



深圳成光兴光电技术股份有限公司

SHENZHEN CGX OPTOELECTRONIC TECHNOLOGY, INC..

# 样品规格承认书

## SAMPLE APPROVAL SHEET

客户名称

Company Name : \_\_\_\_\_

产品型号

Part Number: PDIC-5PLA5-U020-B3

送样日期

Sample Date: \_\_\_\_\_

| APPROVED SIGNATURES (供应商确认) |    |    |
|-----------------------------|----|----|
| 核准                          | 品保 | 工程 |
|                             |    |    |

客户确认：☐样品承认 ☐不予承认需重新送样 ☐不予承认不需送样

客户建议: \_\_\_\_\_

\_\_\_\_\_

| APPROVED SIGNATURES (客户确认) |    |    |
|----------------------------|----|----|
| 核准                         | 工程 | 品保 |
|                            |    |    |

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## Visible Light Detector

**PATR NO. : PDIC-5PLA5-U020-B3**

### FEATURES

- Near human eye photopic response
- High IR rejection without external optical filter
- Photo-Current amplifier integrated
- Excellent dark current performance over wide temperature range, especially over high temp
- High output current linearity to ambient light level
- Buffered analog output intergrates seamlessly with external MCU
- Higher humidity immunity

### DESCRIPTION

PDIC-5PLA5\*\* is a cost effective visible light sensor series without external optical filter to provide close to human eye response and high IR rejection.

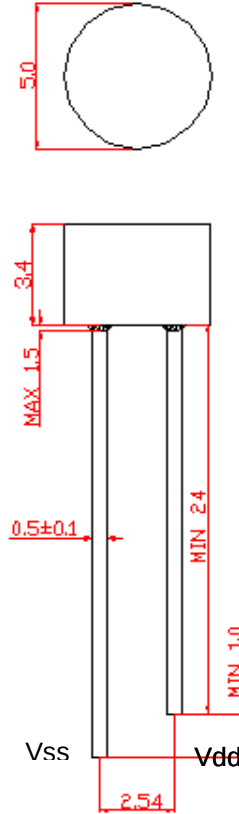
It converts light into voltage by connecting it with a series resistor. The dynamic range is determined by the power supply and the external resistor (5V supply with 10K ohm resistor gives a range of up to 160 Lux, and can be over 700 Lux with a 1K ohm resistor). The internal dark current cancellation circuits enable a stable and accurate performance even up to 125°C.

The digital output version provides a good BOM cost reduction and enables board miniaturization for system maker.

### APPLICATIONS

- Dawn/dusk sensing
- Security lighting
- Light sensing
- Automotive car headlight
- Automatic Night Light

### Package Dimensions Unit : mm



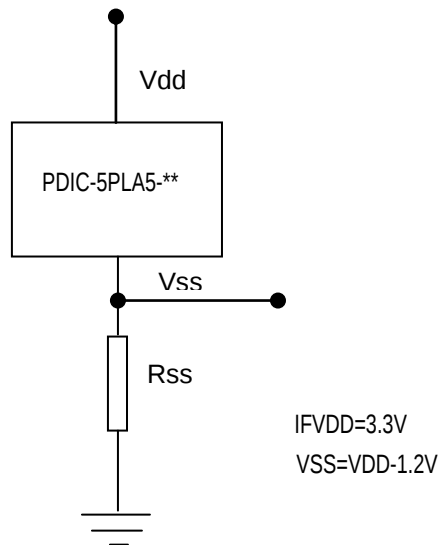
### Notes :

1. All dimensions are in millimeters
2. Protruded resin under flange is 0.5 mm max.
3. Tolerance is  $\pm 0.25$  mm unless otherwise noted.

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### BASIC APPLICATION



### ABSOLUTE MAXIMUM RATINGS

| PARAMETER                    | RATING             | UNITS |
|------------------------------|--------------------|-------|
| Supply input voltage         | -0.3 to 12         | V     |
| Supply current               | Internally limited | mA    |
| Operating Temperature, $T_O$ | -40°C to +85°C     | °C    |
| Storage Temperature, $T_S$   | -40°C to +100°C    | °C    |

### ELECTRICAL SPECIFICATION

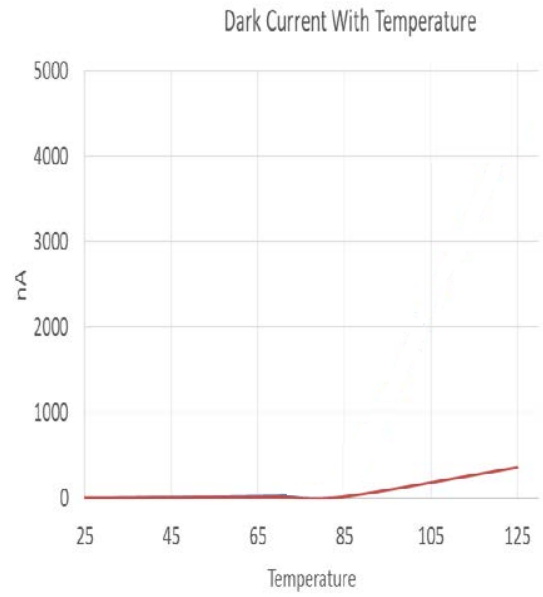
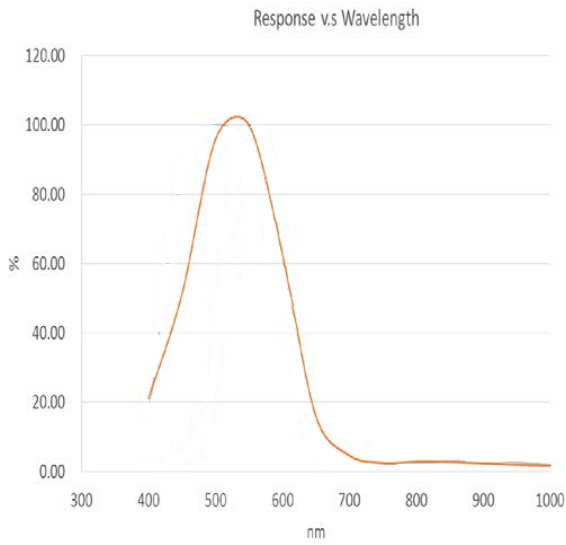
| Parameter              | Symbol     | Test Conditions                                        | Min | Typ     | Max      | Units    |
|------------------------|------------|--------------------------------------------------------|-----|---------|----------|----------|
| Operating voltage      | $V_{DD}$   |                                                        |     | 5       | 12       | V        |
| Output Current         | $I_{SS}$   | light @ yellow led<br>590nm<br>$V_r=5v$                | 3.5 | 5.0     | 7.0      | $\mu A$  |
| Dark Current           | $I_{DRK}$  | 0 Lux, $T_a = 25^\circ C$<br>0 Lux, $T_a = 85^\circ C$ |     | 5<br>10 | 20<br>50 | nA<br>nA |
| Peak Spectral Response | Wavelength |                                                        |     | 550     |          | nm       |

## Visible Light Detector

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### Photo-spectral response and IR rejection

**Dark current is only 360nA @ 125C**



### Output current:

