



# BRIGHT LED ELECTRONICS CORP.

Total Page: 6  
Page: 1  
Revision: 1.4

- Customer P/N:
- Device Number : BPI-3C2-17
- Features:
  - \* Non-contact switching.
  - \* For direct PC board or dual-in-line socket mounting.
  - \* Fast switching speed.
  - \* This product doesn't contain restriction substance, comply ROHS standard.

Sheet / Date	1	2	3	4	5	6	Contents
2003.03.26	1.0	1.0	1.0	1.0	1.0	1.0	Initial Released
2004.03.19	1.1	1.1	1.1	1.0	1.0	1.1	IL:0.5~5.0mA IF=10mA→1.0~4.0mA IF=20mA / Packing Dimensions3.5mm→2.15mm /Packaging 250 per Bag→500 per Bag
2004.03.19	1.2	1.2	1.2	1.0	1.0	1.1	IL:1.0~4.0 mA→2.5~10.0mA Packing Dimensions2.15mm→1.80mm
2004.04.24	1.3	1.3	1.2	1.0	1.0	1.1	IL: 2.5~10.0mA→BIN:A:2.5~6.0mA BIN:B:5.0~10.0mA
2004.07.22	1.4	1.4	1.2	1.0	1.0	1.1	IL: BIN:A:2.5~6.0mA BIN:B:5.0~10.0mA→ BIN:A:1.0~3.5mA BIN:B:2.5~6.0mA BIN:C:5.0~10mA
2004.11.19	2.0	1.4	1.2	1.0	1.0	1.1	Features

Total Page	6																		
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## 佰鴻工業股份有限公司

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Approved	Checked	Drawn
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# BRIGHT LED ELECTRONICS

- Device Number : BPI-3C2-17
- Absolute Maximum Rating (Ta=25°C)

Page: 2  
Version: 1.4

Item		Symbol	Rating	Unit
Input	Power Dissipation	Pd	75	mW
	Reverse Voltage	V <sub>R</sub>	5	V
	Forward Current	I <sub>F</sub>	50	mA
	Peak Forward Current (*1)	I <sub>FP</sub>	1	A
Output	Collector Power Dissipation	P <sub>C</sub>	100	mW
	Collector Current	I <sub>C</sub>	20	mA
	C-E Voltage	V <sub>CEO</sub>	30	V
	E-C Voltage	V <sub>ECO</sub>	5	V
Operating Temperature		Topr	-25 ~ +85	°C
Storage Temperature		Tstg	-40 ~ +100	°C
Soldering Temperature (*2)		Tsol	260	°C

(\*1) tw=100 uSec. · T=10 mSec.

