Compact module

High Speed and High Voltage Amplifier Module

AS series is a fast response high voltage operational amplifier module. Matsusada's long experience and expertise in HVPS field has made this high precision, high reliable product possible in the market.
AP series provides 250Hz to 2kHz, and produces high voltage output in sine waves, triangle waves, saw tooth waves and square waves proportional to the input wave type. 10 different models are available in this series. We also take a custom orders according to your requirements.

Compact and high performance module

FEATURES

1. Wide Output Range
The wide lineup by frequency, output voltage and output polarity will enable users to select the best suitable model for various application among 10 different models.

2. Fast Responsibility Maximum 30kHz
AS series achieved the higher speed and wider bandwidth of maximum 30kHz. 5 time faster than AP series.

3. Desired output waveform reference to input waveform.
External control voltage to BNC input terminal on front panel, -10V to +10V, controls the high voltage output with desired waveform.

4. Compact module type
The compact size is ideal for developing compact products and systems as integrated module. The encapsulation molding which is well resistive to moisture, dust, vibration or impact gain the reliability of the product.

5. 24V input voltage
Simple operation with only 24V input voltage and -10V to +10V control voltage.

6. High reliability
With Matsusada's unique technology and know-how developed by HV DCPS technologies, we provide highly reliable and safe products.

7. All-Solid-State
Longer life time with all-solid-state configuration.

APPLICATIONS

- Beam deflection
- Insulation and breakdown voltage test
- Electro photography process
- Various Electrostatic tests
- Corona discharge
- Electrostatic chuck
- Electro viscosity fluid

LINEUP

AP series

Output voltage (Vdc)	Current (mA)	MODEL	Frequency Response(-3dB)*1	Case No.
-300 to +300	10	AP-0.3B10(A)	DC to 2kHz	C6A
-600 to +600	5	AP-0.6B5(A)		
-1k to +1k	3	AP-1B3(A)	DC to 1kHz	C6E
-1.5k to +1.5k	2	AP-1.5B2(A)	DC to 500Hz	
-3k to +3k	1	AP-3B1(A)	DC to 250Hz	C7

*1 Response time remains same for small amplitude

AS series

Output voltage (Vdc)	Current (mA)	MODEL	Frequency Response(-3dB)*2		Slew Rate (full scale)	Case No.
			full scale	10% of full scale		
-300 to +300	10	AS-0.3B10(A)	DC to 12kHz	DC to 24kHz	12V / µs	C6A
-600 to +600	5	AS-0.6B5(A)	DC to 6kHz	DC to 12kHz		
-1k to +1k	3	AS-1B3(A)	DC to 3.5kHz	DC to 7kHz		C6E
	5	AS-1B5(A)				C7
-1.5k to +1.5k	2	AS-1.5B2(A)	DC to 2.5kHz	DC to 5kHz		C6E
-3k to +3k	1	AS-3B1(A)	DC to 1.5kHz	DC to 3kHz		C7

*2 Reference value calculated from slew rate 12V / µsec

SPECIFICATIONS

Input voltage	24Vdc ±5% 0.6A typ. (AS-1B5(A) : 0.8A typ.)
Output voltage control	External control voltage Vcon-in -10V to +10V *1 (input impedance : ≧10kΩ)
Regulation	Line: ±0.1%(±5% line change) Load: 0.1%(10% to 100% load change) *2
Ripple	≦0.025% rms *2
Stability	0.016% / Hr typ. *2
Protection	Protection against Input reverse connection, and intermittent output short circuit *3
Output voltage monitor	

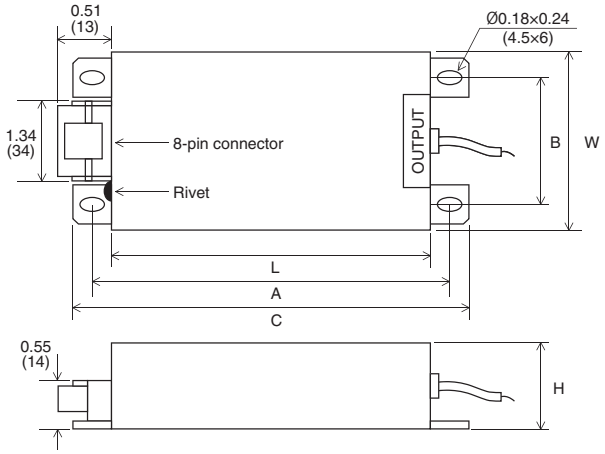
Output Voltage (kV)	0.3 -0.3 to +0.3	0.6 -0.6 to +0.6	1 -1 to +1	1.5 -1.5 to +1.5	3 -3 to +3
monitor / V-out	1V / 100V	1V / 1 kV			

