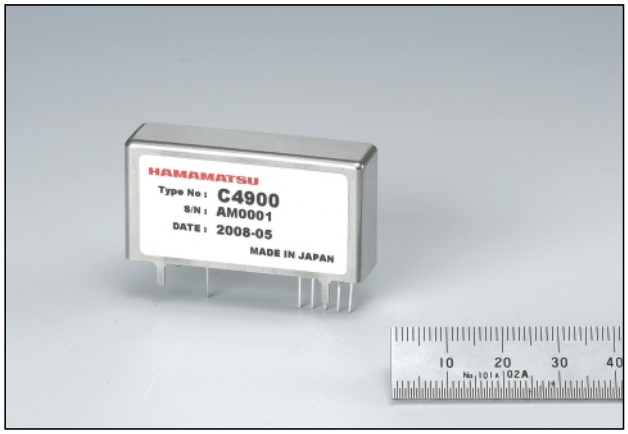
HAMAMATSU

PHOTON IS OUR BUSINESS

COMPACT HIGH VOLTAGE POWER SUPPLY
C4900 SERIES

The C4900 series is an on-board type high voltage power supply, with a design that aims at providing both "compactness and high performance".
The newly developed circuit achieves high performance and low power consumption. The C4900 series in addition provides enhanced protective functions yet is offered at lower costs.
The C4900 and -01 are designed for negative output, while the C4900-50 and -51 have positive output.



CE

FEATURES

- **Low Ripple / Noise**
- **Very compact and lightweight**
- **High stability**
- **Low power consumption**
- **Quick response**
- **Ample protective functions**

SPECIFICATIONS

Parameter			C4900	C4900-01	C4900-50	C4900-51	Unit
Input Voltage Range			+15 ± 1	+12 ± 0.5	+15 ± 1	+12 ± 0.5	V
Input Current Ⓐ	with no load	Typ.	14	15	14	15	mA
	with full load	Typ.	90	95	90	95	
Variable Output Voltage Range			0 to -1250		0 to +1250		V
Specification Guaranteed Output Voltage Range			-200 to -1250		+200 to +1250		V
Output Current		Max.	0.6	0.5	0.6	0.5	mA
Line Regulation Against ±1 V or ±0.5 V Input Change ⒶⒷ		Typ.	±0.01				%
Load Regulation Against 0 % to 100 % Load Change Ⓐ		Typ.	±0.01				%
Ripple / Noise (p-p) ⒶⒷ		Typ.	0.003				%
Output Voltage Control			By external controlling voltage (0 V to +5 V) or external potentiometer (50 kΩ ±2.5 kΩ)				—
Controlling Voltage Input Impedance		Typ.	80				kΩ
Reference Voltage Output		Typ.	+5.13 (with 50 kΩ external potentiometer)				V
Output Voltage Setting (Absolute Value)		Typ.	[(Controlling Voltage × 250) ± 0.5 %] ± 3				V
Output Voltage Rise Time (0 % → 99 %) ⒶⒷ		Typ.	50				ms
Temperature Coefficient ⒶⒷ		Typ.	±0.01				% / °C
Operating Ambient Temperature ⒶⒷ			0 to +50				°C
Operating Ambient Humidity Ⓒ			Below 80 %		Below 80 % Ⓓ		—
Storage Temperature			-20 to +70				°C
Storage Humidity Ⓒ			Below 80 %				—
Weight			31				g
Protective Functions			Units protected against reversed power input, reversed / excessive controlling voltage input, continuous overloading / short circuit in output				—

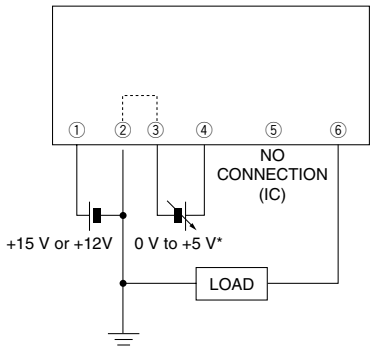
NOTE: ⒶAt maximum output voltage. ⒷAt maximum output current. ⒸNo condensation.
ⒹAt 0 °C to +40 °C. Please contact our sales office if the operating ambient temperature is expected to be higher than +40 °C.

Subject to local technical requirements and regulations, availability of products included in this promotional material may vary. Please consult with our sales office.
Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein. ©2012 Hamamatsu Photonics K.K.

COMPACT HIGH VOLTAGE POWER SUPPLY C4900 SERIES

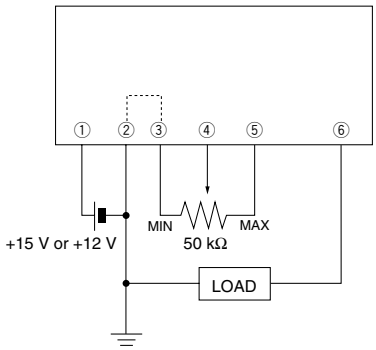
Figure 1: Connection Diagrams

● **OUTPUT VOLTAGE CONTROL BY EXTERNAL VOLTAGE**



*The instability in the external controlling voltage should be minimised as it directly affects the output voltage quality.

● **OUTPUT VOLTAGE CONTROL BY EXTERNAL POTENTIOMETER**



PIN ASSIGNMENT

① +15 V or +12 V IN
② GND 1 (Input/Output GND)
③ GND 2 (Controlling Voltage GND)
④ HV ADJ (Controlling Voltage Input)
⑤ Vref OUT (Reference Voltage Output: 5.13V Typ.)
⑥ HV OUT

- The housing is internally connected to pin ②.
- Pins ② and ③ are internally connected.

