k Ω	
Voltage monitoring		1000:1	
Input amplitude		0~10Vp-pMAX	
Zero-point drift of output voltage		$\leq \pm 1$ V	
Output connector		SHV RF connector	
Protection		Overcurrent protection	
Signal ground	It is connected with the grounding of the shell and the power line		
Supply voltage		AC110~240V, 50/60Hz	
Operating temperature		0 $^{\circ}$ C ~45 $^{\circ}$ C	
Storage temperature		-20 $^{\circ}$ C ~50 $^{\circ}$ C	
Humidity		$\leq 80\%$ RH, no condensation	
Size (w * h * d)		440*163*565mm	

ATA-7010



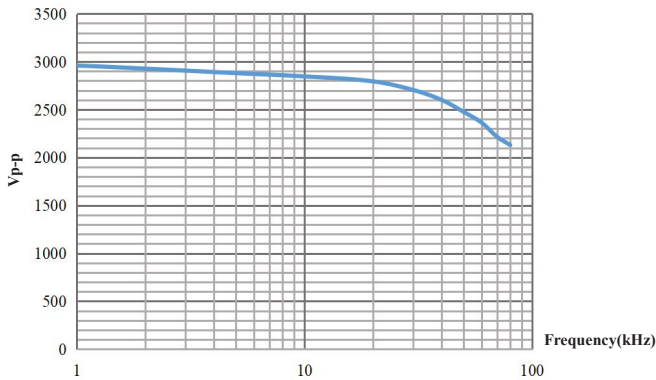
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-7010



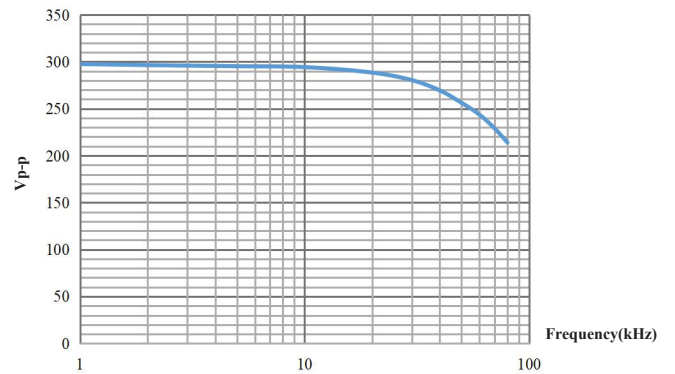
Small signal amplitude-frequency characteristic

ATA-7015



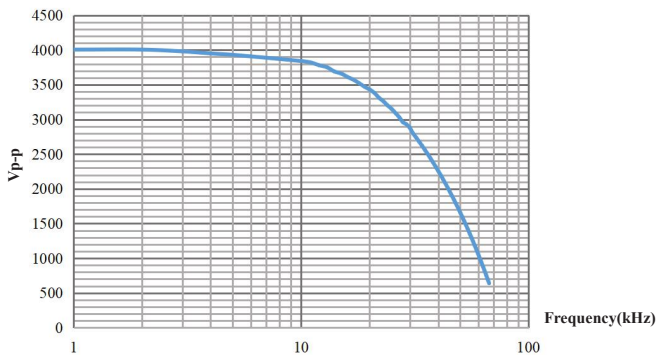
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-7015



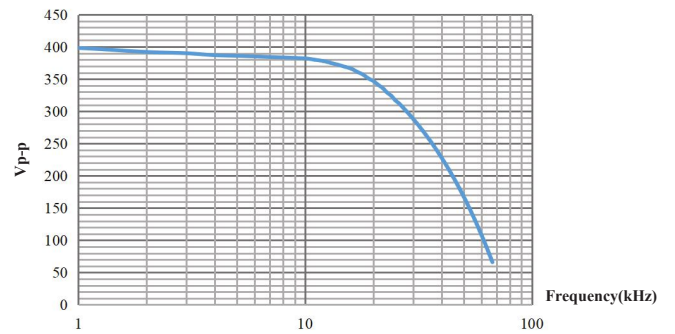
Small signal amplitude-frequency characteristic

ATA-7020



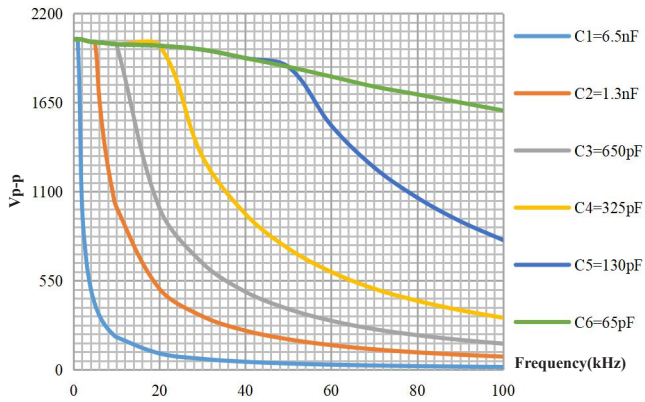
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-7020



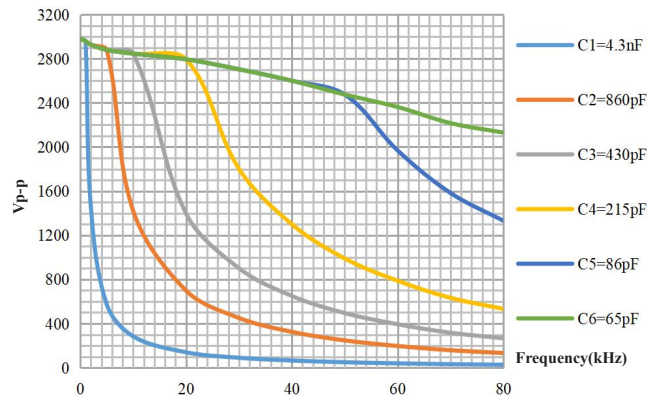
Small signal amplitude-frequency characteristic

ATA-7010



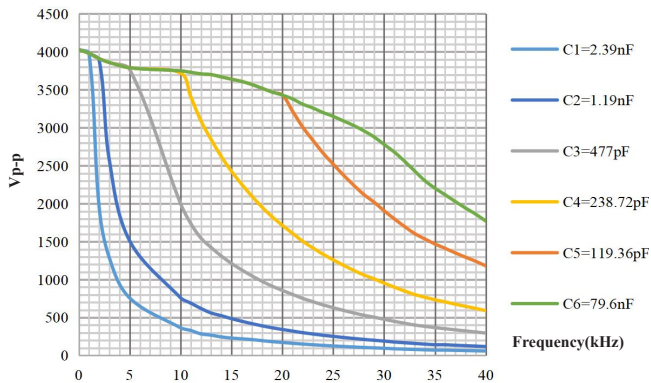
ATA-7010 Capacitive loads curve

ATA-7015



ATA-7015 Capacitive loads curve

ATA-7020



ATA-7020 Capacitive loads curve

ATA-7000 Series High Voltage Amplifier



Main features

- Maximum output voltage 10kVp-p
- Voltage gain numerically adjustable
- Over current protection
- 1000:1 voltage monitor

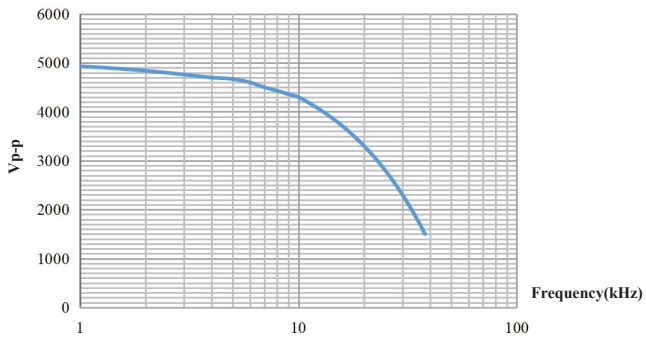
Applications

- AC or DC offset
- Electrophoresis electrophotography
- Electromagnetic modulation
- Electromagnetic deflection
- Material polarization and particle accelerator