Please use the voltage meter which input impedance is ≧10MΩ. (Accuracy : ±2.5% / Full scale)

Operating Temp.	0°C to +45°C
Storage Temp.	-20°C to +60°C
Humidity	20 to 80%RH(no condensation)
Input terminals	8-pin connector Mating connector and pins are assorted (Recommendations : wire for pin ①, ②are AWG18 wire for pin ③ to ⑧are AWG22 to 18)
Output terminals	High Voltage lead wire 500mm

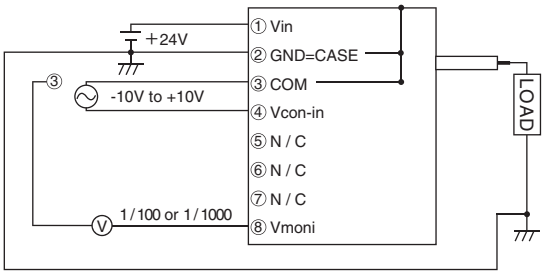
*1) Offset voltage : within 0.5% of rated output at Vcon-in = 0V
*2) Value at maximum rated output with resistive load and DC output.
*3) Single are shall be within 5sec and not to be repeated.
Frequent short shall shorten the life time and to be avoided.
★ No instruction manuals for module type power supply

DIMENSIONS inch(mm)



Case No.	Mounting hole pitch A	Mounting hole pitch B	C	W	L	H	Weight(g) approx.
C6A	6.69 (170)	2.76 (70)	7.09 (180)	3.94 (100)	6.30 (160)	1.50 (38)	1400
C6E	7.68 (195)	3.54 (90)	8.07 (205)	4.72 (120)	7.28 (185)	1.69 (43)	2100
C7	7.68 (195)	4.80 (122)	8.07 (205)	5.98 (152)	7.28 (185)	1.69 (43)	2600

CONNECTION



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Customer Inquiry Sheet

Please copy this page and above fax number after filling out form below.

■ I would like

☐ A quotation ☐ An explanation of product ☐ A demonstration ☐ To purchase

☐ Other ( )

■ Give us your requirement / comment

■ Please fill in below.

Address:	
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Dept.:	Title:
Name:	
Tel:	Fax:
E-mail:	

Warranty

We warrant that products contained in this catalog (hereinafter, the “Products”) are free from defects in material and workmanship under normal use for a period of one (1) year from the date of shipment thereof. However, the warranty period for X-ray detectors and X-ray source shall be either one (1) year from the date of shipment or 1,000 hours, whichever shorter.The above warranty shall not apply to any Product which, at our sole judgment, has been:i)Repaired or altered by persons unauthorized by us; or ii)Connected, installed, adjusted or used otherwise than in accordance with the instructions furnished by us (including being used in an inappropriate installation environment, such as in corrosive gas, high temperature and humidity). We are not liable for any loss, damage or failure of the Products after the shipment thereof caused by external factors such as disasters.If any Product is showed to be defective as satisfactory to us, we, at our sole discretion, repair or replace such defective Products at no cost to the purchaser.We assume no liability to the purchaser or any third party for special, incidental, consequential, or other damages resulting from a breach of the foregoing warranty. This warranty excludes any and all other warranties not set forth herein, express or implied, including without limitation the implied warranties of merchantability or fitness for a particular purpose. The Products are not designed and produced for such applications as requiring extremely high reliability and safety, or involving human lives (such as nuclear power, aerospace, social infrastructure facility, medical equipment, etc.). The use under such environment is not covered by this warranty and may require additional design and manufacturing processes. Regarding RoHS compliance, Matsusada Precision Inc. does not intentionally use objectionable substances in the products listed within this catalog. Matsusada Precision Inc. manufactures products using components which, according to our suppliers, are “RoHS compliant parts”. However, Matsusada Precision does not analyze each and every unit to confirm. Therefore, there may be some customized products which do not comply to RoHS. Please contact your nearby sales office for confirmation.

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