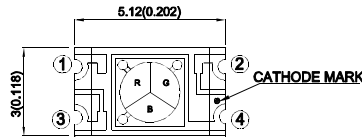


RGB Color Sensor

KPS-5130PD7C

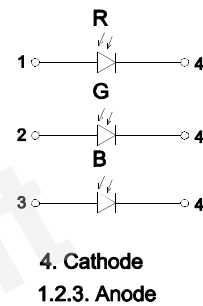
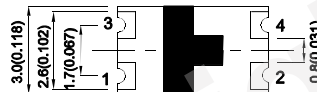
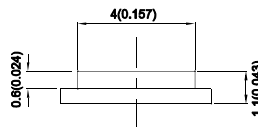
Description

•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:1500 pcs/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 : $\pm 0.25[\pm 0.01"]$ UNLESS OTHERWISE NOTED.

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

Parameter	Symbol	Value	Unit
Reverse Voltage	V_R	10	V
Operating Temperature	T_{opr}	-40~+85	°C
Storage Temperature	T_{sto}	-40~+85	°C
Soldering Temperature	T_{sd}	260	°C

Note:

1. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.



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

Parameter	Symbol	Condition	Value			Unit
			Min.	Typ	Max.	
Peak Sensitivity Wavelength	λ_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 ²
Photo sensibility of the single color areas	S _{Max}	$\lambda_R=620\text{ nm}$ $\lambda_G=550\text{ nm}$ $\lambda_B=470\text{ nm}$	-	0.33 0.25 0.18	-	A/W
Reverse Dark Current	I _D	VR=5V	-	-	10	nA

Notes:

- 1.White fluorescent light (Color Temperature = 6500K) is used as light source.
2. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

Fig.1 Dark Current vs. Ambient Temperature

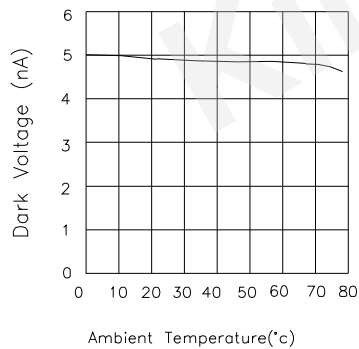


Fig.2 Spectral Response

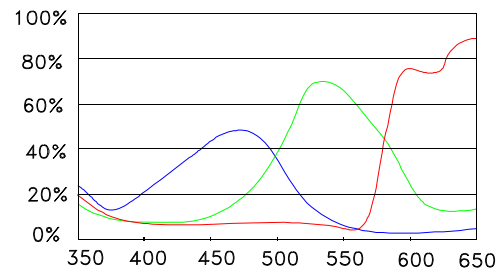
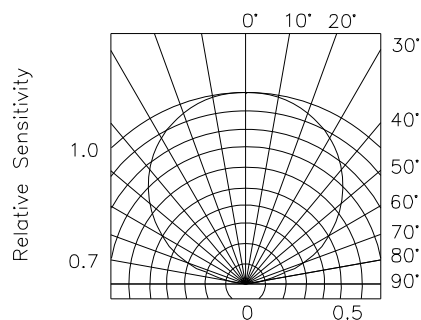


