



**BRIGHTTEK**  
**BRIGHTTEK (EUROPE) LIMITED**

***APPROVAL SHEET***

**CUSTOMER:** \_\_\_\_\_

**TYPE NO.:**   NOP08L58  

**PACKAGE SIZE:**   5mm Round Type Phototransistors  

**DICE MATERIAL:**   Silicon  

**RECEIVING ANGLE (deg):**       38      

**LENS COLOR:**       Water Clear      

**WAVELENGTH OF THE MAXIMUM SENSITIVITY(nm):**       900

# PHOTOTRANSISTOR

## TYPE NO.: NOP08L58

### GENERAL DESCRIPTION

The NOP08L58 series consist of NPN silicon phototransistor mounted in lensed, clear plastic, This series is mechanically and spectrally matched to the LIR053 and LIR034 of infrared emitting diodes, If the LPT055 and LPT035 series are special dark plastic package that cut the visible Light and suitable for the detectors of infrared application.

### APPLICATION

- 1.Remote control
- 2.Automatic control system
- 3.Burglar alarm
- 4.Photo detector
- 5.Smoke detector
- 6.Computer I/O peripheral
- 7.Industrial use

### FEATURES

- 1.Wide range of collector currents.
- 2.Lens for high sensitivity.
- 3.Low cost plastic package.
- 4.Stable characteristic

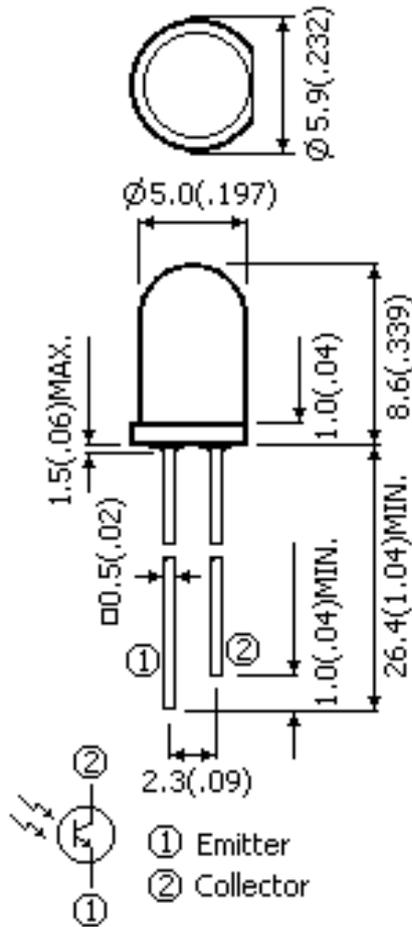
### ELECTRICAL OPTICAL CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Emitter Sustaining Voltage	$V_{CE}$	30	60	—	V	$I_c = 0.5mA, E_e=0 \text{ mW/cm}^2$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	—	0.4	—	V	$I_c = 100\mu A, E_e=0.6\text{mW/cm}^2$
Emitter-Collector Breakdown Voltage	$BV_{ECO}$	5	7	—	V	$I_e = 100\mu A, E_e=0 \text{ mW/cm}^2$
Dark Current	$I_D$	—	—	100	nA	$V_{CE} = 10V, E_e = 0 \text{ mW/cm}^2$
Photo Current	$I_L$	0.7	4.0	—	mA	$V_{CE} = 5V, E_e=1.0\text{mW/cm}^2$
Rise Time (10% to 90%)	$T_R$	—	10	—	$\mu S$	$V_{CC} = 5V, I_L = 800 \mu A$ $R_L = 1K \text{ OHM}$
Fall Time (90% to 10%)	$T_F$	—	15	—	$\mu S$	

### ABSOLUTE MAXIMUM RATING

Parameter	Symbol	Maximum Rating	Unit
Power Dissipation	$P_D$	100	mW
Emitter-Collector Breakdown Voltage	$BV_{ECO}$	5	V
Collector-Emitter Sustaining Voltage	$V_{CE}$	30	V
Operating Temperature Range	$T_{OPT}$	-40~+85	°C
Storage Temperature Range	$T_{STO}$	-50~+100	°C
Lead Soldering Temperature(at 1/16 inch from Body for 5 Sec)	$T_S$	260	°C
Relative Humidity at 85°C	$H_R$	85	%

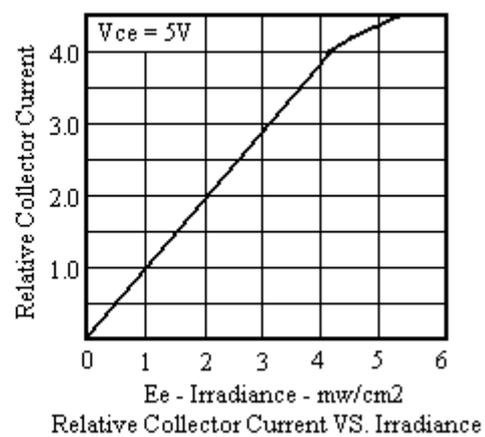
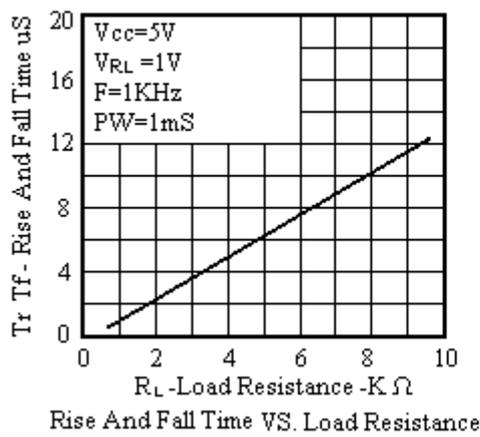
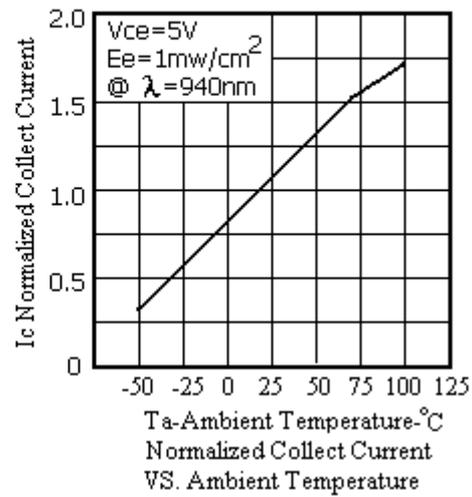
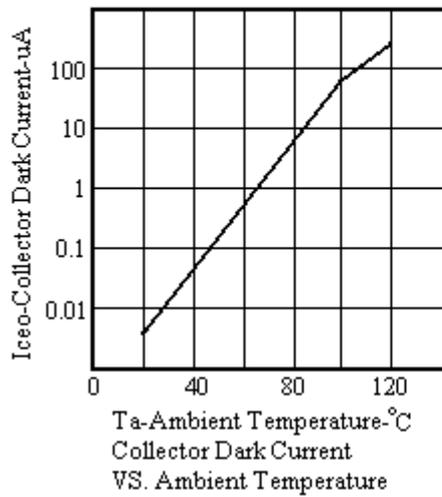
# PHOTOTRANSISTOR PACKAGE DIMENSIONS



