

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 <sup>Ⓐ</sup>		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 <sup>Ⓑ</sup>
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 <sup>Ⓐ</sup>	Typ.	±1 mV
Output Noise Voltage <sup>Ⓐ</sup>	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: <sup>Ⓐ</sup>Load Resistance: 50 Ω    <sup>Ⓑ</sup>Switchable

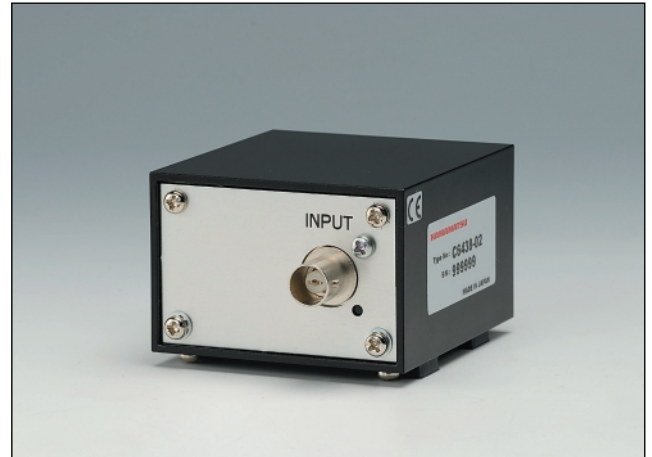
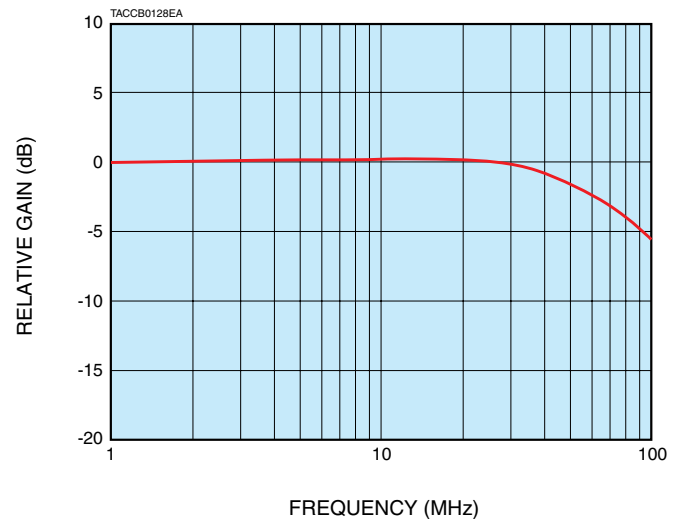
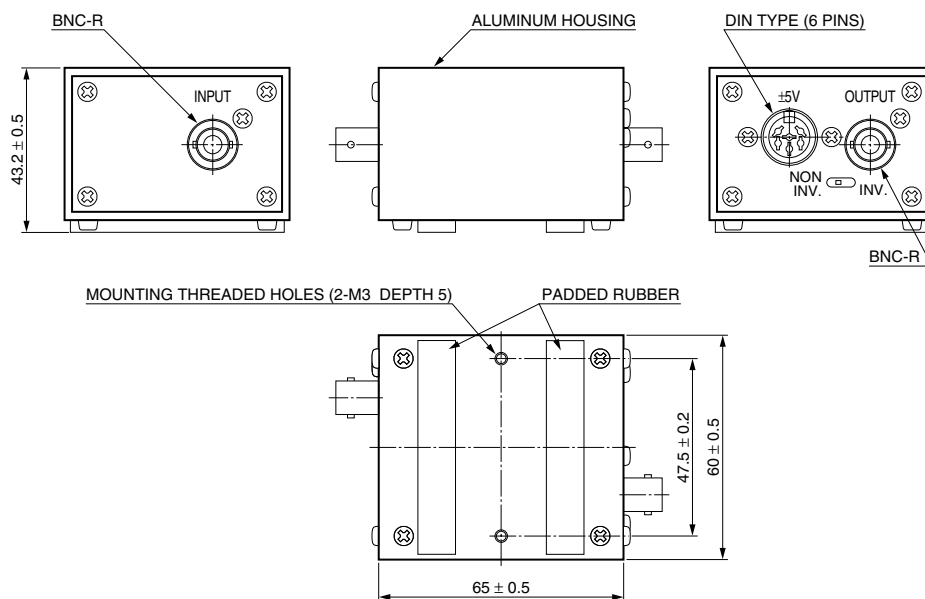


Figure 1: Typical Frequency Response



# WIDE BANDWIDTH AMPLIFIER UNIT C6438-02

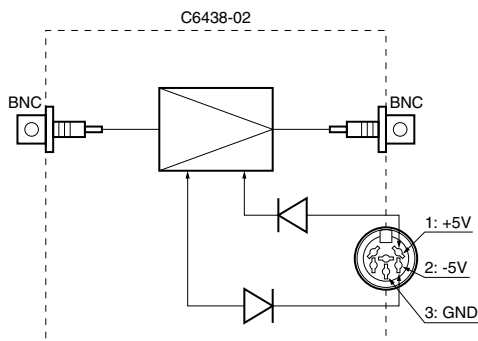
Figure 2: Dimensional Outline (Unit: mm)



\* 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.

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