Technical Parameters

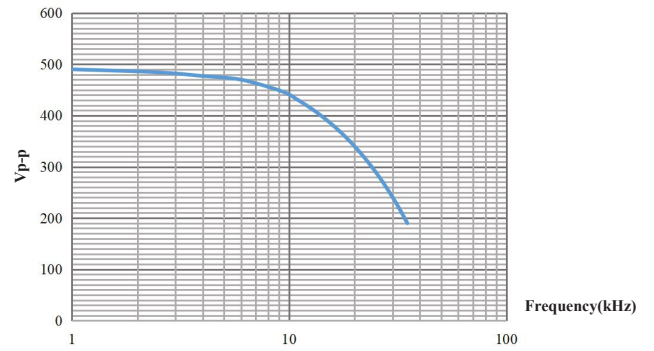
Model	ATA-7025	ATA-7030	ATA-7050
Form of output	Single output	Single output	Single output
Bandwidth (-3dB)	DC~10kHz	DC~5kHz	DC~5kHz
Maximum output voltage	5kVp-p (± 2.5 kVp)	6kVp-p (± 3 kVp)	10kVp-p (± 5 kVp)
Maximum output current	15mA _p (DC~50Hz)	15mA _p (DC~50Hz)	10mA _p (DC~50Hz)
	30mA _p (>50Hz)	30mA _p (>50Hz)	20mA _p (>50Hz)
Maximum output power	75W _p	90W _p	100W _p
Fuse	4A/250V	4A/250V	4A/250V
Voltage gain	x0~1000 (1 step/10 step)	x0~1000 (1 step/10 step)	x0~2000 (1 step/10 step)
Upper limit of load R _L	≥ 165.17 k Ω (DC~50Hz)	≥ 198.5 k Ω (DC~50Hz)	≥ 495 k Ω (DC~50Hz)
	≥ 81.8 k Ω (>50Hz)	≥ 98.5 k Ω (>50Hz)	≥ 245 k Ω (>50Hz)
Output resistance	1.5k Ω	1.5k Ω	5k Ω 、200k Ω switchable
Slew rate	≥ 112 V/ μ s	≥ 67 V/ μ s	≥ 111 V/ μ s
Output voltage error	$\leq \pm 1\%$ @(DC,2.5kV)	$\leq \pm 1\%$ @(DC,3kV)	$\leq \pm 3\%$ @(DC,5kV)
Total harmonic distortion (THD)	$\leq 1\%$ @1kHz,4kVp-p	$\leq 1\%$ @1kHz,4.8kVp-p	$\leq 1\%$ @1kHz,8kVp-p
Input resistance		10k Ω	
Voltage monitor		1000:1	
Input amplitude		0~10Vp-pMAX	
Zero-point drift of output voltage		$\leq \pm 1$ V	
Protection		Overcurrent protection	
Signal ground	It is connected with the grounding of the shell and the power line		
Supply voltage	AC110~240V, 50/60Hz		
Operating temperature	0°C ~45°C		
Storage temperature	-20°C ~50°C		
Humidity	$\leq 80\%$ RH,no condensation		
Output connector	SHV RF connector		High voltage connector
Size (w * h * d)	440*163*565mm		440*290*565mm

ATA-7025



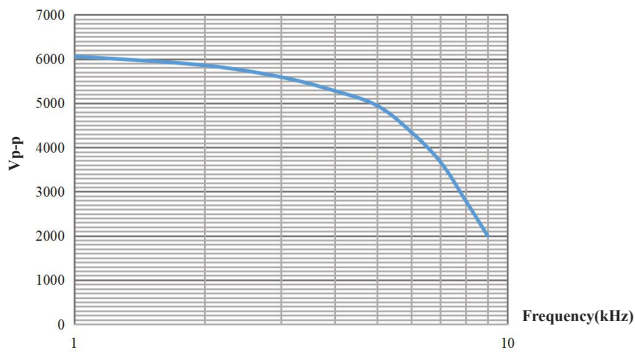
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-7025



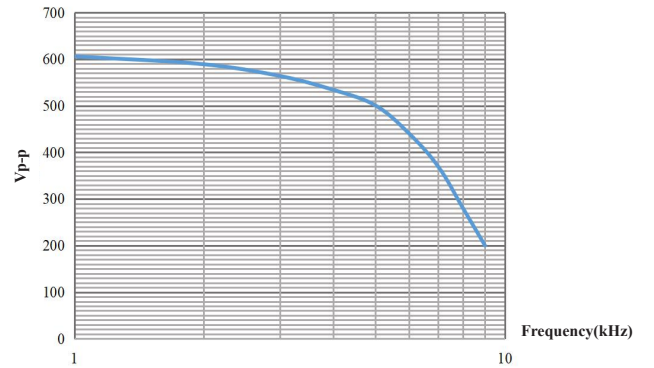
Small signal amplitude-frequency characteristic

ATA-7030



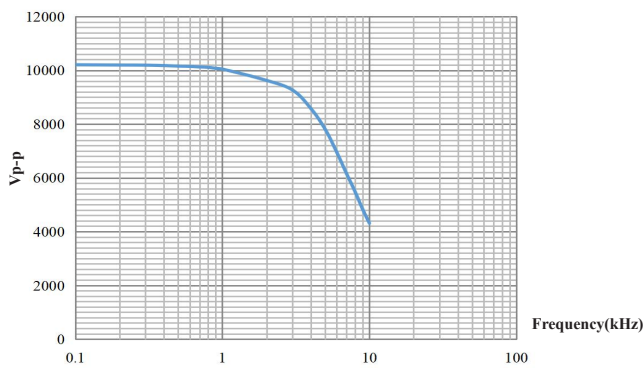
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-7030



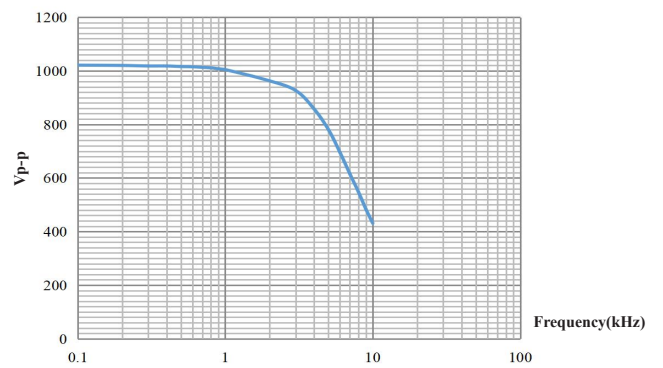
Small signal amplitude-frequency characteristic

ATA-7050



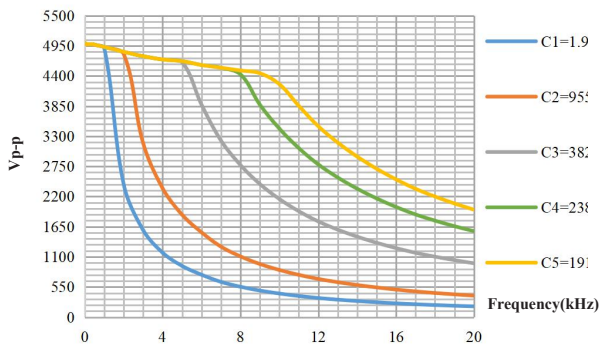
Amplitude-frequency characteristic
(Maximum output voltage Vp-p)

ATA-7050



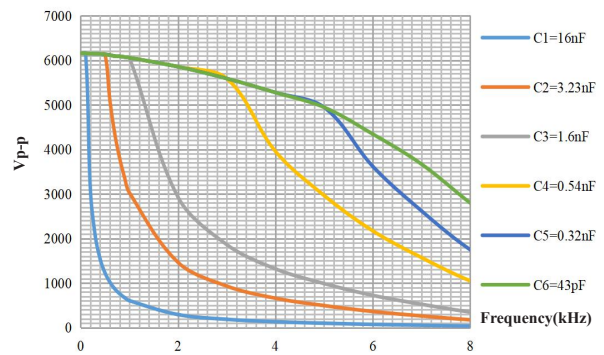
Small signal amplitude-frequency characteristic

ATA-7025



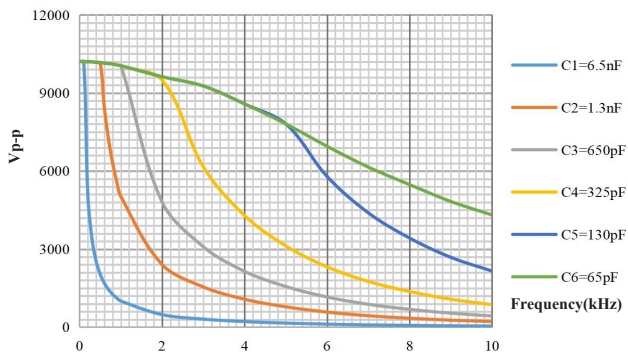
ATA-7025 Capacitive loads curve

ATA-7030



ATA-7030 Capacitive loads curve

ATA-7050



ATA-7050 Capacitive loads curve

ATA-8000 Series RF Power Amplifier



Main features

- Operation mode: Class AB
- Bandwidth (-3dB) 100kHz~20MHz
- Rated output power 500W
- P1dB output power 1000W

Applications

- Nondestructive testing and acoustics
- Wireless signal transmission
- Electromagnetic field
- Biomedical

