



# BRIGHT LED ELECTRONICS CORP.

## Specification for Approval

- DEVICE NUMBER: BPT-BP2934
- CUSTOMER:

SAMPLES  
ATTACHED AREA

DATE \ PAGE	1	2	3	4	5				CONTENTS
2015/11/03	1.0	1.0	1.0	1.0	1.0				Initial Released
2018/12/17	1.0	1.1	1.0	1.0	1.0				Modification of receiving wavelength diagram
2020/3/6	1.2	1.2	1.2	1.2	1.2				Add viewing angle
2022/7/27	1.3	1.3	1.3	1.3	1.3				Modify Electrical Characteristics

### FOR CUSTOMER'S APPROVAL STAMP OR SIGNATURE

APPROVED	PURCHASE	MANUFACTURE	QUALITY	ENGINEERING

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Approved By	Confirmed By	Prepared By

## END- LOOK PACKAGE PHOTOTRANSISTOR

### I Features

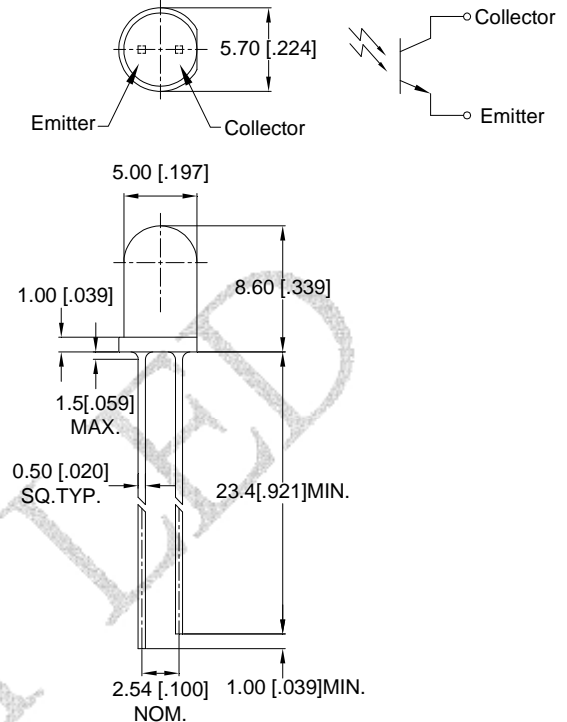
1. Wide range of collector current.
2. High sensitivity.
3. Low cost plastic package.
4. Lens Appearance: Black
5. This product doesn't contain restriction Substance, comply RoHS standard

### I Description

The BPT-BP2934 is a NPN silicon phototransistor mounted in a lensed , special dark plastic package .

The lensing effect of the package allows an acceptance view angle of 15° that is measured from the optical axis to the half power point .

### ● Package Dimensions:



#### NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25\text{mm}$  (0.01') unless otherwise specified.
3. Lead spacing is measured where the leads emerge from the package
4. Specifications are subject to change without notice

### I Absolute Maximum Ratings(Ta=25°C)

Parameter	Maximum Rating	Unit
Power Dissipation	100	mW
Collector- Emitter Voltage	30	V
Emitter- Collector Voltage	5	V
Operating Temperature	-40°C ~+85°C	
Storage Temperature Range	-45°C ~+85°C	

