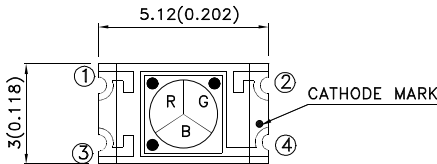


RGB Color Sensor

KPS-5130PD7C

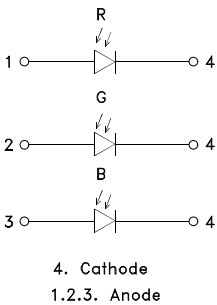
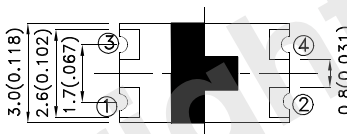
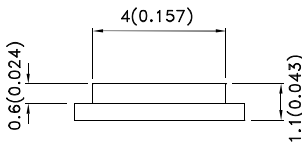
Description

•The KPS-5130PD7C Color Sensor Device, consisting of 3-Channel/1Chip (R, G, B) Si photodiode, is a good effective solution to color balance of display backlighting appliances.



Features

- \*Lead-free package.
- \*Component in accordance with RoHS.
- \*SMD style package on PCB technology.
- \*Integral Color Filter in Blue, Green, or Red.
- \* Package:1.5KPCS/Reel.
- \*Moisture sensitivity level : level 3.
- \* RoHS Compliant.



\*Applications

The devices are suitable for :

- \*colorimetry.
- \*printing process control.
- \*display color correction.

UNIT : MM[INCH]  
TOLERANCE : ±0.1[± 0.004] UNLESS OTHERWISE NOTED.

\*Absolute Maximum Ratings(Ta=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Reverse Voltage	V <sub>R</sub>	10	V
Operating Temperature	Topr	-40~+85	°C
Storage Temperature	Tsto	-40~+85	°C
Soldering Temperature	Tsd	260	°C



**\*Electro-optical Characteristics(Ta=25°C unless otherwise specified)**

Parameter	Symbol	Condition	Value			Unit
			Min.	Typ	Max.	
Peak Sensitivity Wavelength	$\lambda_p$	Red	-	620	-	nm
		Green	-	550	-	
		Blue	-	470	-	
Light Current(1)	$I_{L1}$	100Lux [1] VR = 5V	Red	0.039	-	uA
		Green	-	0.042	-	
		Blue	-	0.022	-	
Light Current(2)	$I_{L2}$	1000Lux [1] VR = 5V	Red	0.427	-	uA
		Green	-	0.498	-	
		Blue	-	0.262	-	
Diameter of the irradiation sensitive area	D		-	2.0	-	mm
Irradiation sensitive area per element	A		-	0.85	-	mm <sup>2</sup>
Photo sensibility of the single color areas	S <sub>Max</sub>	$\lambda_R=620\text{ nm}$ $\lambda_G=550\text{ nm}$ $\lambda_B=470\text{ nm}$	-	0.33 0.25 0.18	-	A/W
Reverse Dark Current	I <sub>D</sub>	VR=5V	-	-	10	nA

Note:

1.White fluorescent light (Color Temperature = 6500K) is used as light source.

Fig.1 Dark Current vs. Ambient Temperature

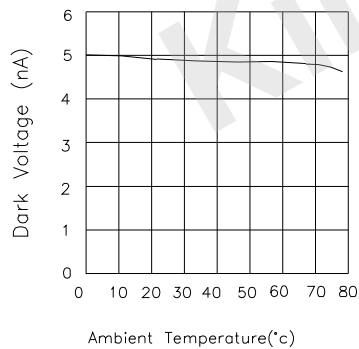


Fig.2 Spectral Response

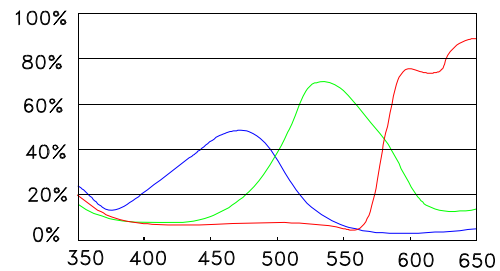
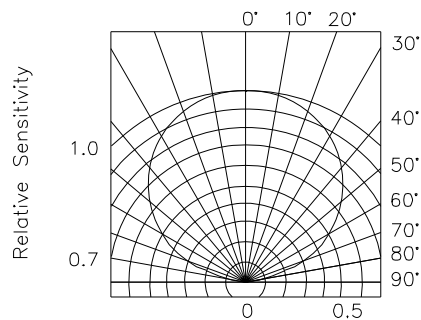