Technical Parameters

Model	ATA-8202	ATA-8035	ATA-8126	ATA-8061
Operation mode	Class AB	Class AB	Class AB	Class AB
Bandwidth (-3dB)	100kHz~20MHz	100kHz~3MHz	100kHz~12MHz	100kHz~6MHz
Rated output power	100W	250W	300W	500W
P1dB output power	200W	500W	600W	1000W
Power gain	47dB(27dB~47dB /0.5dB step)	51dB(31dB~51dB /0.5dB step)	52dB(32dB~52dB /0.5dB step)	54dB(34dB~54dB /0.5dB step)
Input signal of the rated output power	316mVrms/2m W/3dBm (47dB gain 1MHz)	316mVrms/2m W/3dBm (51dB gain 500kHz)	316mVrms/2m W/3dBm (52dB gain 1MHz)	316mVrms/2m W/3dBm (54dB gain 1MHz)
Lossless maximum input signal	<-25dBc @100W,1MHz	<-25dBc@ 250W,500kHz	<-25dBc@ 300W,1MHz	<-25dBc@ 500W,1MHz
Input resistance	50Ω			
Output resistance	50Ω			
Third harmonic level	1Vrms/20mW/13dBm			
Input connector	BNC			
Output connector	N Type			
Stability	can drive passive loads and reactance loads			
Cooling mode	air cooling			
Supply voltage	AC110~240V, 50/60Hz			
Operating temperature	0°C ~45°C			
Storage temperature	-20° C ~ 50° C			
Humidity	≤ 80%RH, no condensation			

ATA-L Series Power Amplifier



Main features

- Maximum output voltage 1200 Vrms
- Output power 6500VA
- Bandwidth (-3dB) 200Hz~120kHz
- Output current monitor: 100mV/A
- Output voltage monitor: 5mV/V

Applications

- Underwater acoustic systems testing
- Transducer drive Ultrasonic
- Power science experiment
- High Power ultrasonic study

Technical Parameters

Model	ATA-L2	ATA-L4	ATA-L6	ATA-L8
Bandwidth (-3dB)	200Hz~120kHz	200Hz~120kHz	200Hz~120kHz	200Hz~120kHz
Maximum output voltage	424Vrms	848Vrms	1020Vrms	1020Vrms
Input voltage at full output	1Vrms (1kHz)	1Vrms (1kHz)	1Vrms (1kHz)	1Vrms (1kHz)
Maximum output power	200VA	400 VA	600 VA	1000VA
Total harmonic distortion (THD)	≤ 1%@1kHz,53Vrms (106Vrms tap)	≤ 1%@1kHz,53Vrms (106Vrms tap)	≤ 1%@1kHz,85Vrms (170Vrms tap)	≤ 1%@1kHz,85Vrms (170Vrms tap)
Voltage monitor	10mV/ V	5mV/ V	5mV/ V	5mV/ V
Current monitor	100mV/A			
Input resistance	10kΩ			
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	AC110~240V, 50/60Hz			
Operating temperature	0°C ~45°C			
Storage temperature	-20°C ~50°C			
Humidity	≤ 80%RH, no condensation			
Size (w * h * d)	440*290*565mm			

Tap selection according to the output impedance

Model	Output impedance	Maximum output voltage	Maximum output current
L2	56Ω	106Vrms	1.89Arms
	224Ω	212Vrms	0.95Arms
	505Ω	318Vrms	0.63Arms
	898Ω	424Vrms	0.47Arms
L4	28Ω	106Vrms	3.79Arms
	112.4Ω	212Vrms	1.89Arms
	253Ω	318Vrms	1.26Arms
	449Ω	424Vrms	0.94Arms
	702Ω	530Vrms	0.75Arms
	1011Ω	636Vrms	0.63Arms
	1376Ω	742Vrms	0.54Arms
	1797Ω	848Vrms	0.47Arms
L6	48Ω	170Vrms	3.54Arms
	193Ω	340Vrms	1.76Arms
	434Ω	510Vrms	1.18Arms
	771Ω	680Vrms	0.88Arms
	1204Ω	850Vrms	0.7Arms
	1734Ω	1020Vrms	0.59Arms
L8	30Ω	170Vrms	5.67Arms
	115Ω	340Vrms	2.96Arms
	260Ω	510Vrms	1.96Arms
	460Ω	680Vrms	1.48Arms
	720Ω	850Vrms	1.18Arms
	1040Ω	1020Vrms	0.98Arms

ATA-L Series Power Amplifier



Main features

- Maximum output voltage 1200 Vrms
- Output power 6500VA
- Bandwidth (-3dB) 200Hz~120kHz
- Output current monitor: 100mV/A
- Output voltage monitor: 5mV/V

Applications

- Underwater acoustic systems testing
- Transducer drive
- Power science experiment
- High Power ultrasonic study

Technical Parameters

Model	ATA-L10	ATA-L20	ATA-L30	ATA-L40	ATA-L50
Bandwidth (-3dB)	200Hz~120kHz	200Hz~120kHz	200Hz~120kHz	200Hz~120kHz	200Hz~120kHz
Maximum output voltage	1200Vrms	1200Vrms	1200Vrms	1200Vrms	1200Vrms
Input voltage at full output	1Vrms (1kHz)	1Vrms (1kHz)	1Vrms (1kHz)	1Vrms (1kHz)	1Vrms (1kHz)
Maximum output power	1300 VA	2600 VA	4000 VA	5200VA	6500VA
Total harmonic distortion (THD)	≤ 1%@1kHz, 53Vrms (106Vrms tap)	≤ 1%@1kHz, 53Vrms (106Vrms tap)	≤ 1%@1kHz, 100Vrms (424Vrms tap)	≤ 1%@1kHz, 100Vrms (424Vrms tap)	≤ 1%@1kHz, 100Vrms (424Vrms tap)
Input resistance	10kΩ				
Current monitor	100mV/A				
Voltage monitor	5mV/ V				
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	AC110~240V, 50/60Hz				
Operating temperature	0°C ~45°C				
Storage temperature	-20°C ~50°C				
Humidity	≤ 80%RH, no condensation				

Tap selection according to the output impedance

Model	Output impedance	Maximum output voltage	Maximum output current
L10	8.6Ω	106Vrms	12.32Arms
	17Ω	150Vrms	8.82Arms
	35Ω	212Vrms	6.06Arms
	69Ω	300Vrms	4.35Arms
	138Ω	424Vrms	3.07Arms
	277Ω	600Vrms	2.17Arms
	553Ω	848Vrms	1.53Arms
	1108Ω	1200Vrms	1.08Arms
L20	4.3Ω	106Vrms	24.65Arms
	8.6Ω	150Vrms	17.44Arms
	17Ω	212Vrms	12.47Arms
	35Ω	300Vrms	8.57Arms
	69Ω	424Vrms	6.14Arms
	138Ω	600Vrms	4.35Arms
	277Ω	848Vrms	3.06Arms
	553Ω	1200Vrms	2.17Arms
L30	45Ω	424Vrms	9.43Arms
	90Ω	600Vrms	6.67Arms
	180Ω	848Vrms	4.72Arms
	360Ω	1200Vrms	3.33Arms
L40	35Ω	424Vrms	12.12Arms
	69Ω	600Vrms	8.69Arms
	138Ω	848Vrms	6.14Arms
	277Ω	1200Vrms	4.33Arms
L50	28Ω	424Vrms	15.14Arms
	55Ω	600Vrms	10.91Arms
	111Ω	848Vrms	7.64Arms
	222Ω	1200Vrms	5.41Arms

ATA-M Series Power Amplifier



Main features

- Maximum output voltage 690Vrms
- Output power 800VA
- Bandwidth (-3dB) 10kHz-500kHz
- Output current monitor: 100mV/A
- Output voltage monitor: 10mV/V

Applications

- Underwater acoustic system testing
- To drive the transducers
- High frequency and high power ultrasound research

Technical Parameters

Model	ATA-M2	ATA-M4	ATA-M8
Bandwidth (-3dB)	10kHz~500kHz	10kHz~500kHz	10kHz~500kHz
Maximum output voltage	175Vrms	345Vrms	690Vrms
Maximum output power	200VA	400VA	800VA
Input voltage at full amplitude output		1Vrms	
Input resistance		10kΩ	
Current monitor		100mV/A	
Voltage monitor		10mV/ V	
Output connector	4mm Banana socket		
Protection	Overcurrent protection, over temperature protection		
Signal ground	It is connected with the grounding of the shell and the power line		
Supply voltage	AC110~240V, 50/60Hz		
Operating temperature	0°C ~45°C		
Storage temperature	-20°C ~50°C		
Humidity	≤ 80%RH, no condensation		

Tap selection according to the output impedance

Model	Output impedance	Maximum output voltage	Maximum output current
M2	18Ω	60Vrms	3.33Arms
	36Ω	85Vrms	2.36Arms
	72Ω	120Vrms	1.67Arms
	153Ω	175Vrms	1.14Arms
M4	9Ω	60Vrms	6.67Arms
	18Ω	85Vrms	4.72Arms
	36Ω	120Vrms	3.33Arms
	77Ω	175Vrms	2.27Arms
	150Ω	245Vrms	1.63Arms
	298Ω	345Vrms	1.16Arms
	4.5Ω	60Vrms	13.33Arms
M8	9Ω	85Vrms	9.44Arms
	18Ω	120Vrms	6.67Arms
	38Ω	175Vrms	4.60Arms
	75Ω	245Vrms	3.27Arms
	149Ω	345Vrms	2.32Arms
	300Ω	490Vrms	1.63Arms
	595Ω	690Vrms	1.16Arms