Fig.3 Relative radiant sensitivity vs. Angular displacement



Typical Electro - Optical Characteristics Curves

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

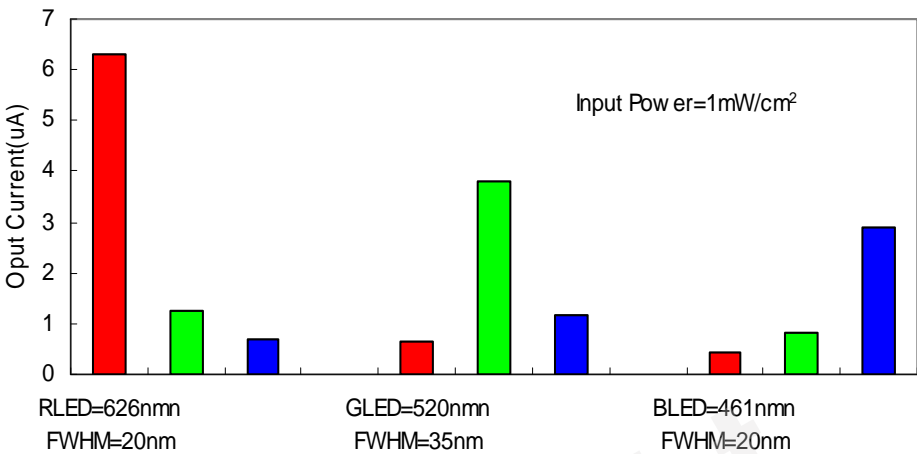
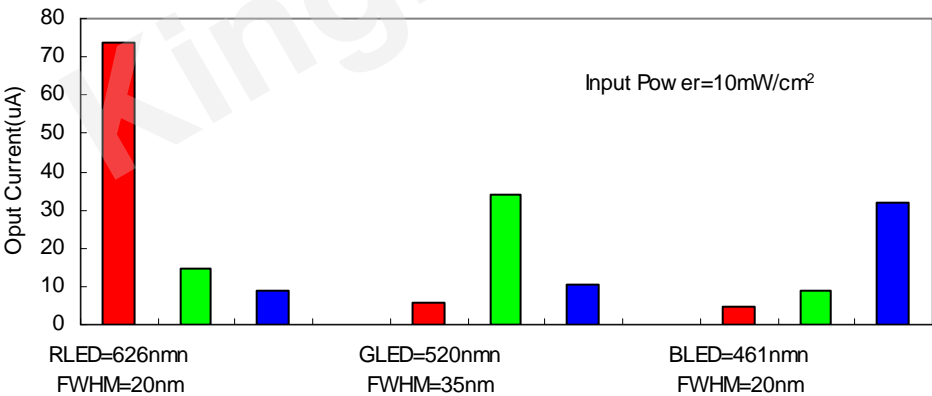
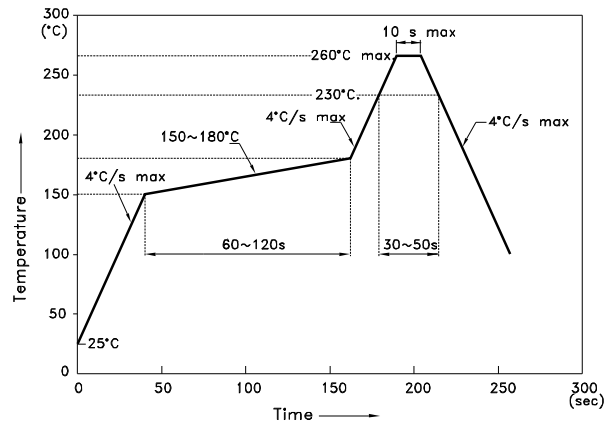


Fig.5 R,G,B LED Test vs. Output Photocurrent



KPS-5130PD7C

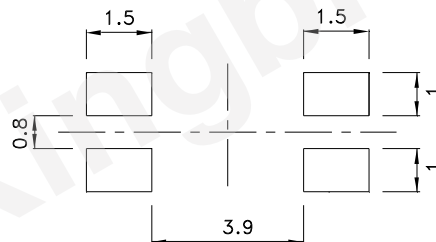
Reflow Soldering Profile For Lead-free SMT Process.



