

The output signal from a photomultiplier tube can be directly input to the C6438-02 and it provides a voltage output signal with 50 Ω load at a conversion factor of 5 mV/μA.

The C6438-02 has a selecting switch to get the amplified non inverting-inverting output.

FEATURES

- Wide Bandwidth: DC to 50 MHz
- Current-to-voltage Conversion Factor:
5 mV/μA at 50 Ω load resistance
- Non-inverting / Inverting Output Switchable
- Rise Time: 7 ns (Typ.)
- Compact · Light Weight

SPECIFICATIONS

Parameter		Description / Value
Frequency Bandwidth (-3 dB)		DC to 50 MHz
Voltage Gain [Ⓐ]		40 dB ± 3 dB (Approx. 100 times)
Current-to-voltage Conversion Factor	Load Resistance: 1 MΩ	10 mV/μA
	Load Resistance: 50 Ω	5 mV/μA
Rise Time	Typ.	7 ns
Input Polarity		Positive / Negative
Amplifying Method		Non-inverting / Inverting Output [Ⓑ]
Input Impedance		50 Ω
Recommended Load Resistance		50 Ω
Maximum Output Signal Voltage	Load Resistance: 1 MΩ	±3.0 V Min.
	Load Resistance: 50 Ω	±1.3 V Min.
Output Offset Voltage [Ⓐ]	Typ.	±1 mV
Output Noise Voltage [Ⓐ]	Max.	2 mV rms
Connector	Input	BNC-R
	Output	BNC-R
	Power	DIN (6-pin)
Power Supply Voltage		±5 V
Max. Power Supply Voltage		±6.5 V
Power Supply Current	Max.	±140 mA
Operating Temperature		0 °C to +40 °C
Storage Temperature		-10 °C to +60 °C
Weight		Approx. 165 g

NOTE: [Ⓐ]Load Resistance: 50 Ω [Ⓑ]Switchable

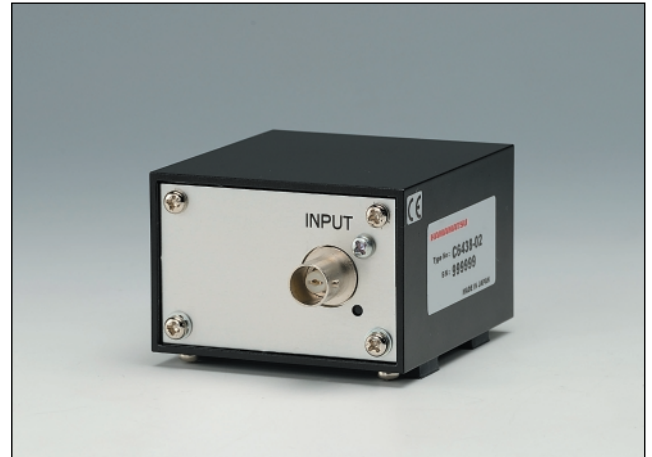
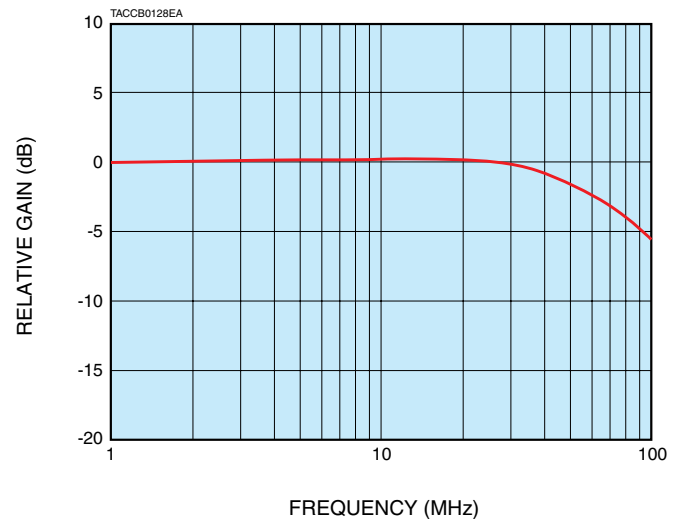
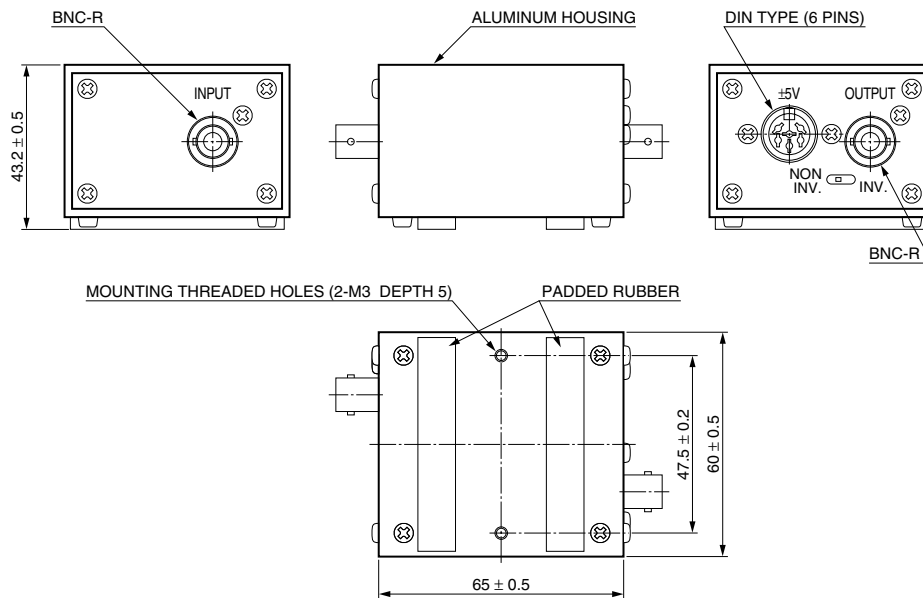


