

# SPECIFICATION

*PART NO. : YL-95T2M-23028-46-5210*

**3.0mm ROUND PHOTOTRANSISTOR**



Approved by

Checked by

Prepared by

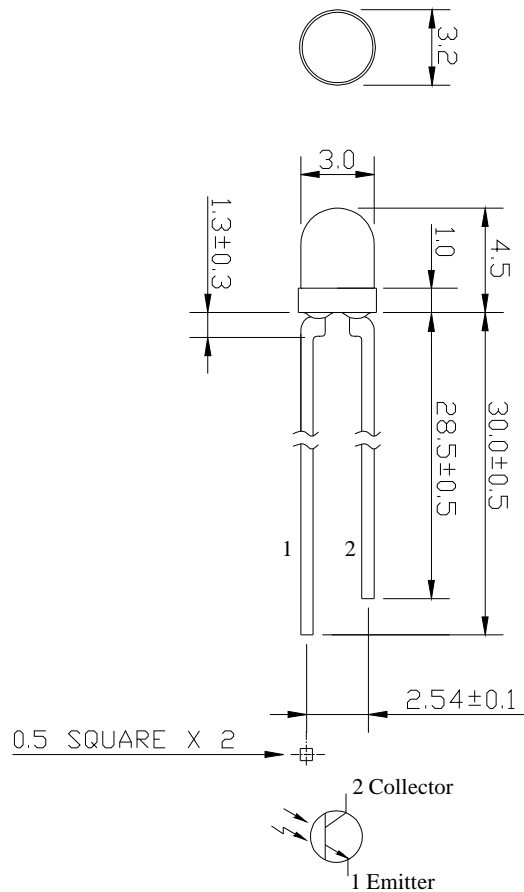
*Yue*

*Lian*

*Min Bao*

**3.0mm ROUND  
PHOTOTRANSISTOR****Description**

The YL-95T2M-23028-46-5210 is a high speed and high sensitive silicon NPN epitaxial planar phototransistor in a standard 3.0mm package. The device is sensitive to visible and near infrared radiation.

**Notes:**

1. All dimensions are in mm.
2. The specifications, characteristics and technical data described in the datasheet are subject to change without notice.
3. Tolerance is  $\pm 0.25$ mm unless otherwise noted.

**Description**

Part No.	Chip	Lens Color
	Material	
YL-95T2M-23028-46-5210	Silicon	Black

**3.0mm ROUND  
PHOTOTRANSISTOR****Absolute Maximum Ratings at Ta=25°C**

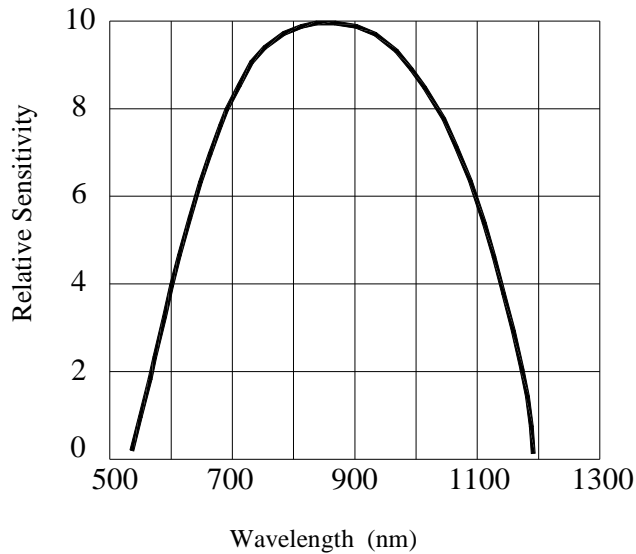
Parameter	Symbol	Rating	Unit
Power Dissipation	P <sub>D</sub>	75	mW
Collector-emitter voltage	V <sub>CEO</sub>	30	V
Emitter-collector voltage	V <sub>ECO</sub>	5	V
Operating Temperature Range	T <sub>opr</sub>	-25 to +85	°C
Storage Temperature Range	T <sub>stg</sub>	-40 to +100	°C
Soldering Temperature(1.6mm from body)	T <sub>sol</sub>	Dip Soldering : 260°C for 5 sec. Hand Soldering : 350°C for 3 sec.	

