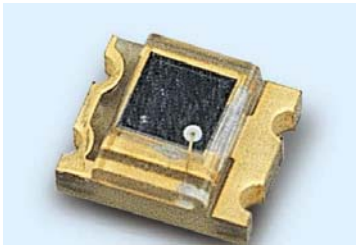
Technical Data Sheet

RGB Color Sensor SMD Device

Preliminary

CLS15-22C/L213(R、G、B)/TR8

Features



- Package in 8mm tape on 7″ diameter reel.
- Surface-mount plastic package.
- Good stable output with temperature shift.
- External dimensions 3.2(L)*2.7(W)*1.1(H)mm^3.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Built in 1-Channel/1Chip (R, G, B) Si photodiode.
- Active area: 1.8 mm^2
- Pb free
- The product itself will remain within RoHS compliant version.

Descriptions

CLS15-22C/L213(R、G、B)/TR8 Color Sensor Device, consisting of 1-Channel/1Chip (R, G, B) Si photodiode, is a good effective solution to color balance of display backlighting appliances, such as the LCD TV and projector. The color sensor sensitive are Red (λp=620nm), Green (λp=550nm) and Blue (λp=470nm) regions of the spectrum.

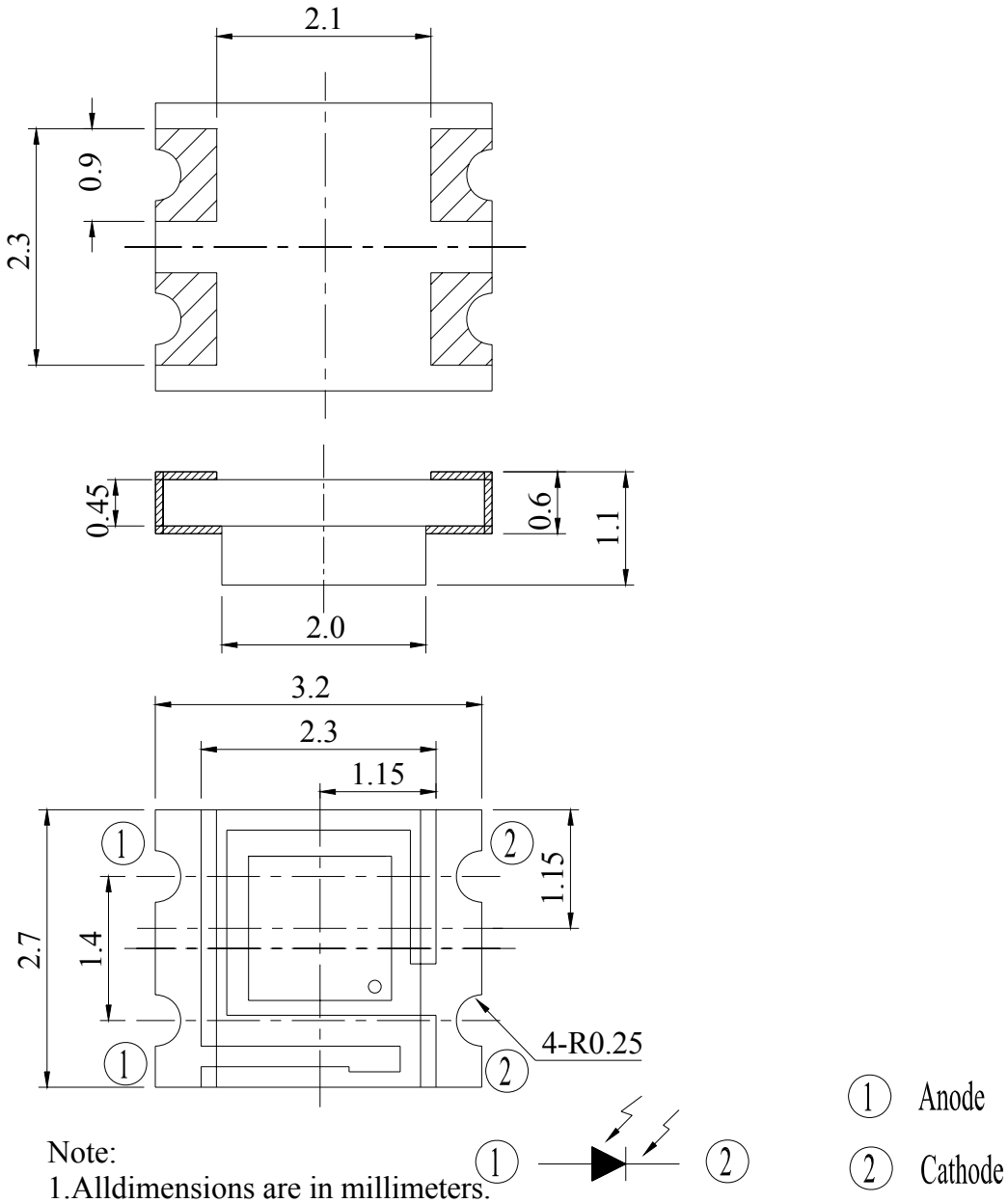
Applications

- Color adjustment for LED back light system for LCD.
- Color adjustment for LCD projector
- Color tester and Color temperature detection.
- White balance : Camera

Device Selection Guide

PART	MATERIAL	COLOR
Chip	Silicon	---
Package	Epoxy	Water Clear

Package Dimensions



Note:
1.Alldimensions are in millimeters.
2.Tolerances unless dimension ±0.1mm

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Condition	Rating	Units
Reverse Breakdown Voltage	V_{BR}	I_R = 100 μA	35	V
Forward Voltage	V_F	I_F = 10mA	0.5~1.3	V
Operating Temperature	T_{opr}	---	-25 ~ +85	℃
