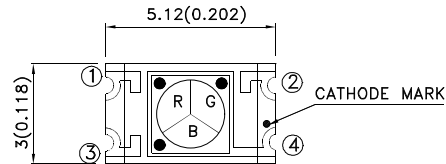


RGB Color Sensor KPS-5130PD7C

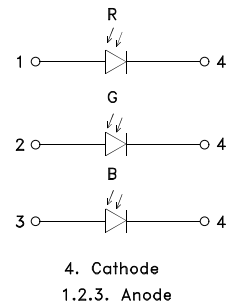
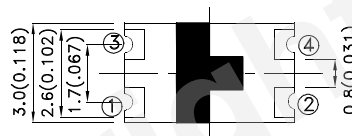
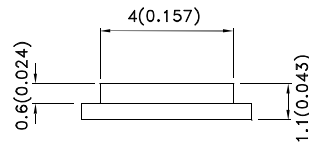
Description

•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 :±0.25[± 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 | 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 | 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 |

Note:

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

Fig.1 Dark Current vs. Ambient Temperature

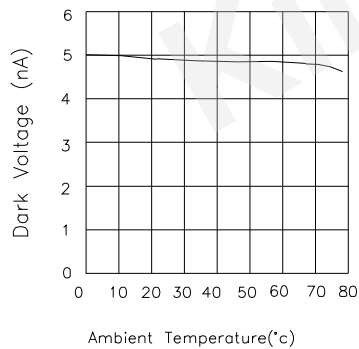


Fig.2 Spectral Response

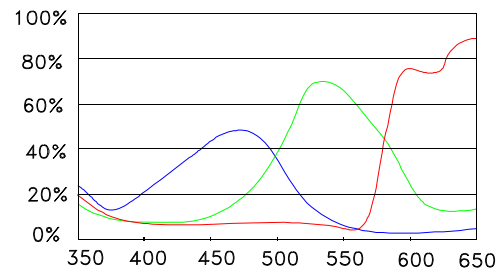
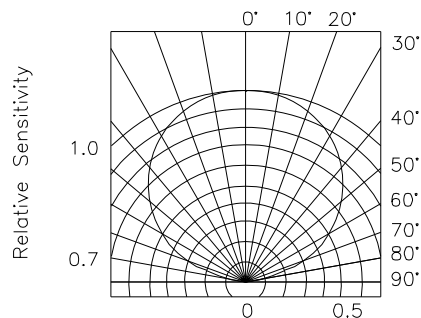


Fig.3 Relative radiant sensitivity vs. Angular displacement



Typical Electro - Optical Characteristics Curves

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

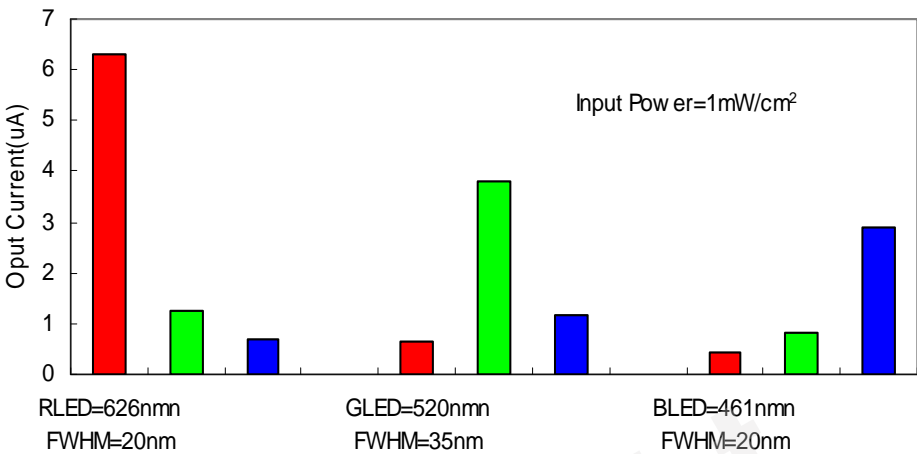
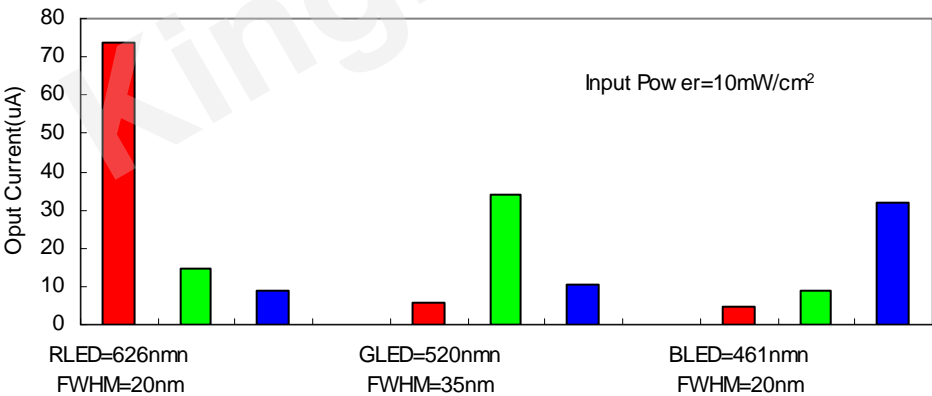
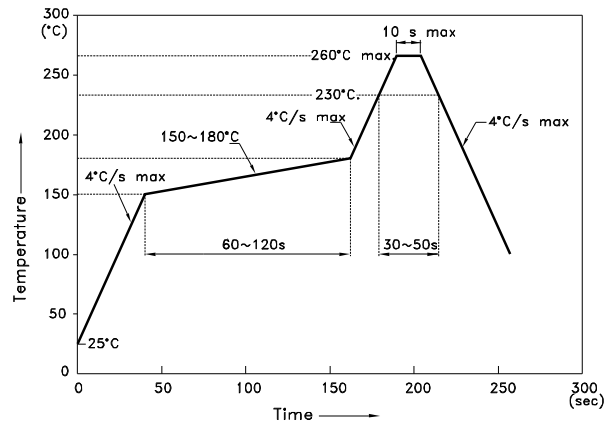