ATA-P Series Power Amplifier



Main features

- Output power 1300Wp
- Output power current 10Ap
- Maximum output voltage -20V~150V
- Bandwidth (-3dB) DC~20kHz

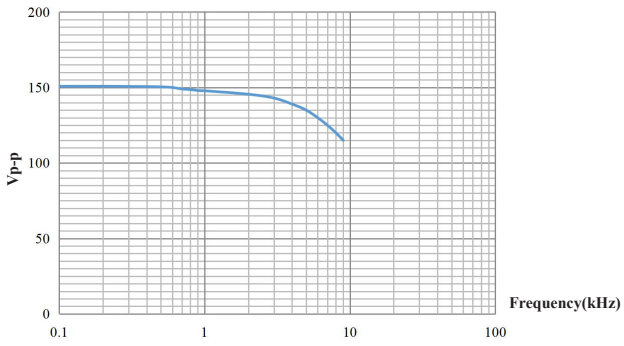
Applications

- To drive the piezo ceramics
- To drive the ultrasonic transducers
- To drive the piezoelectric stacks

Technical Parameters

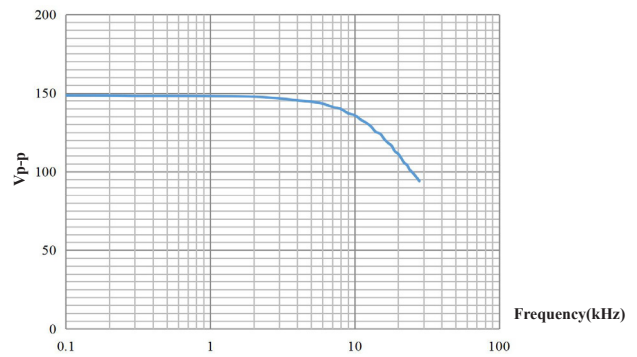
Model	ATA-P0102	ATA-P1005	ATA-P2010
Number of channels	1	1	1
Form of output	Single output	Single output	Single output
Bandwidth (-3dB)	DC~1kHz	DC~10kHz	DC~20kHz
Maximum output voltage	0V~150V	0V~150V	-20V~130V
Maximum output current	1.25Ap (DC~50Hz)	2.5Ap (DC~50Hz)	5Ap (DC~50Hz)
	2.5Ap (> 50Hz)	5Ap (> 50Hz)	10Ap (> 50Hz)
Maximum output power	375Wp	750Wp	1300Wp
Fuse	8A/250V	8A/250V	15A/250V
Upper limit of load R_L	$\geq 119\Omega$ (DC~50Hz)	$\geq 59.5\Omega$ (DC~50Hz)	$\geq 25.75\Omega$ (DC~50Hz)
	$\geq 59\Omega$ (>50Hz)	$\geq 29.5\Omega$ (>50Hz)	$\geq 12.75\Omega$ (>50Hz)
Voltage gain	x0~50 (0.1 step/1 step)	x0~50 (0.1 step/1 step)	x0~50 (0.1 step/1 step)
Input resistance	10k Ω	10k Ω	10k Ω
Output resistance	1 Ω	0.5 Ω	0.25 Ω
Slew rate	$\geq 0.67V/\mu s$	$\geq 6.7V/\mu s$	$\geq 11.5V/\mu s$
Current monitor	1V/A	500mV/A	250mV/A
Output voltage error		50mV/V	
Input amplitude		0~10Vp-pMAX	
Total harmonic distortion (THD)		$\leq \pm 3\%FS@1kHz$	
Zero-point drift of output voltage		$\leq \pm 0.3V$	
Output connector		4mm Banana socket	
Protection	Over current protection, over voltage protection, over temperature protection		
Signal ground	It is connected with the grounding of the shell and the power line		
Supply voltage		AC110~240V, 50/60Hz	
Operating temperature		0° C ~ 45° C	
Storage temperature		-20° C ~ 50° C	
Humidity		$\leq 80\%RH$, no condensation	
Size (w * h * d)		440*163*565mm	

ATA-P0102



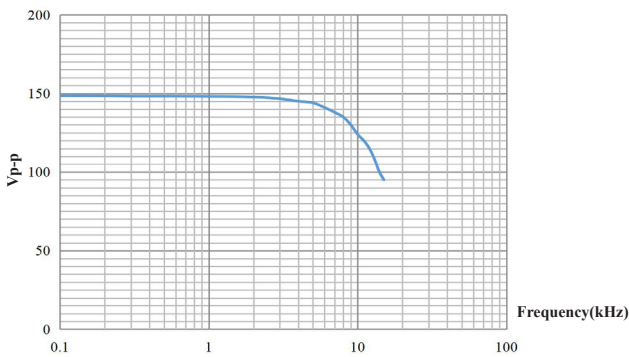
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-P1005



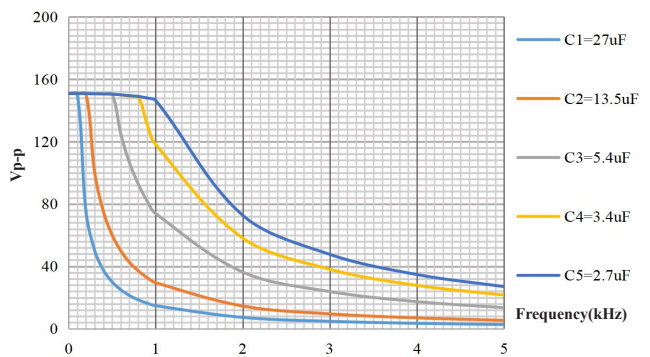
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-P2010



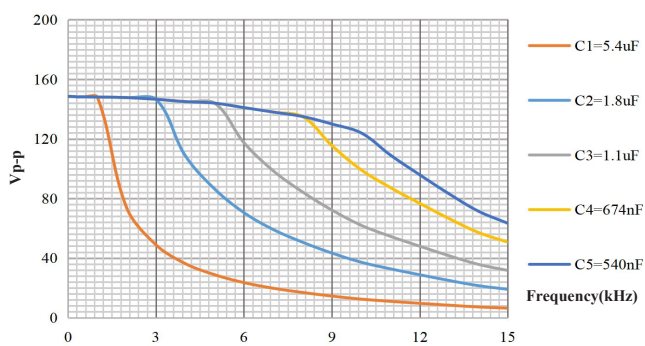
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-P0102



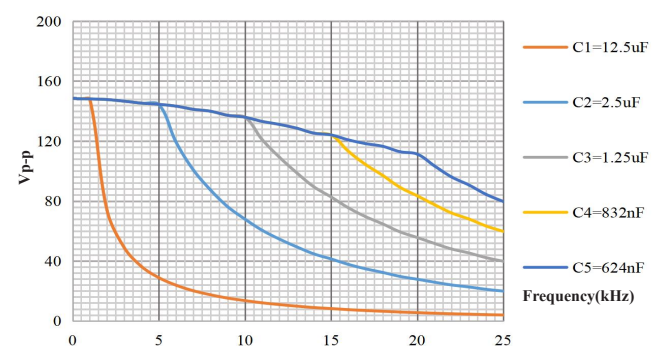
ATA-P0102 Capacitive loads curve

ATA-P1005



ATA-P1005 Capacitive loads curve

ATA-P2010



ATA-P2010 Capacitive loads curve

ATA-5000 Series Preamplifier



Main features

- Small signal amplification
- Low noise
- High gain

Applications

- Infrared sensor detection
- Weak magnetic field sensor detection
- Light testing for phototransistor

Technical Parameters

Model	ATA-5210	ATA-5220	ATA-5310	ATA-5320	ATA-5410
Bandwidth (-3dB)	1kHz~5MHz	1kHz~5MHz	1kHz~10MHz	1kHz~10MHz	1kHz~20MHz
Input resistance	50Ω	50Ω	50Ω	50Ω	50Ω
Input conversion noise voltage	0.7nV/√Hz below (1kHz) 0.5nV/√Hz typ (1k~1MHz)	1.7nV/√Hz below (1kHz) 1.5nV/√Hz typ (1k~1MHz)	0.7nV/√Hz below (100kHz) 0.5nV/√Hz typ (10k~1MHz)	1.7nV/√Hz below (100kHz) 1.5nV/√Hz typ (10k~1MHz)	1.2nV/√Hz below (100kHz) 0.9nV/√Hz typ (10k~1MHz)
Input conversion noise current	7pA/√Hz typ (10kHz)	13pA/√Hz typ (10kHz)	7pA/√Hz typ (10kHz)	13pA/√Hz typ (10kHz)	7pA/√Hz typ (10kHz)
Maximum output voltage	2 Vp-p (50Ω)	2 Vp-p (50Ω)	2 Vp-p (50Ω)	2 Vp-p (50Ω)	2 Vp-p (50Ω)
Output resistance	50Ω	50Ω	50Ω	50Ω	50Ω
Voltage gain	46 dB	60 dB	46 dB	60 dB	46 dB
Size (w * h * d)	135*70*25mm				