Storage Temperature	T_{stg}	---	-40 ~ +85	℃
Soldering Temperature	T_{sol}	---	260	℃

Notes: *1:Soldering time≦5 seconds.

Electro-Optical Characteristics (Ta=25℃)

Red Light Sensor Device : CLS15-22C/L213R/TR8

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Peak Sensitivity Wavelength	λ_P	---	---	620	---	nm
Short-Circuit Current	I_{SC}	Ee=100Lux[1] V_R=0V	---	0.086	---	μA
Reverse Light Current(1)	I_{L1}	Ee=100Lux[1] V_R=5V	---	0.091	---	μA
Reverse Light Current(2)	I_{L2}	Ee=1000Lux[1] V_R=5V	---	0.83	---	μA
Reverse Dark Current	I_D	Ee=0 V_R = 10 V	---	2	10	nA

Note:

[1]: White Fluorescent light (Color Temperature = 6500K) is used as light source.

Green Light Sensor Device : CLS15-22C/L213G/TR8

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Peak Sensitivity Wavelength	λ_P	---	---	550	---	nm
Short-Circuit Current	I_{SC}	Ee=100Lux[1] V_R=0V	---	0.075	---	μA
Reverse Light Current(1)	I_{L1}	Ee=100Lux[1] V_R=5V	---	0.082	---	μA
Reverse Light Current(2)	I_{L2}	Ee=1000Lux[1] V_R=5V	---	0.72	---	μA
Reverse Dark Current	I_D	Ee=0 Lux V_R = 10 V	---	2	10	nA

Blue Light Sensor Device : CLS15-22C/L213B/TR8

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Peak Sensitivity Wavelength	λ_P	---	---	470	---	nm
Short-Circuit Current	I_{SC}	100Lux[1] V_R=0V	---	0.042	---	μA
Reverse Light Current(1)	I_{L1}	100Lux[1] V_R=5V	---	0.046	---	μA
Reverse Light Current(2)	I_{L2}	1000Lux[1] V_R=5V	---	0.39	---	μA
Reverse Dark Current	I_D	V_R = 10 V	---	2	10	nA

