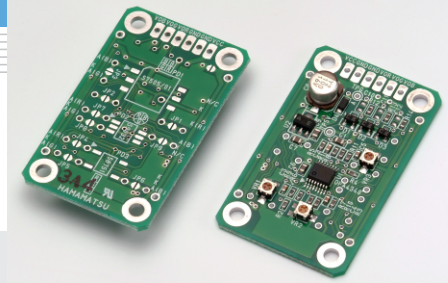


Color sensor evaluation circuit C9331

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)

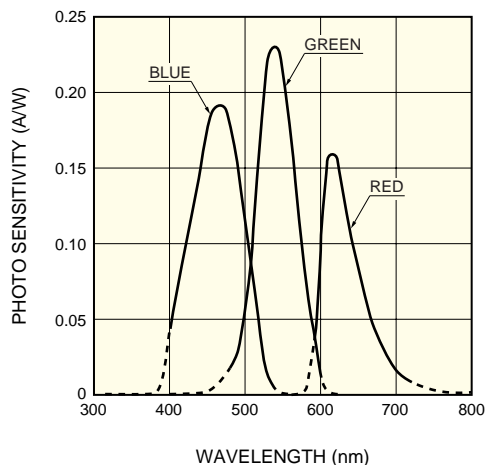
Parameter	Symbol	Value	Unit
Supply voltage	Vcc Max.	15	V
Operating temperature	Topr	+10 to +40	°C
Storage temperature	Tstg	-10 to +50	°C

■ 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

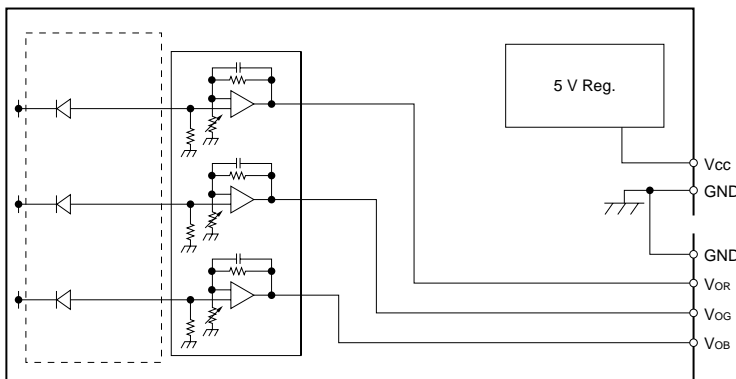
* Output obtained when reference current Iref=1.96 μA is injected between the photodiode connection terminals. Zt can be increased by rotating VR1 to VR3 clockwise.

■ Spectral response (S9032-02)



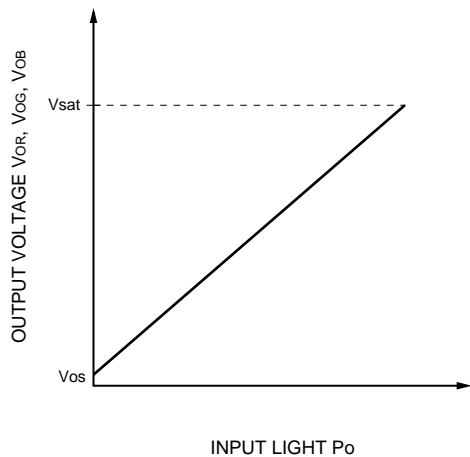
KSPDB0246EA

■ Block diagram



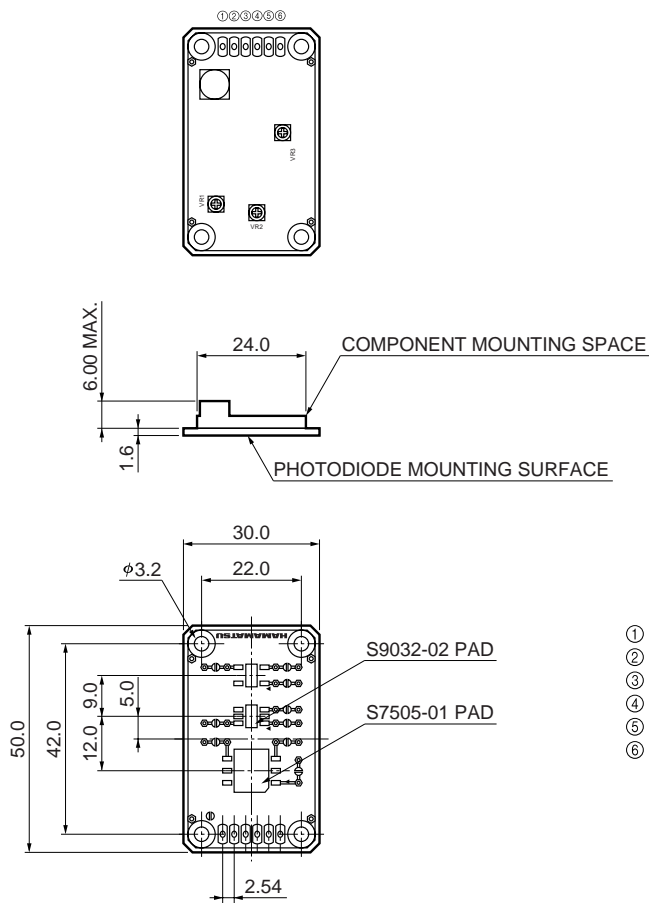
KACCC0201EA

■ 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

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