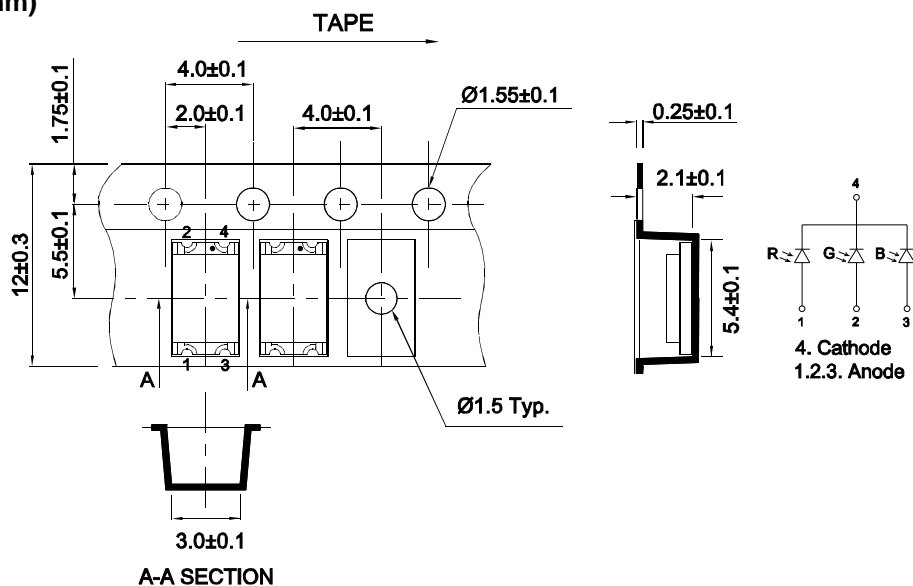
NOTES:

1. We recommend the reflow temperature $245^{\circ}\text{C} (+/-5^{\circ}\text{C})$. The maximum soldering temperature should be limited to 260°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: ± 0.1)

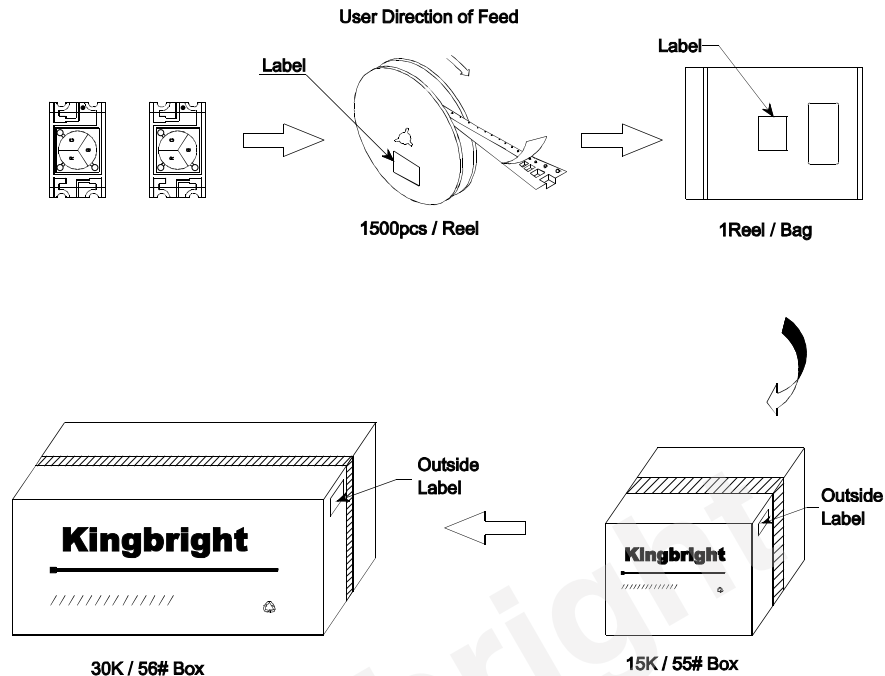



Tape Specifications (Units : mm)



PACKING & LABEL SPECIFICATIONS

KPS-5130PD7C



Kingbright	
P/NO: KPS-5130xxx	
QTY: 1,500 pcs	Q.C. Q C XX XX XXXX PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
	
RoHS Compliant	

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