Technical Parameters

Model	ATA-5420	ATA-5510	ATA-5520	ATA-5610	ATA-5620
Bandwidth (-3dB)	1kHz~20MHz	1kHz~50MHz	1kHz~50MHz	1kHz~100MHz	1kHz~100MHz
Input resistance	50Ω	50Ω	50Ω	50Ω	50Ω
Input conversion noise voltage	1.9nV/√Hz below (100kHz) 1.2nV/√Hz typ (10k~1MHz)	1.2nV/√Hz below (100kHz) 0.9nV/√Hz typ (10k~1MHz)	1.9nV/√Hz below (100kHz) 1.2nV/√Hz typ (10k~1MHz)	1.2 nV/√Hz below (100kHz) 0.9nV/√Hz typ (10k~1MHz)	1.9nV/√Hz below (100kHz) 1.2nV/√Hz typ (10k~1MHz)
Input conversion noise current	13pA/√Hz typ (10kHz)	7pA/√Hz typ (10kHz)	13pA/√Hz typ (10kHz)	7pA/√Hz typ (10kHz)	13pA/√Hz typ (10kHz)
Maximum output voltage	2 Vp-p (50Ω)	2 Vp-p (50Ω)	2 Vp-p (50Ω)	2 Vp-p (50Ω)	2 Vp-p (50Ω)
Output resistance	50Ω	50Ω	50Ω	50Ω	50Ω
Voltage gain	60 dB	46 dB	60 dB	46 dB	60 dB
Supply voltage	DC15V,200mA				
Size (w * h * d)	135*70*25mm				

ATA-P5000 preamplifier low noise power supply (Option)

Supply voltage	AC110~240V, 50/60Hz	Fuse	0.5A/250V
Output voltage	DC15V	Operating temperature	0°C ~45°C
Maximum output current	200mA	Storage temperature	-20°C ~50°C
Output noise voltage	<50μVrms (10Hz to 20MHz)	Humidity	≤ 80%RH, no condensation

ATA-100 Series Power Amplifier



Main features

- Maximum output power 25Wp
- Bandwidth (-3dB) DC~5MHz
- BNC output connector

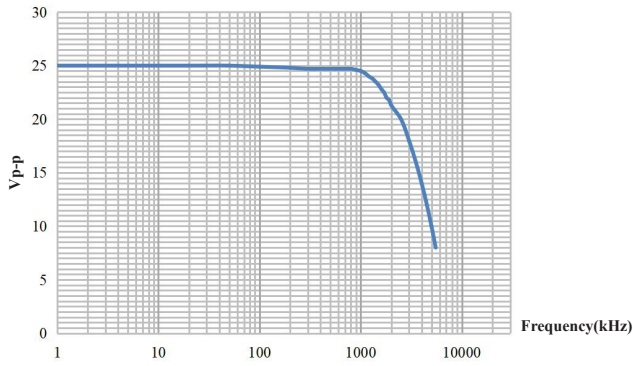
Applications

- Electronic experiments in universities and colleges
- MEMS
- Ultrasonic tests
- To drive the electromagnetic field

Technical Parameters

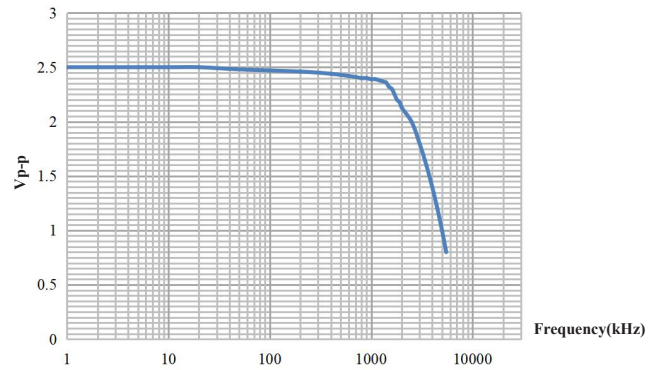
Model	ATA-101	ATA-103	ATA-105
Form of output	Single output	Single output	Single output
Bandwidth (-3dB)	DC~1MHz	DC~3MHz	DC~5MHz
Maximum output voltage	25Vp-p(±12.5Vp)	25Vp-p(±12.5Vp)	25Vp-p(±12.5Vp)
Maximum output current	1Ap (DC~50Hz)	1Ap (DC~50Hz)	1Ap (DC~50Hz)
	2Ap (>50Hz)	2Ap (>50Hz)	2Ap (>50Hz)
Maximum output power	25Wp	25Wp	25Wp
Fuse	2A/250V	2A/250V	2A/250V
Voltage gain	x1/x10 adjustable	x1/x10 adjustable	x1/x10 adjustable
Upper limit of load R_L	$\geq 12\Omega$ (DC~50Hz)	$\geq 12\Omega$ (DC~50Hz)	$\geq 12\Omega$ (DC~50Hz)
	$\geq 5.75\Omega$ (>50Hz)	$\geq 5.75\Omega$ (>50Hz)	$\geq 5.75\Omega$ (>50Hz)
Slew rate	$\geq 56V/\mu s$	$\geq 167V/\mu s$	$\geq 278V/\mu s$
Output resistance	0.5Ω/50Ω (customizable)		
Input resistance	50Ω / 1MΩ		
Input amplitude	0~10Vp-pMAX		
Output voltage error	$\leq \pm 3\%FS@1kHz$		
Total harmonic distortion (THD)	$\leq 0.5\%@1kHz, 25Vp-p$		
Zero-point drift of output voltage	$\leq \pm 0.2V$		
Signal-noise ratio(SNR)	$\geq 60dB$		
Output connector	BNC		
Protection	Overcurrent protection		
Signal ground	It is connected with the grounding of the shell and the power line		
Supply voltage	AC110~240V, 50/60Hz		
Operating temperature	0°C ~45°C		
Storage temperature	-20°C ~50°C		
Humidity	$\leq 80\%RH$, no condensation		
Size (w * h * d)	168*55*290mm		

ATA-101



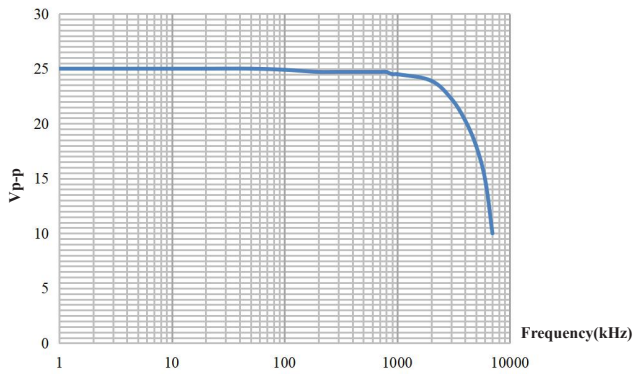
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-101



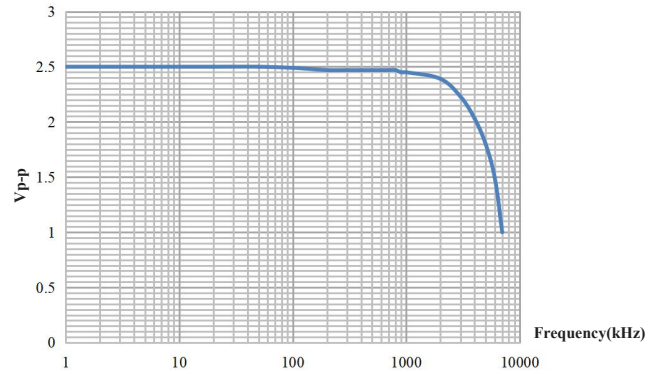
Small signal amplitude-frequency characteristic

ATA-103



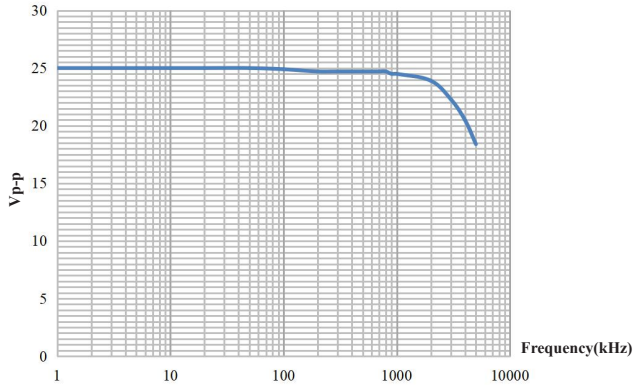
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-103



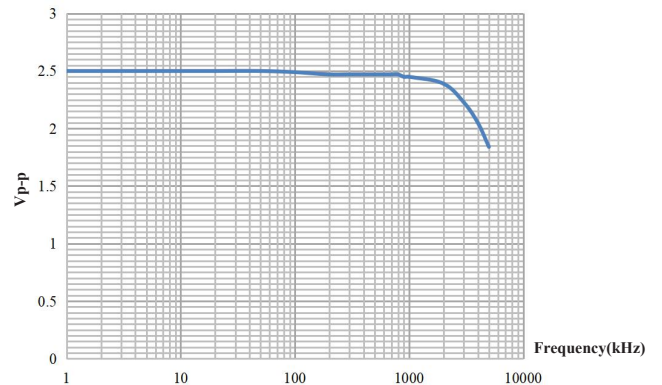
Small signal amplitude-frequency characteristic

