

C9331

Color sensor evaluation circuit board

The C9331 is an evaluation circuit board specifically designed for Hamamatsu color sensors. A 3-channel current-to-voltage conversion amplifier is mounted that converts each of RGB photocurrent into voltage signals for output.

Features

- ➔ 3 ch current-to-voltage conversion amplifier for color sensor evaluation
- ➔ Color sensors that mount on C9331: S7505-01, S9032-02 (optional)

Applications

- ➔ Evaluation of Hamamatsu color sensor

Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Supply voltage	Vcc max.	15	V
Operating temperature	Topr	+10 to +40	°C
Storage temperature	Tstg	-10 to +50	°C

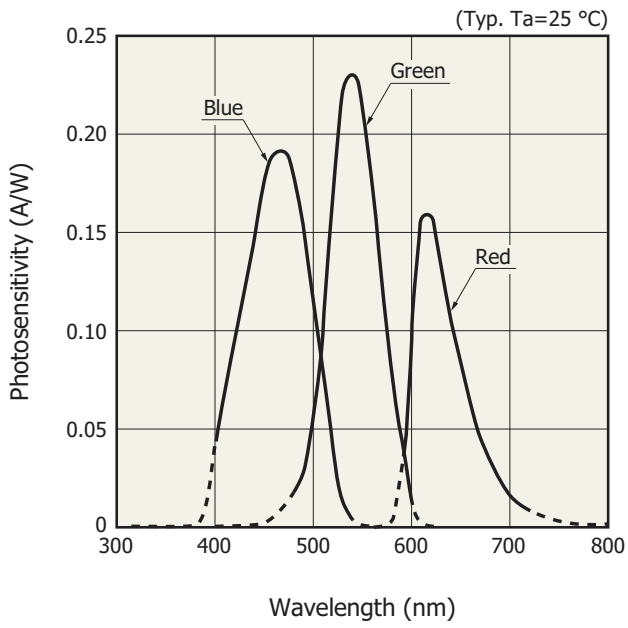
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

Electrical and optical characteristics (Ta=25 °C, Vcc=9.0 V, common to each RGB channel)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Operating supply voltage	Vcc		7	9	15	V
Output voltage	VOR, VOG, VOB	Zt=5.1 × 10 ⁵ V/A*	0.95	1.00	1.05	V
Saturation output voltage	Vsat	Rl ≥ 100 kΩ	4.6	-	5.35	V
Output offset voltage	Vos	Zt=5.1 × 10 ⁵ V/A Without photodiode	-	±40	±50	mV
Trans-impedance adjustment range	Zt		-	1 × 10 ⁵ to 5.1 × 10 ⁵	-	V/A
Input current range	Is	Zt=1 × 10 ⁵ V/A	-	0.5 to 48	-	μA
		Zt=5.1 × 10 ⁵ V/A	-	0.1 to 9.4	-	
Output impedance	Zo		-	510	-	Ω
Amplifier bandwidth	B	Without photodiode	-	DC to 14	-	kHz

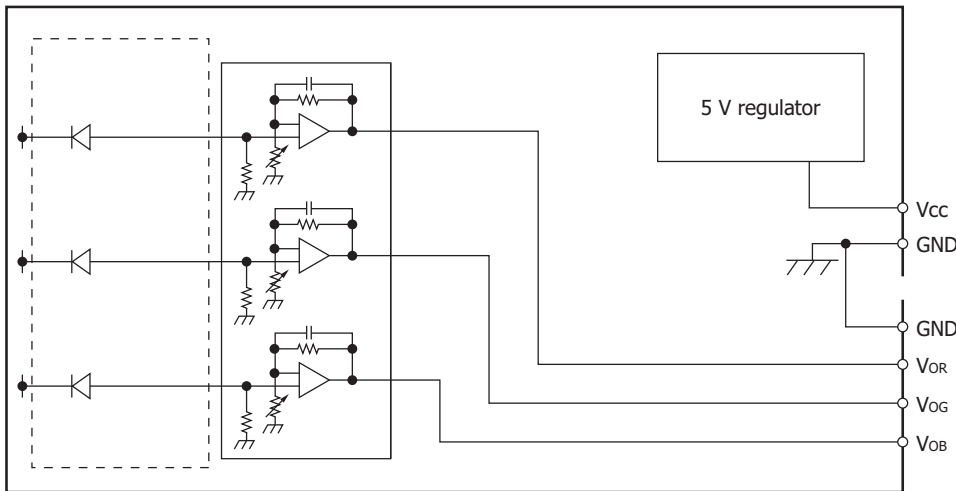
* Output obtained when reference current Iref=1.96 μA is injected between the photodiode connection terminals. Zt can be increased by rotating VR1 to VR3 clockwise.

