

ATA-5000 Series Preamplifier

Small signal amplification

Ultra low noise power supply

High gain



Applications

Used for infrared sensor detection

Used for detecting weak magnetic field sensor

Used for optical detection of phototransistors

Introduction

ATA-5000 series is a preamplifier for extremely tiny signal detection, powered by ultra-low noise power supply and with high gain. There are several models based on frequency band, gain, and input impedance.

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	Less than $0.7nV/\sqrt{Hz}$ (1kHz) 0.5nV/ \sqrt{Hz} typ (1k~1MHz)	Less than $1.7nV/\sqrt{Hz}$ (1kHz) 1.5nV/ \sqrt{Hz} typ (1k~1MHz)	Less than $0.7nV/\sqrt{Hz}$ (100kHz) 0.5nV/ \sqrt{Hz} typ (10k~1MHz)	Less than $1.7nV/\sqrt{Hz}$ (100kHz) 1.5nV/ \sqrt{Hz} typ (10k~1MHz)	Less than $1.2nV/\sqrt{Hz}$ (100kHz) 0.9nV/ \sqrt{Hz} typ (10k~1MHz)
Input conversion Noise current	7pA/ \sqrt{Hz} typ (10kHz)	13pA/ \sqrt{Hz} typ (10kHz)	7pA/ \sqrt{Hz} typ (10kHz)	13pA/ \sqrt{Hz} typ (10kHz)	7pA/ \sqrt{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)	150*75*250mm				

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	Less than $1.9\text{nV}/\sqrt{\text{Hz}}$ (100kHz) $1.2\text{nV}/\sqrt{\text{Hz}}$ typ (10k~1MHz)	Less than $1.2\text{nV}/\sqrt{\text{Hz}}$ (100kHz) $0.9\text{nV}/\sqrt{\text{Hz}}$ typ (10k~1MHz)	Less than $1.9\text{nV}/\sqrt{\text{Hz}}$ (100kHz) $1.2\text{nV}/\sqrt{\text{Hz}}$ typ (10k~1MHz)	Less than 1.2 $\text{nV}/\sqrt{\text{Hz}}$ (100kHz) $0.9\text{nV}/\sqrt{\text{Hz}}$ typ (10k~1MHz)	Less than $1.9\text{nV}/\sqrt{\text{Hz}}$ (100kHz) $1.2\text{nV}/\sqrt{\text{Hz}}$ typ (10k~1MHz)
Input conversion Noise current	$13\text{pA}/\sqrt{\text{Hz}}$ typ (10kHz)	$7\text{pA}/\sqrt{\text{Hz}}$ typ (10kHz)	$13\text{pA}/\sqrt{\text{Hz}}$ typ (10kHz)	$7\text{pA}/\sqrt{\text{Hz}}$ typ (10kHz)	$13\text{pA}/\sqrt{\text{Hz}}$ 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
Size (W * H * D)	150*75*250mm				

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