

## 紫外線感測器 **GUVA-S12SD** 紫外線感測器 韓國原裝進口產品

太陽光紫外線偵測器

測量太陽光紫外線強度的感測器

品牌：GENICOM

型號：**GUVA-S12SD**

特點：

- 1.尺寸小：3.5×2.8×1.8mm
- 2.功耗低：供電電壓 2.5V~5V，工作電流是微安級
- 3.線性好
- 4.靈敏度高
- 5.高穩定性
- 6.檢測範圍寬：240nm-370nm
- 7.大角度：130 度
- 8.肖特基種類的光敏二極體，適用於光電模式

典型應用：

紫外線測試儀，紫外線手錶，戶外運動設備，手機移動電話等

本產品尤其是能用到行動電話領域的規格。並有直接對應紫外線指數

(UV INDEX)的線性電流

### 1. Features

- GaN-based Schottky Photodiode
- Photovoltaic Mode Operation
- Good Visible Blindness
- $3.5 \times 2.8 \times 1.9$  (L×W×H) Small Size Surface Mount Type

### 2. Applications

- UVA Lamp Monitoring
- UV Index Monitoring

### 3. Outline Diagrams and Dimensions

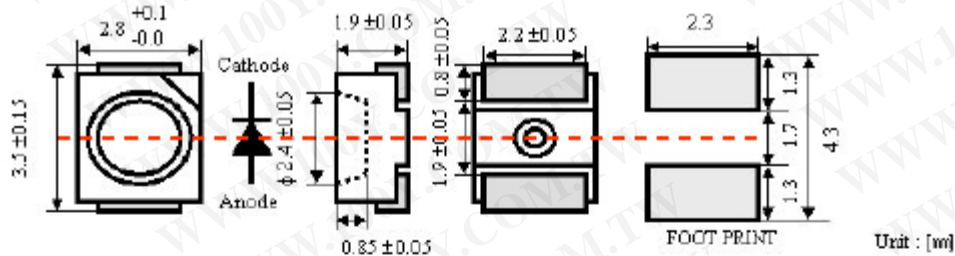
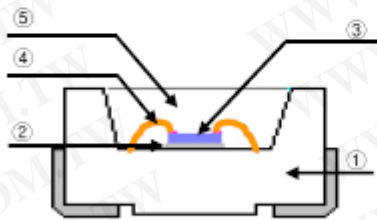


Fig. 1. Outline Diagrams and Dimensions



No.	Items	Material
①	Plastic PKG	PPA
②	Paste	Ag
③	UV Sensor Chip	GaNAl <sub>2</sub> O <sub>3</sub>
④	Wire	Au
⑤	Window	Si-Encapsulant

Fig. 2. Component and Its Material

#### 4. Electro-Optical Characteristics

##### 1) Absolute Maximum Ratings

Item	Symbol	Min.	Max.	Unit	Test Conditions
Reverse Voltage	$V_R$		5	V	
Operation Temperature	$T_{op}$	-30	85	℃	
Storage Temperature	$T_s$	-40	90	℃	
Soldering Temperature	$T_{sol}$		260	℃	< 10 sec

##### 2) Electro-Optical Characteristics ( at 25 ℃ )

Item	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Dark Current	$I_d$			1	nA	$V_R = 0.1$ V
Photo Current	$I_{ph}$	111		136	nA	UVA Power : 1 mW/cm <sup>2</sup>
Peak Responsivity	$R_p$		0.15		A/W	$\lambda_p = 350$ nm, $V_R = 0$ V
Cutoff Wavelength	$\lambda_{cutoff}$		370		nm	10 % of $R_p$
Spectral Detection Range	$\lambda$	240		370	nm	Monochromator Scan
Sensitivity Area	A	0.076			mm <sup>2</sup>	

##### 3) Responsivity Curve ( at 25 ℃ )

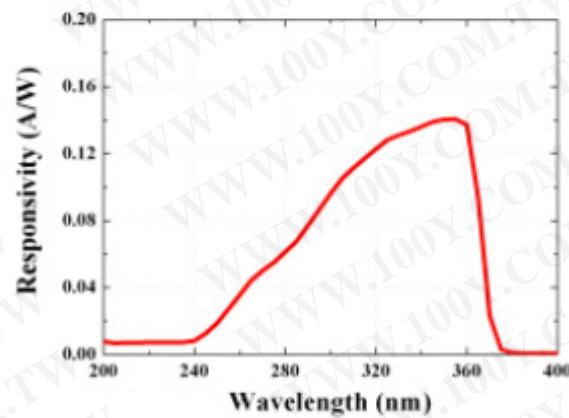


Fig. 3. Typical Spectral Responsivity

## 5. Reliability

### 1) Criterion for Judging

Item	Symbol	Min	Max	Unit	Test Conditions
Dark Current	$I_d$	-	1	nA	$V_r = 0.1V$
Photo Current	$I_{ph}$	90	110	%	$V_r = 0V$

### 2) Test Results

Classification / Item	Test Conditions	Fail / Pass	Reference standard
High Temperature Storage	90 °C, 1000 hrs	0 / 100	JIS-C-7021:B-10
Low Temperature Storage	-40 °C, 1000 hrs	0 / 100	JIS-C-7021:B-12
High Temperature & High Humidity Storage	60 °C, 95 % RH, 240 hrs	0 / 100	MIL-STD-202:103B
Thermal Shock	-40 °C / 90 °C (15 cycles) Transfer Time < 10 s	0 / 100	MIL-STD-750:1056
Temperature Cycling	-40 °C / 90 °C (10 cycles) Transfer Time < 1 min Holding Time = 10 min	0 / 100	MIL-STD-750:1051
Pressure Cooker Test (PCT)	120 °C, 100 % RH, 2 atm (4 hrs)	0 / 100	JESD22-A102-C
Soldering Resistance	$T_{sol} = 260 \pm 5$ °C Dwell time = $10 \pm 1$ s	0 / 100	MIL-STD-750:2031
ESD (HBM)	Class 1A : 300 V	0 / 100	JESD22-A114-B
UV Exposure	100 UV1, 500 hrs (UVB Lamp)	0 / 100	

## 6. Soldering

### 1) Soldering Pattern

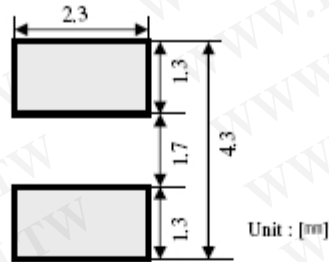


Fig. 4. Recommended Soldering Pattern

### 2) Reflow Soldering Profile

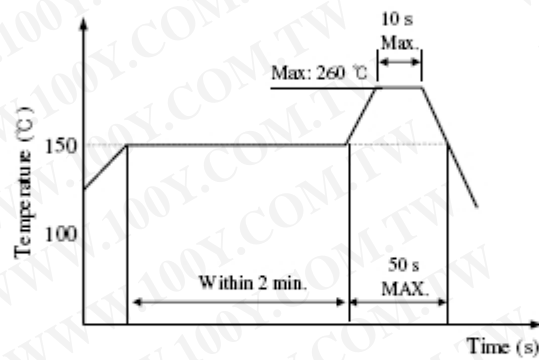


Fig. 5. Recommended Reflow Soldering Profile

### 3) Manual Soldering Conditions

- Temperature : Max. 260 °C
- Time : Max. 10 s
- Caution : You must put to earth and shield the package from ESD damage.  
(ex.: wrist strap or anti-electrostatic gloves )