Figure 1: Typical Frequency Response



WIDE BANDWIDTH AMPLIFIER UNIT C6438-02

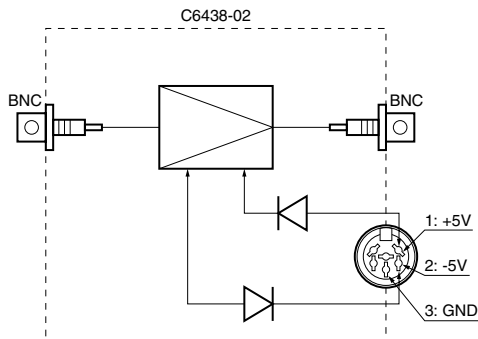
Figure 2: Dimensional Outline (Unit: mm)



* Power cable with a plug connector attached at one end is supplied with the C6438-02.

TACCA0321EA

Figure 3: Internal Connection Diagram



TACCC0163EA

CONNECTOR PIN	WIRE COLOR	CONNECTION
1	Red	+5 V
2	White	-5 V
3	Yellow	GND
4	Blue	—
5	Green	—
6	Black	—
External Conductor	Shield	GND

RELATED PRODUCTS

AMPLIFIER UNITS SELECTION GUIDE

Parameter	C7319	C12419	C9999	C6438 C6438-01 C6438-02	C9663	C11184	C5594
Frequency Bandwidth (-3 dB)	DC to 20 kHz or DC to 200 kHz (switchable)	DC to 1 MHz	DC to 10 MHz	DC to 50 MHz	DC to 150 MHz	DC to 300 MHz	50 kHz to 1.5 GHz
Current-to-Voltage Conversion Factor (Load Resistance: 50 Ω)	-0.1 V/μA, -1 V/μA, -10 V/μA (switchable) *	-1 V/μA *	+50 mV/μA	+0.5 mV/μA (C6438) +25 mV/μA (C6438-01) ±5 mV/μA (C6438-02)	+4 mV/μA	+1.25 mV/μA	+3.15 mV/μA

* Load Resistance: 10 kΩ

Refer to the individual catalogs for detailed information.

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: Thorshamnsgatan 35 SE-164 40 Kista, 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, 27 Dongsanhuan Road North, Chaoyang District, Beijing 100020, China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2866 E-mail: hpc@hamamatsu.com.cn

TACC1059E01
AUG. 2013. IP