Fig.3 Relative radiant sensitivity vs. Angular displacement



Typical Electro - Optical Characteristics Curves

Fig.4 R,G,B LED Test vs. Output Photocurrent

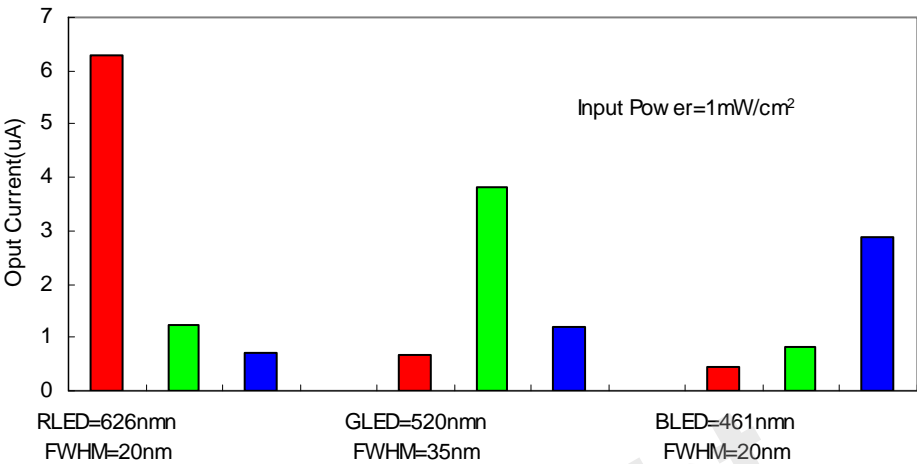
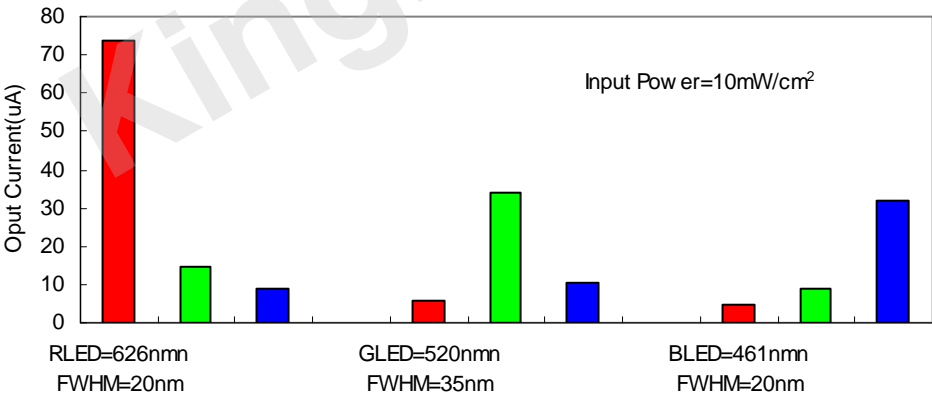
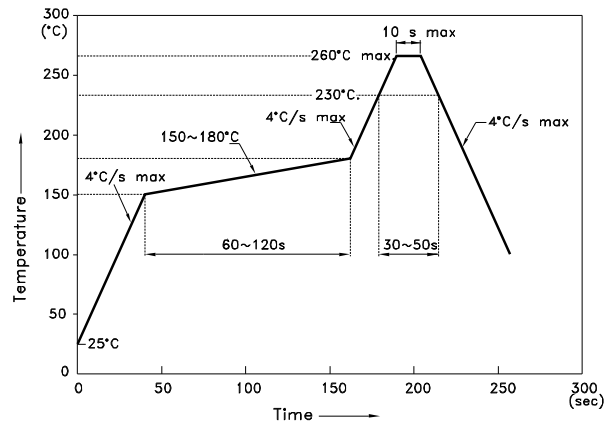


Fig.5 R,G,B LED Test vs. Output Photocurrent



## KPS-5130PD7C

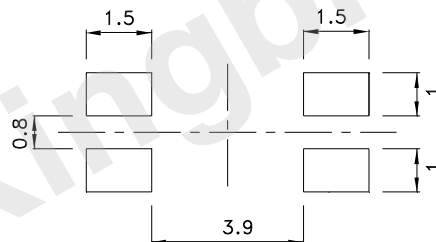
Reflow Soldering Profile For Lead-free SMT Process.



