

HAMAMATSU

PRELIMINARY DATA

HIGH VOLTAGE POWER SUPPLY SOCKET ASSEMBLY WITH WIDE BANDWIDTH AMPLIFIER (DAP-TYPE) C7950 SERIES

The C7950 series is a DAP type socket assembly designed for 28 mm (1-1/8") diameter, head-on and side-on photomultiplier tubes (PMT). The C7950 series socket assembly incorporates a regulated high voltage power supply, an active voltage divider and a current-to-voltage conversion circuit, along with an amplifier having a wide bandwidth (0 Hz to 5 MHz).

The C7950 series converts the small-current high-impedance output of the PMT into a low-impedance voltage output with a conversion factor of 0.3 V/ μ A. The C7950 series enables simple yet stable PMT operations by supplying ± 15 V and connecting to control voltage (0 V to +3.6 V) for high voltage adjustments.

FEATURES

- Wide Frequency Bandwidth
- Fast High Voltage Programming Response
- Wide High Voltage Output Range
- Compact and Lightweight

SPECIFICATIONS

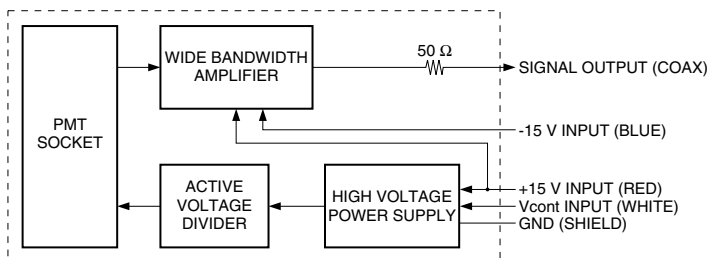
GENERAL

Parameter		C7950	C7950-01	Unit
Applicable Photomultiplier Tube		28 mm dia. Side-On Type	28 mm dia. Head-On Type (R5929, R6094 etc.)	—
Type of Voltage Divider		Active		—
Input Voltage Range		+14 to +16 / -14 to -16		V
Max. Input Voltage		+18 / -18		V
Input Current	+15 V	Typ. 60	65	mA
	-15 V	Typ. 20		mA
Output Voltage		0 to -900		V
Maximum Input Signal Current (at 13 V output)		43		μ A
Line Regulation Against Input Change		Typ. ± 0.03		%
HV Ripple Noise (peak to peak)		Typ. 0.03		%
Control Voltage / Output Voltage Ratio		1: -250		—
Output Voltage Control (External Controlling Voltage)		Typ. 0 to +3.6		V
Settling Time ^(A)	Vcont: 3.6 V to 1.6 V	Typ. 300		ms
	Vcont: 1.6 V to 3.6 V	Typ. 80		ms
Frequency Bandwidth (-3 dB)		0 Hz to 5 MHz		—
Current to Voltage Conversion Factor		0.3		V/ μ A
Maximum Output Voltage (with no load resistor at 5 MHz)		13		V p
Output Impedance		50		Ω
Offset Voltage		Typ. ± 10		mV
Output Noise Voltage (with no load resistor)		Typ. 8		mV rms
Operating Ambient Temperature ^(B)		0 to +40		$^{\circ}$ C
Storage Temperature ^(B)		-15 to +60		$^{\circ}$ C
Weight		60		g

NOTE: (A) To be shown with the time period of setting to stable high voltage from changing control voltage (V cont).

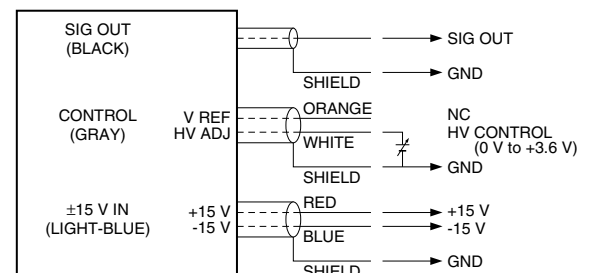
(B) No condensation

Figure 1: Schematic Diagram



* Cannot control HV output by a potentiometer.

Figure 2: Wire Connection



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HIGH VOLTAGE POWER SUPPLY SOCKET ASSEMBLY WITH WIDE BAND AMPLIFIER C7950 SERIES