**Electrical and Optical Characteristics:**

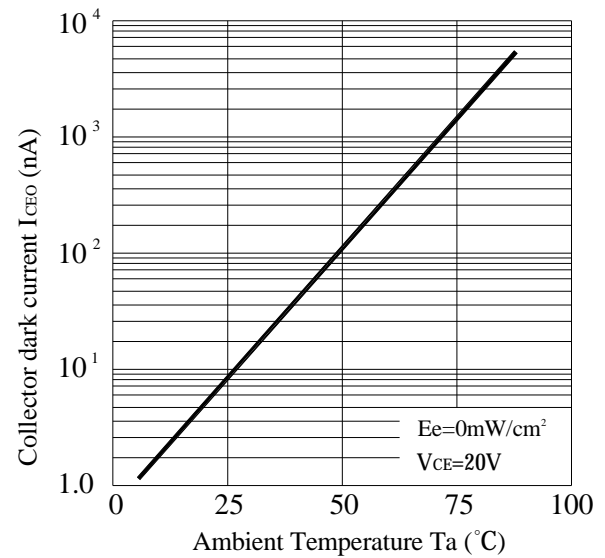
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	Ee=0mW/cm <sup>2</sup> I <sub>c</sub> =100μA	30			V
Emitter-collector breakdown voltage	V <sub>(BR)ECO</sub>	Ee=0mW/cm <sup>2</sup> I <sub>E</sub> =100μA	5			V
Collector-emitter saturation voltage	V <sub>(SAT)CE</sub>	Ee=1mW/cm <sup>2</sup> I <sub>c</sub> =2mA			0.3	V
Rise time	T <sub>r</sub>	V <sub>CE</sub> =5V I <sub>c</sub> =1mA R <sub>L</sub> =1000		15		μS
Fall time	T <sub>f</sub>			15		μS
Collector Dark Current	I <sub>CEO</sub>	Ee=0mW/cm <sup>2</sup> V <sub>CE</sub> =20V			100	nA
On State Collector Current	I <sub>C(ON)</sub>	Ee=1mW/cm <sup>2</sup> V <sub>CE</sub> =5V	0.6	2.0		mA
Peak Sensitivity Wavelength	λ <sub>p</sub>			860		nm

# 3.0mm ROUND PHOTOTRANSISTOR

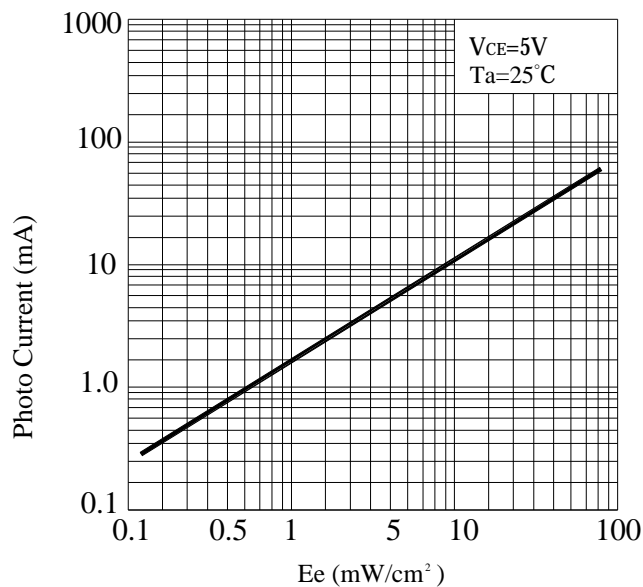
## Typical Electrical / Optical Characteristics Curves :