(\*2) t=5 Sec

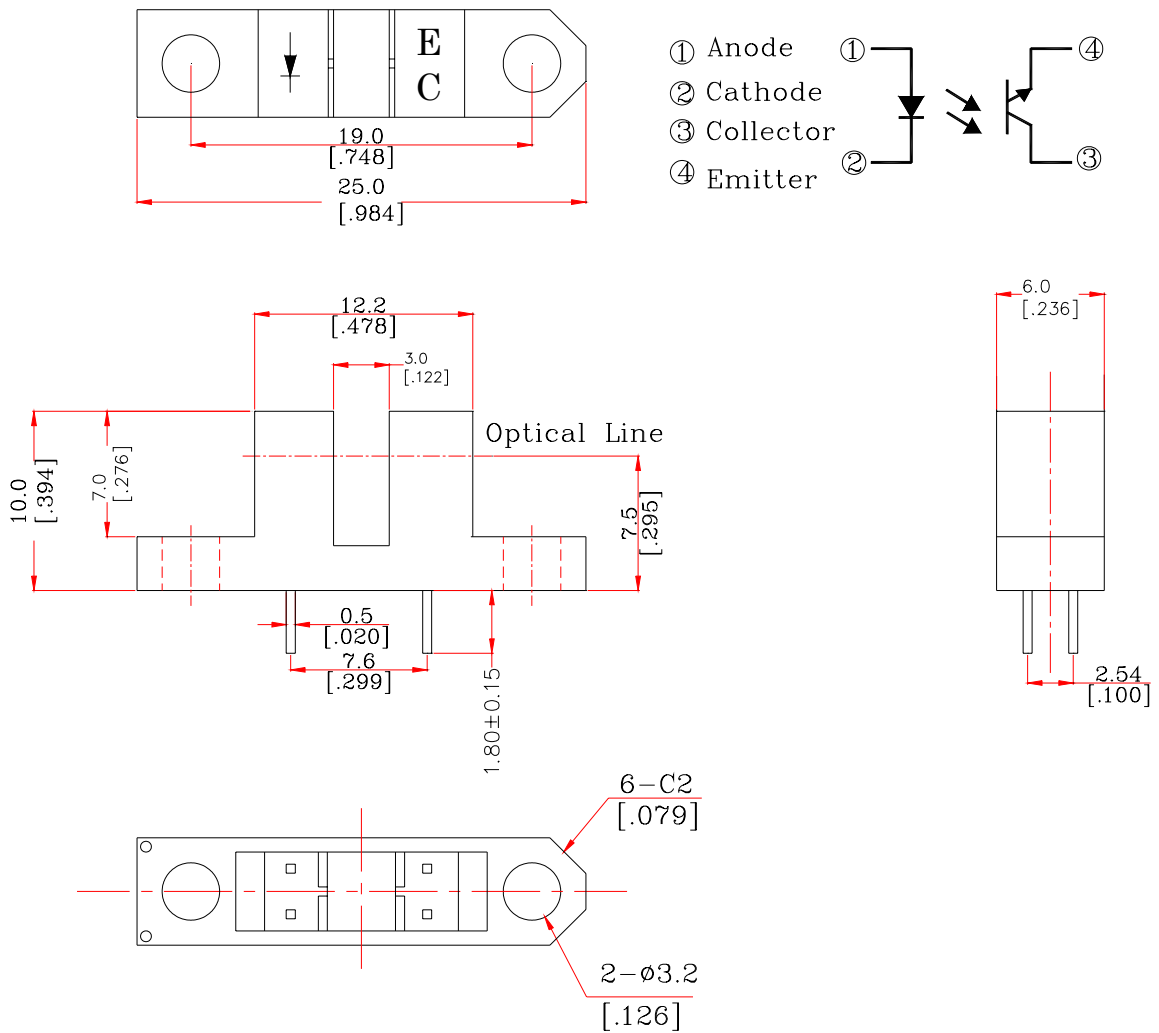
## ● Electrical Optical Characteristics (Ta=25°C)

Parameter		Symbol	Condition	Min.	Typ.	Max.	BIN	Unit
Input	Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	—	1.2	1.5	—	V
	Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	—	—	100	—	μA
	Peak Wavelength	λ <sub>p</sub>	I <sub>F</sub> =10mA		940		—	nm
Output	Dark Current	I <sub>D</sub>	V <sub>CE</sub> =10V	—	—	100	—	nA
	C-E Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =0.25mA I <sub>F</sub> =10mA	—	—	0.4	—	V
Light Current		I <sub>L</sub>	V <sub>CE</sub> =5V I <sub>F</sub> =20mA	1.0	—	3.5	BIN:A	mA
				2.5	—	6.0	BIN:B	
				5.0	—	10.0	BIN:C	mA
Speed	Rise Time	Tr	I <sub>FP</sub> =20mA V <sub>CE</sub> =5V R <sub>L</sub> =1000Ω	—	20	—	—	μsec
	Fall Time	Tf		—	20	—	—	μsec

# BRIGHT LED ELECTRONICS

- Device Number : BPI-3C2-17
- Package Dimensions

Page: 3  
Version: 1.1



## Notes:

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

# BRIGHT LED ELECTRONICS

● Device Number : BPI-3C2-17

Page: 4

● Typical Electrical / Optical Characteristics Curves (Ta=25°C)

