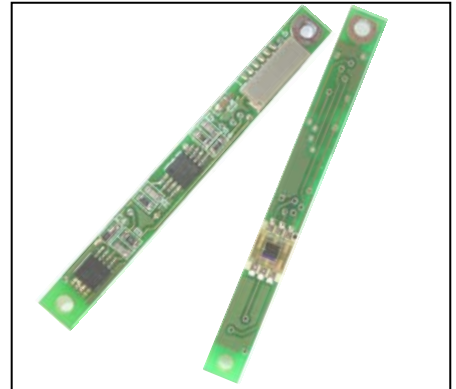


# Color sensor module

## Color sensor module

# OPI20TMF-3C2M

RGB-LED backlight monitor for LCD



### Description

The **OPI20TMF-3C2M** is the color sensor module changing optical signal to electrical signal as voltages. High response time and small size make it suitable for LCD Backlight.

### Features

- Built-in RGB color sensor Blue
- High sensitivity and reliability
- Fast response
- Small packaging(47mm × 5mm)

### Applications

- LCD backlighting

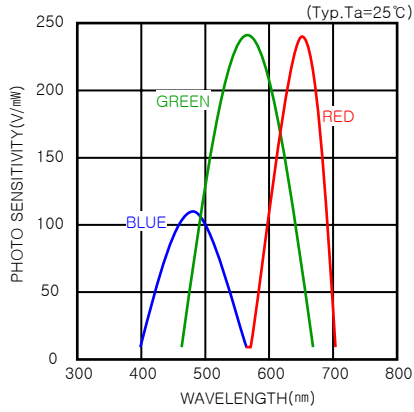
### Absolute Maximum Ratings (Ta= 25°C)

Parameter	Symbol	Rated	Unit
Supply voltage	Vcc	+5.5	V
Reference voltage	Vref	Vcc - 0.4	V
Operating temperature	Topr	-15 ~ 80	°C
Storage Temperature	Tstg	-20 ~ 85	°C

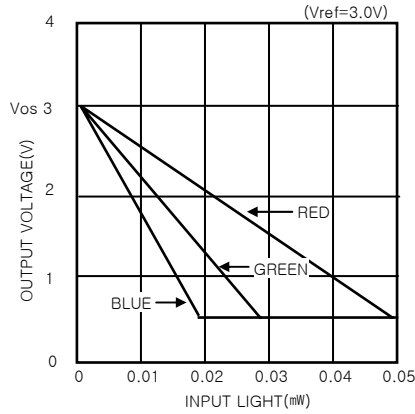
### Electrical and optical characteristics (Ta= 25°C)

Parameters	Symbol	Conditions	Min.	Typ.	Max.	Unit	
Operating supply voltage range	Vcc		+2.7	+5	+5.5	V	
Current consumption	Icc	Dark state	-	0.55	2.0	mA	
Rise time	tr	10 to 90%	-	30	-	μs	
Output offset voltage	Vos	Dark state	Vref-5	-	Vref+5	mV	
Output voltage range	Vout		0.4	-	Vos	V	
Output signal polarity	Vout		Negative			-	
Photo sensitivity	Red	$\lambda = \lambda_P$	-	-242	-	V/mW	
	Green		-	-245	-		
	Blue		-	-111	-		
Spectral Response range	Red	$\lambda$	-	570	-	nm	
	Green		-	470	-		670
	Blue		-	400	-		560
Peak sensitivity wavelength	Red	$\lambda_P$	-	-	655	nm	
	Green		-	-	560		
	Blue		-	-	480		
Trans-impedance	Red	Zt	-	-	330	kΩ	
	Green		-	-	470		
	Blue		-	-	750		

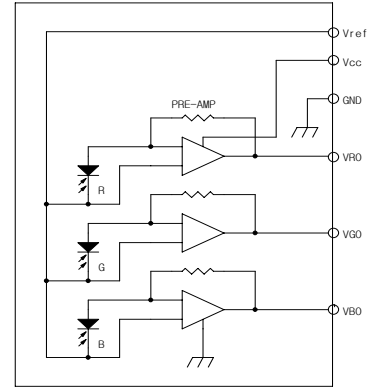
## Characteristic graphs



[ Spectral response ]

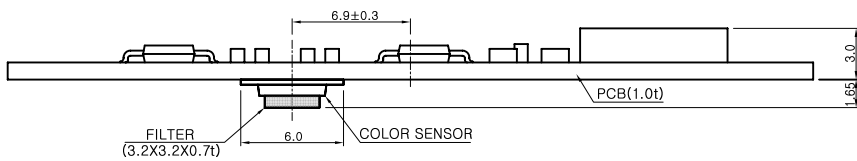
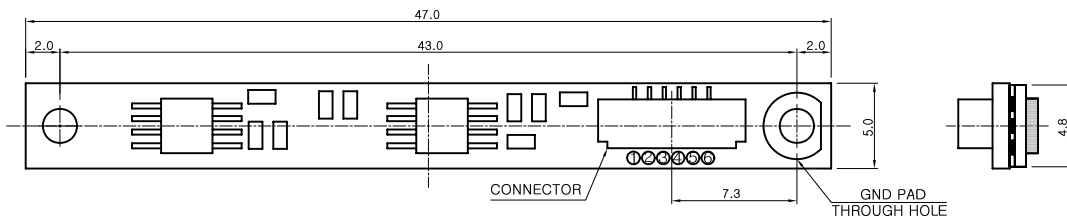


[ Output voltage vs. input light ]



[ Block diagram ]

## Dimensional outline (unit:mm)



CONNECTOR : SM06B-SSR-H-TB(JST)

Pin No.	Signal
①	VREF
②	VCC
③	GND
④	VRO
⑤	VGO
⑥	VBO

General tolerance (±0.1)