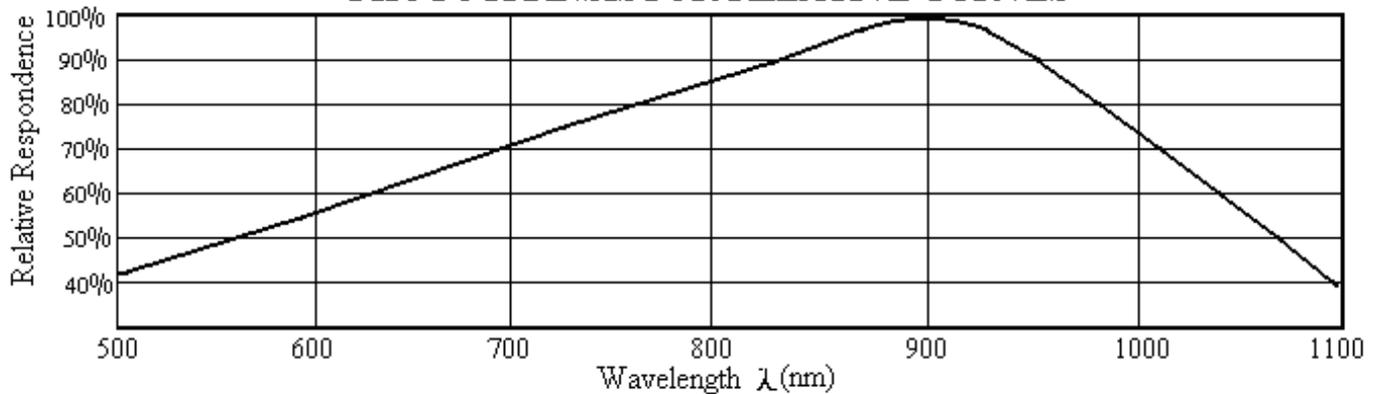
<b>DEVICE NO.: N0P08L58</b>	<b>DRAWING NO.</b>	<b>ENGINEER</b>
<b>ALL TOLERANCE SHALL BE</b> <b><math>\pm 0.01</math> inch/<math>0.25</math>mm</b> <b>UNLESS OTHERWISE NOTED</b>	<b>DRAWING DATE</b>	<b>APPROVER</b>

# Typical Electrical-Optical Characteristics Curves

## PHOTOTRANSISTOR - Typical Electrical / Optical Characteristic Curves



## PHOTOTRANSISTOR RELATIVE CURVES



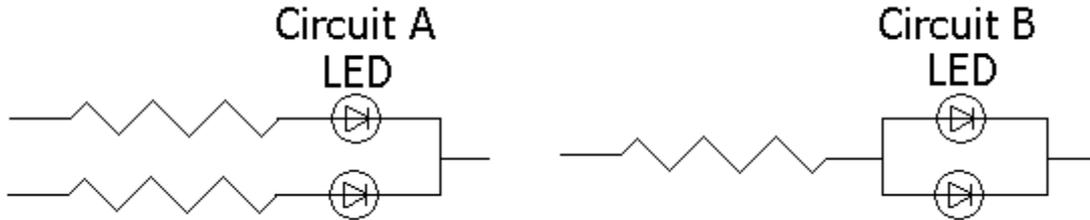
## Reliability test For LED Lamps

NO.	Item	Test Conditions	Test Time/ Cycle	Sample Size	Ac/Re
1	DC Operating Life	Temperature:25°C Vce=5v IF:20mA	1000HRS	20PCS	0/1
2	High Temperature High Humidity	Temperature:85°C 85%RH	1000HRS	20PCS	0/1
3	High Temperature Storage	Temperature:100°C	1000HRS	20PCS	0/1
4	Low Temperature Storage	Temperature:— 40°C	1000HRS	20PCS	0/1
5	Temperature Cycling	85°C~ 25°C~— 35°C 15min~ 5min~ 15min	15Cycles	20PCS	0/1
6	Thermal Shock	85°C~ 25°C~— 10°C 5min~ 10sec ~ 5min	15Cycles	20PCS	0/1
7	Solder Heat	Temperature:260°C±5°C	10SEC.	20PCS	0/1

# Precautions For Use LED

## 1. Drive Method

LED is current-operated device. In order to ensure intensity uniformity on multiple LEDs connected in parallel in an application, it is recommended that a current limiting resistor be incorporated in the drive circuit.



(a) Circuit A it is recommended circuit.

(b) Circuit B the brightness of each LED might appear different due to the differences in the I-V characteristics of those LEDs.