## 7. Taping

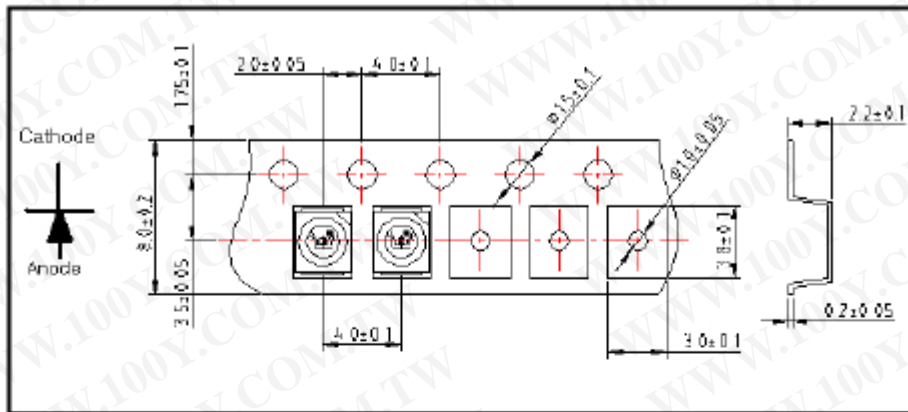


Fig. 6. Standardization of Carrier Tape

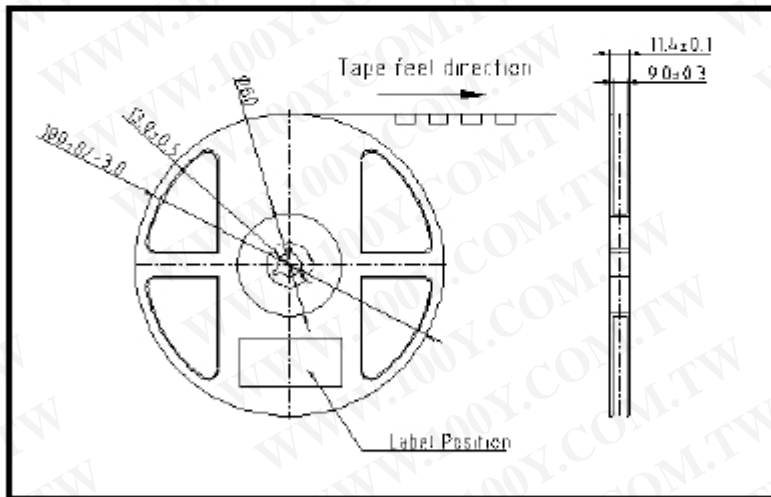
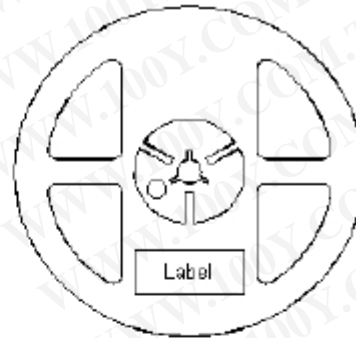
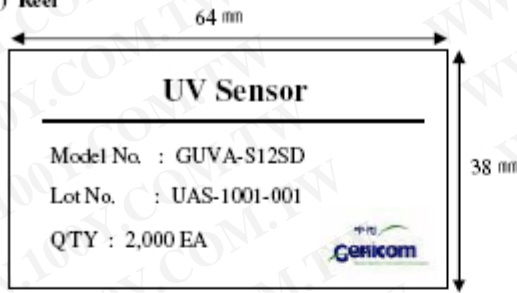


Fig. 7. Diagram and Standardization of Reel

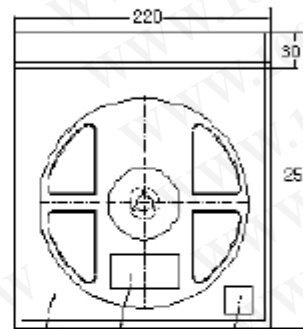
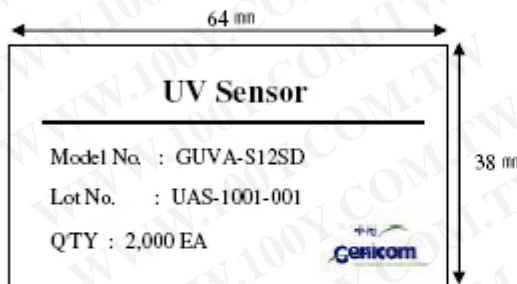
- Quantity : Max. 2000EA/reel
- Label : Model Name, Lot Number, Quantity
- The packing materials such as reel, carrier tape, cover tape and shielding bag are antistatic.

## 8. Packing

### 1) Reel



### 2) Al Shielding Bag



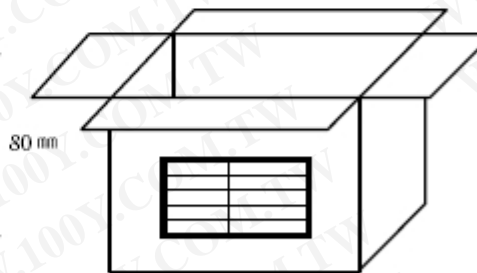
AntiStatic Shielding Bag

### 3) Outer Box

Name of Goods	
Model No.	
Order No.	
Quantity	EA
C/T No.	

190 mm

80 mm



Size : 280 x 300 x 250 mm

### 4) Definition of Lot No.

【 EX. 】 : UAS - 1001 - 001

UAS : Product Model (UVA Sensor with Si-Encapsulant)

1001 : Product Year and Month

001 : Consecutive Number