

The C7319 which furnishes current-to-voltage conversion circuit is designed for use with current sources like photo-multiplier tubes.

The C7319 has three switchable conversion ratios; 0.1, 1 and 10 V/ $\mu$ A and also has two switchable bandwidth selections.

The performances are convenient to such an application as requiring a low noise and high gain preamplifier.

## FEATURES

- 0.1, 1 and 10 V/ $\mu$ A conversion ratios
- 20 kHz and 200 kHz bandwidth
- Adjustable offset level with VR included
- Low noise and high gain
- Inverting output



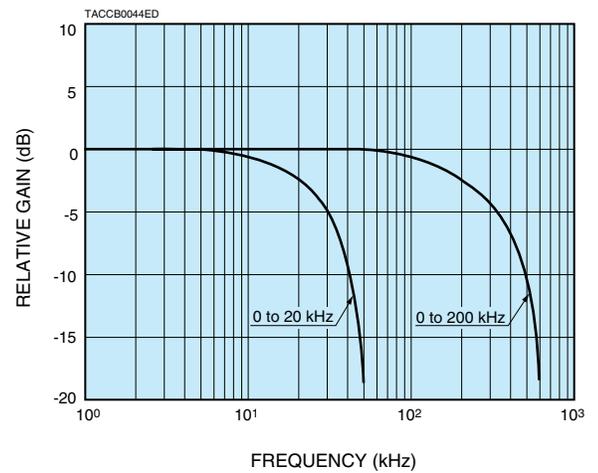
## SPECIFICATIONS

Parameter		Description / Value		
Frequency Bandwidth (-3 dB)		DC to 20 kHz or DC to 200 kHz (switchable) <sup>(A)</sup>		
Current-to-voltage Conversion Factor	Load Resistance: 10 k $\Omega$	0.1 V/ $\mu$ A	1 V/ $\mu$ A	10 V/ $\mu$ A
	Rise Time	DC to 20 kHz Typ.	17.5 $\mu$ s	
	DC to 200 kHz Typ.	1.75 $\mu$ s	3.5 $\mu$ s <sup>(A)</sup>	
Input Polarity		Positive / Negative		
Amplifying Method		Inverting Output		
Output Impedance		50 $\Omega$		
Maximum Output	Load Resistance: 10 k $\Omega$	$\pm$ 13 V Min. <sup>(B)</sup>		
Signal Voltage	Load Resistance: 50 $\Omega$	$\pm$ 2 V Min. <sup>(B)</sup>		
Output Noise Voltage	DC to 20 kHz Typ.	0.15 mV rms	0.2 mV rms	0.6 mV rms
	DC to 200 kHz Typ.	0.3 mV rms	0.6 mV rms	2.0 mV rms <sup>(A)</sup>
Connector	Input	BNC-R		
	Output	BNC-R		
	Power	DIN (6-pin)		
Power Supply Voltage		$\pm$ 5 V to $\pm$ 15 V		
Max. Power Supply Voltage		$\pm$ 18 V		
Power Supply Current	Max.	$\pm$ 50 mA		
Operating Temperature		0 $^{\circ}$ C to +40 $^{\circ}$ C		
Storage Temperature		-15 $^{\circ}$ C to +60 $^{\circ}$ C		
Weight		170 g		