## I Electrical Characteristics (Ta=25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Collector- Emitter Breakdown Voltage	$V_{(BR)CEO}$	30	-	-	V	$I_C=0.1mA, E_e=0mW/cm^2$
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	5	-	-	V	$I_R=0.1mA, E_e=0 mW/cm^2$
Collector- Emitter Saturation Voltage	$V_{CE(SAT)}$	-	-	0.5	V	$I_C=0.1 mA, E_e=1.0 mW/cm^2$
Spectral range of sensitivity	$\lambda_{10\%}$	750	940	1100	nm	
Wavelength of max sensitivity	$\lambda_p$		940		nm	
Rise Time	$T_r$	-	15	-	$\mu S$	$V_{CC}=5V, R_L=1K\Omega, I_C=1mA$
Fall Time	$T_f$	-	15	-	$\mu S$	$V_{CC}=5V, R_L=1K\Omega, I_C=1mA$
Collector Dark Current	$I_{CEO}$	-	-	0.1	$\mu A$	$V_{CE}=10V, E_e=0 mW/cm^2$
On State Collector Current	$I_{C(ON)}$		1.8	-	mA	$V_{CE}=5V, E_e=1.0mW/cm^2$
Viewing Angle	$2\theta_{1/2}$		15		deg	

## I Typical Optical-Electrical Characteristic Curves

FIG.1 Relative Response vs. Wavelength

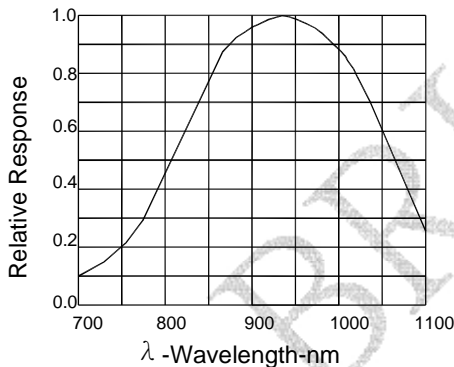


FIG.2 Dark Current Vs. Ambient Temperature