ATA-105



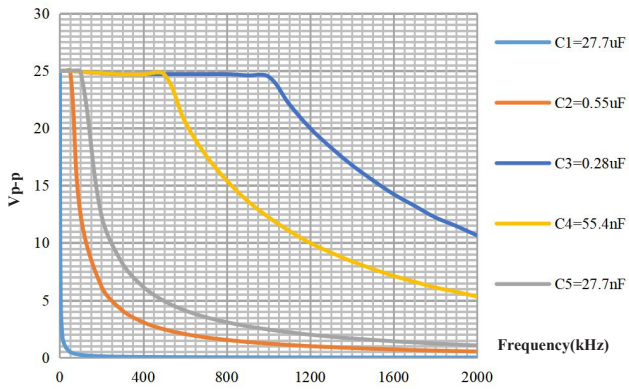
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-105



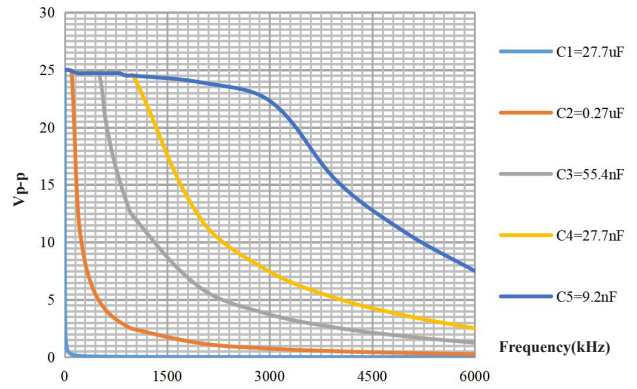
Small signal amplitude-frequency characteristic

ATA-101



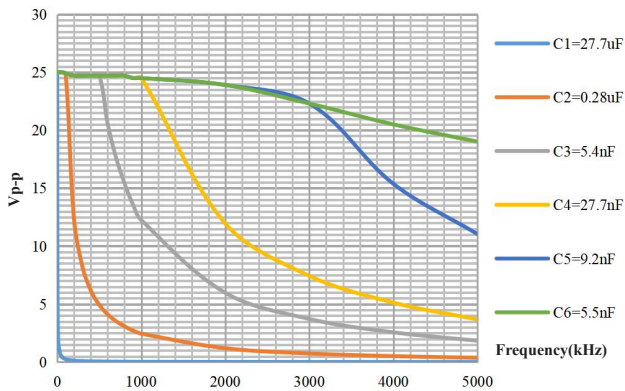
ATA-101 Capacitive loads curve

ATA-103



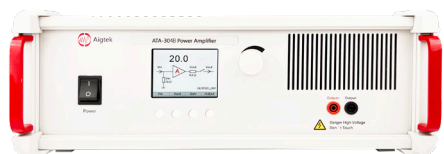
ATA-103 Capacitive loads curve

ATA-105



ATA-105 Capacitive loads curve

ATA-300 Series Power Amplifier



Main features

- Maximum output power 810Wp
- Bandwidth (-3dB) DC~30kHz
- Voltage gain numerically adjustment

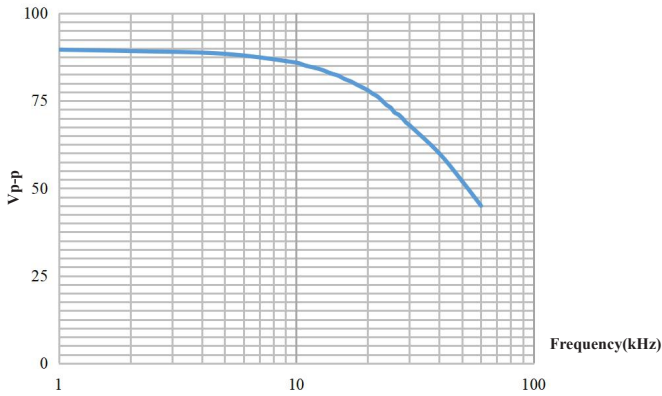
Applications

- Electronic experiments in universities and colleges
- MEMS
- Ultrasonic tests
- To drive the electromagnetic field

Technical Parameters

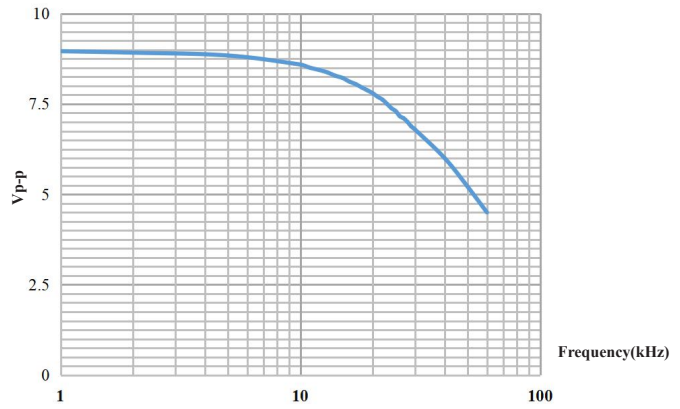
Model	ATA-304B	ATA-308	ATA-309B
Form of output	Single output	Differential output	Single output
Bandwidth (-3dB)	DC~30kHz	DC~30kHz	DC~30kHz
Maximum output voltage	90Vp-p (± 45 Vp)	180Vp-p (± 90 Vp)	90Vp-p (± 45 Vp)
Maximum output current	4Ap (DC~50Hz)	4Ap (DC~50Hz)	9Ap (DC~50Hz)
	8Ap (>50Hz)	8Ap (>50Hz)	18Ap (>50Hz)
Maximum output power	360Wp	720Wp	810Wp
Fuse	8A/250V	8A/250V	10A/250V
Voltage gain	x0~30 (0.1 step/1 step)	x0~60 (0.1 step/1 step)	x0~30 (0.1 step/1 step)
Upper limit of load R_L	$\geq 10.75\Omega$ (DC~50Hz)	$\geq 22\Omega$ (DC~50Hz)	$\geq 4.75\Omega$ (DC~50Hz)
	$\geq 5.13\Omega$ (>50Hz)	$\geq 10.75\Omega$ (>50Hz)	$\geq 2.25\Omega$ (>50Hz)
Slew rate	≥ 6 V/ μ s	≥ 12 V/ μ s	≥ 6 V/ μ s
Output resistance	0.5 Ω	0.5 Ω	0.25 Ω
Input resistance	50 Ω /10k Ω	5k Ω	50 Ω /10k Ω
Voltage monitor	50mV/V	/	50mV/V
Current monitor	200mV/A	/	200mV/A
Supply voltage	AC110~240V, 50/60Hz		
Input amplitude	0~10Vp-pMAX		
Output voltage error	$\leq \pm 3\%$ FS@1kHz		
Total harmonic distortion (THD)	$\leq 0.5\%$ @1kHz, 90Vp-p		
Zero-point drift of output voltage	$\leq \pm 0.3$ V		
Signal-noise ratio(SNR)	≥ 80 dB		
Output connector	4mm Banana socket		
Protection	Overcurrent protection		
Signal ground	It is connected with the grounding of the shell and the power line		
Operating temperature	0 $^{\circ}$ C ~45 $^{\circ}$ C		
Storage temperature	-20 $^{\circ}$ C ~50 $^{\circ}$ C		
Humidity	$\leq 80\%$ RH, no condensation		
Size (w * h * d)	440*163*470mm		

ATA-304B



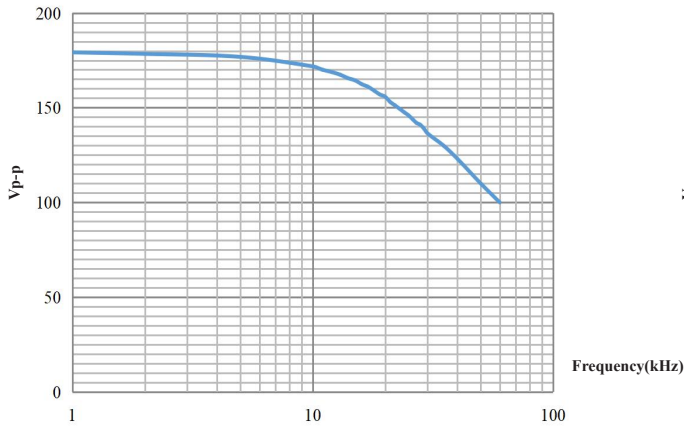
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-304B