Fig.5 R,G,B LED Test vs. Output Photocurrent



KPS-5130PD7C

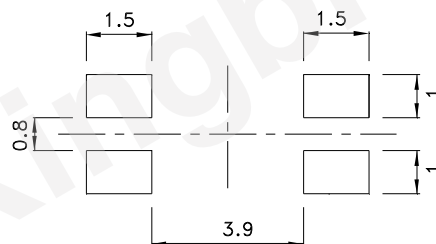
Reflow Soldering Profile For Lead-free SMT Process.



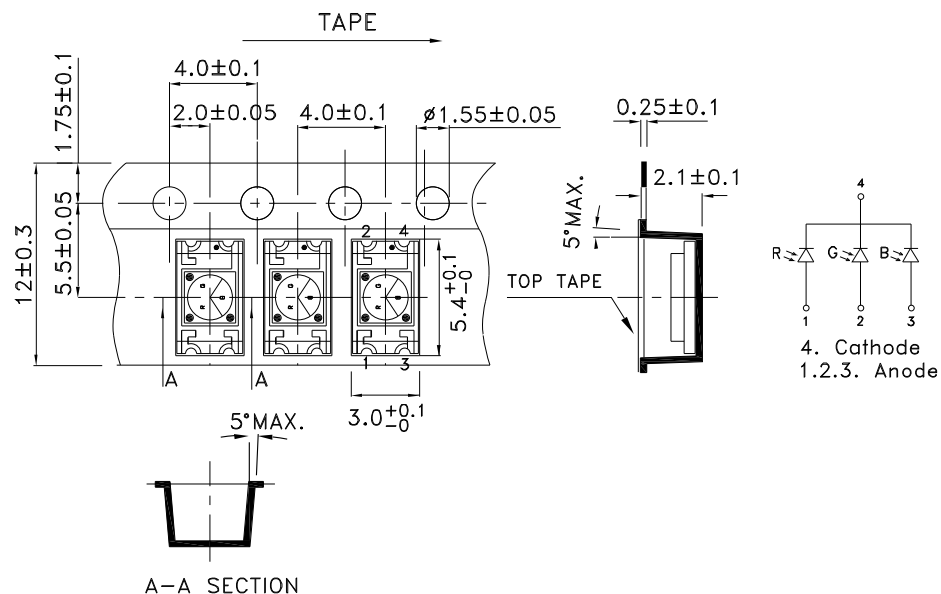
NOTES:

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

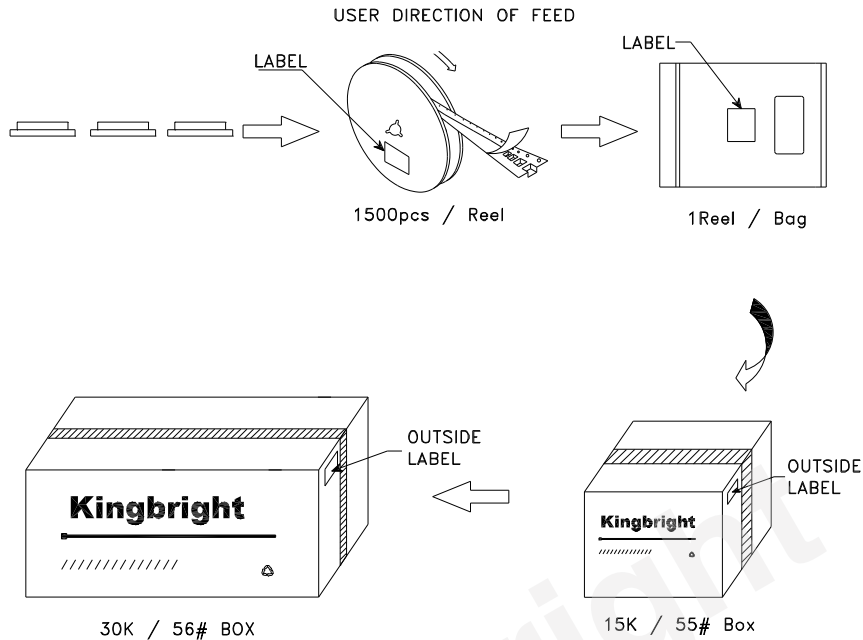


Tape Specifications (Units : mm)



PACKING & LABEL SPECIFICATIONS

KPS-5130PD7C



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

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