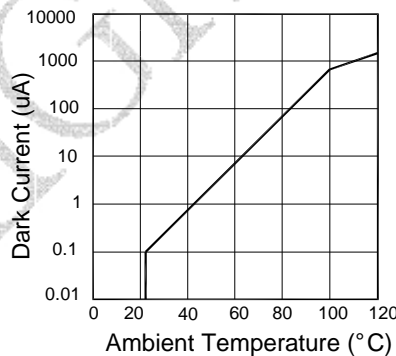


FIG.3 Power Dissipation Vs. Ambient Temperature

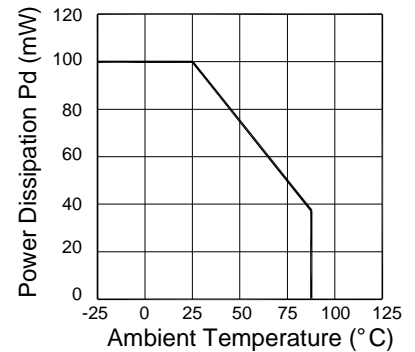


FIG.4 Rise And Fall Time Vs. Load Resistance

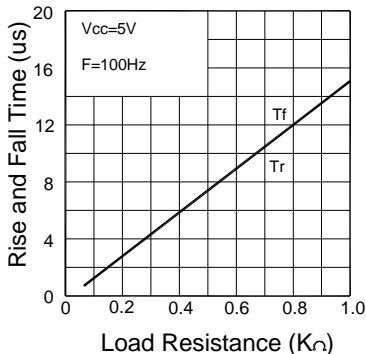


FIG.5 Relative Collector Current Vs. Irradiance

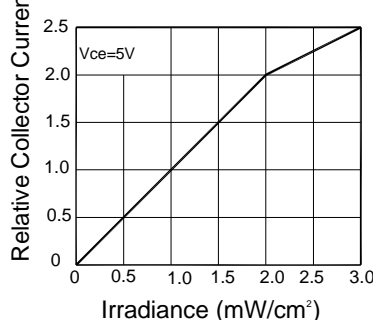
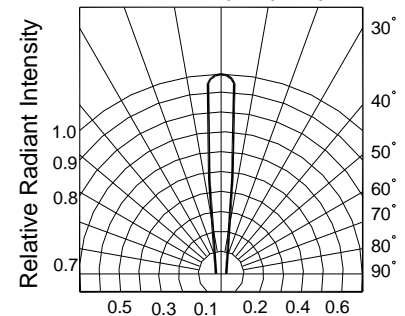
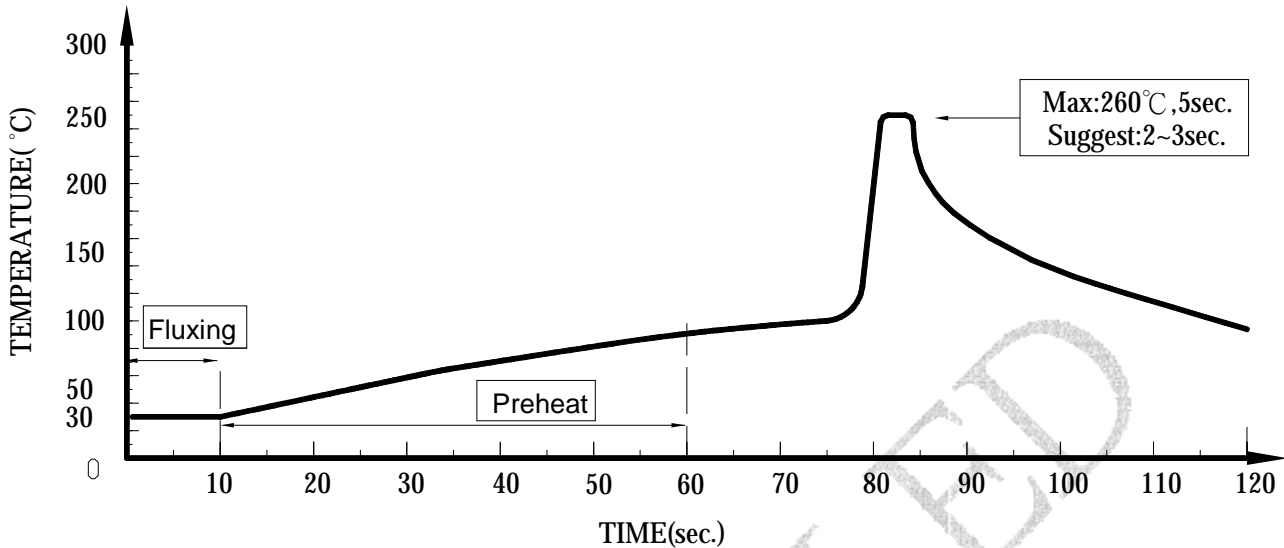


FIG.6 Radiant Diagram



## ● Dip Soldering

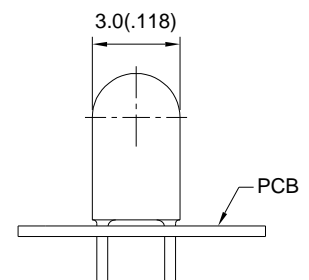


1. Please avoid any external stress applied to the lead-frames and epoxy while the LEDs are at high temperature, especially during soldering
2. DIP soldering and hand soldering should not be done more than one time.
3. After soldering, avoid the epoxy lens from mechanical shock or vibration until the LEDs are back to room temperature.
4. Avoid rapid cooling during temperature ramp-down process
5. Although the soldering condition is recommended above, soldering at the lowest possible temperature is feasible for the LEDs