Figure 3: Voltage Controlling Characteristics

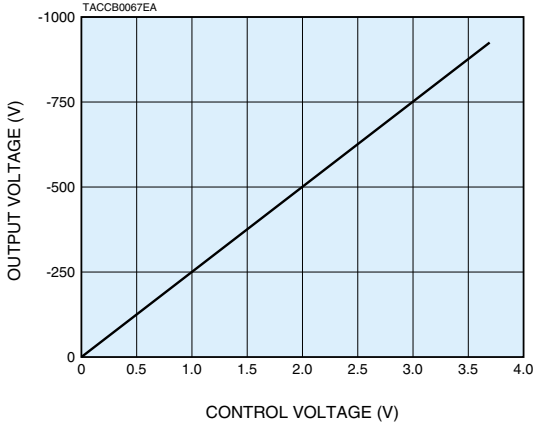


Figure 4: Frequency Response of Built-in Amplifier

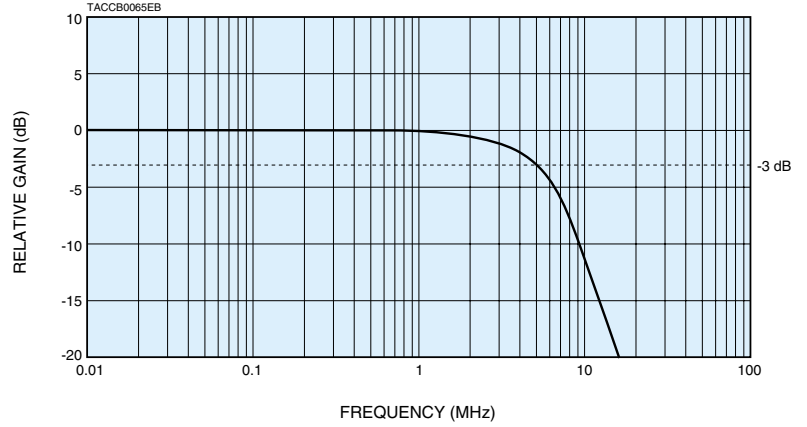
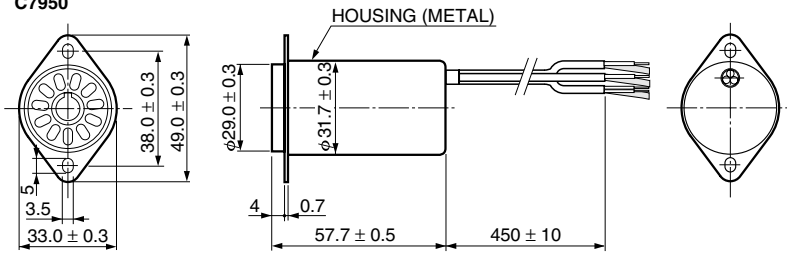
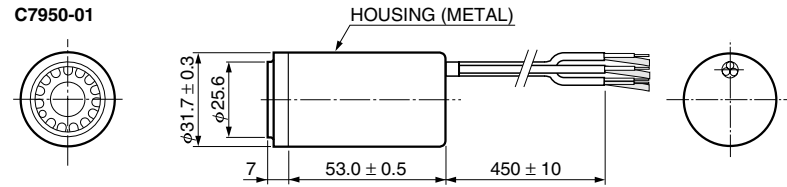


Figure 5: Dimensional Outline (Unit: mm)

C7950



C7950-01



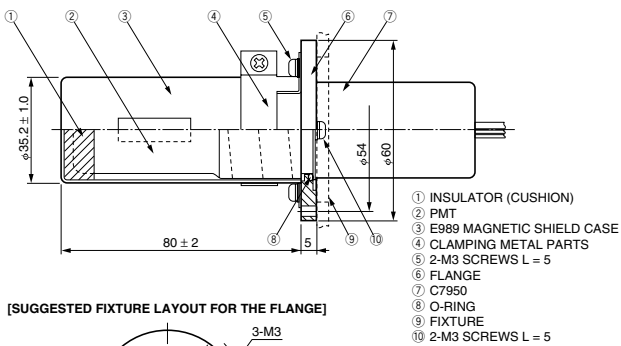
COAX RG-174/U	BLACK	SIGNAL OUTPUT	CLEAR
		GND	SHIELD
		Vcont	WHITE
SHIELDED CABLE (COVERING TWISTED PAIR)	GRAY	NO CONNECTION	ORANGE
		GND	SHIELD
		+15 V	RED
		-15 V	BLUE
SHIELDED CABLE (COVERING TWISTED PAIR)	LIGHT BLUE	GND	SHIELD

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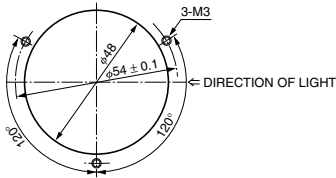
ACCESSORIES (Unit: mm) SOLD SEPARATELY

●Flange A7709

[Including part ①, ④, ⑤, ⑥, ⑧ and ⑩]



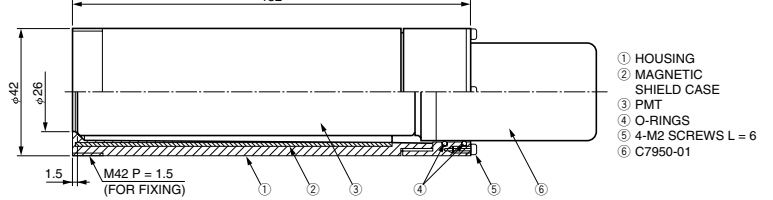
[SUGGESTED FIXTURE LAYOUT FOR THE FLANGE]



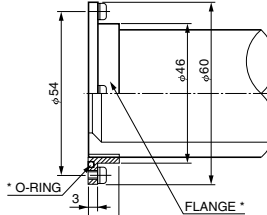
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●Housing E7718

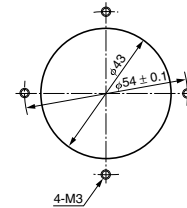
[Including part ①, ②, ④ and ⑤]



[HOW TO USE THE HOUSING WITH FLANGE]



[SUGGESTED FIXTURE LAYOUT FOR THE FLANGE]



* THE FLANGE AND O-RING ARE AVAILABLE TO SOLD SEPARATELY AS P/N; A7719.

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HAMAMATSU

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NOV. 2005 IP