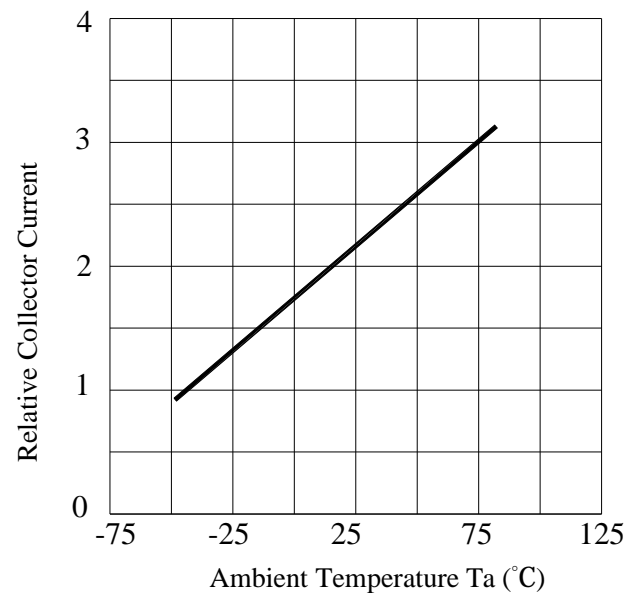
**Fig. 1 Spectral Sensitivity VS. Peak Wavelength**



**Fig. 2 Collector Dark Current VS. Ambient Temperature**



**Fig. 3 Photo Current VS. Irradiance**



**Fig. 4 Collector Current VS. Ambient Temperature**

**3.0mm ROUND  
PHOTOTRANSISTOR****Precautions:****TAKE NOTE OF THE FOLLOWING IN USE OF LED****1. Temperature in use**

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin. Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use. Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130°C. At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more compared to that at normal temperature and the resin is softened. If external force or stress is applied at that time, it may cause a wire rupture.

**2. Soldering**

Please be careful on the following at soldering.

After soldering, avoided applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

**(1) Soldering measurements:**

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

**(2) Dip soldering :**

Pre-heat: 90°C max. (Backside of PCB), Within 60 seconds.

Solder bath: 260±5°C (Solder temperature), Within 5 seconds.

**(3) Hand soldering: 350°C max. (Temperature of soldering iron tip), Within 3 seconds.****3. Insertion**

Pitch of the LED leads and pitch of mounting holes need to be same.

**4. Others**

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120°C max. Baking time: Within 60 seconds. If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.

**5. This LED is designed to be wave solder and dip soldered on to a PCB. If reflow soldered, YesLED cannot guarantee its reliability.****Disclaimer**

1. Our department reserves the right(s) on the adjustment of product material mix for the specification.
2. The product meets our department published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
4. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. Our department assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
5. These specification sheets include materials protected under copyright of our department. Reproduction in any form is prohibited without obtaining our department's prior consent.

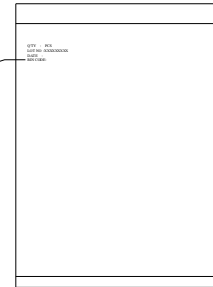
This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized our department sales agent for special application request.

# 3.0mm ROUND PHOTOTRANSISTOR

## ENCASED TYPE

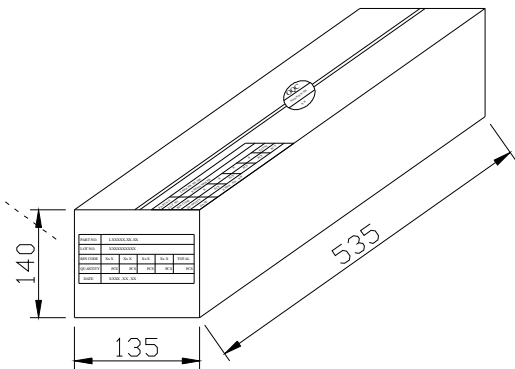
PLASTIC PACKAGE  
QUANTITY: 1000 PCS

PART NO : XXXX-XX  
Q'TY : PCS  
LOT NO :XXXXXXXXXX  
DATE :  
BIN CODE:



INNER BOX  
QUANTITY: 20 PACKETS  
TOTAL: 20,000 PCS

PART NO.	XXXXX-XX-XX				
LOT NO.	XXXXXXXXXX				
BIN CODE	Xx X	Xx X	Xx X	Xx X	TOTAL
QUANTITY	PCS	PCS	PCS	PCS	PCS
DATE	XXXX, XX, XX				



OUTER CARTON  
QUANTITY: 4 BOX  
TOTAL: 80,000 PCS

C/T NO. 箱 號	XX
PART NO. 料 號	XXXXX-XX-XX
QUANTITY 數 量	PCS
N.W. 淨 重	KGS
G.W. 毛 重	KGS
REMARK 備 註	

