



BRIGHT LED ELECTRONICS CORP.

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Revision: 1.3

- Customer P/N:
- Device Number: BPR-302
- Features:
 - * High performance
 - * High-speed response
 - * Widely applicable
 - * This product doesn't contain restriction substance, comply ROHS standard

Sheet Date	1	2	3	4	5	6	Contents		
2003.02.24	1.0	1.0	1.0	1.0	1.0	1.0	Initial Released		
2003.05.22	1.1	1.0	1.1	1.0	1.0	1.0	Update the Pin Length: 12Min→3.5mm		
2003.06.16	1.2	1.0	1.1	1.0	1.0	1.1	Update the package bag dimension		
2005.01.08	1.3	-	-	-	-	-	Features		

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Approved	Checked	Drawn

BRIGHT LED ELECTRONICS

- Device Number: BPR-302
- Absolute Maximum Rating (Ta=25°C)

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Item		Symbol	Rating	Unit
Input	Power Dissipation	Pd	75	mW
	Reverse Voltage	V _R	5	V
	Forward Current	I _F	50	mA
	Peak Forward Current (*1)	I _{FP}	1	A
Output	Collector Power Dissipation	P _C	100	mW
	Collector Current	I _C	20	mA
	C-E Voltage	V _{CEO}	30	V
	E-C Voltage	V _{ECO}	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

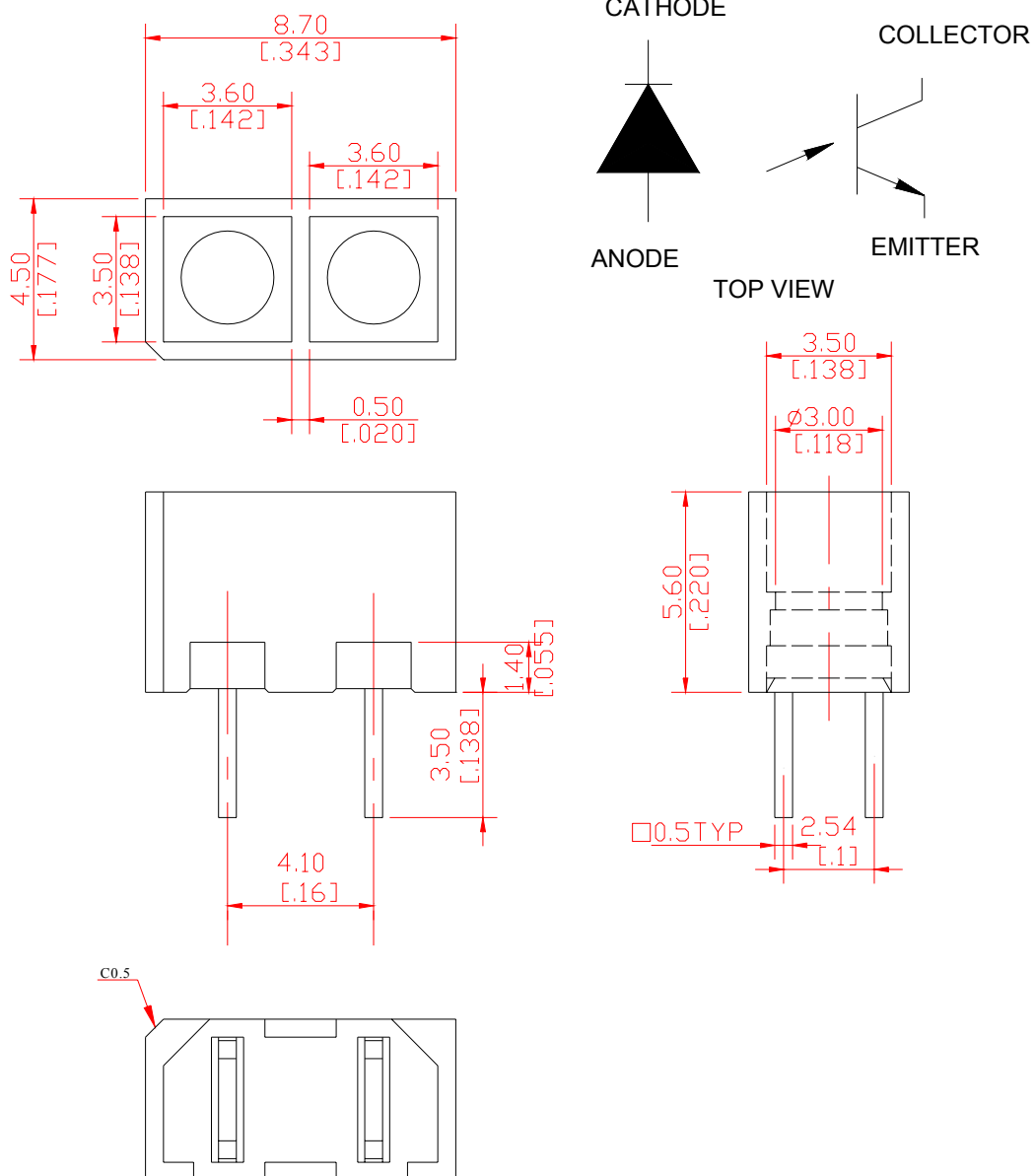
- Electrical Optical Characteristics (Ta=25°C)

