

规格书

SPECIFICATION

型号： MODEL：	YC8105
版本号： REV：	V1.0

客户承认 APPROVED BY CUSTOMER		
确认意见 COMMENTS	审核 CHECKED BY	批准 APPROVED BY

客户承认签章后敬请回传正本一份

Please kindly countersign the document and send it back for our record

东莞市亿彩电子科技有限公司

DONG GUAN EVERCOLOR ELECTRONICS CO., LTD.

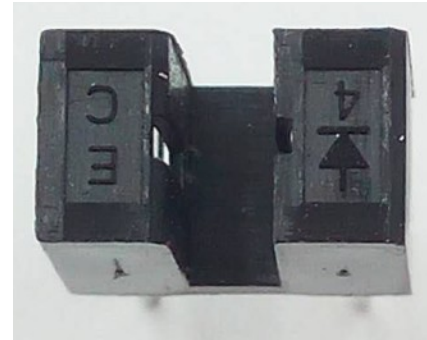
YC8105

■ Features

- Wide gap between light emitter and detector(2.6 mm)
- High sensing accuracy
- Pb free
- The product itself will remain within RoHS compliant version.

■ Descriptions

The YC8105 is a gallium arsenic infrared emitting diode which is coupled with a silicon photo transistor in a plastic housing. The packaging system is designed to optimizes the mechanical resolution, coupling efficiency, and insulates ambient light. The slot in the housing a provides a means of interrupting the signal with printer, scanner, copier, or other opaque material, switching the output from an "ON" to" OFF" state.



