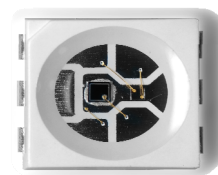


# UV Reflectance and Fluorescence Sensor

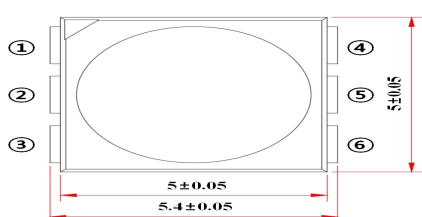
## GUVF-S31SD

**Features**  
 Multi-Sensor for detecting UV and visible range light  
 UV detecting part - Detecting the UV range light  
 Fluorescence detecting part - Detecting the visible range light

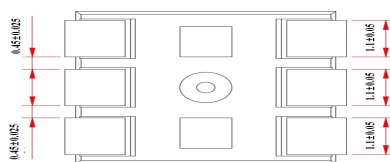


**Applications**  
 Money detecting  
 Counterfeits bill detecting

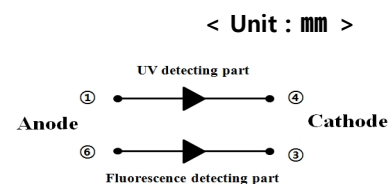
### Outline Diagrams



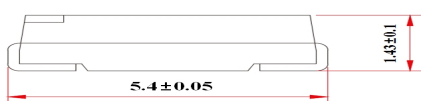
[ Top View ]



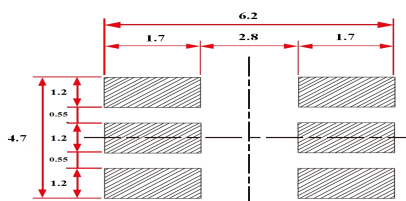
[ Bottom View ]



[ Circuit Diagram ]



[ Side View ]



[ Recommendable Soldering Pattern ]

### 1. UV Detecting Part

#### Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit	Remark
Storage Temperature	T <sub>stg</sub>	-40	90	°C	
Operating Temperature	T <sub>op</sub>	-30	85	°C	
Reverse Voltage	V <sub>r</sub>		2	V	
Forward Current	I <sub>f</sub>		1	mA	
Optical Source Power Range	P <sub>opt</sub>	0.1	100,000	μW/cm <sup>2</sup>	UVA Lamp
Soldering Temperature	T <sub>sol</sub>		260	°C	within 5 sec.

※ Notice: Apply to us in the case than Optical Source Power is over 100,000μW/cm<sup>2</sup>

#### Characteristics (at 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Dark Current	I <sub>d</sub>			1	nA	V <sub>r</sub> = 0.1V
Photo Current	I <sub>ph</sub>		181		nA	UVA Lamp, 1mW/cm <sup>2</sup>
Temperature Coefficient	I <sub>tc</sub>		0.1		%/°C	UVA Lamp
Responsivity	R		0.18		A/W	λ = 360nm, V <sub>r</sub> = 0V
Spectral Detection Range	λ	240		395	nm	10% of R
Active area			0.076		mm <sup>2</sup>	

## 2. Fluorescence Detecting Part

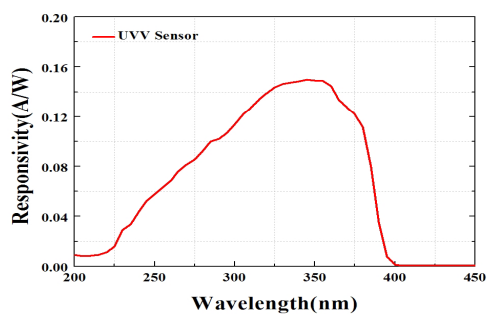
### Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit	Remark
Storage Temperature	T <sub>stg</sub>	-30	100	°C	
Operation Temperature	T <sub>op</sub>	-25	100	°C	
Reverse Voltage	V <sub>r</sub>		10	V	
Soldering Temperature	T <sub>sol</sub>		260	°C	within 5 sec.

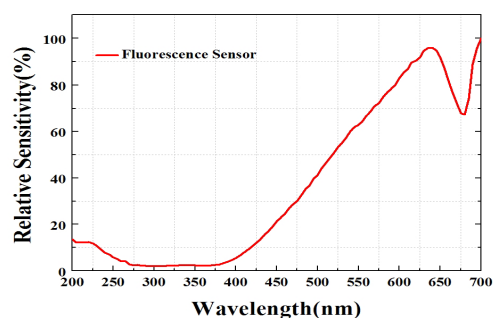
### Characteristics (at 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Dark current	I <sub>d</sub>			0.1	μA	V <sub>r</sub> =5V
Photo current	I <sub>sc</sub>		190		μA	E <sub>v</sub> = 1,000Lux
Temperature coefficient of I <sub>sc</sub>	β <sub>t</sub>		0.18		%/°C	
Spectral Detection Range	λ	420		700	nm	
Peak wavelength	λ <sub>p</sub>		640		nm	

## 3. Characteristic spectrums



Responsivity of UV Detecting sensor



Sensitivity of Fluorescence Detecting Sensor