Typical Electro-Optical Characteristics Curves

CLS15-22C/L213R/TR8

Fig.1 Dark Current vs. Ambient Temperature

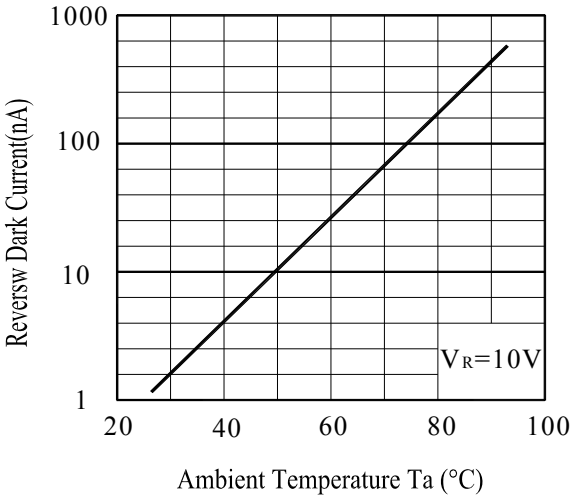


Fig.-2 Illuminance vs. Output Phtocurrent

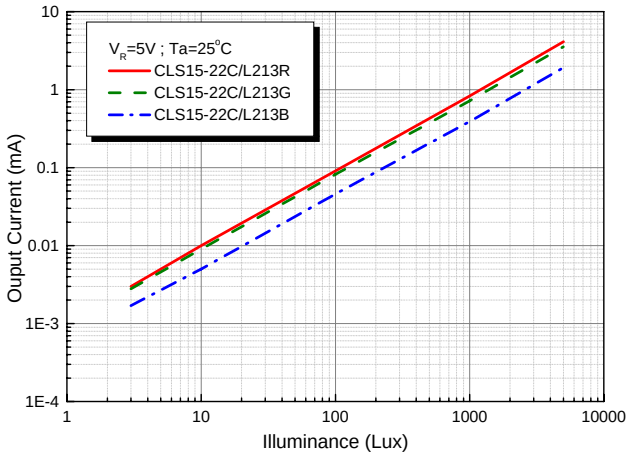