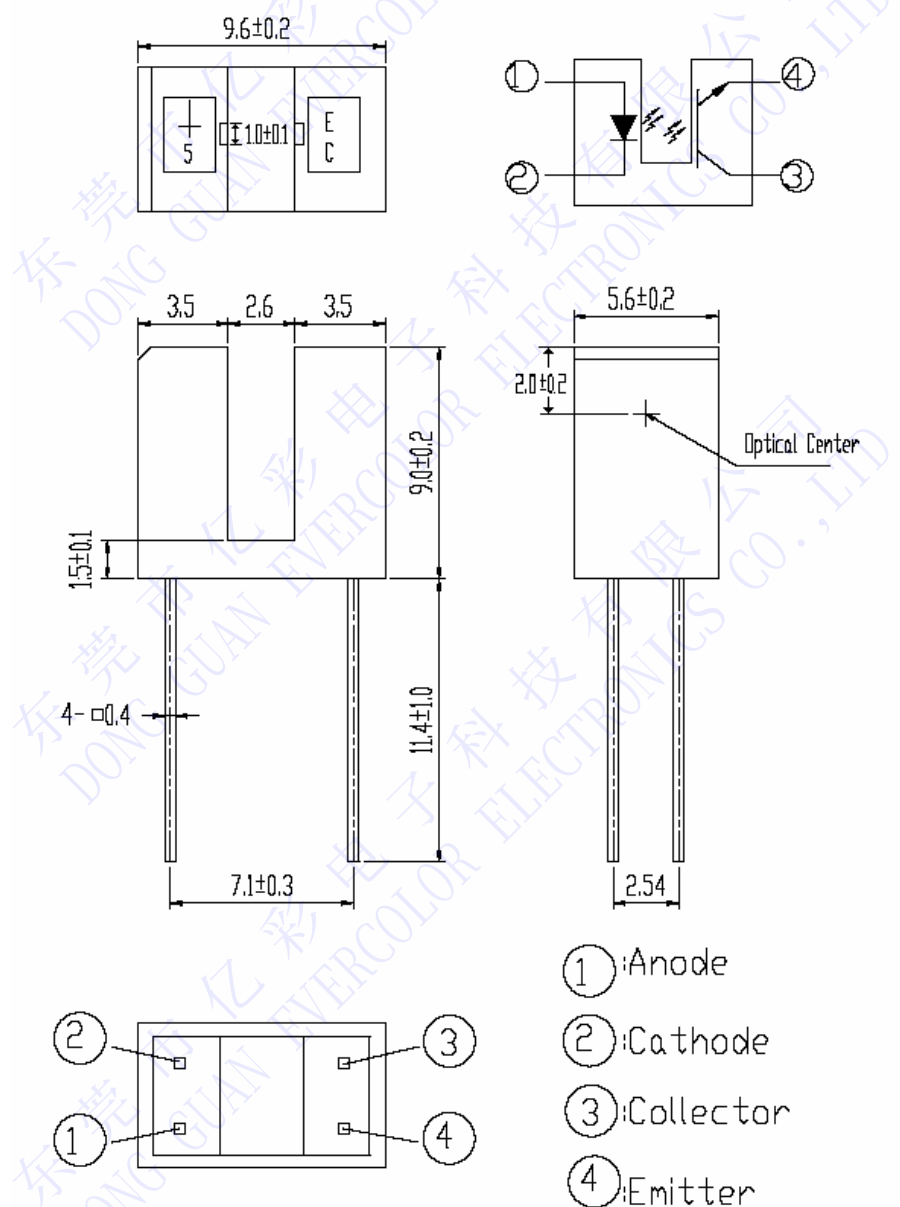
■ Applications

- Copier
- Printer
- Facsimile
- Ticket vending machine
- Opto-electronic switch

■ Device Selection Guide

Device No.	Chip Material	LENS COLOR
IR GaAs		Water clear
PT Silicon		Water clear

Package Dimensions



Notes: 1. All dimensions are in millimeters

2. The tolerance not marked is ± 0.20 mm in the drawing.

东莞市亿彩电子科技有限公司

DONG GUAN EVERCOLOR ELECTRONICS CO., LTD.

Absolute Maximum Ratings (Ta=25°C)

YC8105

Parameter Symbol			Ratings	Unit
Input	Power Dissipation at(or below) 25°C Free Air Temperature	Pd	75	mW
	Reverse Voltage	V _R	5	V
	Forward Current	I _F	50	mA
	Peak Forward Current Pulse width ≤ 100 μs, Duty cycle=1%	I _{FP}	1	A
Output	Collector Power Dissipation	P _C	75	mW
	Collector Current	I _C	20	mA
	Collector-Emitter Voltage	V _{CE0}	30	V
	Emitter-Collector Voltage	V _{EC0}	5	V
Operating Temperature		Topr	-25~+85	°C
Storage Temperature		Tstg	-40~+85	°C
Lead Soldering Temperature (1/16 inch from body for 5 seconds)		Tsol	260	°C

Electro-Optical Characteristics (Ta=25°C)

Parameter Symbol		Min.	Typ.	Max.	Unit	Condition
Input	Forward Voltage	V _F --	1.2	1.6	V	I _F =20mA
	Reverse Current	I _R -	-	10	μA	V _R =5V
	Peak Wavelength	λ _P	- 940	-	nm	I _F =20mA
Output	Dark Current	I _{CEO} -	-	100	nA	V _{CE} =10V
	C-E Saturation Voltage	V _{CE(sat)}	--	0.4	V	I _C =0.5mA, I _F =20mA
Transfer Characteristics	Collector Current	I _{C(ON)} 1	4	15	mA	V _{CE} =5V, I _F =10mA
	Rise Time	t _R -	20	-	μs	V _{CE} =5V, I _C =1 mA , R _L =1 KΩ
	Fall Time	t _F -	20	-	μs	

东莞市亿彩电子科技有限公司

DONG GUAN EVERCOLOR ELECTRONICS CO., LTD.

