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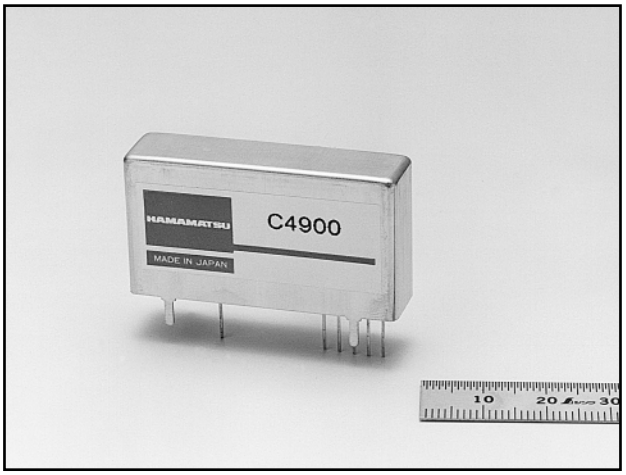
HIGH VOLTAGE POWER SUPPLY UNIT C4900 SERIES

PATENT

The C4900 series are compact PC–board mountable high voltage power supplies, especially designed for photomultiplier tubes. The design offers better performance and improved fail–safe protection.
The C4900 and–01 output negative polarity and the C4900–50 and –51 output positive polarity high voltages.

FEATURES

- Compact and Lightweight
- High stability
- Low Power Consumption
- Fast Response
- Wide Variable Output Range
- Ample Protective and Fail–safe 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	14	15	14	15	mA (Typ.)
	with full load	90	95	90	95	
Variable Output Range		0 to –1250		0 to +1250		V
Specification Guaranteed Output Voltage Range		–200 to –1250		+200 to +1250		V
Output Current ⓑ		0.6	0.5	0.6	0.5	mA (Max.)
Line Regulation against ±1 V or 0.5 V Change ⓑ		± 0.01				% (Typ.)
Load Regulation against 0 % to 100 % Load Change ⓐ		± 0.01				% (Typ.)
Ripple / Noise (p-p) ⓑ		0.007				% (Typ.)
Output Voltage Controlling Modes		By external controlling voltage (0 V to +5 V) or external potentiometer (50 kΩ ± 2.5 kΩ)				–
Controlling Voltage Input Impedance		80				kΩ (Typ.)
Reference Voltage Output		+5.13 (with 50 kΩ external potetiometer)				V (Typ.)
Output Voltage Setting (Absolute value)		(Controlling voltage × 250) ± 0.5 %				V (Typ.)
Output Voltage Rise Time (0 %→99 %) ⓑ		50				ms (Typ.)
Temperature Coefficient ⓑ		± 0.01				%/°C (Typ.)
Operating Temperature Range ⓑ		0 to +50				°C
Storage Temperature Range		-20 to +70				°C
Dimensions (W × H × D)		46 × 24 × 12				mm
Weight		31				g
Protective Functions		Units protected against reversed power input, reversed/excessive controlling voltage input, continuous overloading/short circuit in output				–

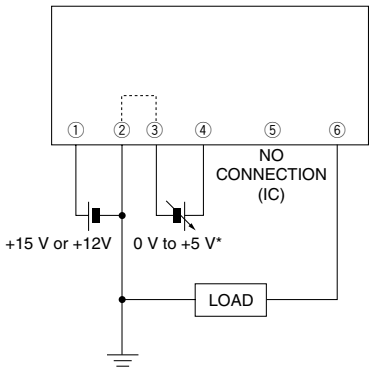
ⓐ At Maximum Output Voltage. ⓑ At Maximum Output Voltage and Current.

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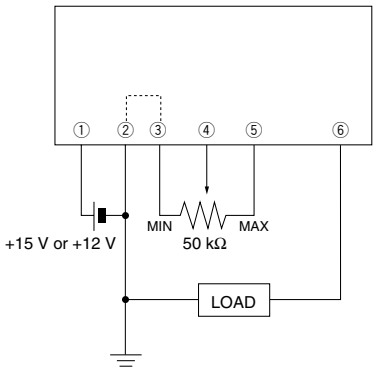
Figure 1: Output Voltage Controlling

BY EXTERNAL VOLTAGE



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

● 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.

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Figure 2: Output Voltage Controlling Characteristic

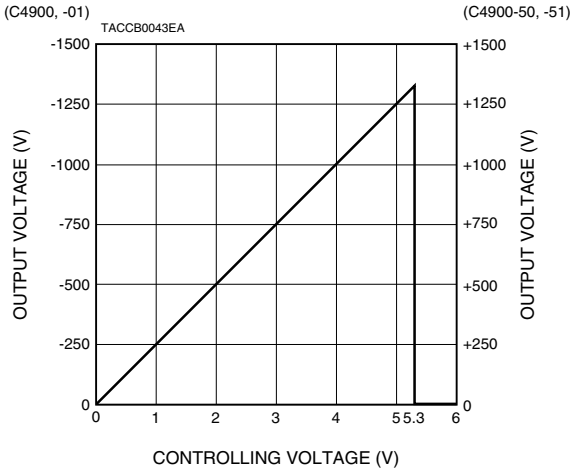
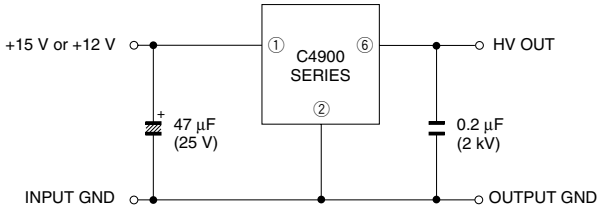


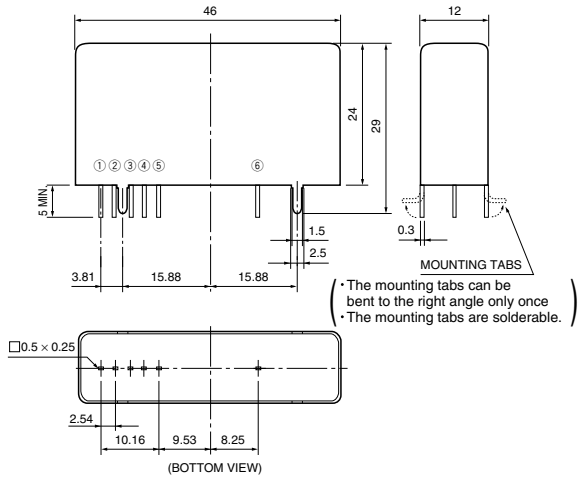
Figure 3: Example of Ripple/Noise Reduction Circuit



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

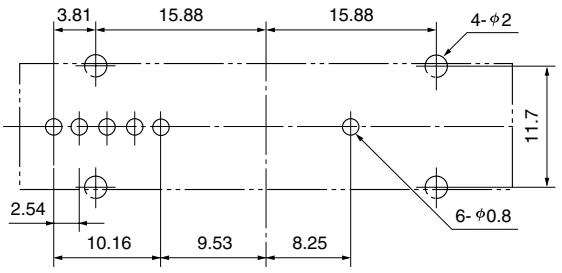
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Figure 4: Dimensional Outline (Unit: mm)



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Drilling Data for PC Board (Soldering Face)



TACCA0159EB

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

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