Fig.-3 R,G, B LED Test vs. Output Photocurrent

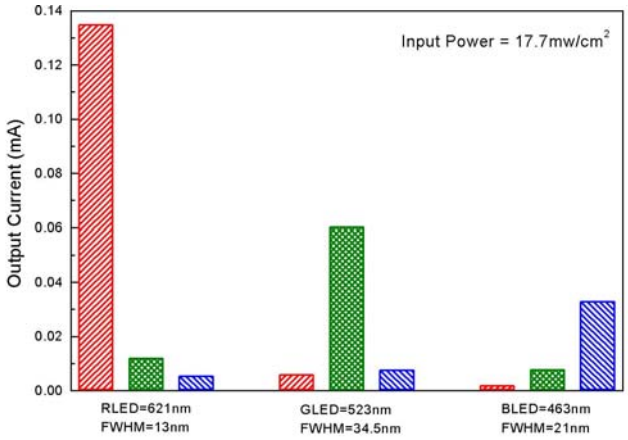


Fig.-3 R,G, B LED Test vs. Output Photocurrent

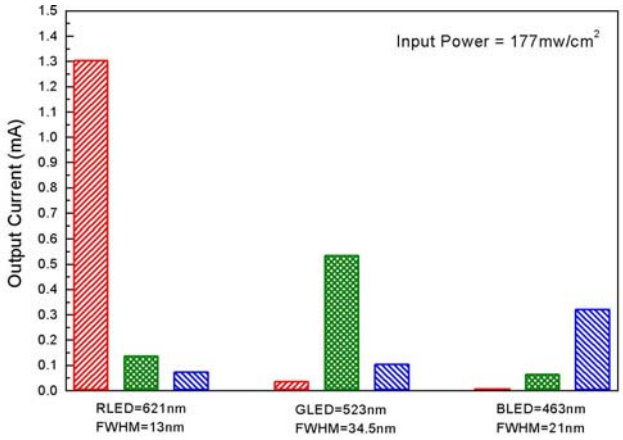
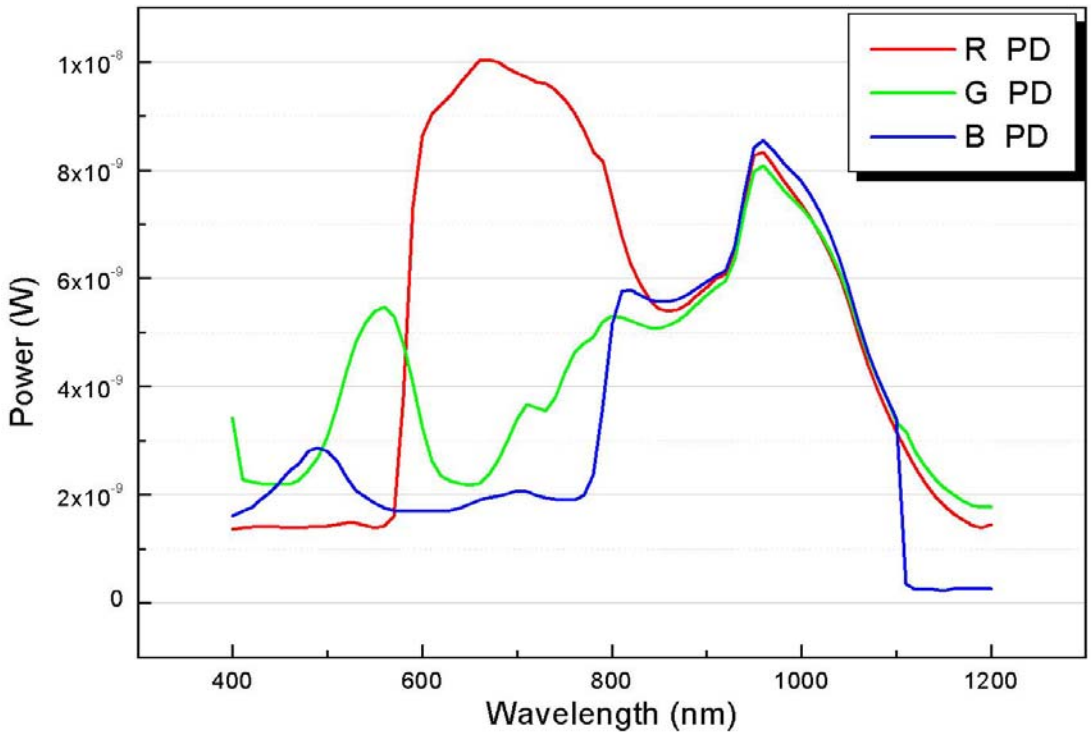


Fig.3 Relative Sensitivity vs. Wave Length(nm)