YC8105

Typical Electrical/Optical/Characteristics Curves for IR

Fig. 1 Forward Current vs. Ambient Temperature

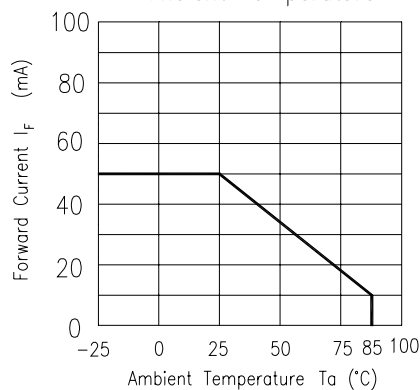


Fig. 2 Spectral Distribution

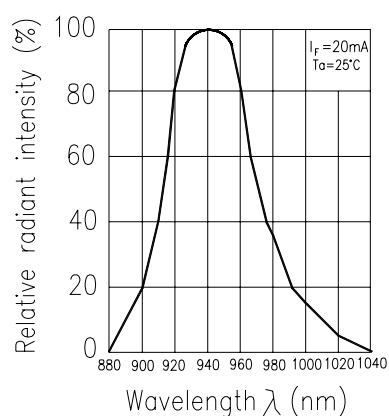


Fig. 3 Peak Emission Wavelength vs. Ambient Temperature

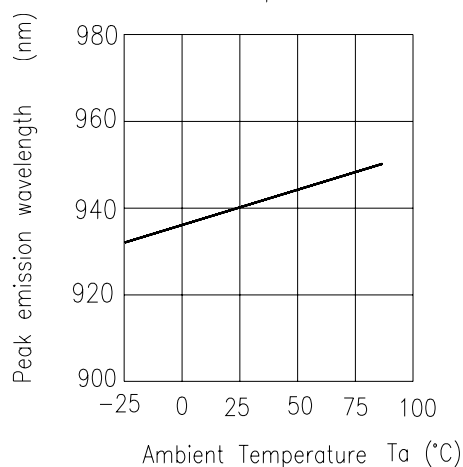


Fig. 4 Forward Current vs. Forward Voltage

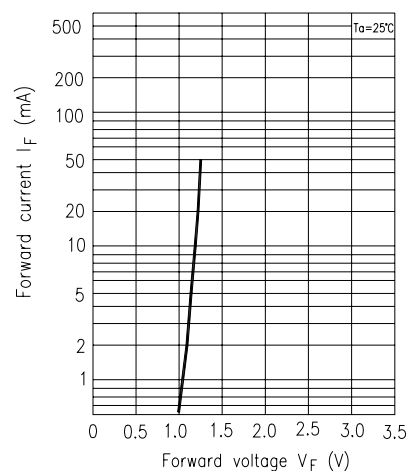


Fig. 5 Forward Voltage vs. Ambient Temperature

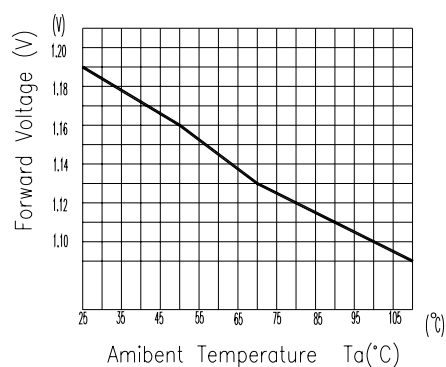
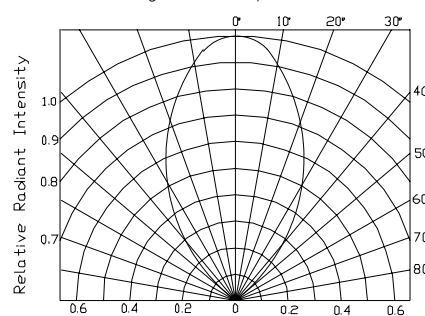


Fig. 6 Relative Radiant Intensity vs. Angular Displacement



东莞市亿彩电子科技有限公司

DONG GUAN EVERCOLOR ELECTRONICS CO., LTD.

Typical Electrical/Optical/Characteristics Curves for PT

YC8105

Fig.1 Collector Power Dissipation vs. Ambient Temperature

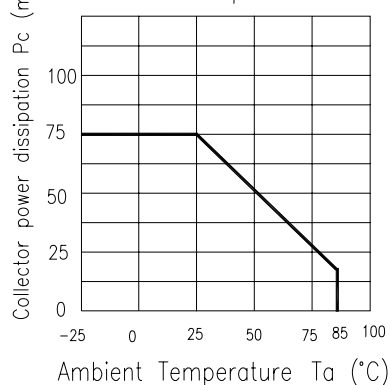


Fig.2 Collector Dark Current vs. Ambient Temperature

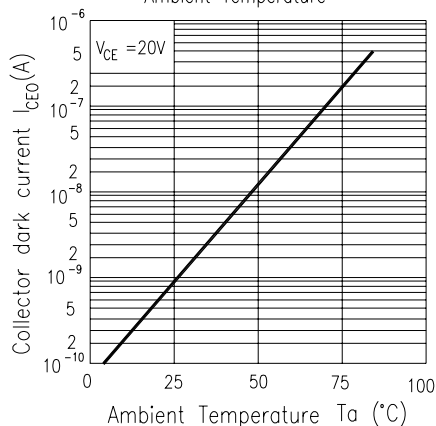


Fig.3 Spectral Sensitivity

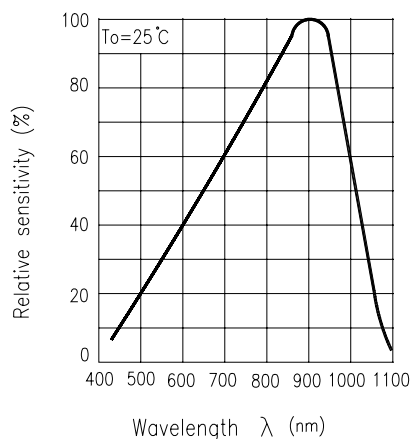
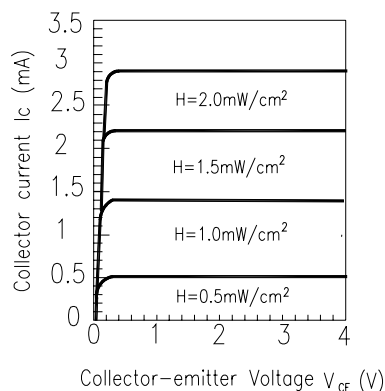