Spectral response (S9032-02)



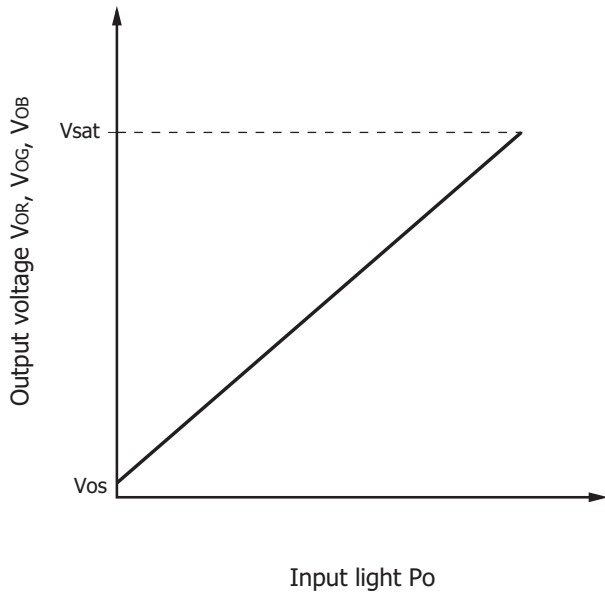
KSPDB0246EA

Block diagram



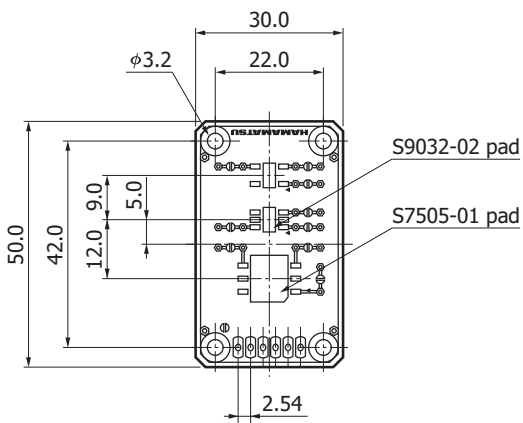
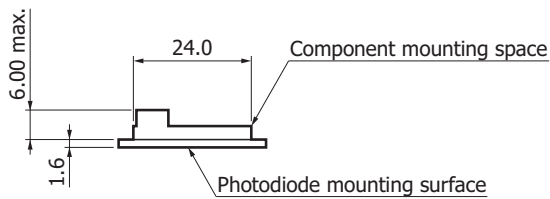
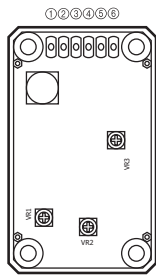
KACCC0201EA

Output voltage vs. input light (output example)



KACCC0200EA

Dimensional outline (unit: mm)



- ① Vcc
- ② GND
- ③ GND
- ④ VOR
- ⑤ VOG
- ⑥ VOB

KACCA0128EB

Related information

www.hamamatsu.com/sp/ssd/doc_en.html

- Precautions
- Disclaimer

Information described in this material is current as of October 2017.

Product specifications are subject to change without prior notice due to improvements or other reasons. This document has been carefully prepared and the information contained is believed to be accurate. In rare cases, however, there may be inaccuracies such as text errors. Before using these products, always contact us for the delivery specification sheet to check the latest specifications.

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HAMAMATSU

www.hamamatsu.com

HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Higashi-ku, Hamamatsu City, 435-8558 Japan, Telephone: (81) 53-434-3311, Fax: (81) 53-434-5184

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, Bridgewater, N.J. 08807, 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) 8152-265-8, 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) 1707-294888, Fax: (44) 1707-325777, E-mail: info@hamamatsu.co.uk

North Europe: Hamamatsu Photonics Norden AB: Torshamnsgatan 35 16440 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 int. 6, 20020 Arese (Milano), Italy, Telephone: (39)02-93 58 17 33, Fax: (39)02-93 58 17 41, E-mail: info@hamamatsu.it

China: Hamamatsu Photonics (China) Co., Ltd.: B1201, Jiaming Center, No.27 Dongsanhuan Beilu, Chaoyang District, Beijing 100020, China, Telephone: (86) 10-6586-6006, Fax: (86) 10-6586-2866, E-mail: hpc@hamamatsu.com.cn

Taiwan: Hamamatsu Photonics Taiwan Co., Ltd.: 8F-3, No. 158, Section2, Gongdao 5th Road, East District, Hsinchu, 300, Taiwan R.O.C. Telephone: (886)03-659-0080, Fax: (886)03-659-0081, E-mail: info@tw.hpj.co.jp