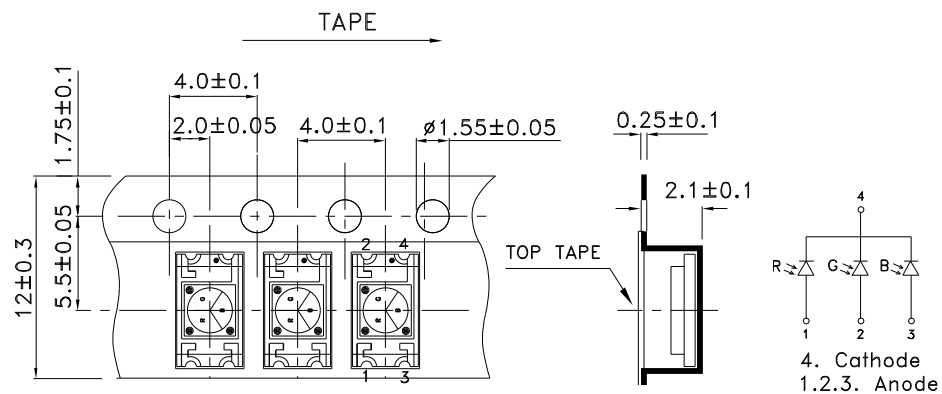
### NOTES:

1. We recommend the reflow temperature  $245^{\circ}\text{C} (+/-5^{\circ}\text{C})$ . The maximum soldering temperature should be limited to  $260^{\circ}\text{C}$ .
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

## Recommended Soldering Pattern (Units : mm; Tolerance: $\pm 0.1$ )

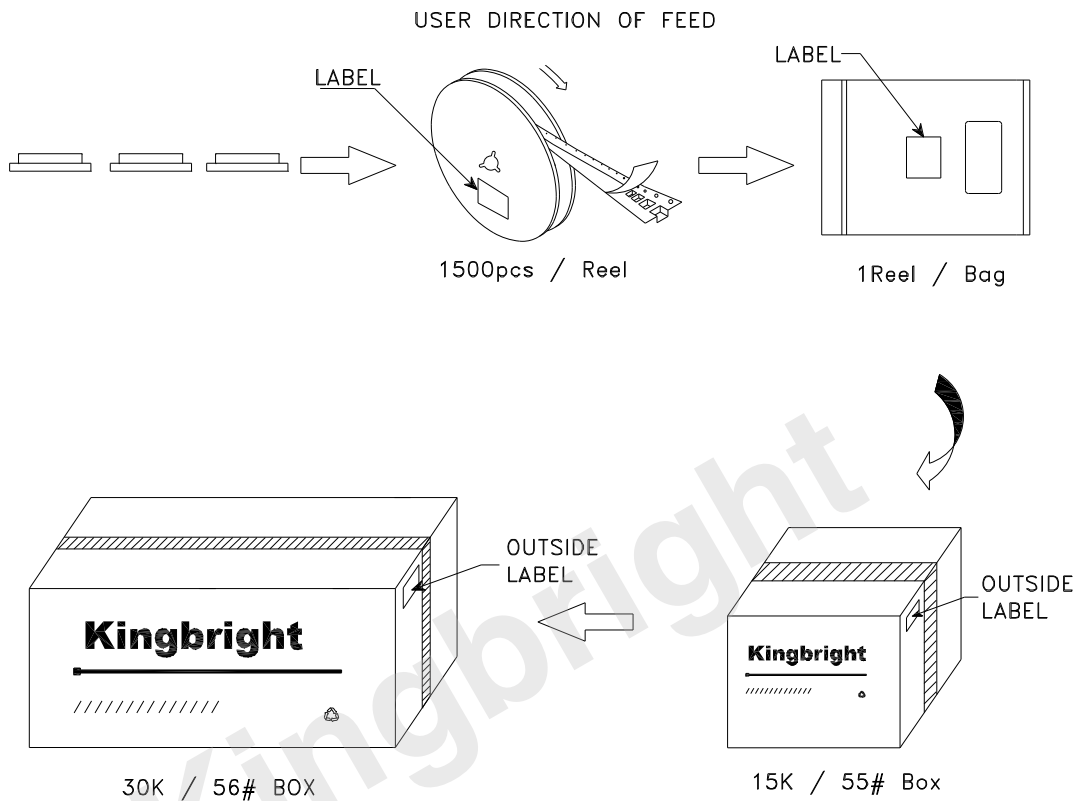



## Tape Specifications (Units : mm)



## PACKING & LABEL SPECIFICATIONS

## KPS-5130PD7C



<h1>Kingbright</h1>	
P/NO: KPS-5130xxx	
QTY: 1.500 pcs	Q.C. <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Q C XX XX XXXX PASSED</span>
S/N: XXXX	
CODE: XXX	
LOT NO:	
 XXXXXXXXXXXXXXXXXXXX	
RoHS Compliant	

Detailed application notes are listed on our website.

[http://www.kingbright.com/application\\_notes](http://www.kingbright.com/application_notes)