## 2. Over-current-proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

## 3. Storage

The Storage Temperature and RH are:  $5^{\circ}\text{C} \sim 30^{\circ}\text{C}$ , RH 60% or less.

Once the package is opened, the products should be used within a week. Otherwise, they should be kept in moisture proof package with moisture absorbent material (silica gel). we suggest our customers to use our products within a year.

If the moisture absorbent material (silica gel) has faded away or the LEDs exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment: more than 24 hours at  $60^{\circ}\text{C} \pm 5^{\circ}\text{C}$ .

## 4. Electrostatic Discharge (ESD)

Static electricity or surge voltage will damage the LEDs

Suggestions to prevent ESD damage:

Use of a conductive wrist band or anti-electrostatic glove when handling these LEDs

All devices, equipment, and machinery must be properly grounded.

Work tables storage racks, etc. should be properly grounded

In the events of manual working in process, make sure the devices are well protected from ESD at any time.

## 5. Others

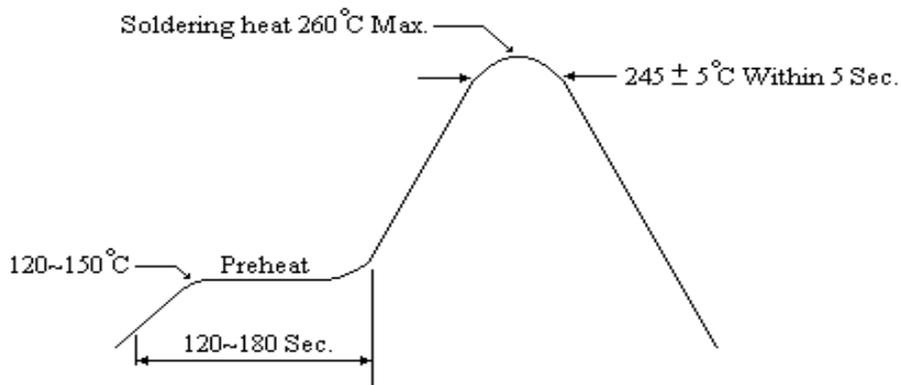
(a) If want to have the uniform luminance and color, please use the same binning number, and avoid using intermix to cause the differences of luminance and color.

(b) The appearance and specifications of the product may be modified for improvement without prior notice.

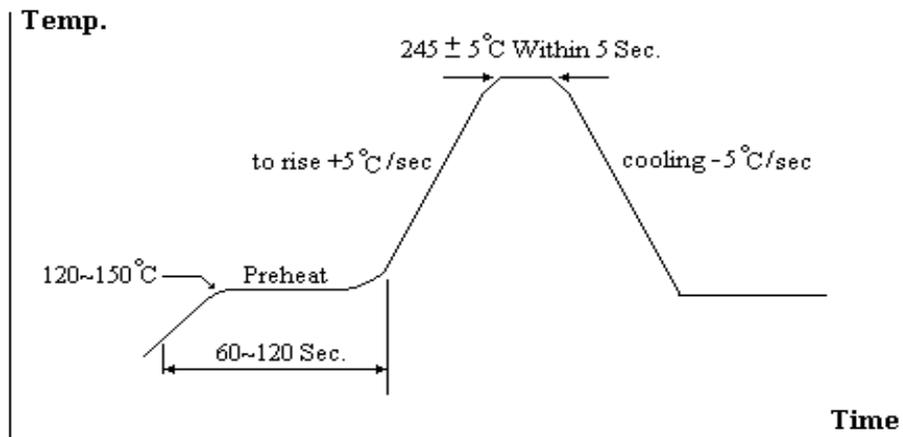
## 6. Soldering

Recommended soldering condition as shown below:

Soldering heat (DIP)



### Reflow Temp./Time



### Soldering Iron

Temperature at tip of iron : 300°C Max. ( 25 W Max. )

Soldering Time : 3 sec. ± 1 sec.( one time only )

If temperature is higher, time should be shorter