TACCC0049ED

Figure 2: Output Voltage Controlling Characteristic

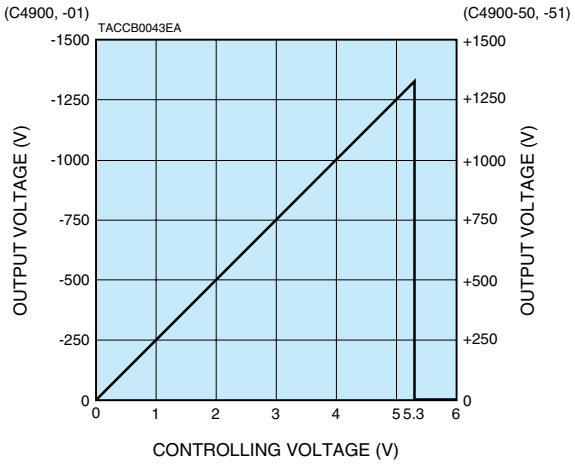
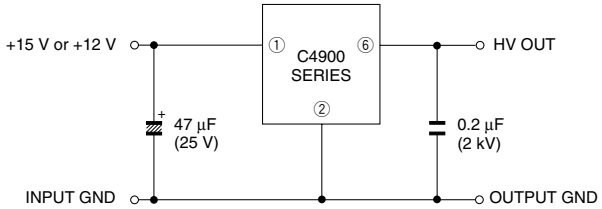


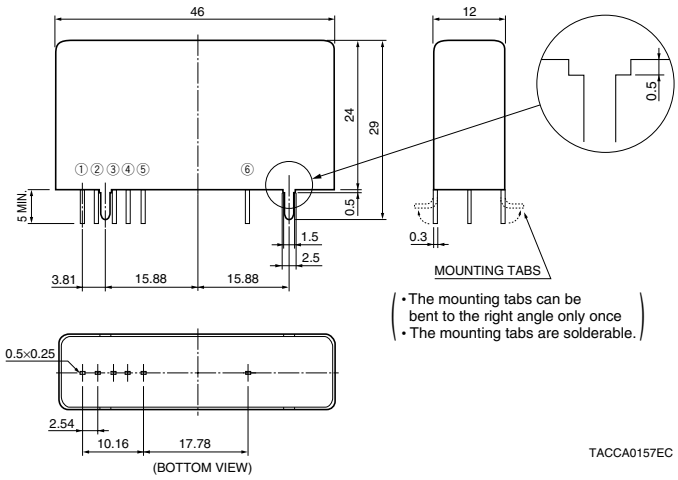
Figure 3: Example of Ripple / Noise Reduction Circuit



* The ripple / noise can be halved by adding capacitors as illustrated above.

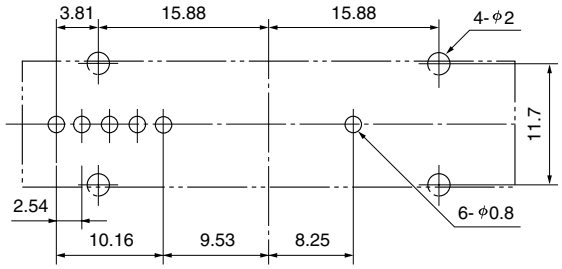
TACCC0099EB

Figure 4: Dimensional Outline (Unit: mm)



TACCA0157EC

Drilling Data for PC Board (Soldering Face)



TACCA0159EB

* PATENT: USA No.5548502, 5568343 JAPAN: No.2758552, 2784136 EUROPE: No.641066, 649222

HAMAMATSU PHOTONICS K.K. www.hamamatsu.com

HAMAMATSU PHOTONICS K.K., Electron Tube Division
314-5, Shimokanzo, Iwata City, Shizuoka Pref., 438-0193, Japan, Telephone: (81)539/62-5248, Fax: (81)539/62-2205

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, P. O. Box 6910, Bridgewater. N.J. 08807-0910, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218 E-mail: usa@hamamatsu.com
Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-2658 E-mail: info@hamamatsu.de
France: Hamamatsu Photonics France S.A.R.L.: 19, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: (33)1 69 53 71 00, Fax: (33)1 69 53 71 10 E-mail: infos@hamamatsu.fr
United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road Welwyn Garden City Hertfordshire AL7 1BW, United Kingdom, Telephone: 44-(0)1707-294888, Fax: 44(0)1707-325777 E-mail: info@hamamatsu.co.uk
North Europe: Hamamatsu Photonics Norden AB: Smidesvägen 12, SE-171-41 SOLNA, Sweden, Telephone: (46)8-509-031-00, Fax: (46)8-509-031-01 E-mail: info@hamamatsu.se
Italy: Hamamatsu Photonics Italia: S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39)02-935 81 733, Fax: (39)02-935 81 741 E-mail: info@hamamatsu.it
China: HAMAMATSU PHOTONICS (CHINA) Co., Ltd.: 1201 Tower B, Jiaming Center, No.27 Dongsanhuan Beilu, Chaoyang District, Beijing 100020, China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2866 E-mail: hpc@hamamatsu.com.cn

TACC1013E05
JUN. 2012 IP