**NOTE:** <sup>(A)</sup>Frequency bandwidth is limited to DC to 100 kHz at conversion ratio of 10 V/ $\mu$ A.

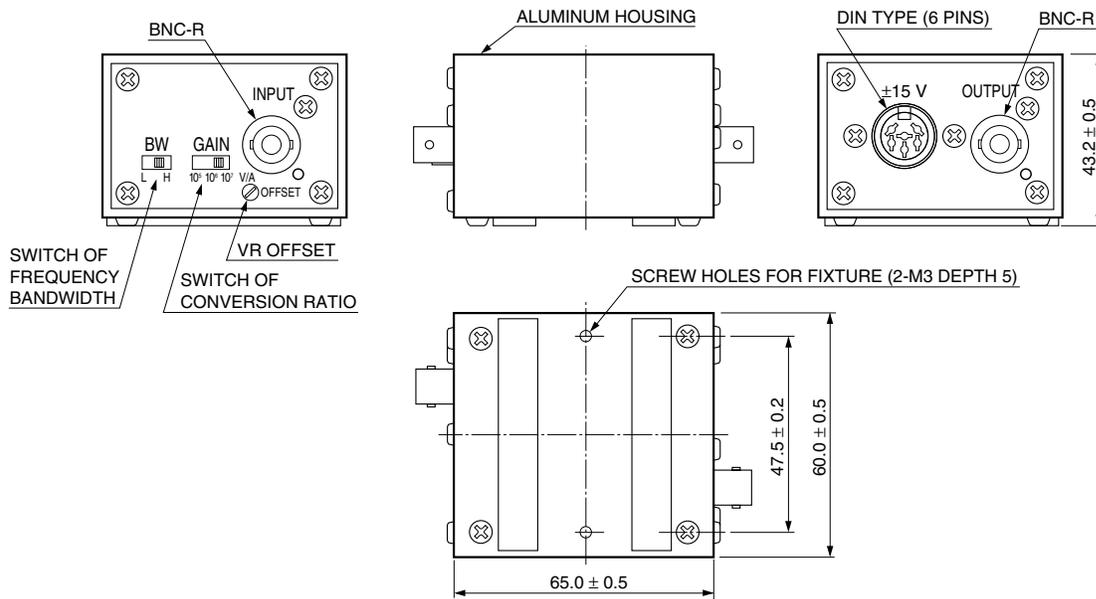
<sup>(B)</sup>At  $\pm$ 15 V power supply voltage.

Figure 1: Typical Frequency Response



# AMPLIFIER UNIT C7319

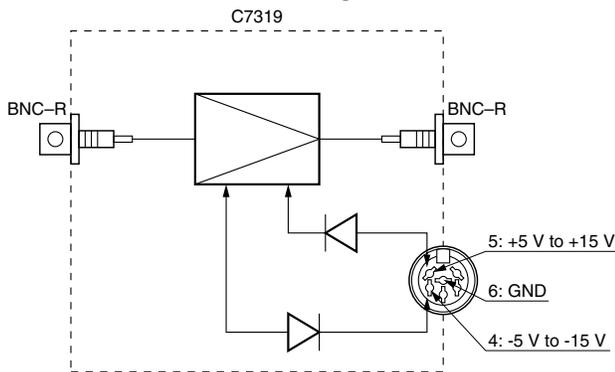
Figure 2: Dimensional Outlines (Unit: mm)



\* Exclusive cable with a plug connector attached at one end will be provided for  $\pm 15V$  supply connection together with the unit.

TACCA0174EB

Figure 3: Internal Connection Diagram



TACCC0102EC

CONNECTOR PIN	WIRE COLOR	CONNECTION
1	—	—
2	—	—
3	—	—
4	White	-5 V to -15 V
5	Red	+5 V to +15 V
6	Black	GND
External Conductor	Green	GND

## RELATED PRODUCTS

### AMPLIFIER UNITS SELECTION GUIDE

Parameter	C7319	C9999	C6438	C6438-01	C9663	C11184	C5594
Frequency Bandwidth (-3 dB)	DC to 20 kHz or DC to 200 kHz (switchable)	DC to 10 MHz	DC to 50 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 $\Omega$ )	0.1 V/ $\mu$ A 1 V/ $\mu$ A, 10 V/ $\mu$ A (switchable) <sup>(A)</sup>	50 mV/ $\mu$ A	0.5 mV/ $\mu$ A	25 mV/ $\mu$ A	4 mV/ $\mu$ A	1.25 mV/ $\mu$ A	3.15 mV/ $\mu$ A

<sup>(A)</sup> Load Resistance: 10 k $\Omega$

Refer to the individual catalogs for detailed information.

## HAMAMATSU PHOTONICS K.K. [www.hamamatsu.com](http://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](mailto: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](mailto: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](mailto: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](mailto: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](mailto: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](mailto:info@hamamatsu.it)

TACC1014E04  
JUL. 2011 IP