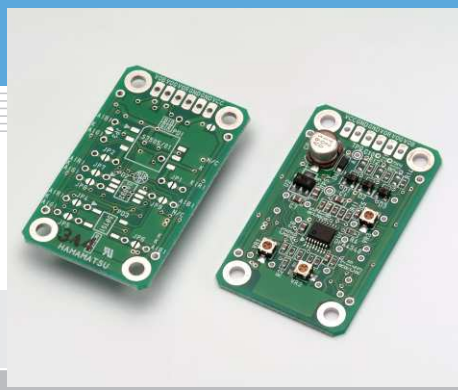


Color sensor evaluation circuit C9331

Color sensor evaluation circuit board



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)

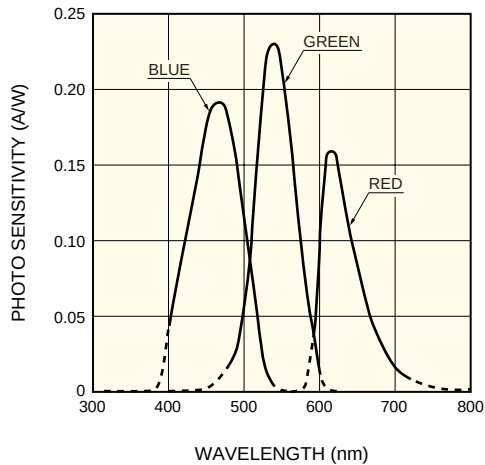
Parameter	Symbol	Value	Unit
Supply voltage	Vcc Max.	15	V
Operating temperature	Topr	+10 to +40	°C
Storage temperature	Tstg	-10 to +50	°C

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

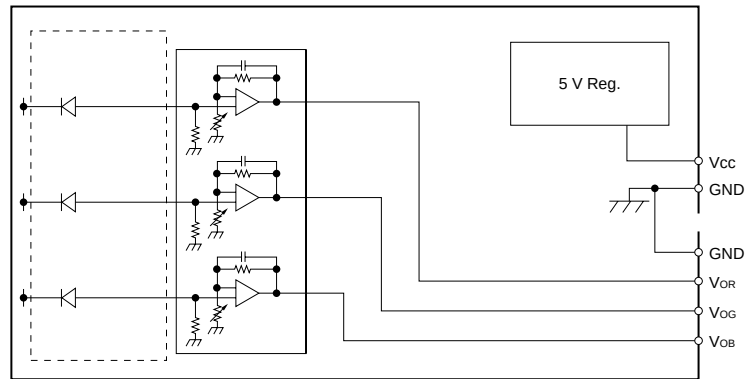
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Operating supply voltage	Vcc		7	9	15	V
Output voltage	VOR, VOG, VOB	Zt=5.1 × 10 ⁵ V/A *	0.95	1.00	1.05	V
Saturation output voltage	Vsat	RL≥100 kΩ	4.6	-	5.35	V
Output offset voltage	Vos	Zt=5.1 × 10 ⁵ V/A Without photodiode	-	±40	±50	mV
Trans-impedance adjustment 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.

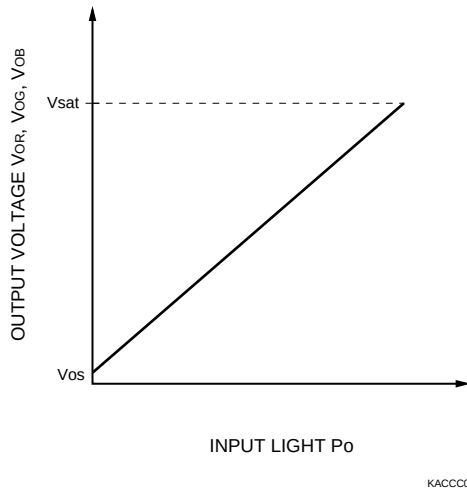
■ Spectral response (S9032-02)



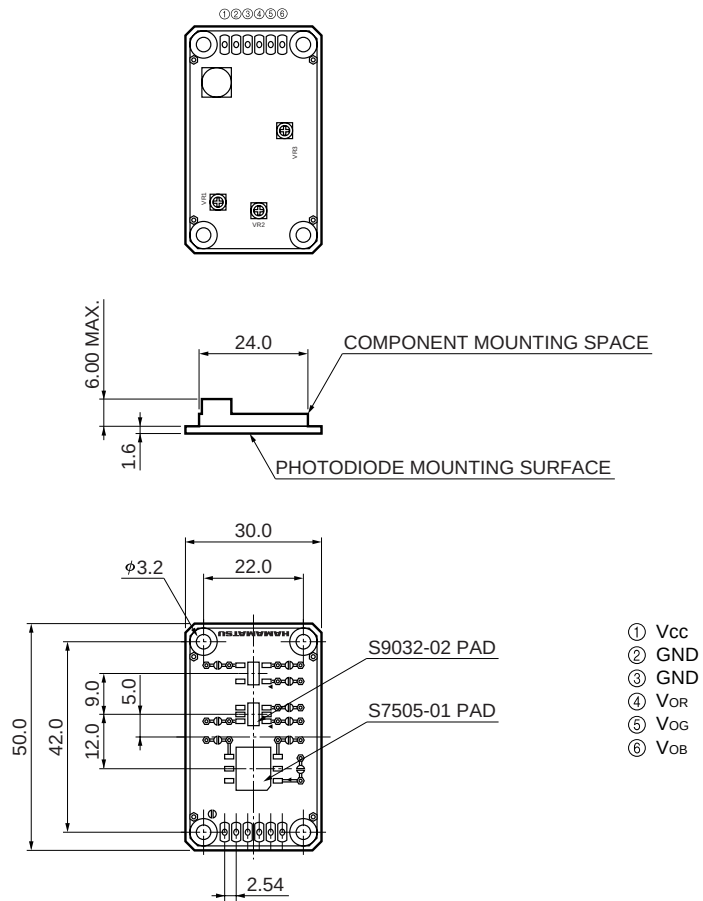
■ Block diagram



■ Output voltage vs. input light (output example)



■ Dimensional outline (unit: mm)



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Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein.

Type numbers of products listed in the specification sheets or supplied as samples may have a suffix "(X)" which means tentative specifications or a suffix "(Z)" which means developmental specifications. ©2010 Hamamatsu Photonics K.K.

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