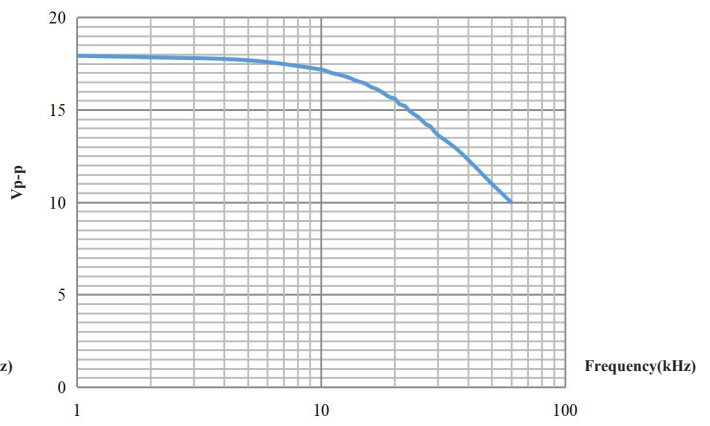
Small signal amplitude-frequency characteristic

ATA-308



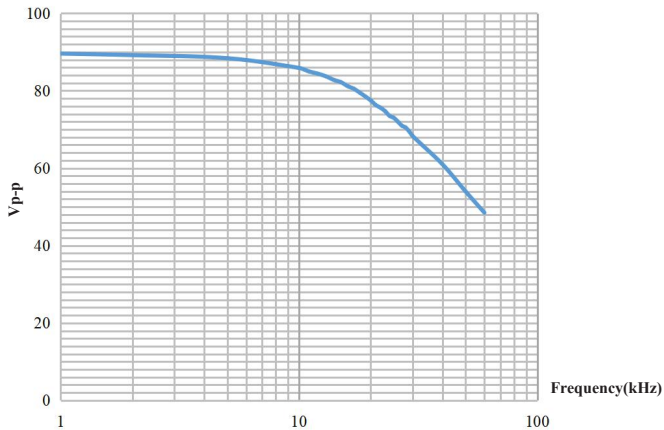
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-308



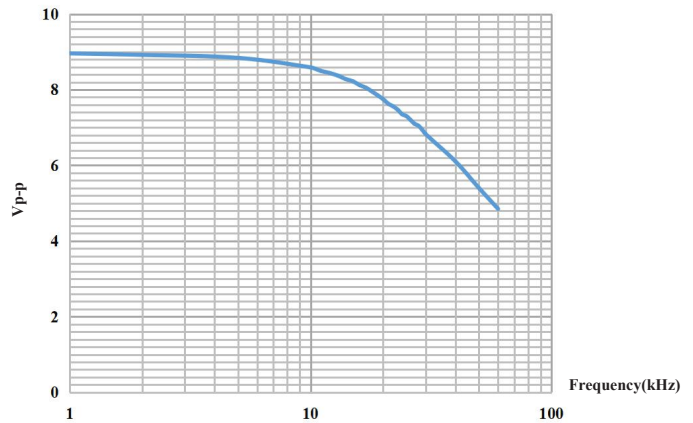
Small signal amplitude-frequency characteristic

ATA-309B



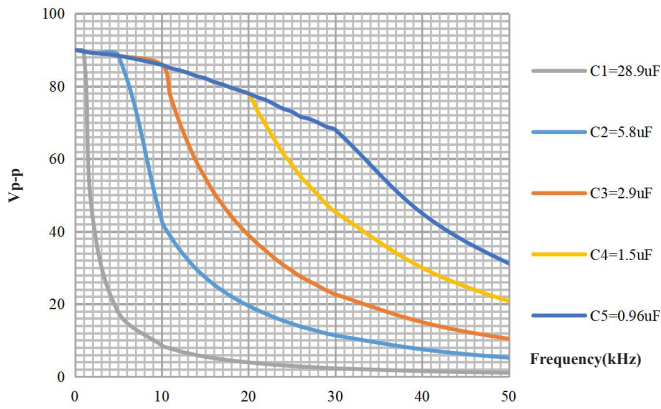
Amplitude-frequency characteristic
(Maximum output voltage V_{p-p})

ATA-309B



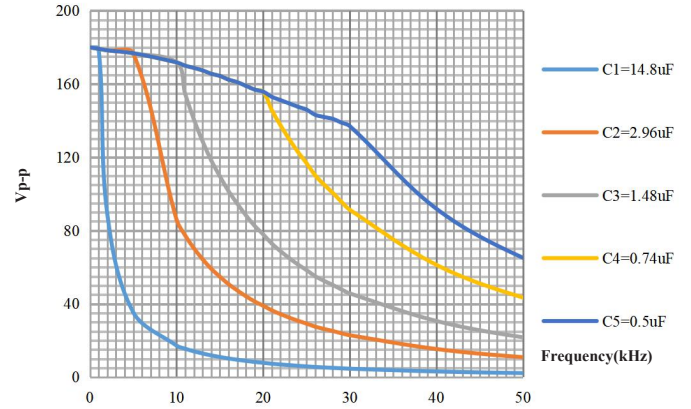
Small signal amplitude-frequency characteristic

ATA-304B



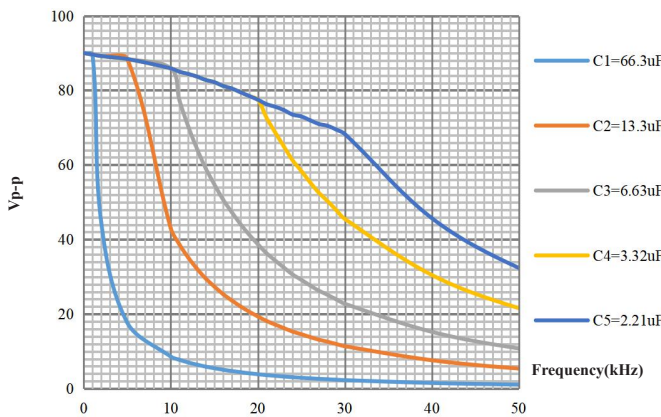
ATA-304B Capacitive loads curve

ATA-308



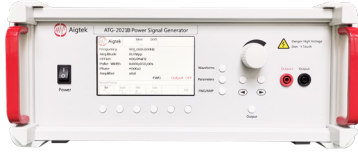
ATA-308 Capacitive loads curve

ATA-309B



ATA-309B Capacitive loads curve

Power Signal Generator Selection Guide



1.Waveform

Sine wave, square wave, triangle wave, pulse wave.

2.Bandwidth

It refers to the frequency at which the sine wave curve input signal attenuates to 70.7% of the true signal amplitude, that is -3dB point.

3.Amplitude

When selecting the power signal source, it is necessary to consider whether the output amplitude is sufficient or not, and the output amplitude will be attenuated to 70.7% at -3dB frequency point, so redundancy should be considered.

4.Current

According to the impedance of the measured load, the power signal source which can meet the current demand is selected.

5.Load

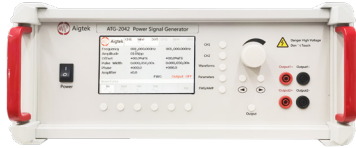
According to the test conditions of the tested load, verify whether the selected power signal source meets the requirements.

Note: The input signal of power signal source can be connected by internal or external devices, which provides a flexible and rich test environment for customers.

(1) The power signal source mode is used when the built-in access is adopted, and the waveform parameters can be directly output;

(2) The external access mode is amplifier mode. The signal is input from the 'input' port. The signal can be amplified by adjusting the "amplifier" magnification.

ATG-2000 Series Power Signal Generator



Main features

- Output sine wave, square wave, triangle wave, pulse wave
- Input signal can be built-in or external
- Output voltage up to 1600Vp-p ($\pm 800Vp$)
- Output current 500mA
- Bandwidth (-3dB) DC~1MHz

Applications

- Electronic experiments in universities and colleges
- MEMS
- Ultrasonic tests
- To drive the electromagnetic field

Technical Parameters

Model	ATG-2021B	ATG-2022B	ATG-2031	ATG-2032
Number of channels	1	2	1	2
Form of output	Single output		Single output	
Bandwidth (-3dB)	DC~1MHz		DC~500kHz	
Maximum output voltage	200Vp-p ($\pm 100Vp$)		300Vp-p ($\pm 150Vp$)	
Range of output voltage	Range1:+40V~-160V		/	
	Range2:+100V~-100V		/	
	Range3:+160V~-40V		/	
Maximum output current	250mA _p (DC~50Hz)		60mA _p (DC~50Hz)	
	500mA _p (>50Hz)		120mA _p (>50Hz)	
Maximum output power	50W _p		18W _p	
Fuse	2A/250V	5A/250V	2A/250V	
Voltage gain	x0~60 (1 step)		x0~50 (1 step)	
Upper limit of load R_L	$\geq 395\Omega$ (DC~50Hz)		$\geq 2.45k\Omega$ (DC~50Hz)	
	$\geq 195\Omega$ (>50Hz)		$\geq 1.2k\Omega$ (>50Hz)	
Output resistance	5 Ω /50 Ω (Customizable)		50 Ω /2.5k Ω (Customizable)	
Slew rate	$\geq 445V/\mu s$		$\geq 334V/\mu s$	
Input resistance	10k Ω		5 Ω	
Voltage monitor	20mV/V		100:1	
Current monitor	2V/A		/	
Supply voltage	AC110~240V, 50/60Hz			
Input amplitude	0~10Vp-pMAX			
Output voltage error	$\leq \pm 3\%FS@1kHz$			
Total harmonic distortion (THD)	$\leq 0.1\%@1kHz, 100Vp-p$			
Zero drift of output voltage	$\leq \pm 0.1V$			
Signal-noise ratio (SNR)	$\geq 80dB$			
Output connector	4mm banana connector			
Protection	Over current protection			