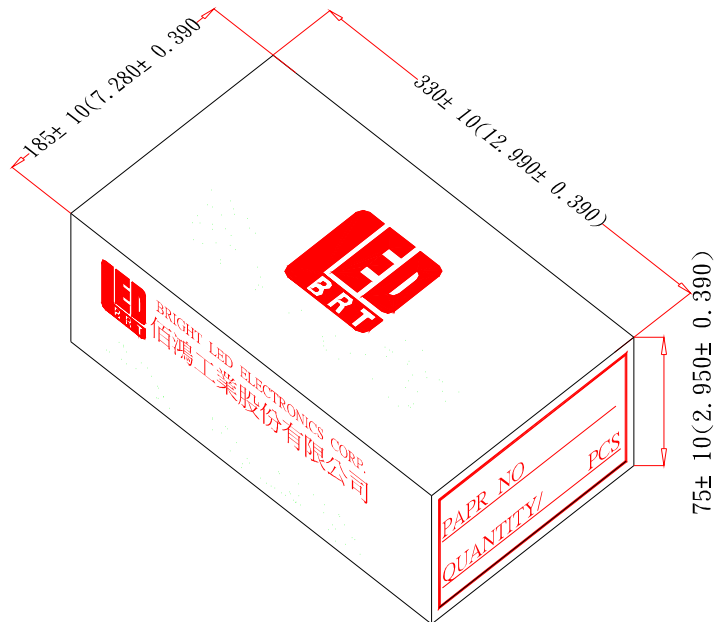
## ● IRON Soldering

**A: Max: 350°C Within 3 sec. One time only.**

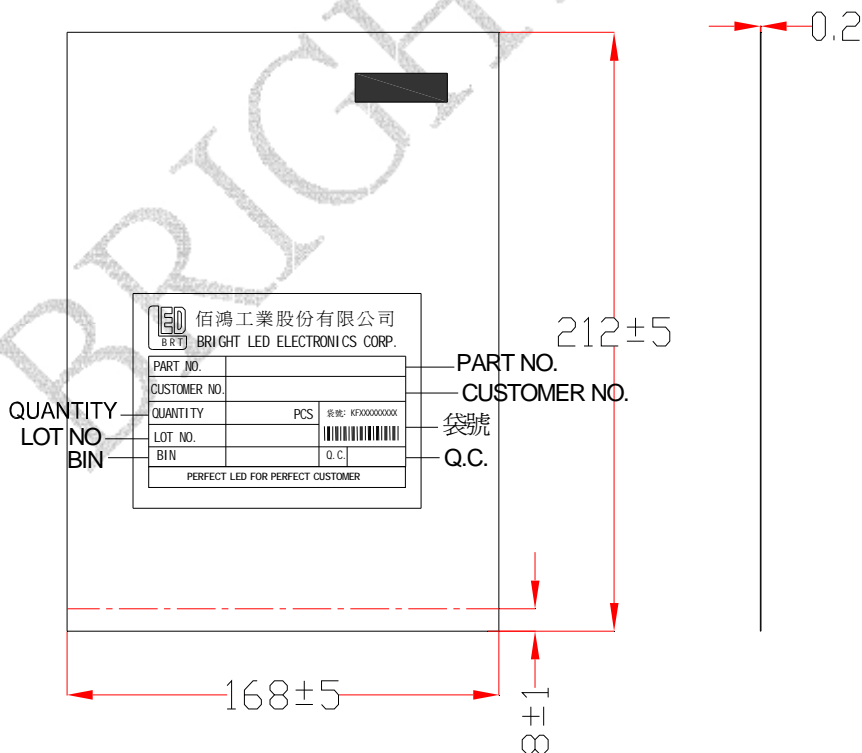
**B: The products of 3mm without flange, welding condition of flat plate PCB Max: 350°C Within 2 sec. One time only**



## I Tapping and packaging specifications(Units: mm)



## I Packaging Bag Dimensions



### Notes:

- 1、500pcs per bag, 5Kpcs per box.
- 2、All dimensions are in millimeters(inches).
- 3、Specifications are subject to change without notice.



## Phototransistor Specification

2Commodity: Phototransistor

2Intensity Bin Limits ( $V_{CE}=5V, E_e=1.0\text{mw/cm}^2$ )

BIN CODE	Min.(Ma)	Max.(Ma)
Q	0.716	1.031
R	1.031	1.486
S	1.486	2.139
T	2.139	3.081
U	3.081	3.697

NOTES: Tolerance of measurement of Radiant Intensity :±15%