Version: 1.0

Fig.1 Power Dissipation vs. Ambient Temperature

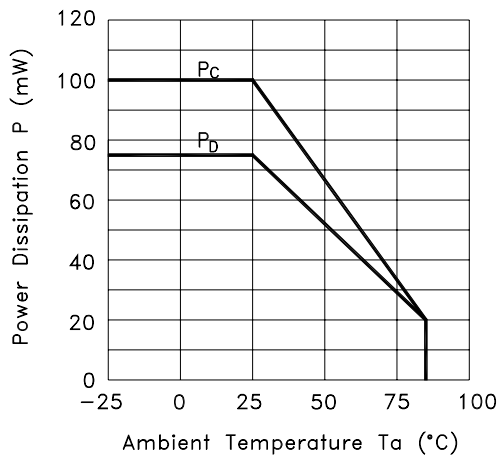


Fig.2 Forward Current vs. Forward Voltage

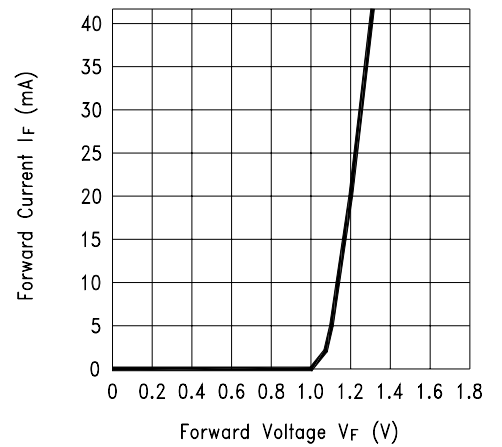


Fig.3 Collector Current vs. Collector-emitter Voltage

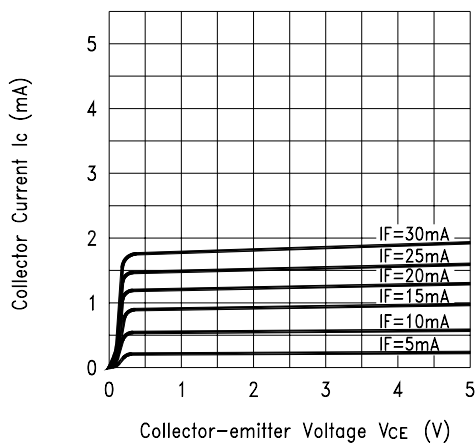
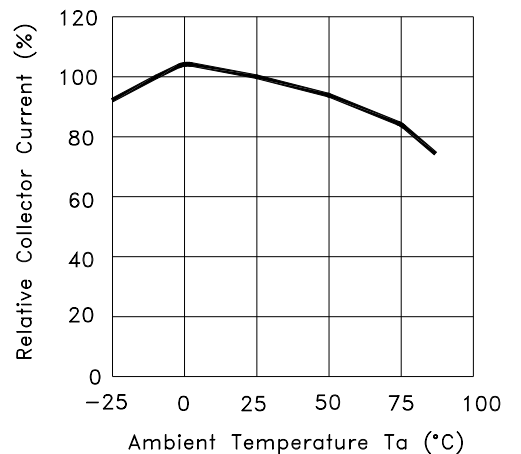


Fig.4 Collector Current vs. Ambient Temperature



# BRIGHT LED ELECTRONICS

- Device Number : BPI-3C2-17
- Typical Electric / Optical Characteristics Curves ( $T_a=25^\circ\text{C}$ )

Page: 5  
Version: 1.0

Fig.5 Collector-emitter Saturation Voltage vs. Ambient Temperature

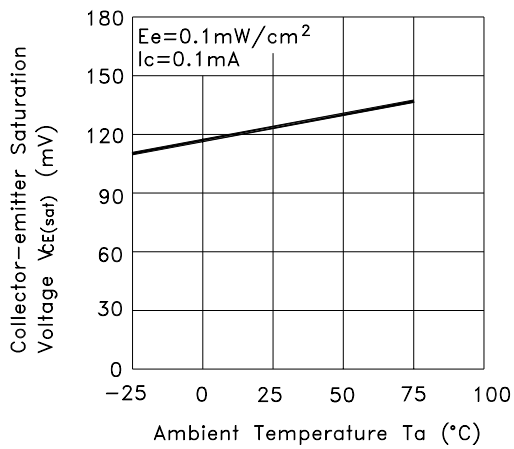


Fig.6 Response Time vs. Load Resistance

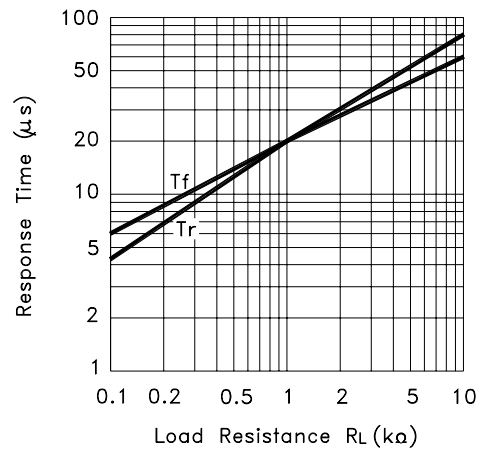
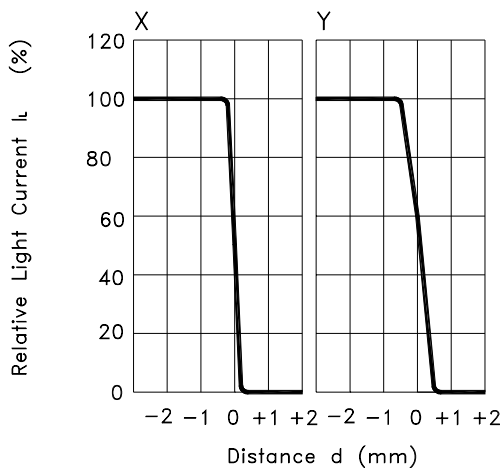
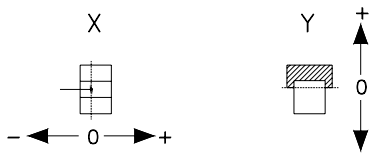