Packing Quantity Specification

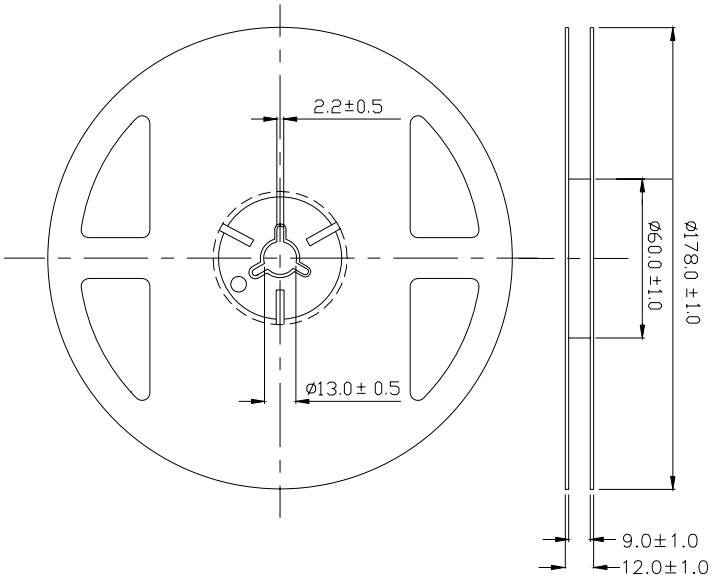
1. 2000 PCS/1 Reel
2. 5 Reel /1Carton

Label explanation



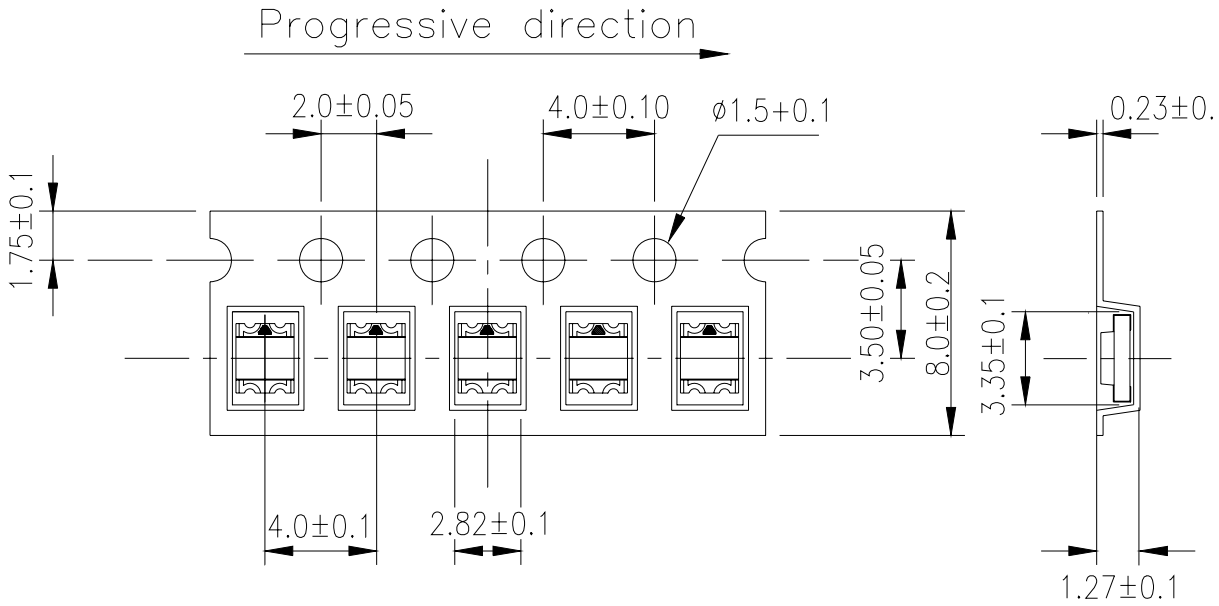
CPN: Customer's Production Number
P/N : Production Number
QTY: Packing Quantity
CAT: Ranks
HUE: None
REF: Reference
LOT No: Lot Number
MADE IN TAIWAN: Production Place

Reel Dimensions



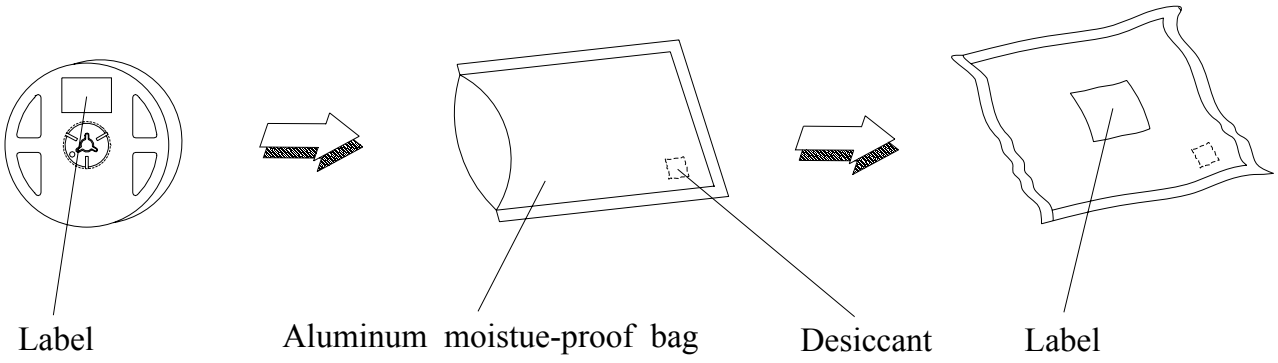
Note: The tolerances unless mentioned are ±0.1, Unit = mm.

Carrier Tape Dimensions: Loaded quantity 2000 PCS per reel



Note: Tolerances Unless Dimension is ±0.1mm , Unit = mm

Moisture Resistant Packaging



Notes

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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