Fig.4 Collector Current vs. Collector-emitter Voltage



Typical Electro-Optical Characteristics Curves

Fig.1 Relative Collector Current vs. Shield Distance(1)

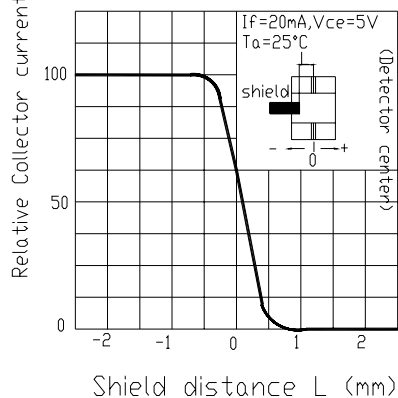
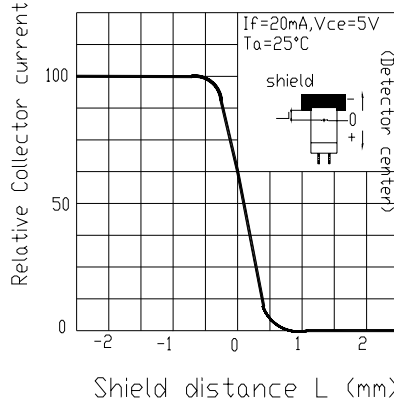


Fig.2 Relative Collector Current vs. Shield Distance(2)



东莞市亿彩电子科技有限公司

DONG GUAN EVERCOLOR ELECTRONICS CO., LTD.

YC8105

Reliability Test Item And Condition

The reliability of products shall be satisfied with items listed below.

Confidence level : 90% 、LTPD : 10%

NO.	Item	Test Conditions	Test Hours/ Cycles	Sample Sizes	Failure Judgement Criteria	Ac/Re
1	Solder Resistance	Ta = 260 ±3°C 10	± 1 sec	22pcs	$V_F \geq U \times 1.2$ $I_{C(ON)} \leq L \times 0.8$ U : Upper Specification Limit L : Lower Specification Limit	0/1
2	Temperature Cycle	H : +85°C 15mins ↓ 5mins L : -55°C 15mins	50Cycles 22pcs			0/1
3	Thermal Shock	H : +85°C 5mins ↓ 10secs L : -55°C 5mins	50Cycles 22pcs			0/1
4	High Temperature Storage	TEMP. : +100°C	1000hrs 22pcs			0/1
5	Low Temperature Storage	TEMP. : -55°C	1000hrs 22pcs			0/1
6	DC Operating Life	V _{CE} =5V 1000hrs		22pcs		0/1
7	High Temperature/ High Humidity	85°C / 85% R.H	1000hrs 22pcs			0/1

东莞市亿彩电子科技有限公司

DONG GUAN EVERCOLOR ELECTRONICS CO., LTD.

YC8105

Packing Quantity Specification

250Pcs/Bag,4Bag/Box,10Boxes/Carton

Label Form Specification

		
CPN: P/N:		
		
YC8105		
QTY:	CAT:	
	HUE:	
LOT NO:	REF:	
		
Reference		
		

CPN: Customer's Production Number

P/N : Production Number

QTY: Packing Quantity

CAT: Ranks

HUE: Peak Wavelength

REF: Reference

LOT No: Lot Number

X: Month

Reference: Identify Label Number

Notes

- 1.All dimensions are in millimeters
- 2.Tolerances unless dimensions $\pm 0.25\text{mm}$
- 3.Lead spacing is measured where the lead emerge from the package
- 4.Above specification may be changed without notice. Dong Guan YICAI will reserve authority on material change for above specification
- 5.These specification sheets include materials protected under copyright of Dong Guan YICAI corporation . Please don't reproduce or cause anyone to reproduce them without Dong Guan YICAI 's consent
- 6.When using this product , please observe the absolute maximum ratings and the instructions for use outlined in these specification sheets. Dong Guan YICAI 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.