Signal ground	It is connected with the grounding of the shell and the power line			
Operating temperature:	0°C ~45°C			
Storage temperature:	-20°C ~50°C			
Humidity:	≤ 80% RH, no condensation			
Size (w * h * d)	365*163*365mm	440*163*470mm	365*163*365mm	365*163*365mm

Technical Parameters

Model	ATG-2041	ATG-2042	ATG-2081	ATG-2082	ATG-2161
Number of channels	1	2	1	2	1
Form of output	Single output		Single output		Differential output
Bandwidth (-3dB)	DC~500kHz		DC~200kHz		DC~150kHz
Maximum output voltage	400Vp-p (±200Vp)		800Vp-p (±400Vp)		1600Vp-p (±800Vp)
Maximum output current	50mA _p (DC~50Hz)		20mA _p (DC~50Hz)		20mA _p (DC~50Hz)
	100mA _p (>50Hz)		40mA _p (>50Hz)		40mA _p (>50Hz)
Maximum output power	20W _p		16W _p		32W _p
Voltage gain	x0~60 (1 step)		x0~120 (1 step)		x0~240 (1 step)
Upper limit of load R_L	≥ 3.95kΩ (DC~50Hz)		≥ 19.9kΩ (DC~50Hz)		≥ 39.8kΩ (DC~50Hz)
	≥ 1.95kΩ (>50Hz)		≥ 9.9kΩ (>50Hz)		≥ 19.8kΩ (>50Hz)
Output resistance	50Ω /2.5kΩ (Customizable)		100Ω /5kΩ (Customizable)		200Ω /10kΩ (Customizable)
Slew rate	≥ 445V/μs		≥ 356V/μs		≥ 534V/μs
Input resistance	5kΩ				
Input amplitude	0~10V _p -pMAX				
Output voltage error	≤ ±3%FS@1kHz				
Voltage monitor	100:1				
Total harmonic distortion (THD)	≤ 0.1%@1kHz,100V _p -p				
Zero-point drift of output voltage	≤ ±0.3V				
Signal-noise ratio(SNR)	≥ 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	AC110~240V, 50/60Hz				
Fuse	2A/250V				
Operating temperature	0°C ~45°C				
Storage temperature	-20°C ~50°C				
Humidity	≤ 80%RH, no condensation				
Size (w * h * d)	365*163*365mm				

ATG-3000 Series Power Signal Source



Main features

- Output sine wave, square wave, triangle wave, pulse wave
- Input signal can be built-in or external
- Maximum output power 810Wp
- Bandwidth (-3dB) DC~100kHz
- Voltage gain numerically adjustable

Applications

- Electronic experiments in universities and colleges
- MEMS
- Ultrasonic tests
- To drive the electromagnetic field

Technical Parameters

Model	ATG-3040B	ATG-3080	ATG-3090B
Form of output	Single output	Differential output	Single output
Bandwidth (-3dB)	DC~100kHz	DC~100kHz	DC~100kHz
Maximum output voltage	90Vp-p ($\pm 45Vp$)	180Vp-p ($\pm 90Vp$)	90Vp-p ($\pm 45Vp$)
Maximum output current	4Ap (DC~50Hz)	4Ap (DC~50Hz)	9Ap (DC~50Hz)
	8Ap (>50Hz)	8Ap (>50Hz)	18Ap (>50Hz)
Maximum output power	360Wp	720Wp	810Wp
Fuse	8A/250V	8A/250V	10A/250V
Voltage gain	x0~30 (1 step)	x0~60 (1 step)	x0~30 (1 step)
Upper limit of load RL	$\geq 10.75\Omega$ (DC~50Hz)	$\geq 22\Omega$ (DC~50Hz)	$\geq 4.75\Omega$ (DC~50Hz)
	$\geq 5.13\Omega$ (>50Hz)	$\geq 10.75\Omega$ (>50Hz)	$\geq 2.25\Omega$ (>50Hz)
Output resistance	0.5 Ω /50 Ω (Customizable)	0.5 Ω /100 Ω (Customizable)	0.25 Ω /50 Ω (Customizable)
Input resistance	10k Ω	5k Ω	10k Ω
Voltage monitor	50mV/V	/	50mV/V
Current monitor	200mV/A	/	200mV/A
Slew rate	$\geq 20V/\mu s$	$\geq 40V/\mu s$	$\geq 20V/\mu s$
Supply voltage		AC110~240V, 50/60Hz	
Input amplitude		0~10Vp-pMAX	
Output voltage error		$\leq \pm 3\%FS@1kHz$	
Total harmonic distortion (THD)		$\leq 0.1\%@1kHz, 90Vp-p$	
Zero-point drift of output voltage		$\leq \pm 0.3V$	
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		
Operating temperature		0 $^{\circ}C$ ~45 $^{\circ}C$	
Storage temperature		-20 $^{\circ}C$ ~50 $^{\circ}C$	
Humidity		$\leq 80\%RH$, no condensation	
Size (w * h * d)	440*163*470mm		

ATG-300 Series Power Signal Source



Main features

- Output sine wave, square wave, triangle wave, pulse wave
- Bandwidth (-3dB) DC~30kHz
- Input signal can be built-in or external

Applications

- Electronic experiments in universities and colleges
- MEMS
- Ultrasonic tests
- To drive the electromagnetic field

Technical Parameters

Model	ATG-304B	ATG-308	ATG-309B
Form of output	Single output	Differential output	Single output
Bandwidth (-3dB)	DC~30kHz	DC~30kHz	DC~30kHz
Maximum output voltage	90Vp-p (± 45 Vp)	180Vp-p (± 90 Vp)	90Vp-p (± 45 Vp)
Maximum output current	4Ap (DC~50Hz)	4Ap (DC~50Hz)	9Ap (DC~50Hz)
	8Ap (>50Hz)	8Ap (>50Hz)	18Ap (>50Hz)
Maximum output power	360Wp	720Wp	810Wp
Fuse	8A/250V	8A/250V	10A/250V
Voltage gain	x0~30 (1 step)	x0~60 (1 step)	x0~30 (1 step)
Upper limit of load R_L	$\geq 10.75\Omega$ (DC~50Hz)	$\geq 22\Omega$ (DC~50Hz)	$\geq 4.75\Omega$ (DC~50Hz)
	$\geq 5.13\Omega$ (>50Hz)	$\geq 10.75\Omega$ (>50Hz)	$\geq 2.25\Omega$ (>50Hz)
Output resistance	0.5 Ω	0.5 Ω	0.25 Ω
Input resistance	10k Ω	5k Ω	10k Ω
Slew rate	≥ 6 V/ μ s	≥ 12 V/ μ s	≥ 6 V/ μ s
Voltage monitor	50mV/V	/	50mV/V
Current monitor	200mV/A	/	200mV/A
Supply voltage	AC110~240V, 50/60Hz		
Input amplitude	0~10Vp-pMAX		
Output voltage error	$\leq \pm 3\%$ FS@1kHz		
Total harmonic distortion(THD)	$\leq 0.5\%$ @1kHz,90Vp-p		
Zero-point drift of output voltage	$\leq \pm 0.3$ V		
Signal-noise ratio(SNR)	≥ 80 dB		
Output connector	4mm Banana socket		
Protection	Overcurrent protection		
Signal ground	It is connected with the grounding of the shell and the power line		
Operating temperature	0 $^{\circ}$ C ~45 $^{\circ}$ C		
Storage temperature	-20 $^{\circ}$ C ~50 $^{\circ}$ C		
Humidity	$\leq 80\%$ RH, no condensation		
Size (w * h * d)	440*163*470mm		

Partners



Peking University



Tsinghua University



Sun Yat-sen University



Xi'an Jiaotong University



Northwest Polytechnic University



Xi'an University of Technology



Tianjin University



Xiamen University



Chongqing University



Institute of acoustics,
Chinese Academy of Sciences



Institute of Semiconductors, CAS



SINANO Chinese Academy of Sciences



CNPC Logging



China Shipbuilding Heavy Industry



CETC China Electronics Technology Group



Institute of High Energy Physics



AVIC



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Relies on the well-known scientific research institutions of Xi'an Jiaotong University and Northwest Polytechnic University, Aigtek has formed a professional R&D team who are with international advanced technology, and has obtained 97 patents and software copyrights. Our experienced senior engineers can complete the development and production of various test equipment and test systems. Every valued customer can enjoy the services of prototype trial use, technical training etc.

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