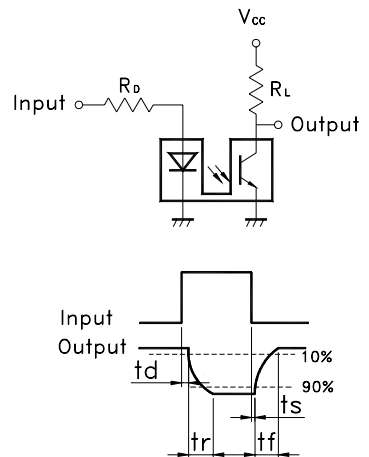
Fig.7 Sensing Position Characteristics (Typical)



(Center of Optical axis)



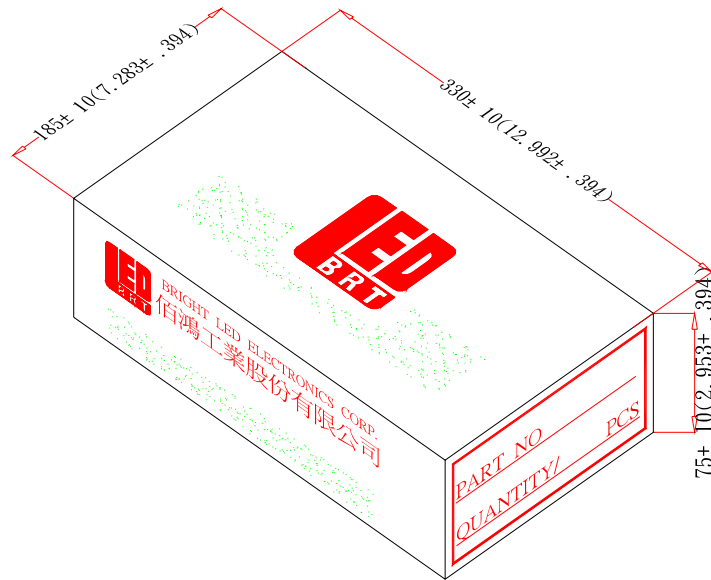
Test Circuit for Response Time



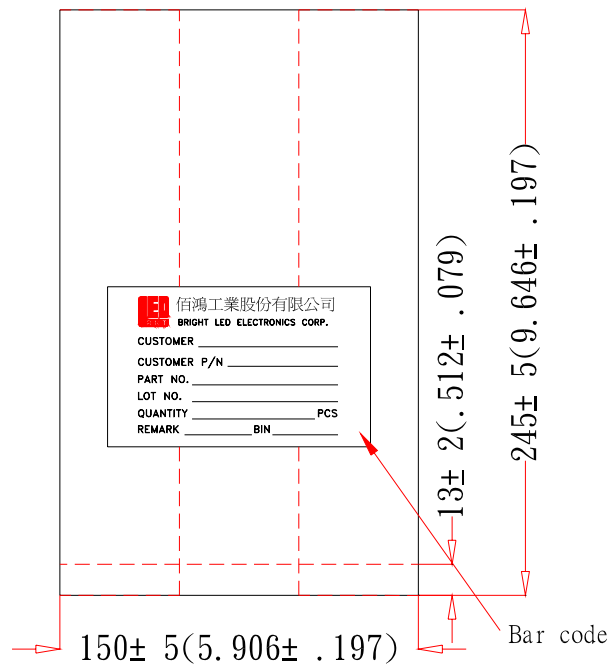
# BRIGHT LED ELECTRONICS

- Device Number : BPI-3C2-17
- Packaging Box Dimensions

Page: 6  
Version: 1.1



- Packaging Bag Dimensions



## Notes:

1. 500pcs per bag, 2kpcs per box.
2. All Dimensions are in millimeters (inches).
3. Specifications are subject to change without notice.