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit	Bin No.
Input	Forward Voltage	V _F	I _F =20mA	—	1.2	1.5	V	—
	Reverse Current	I _R	V _R =5V	—	—	100	μA	—
	Peak Wavelength	λ _p	I _F =20mA		940		nm	—
Output	Dark Current	I _D	V _{CE} =10V	—	—	100	nA	—
	C-E Saturation Voltage	V _{CE(sat)}	I _C =0.25mA I _F =20mA	—	—	0.4	V	—
Light Current		I _L	V _{CE} =5V I _F =20mA D=3.5mm (90% Reflective white paper)	200	—	400	μA	BIN A
				300		600		BIN B
				500		1000		BIN C
				900	—	1500		BIN D
Response Time	Rise Time	tr	V _{CE} =5V I _C =20mA R _L =1000Ω	—	3	15	μS	—
	Fall Time	tf		—	4	20		—

BRIGHT LED ELECTRONICS

- Device Number: BPR-302
- Package Dimensions

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Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25 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: BPR-302
 ● Typical Electrical / Optical Characteristics Curves (Ta=25°C)

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Fig.1 Power Dissipation vs. Ambient Temperature

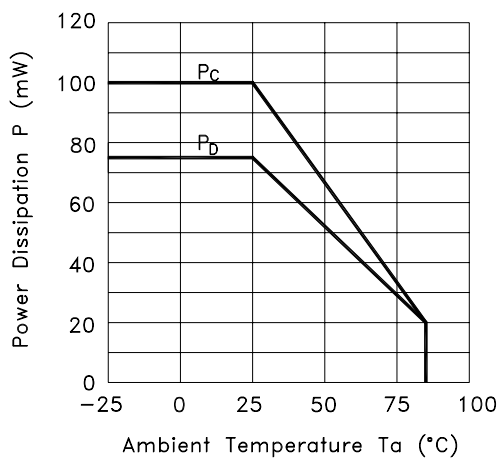


Fig.2 Forward Current vs. Forward Voltage

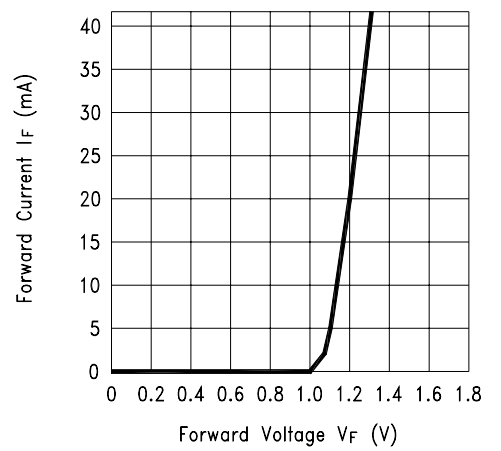


Fig.3 Collector Current vs. Collector-emitter Voltage

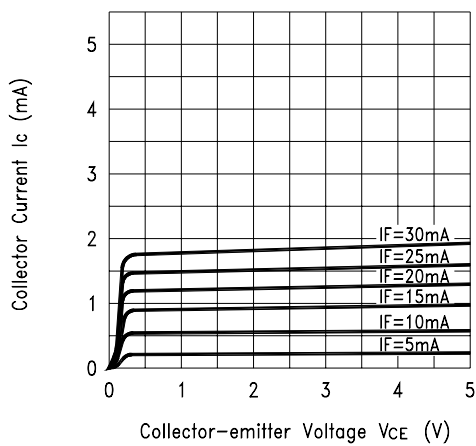
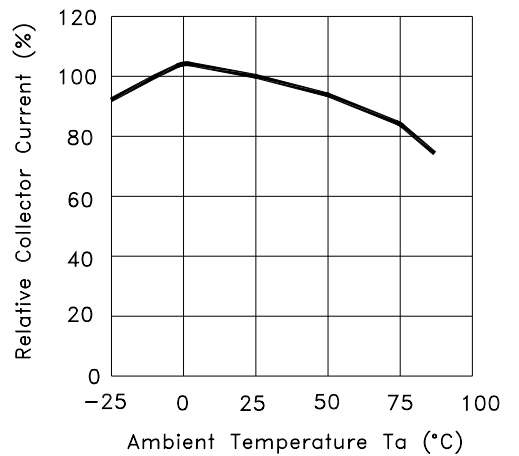


Fig.4 Collector Current vs. Ambient Temperature



BRIGHT LED ELECTRONICS

- Device Number: BPR-302
- Typical Electric / Optical Characteristics Curves (Ta=25°C)

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

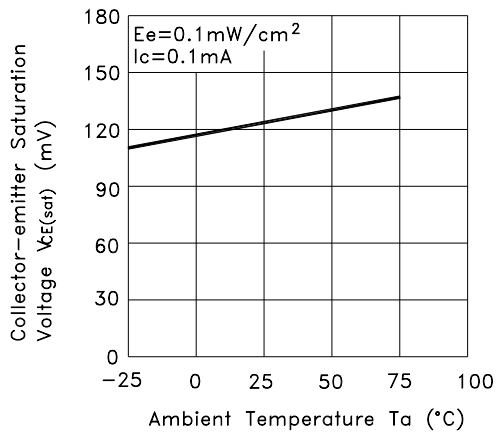


Fig.6 Response Time vs. Load Resistance

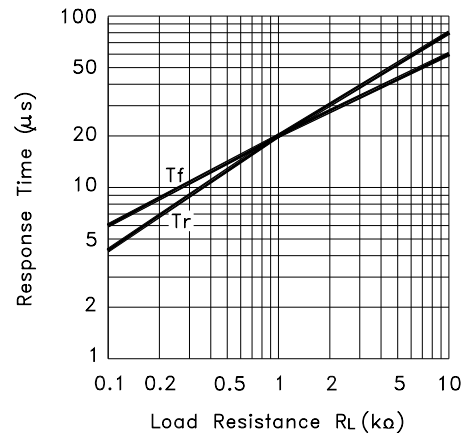
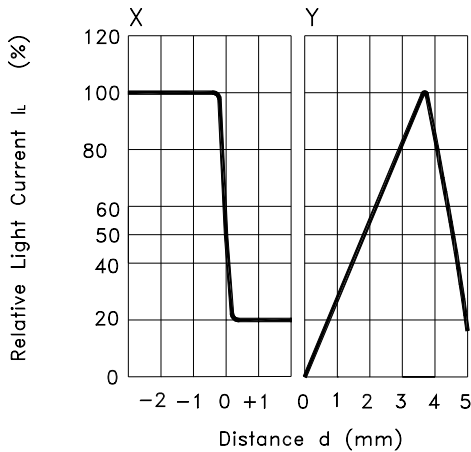
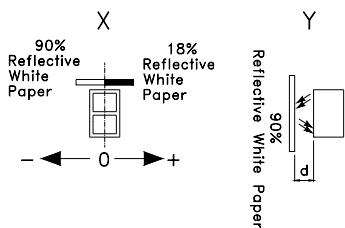


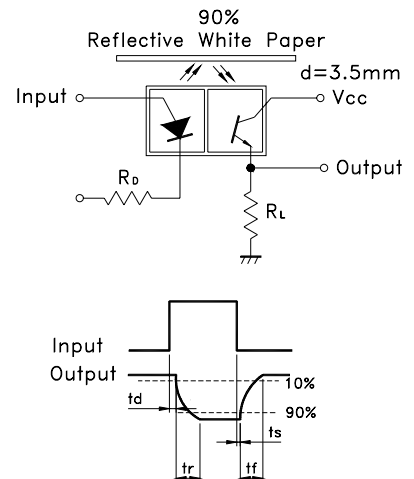
Fig.7 Sensing Position Characteristics (Typical)



(Center of Optical axis)



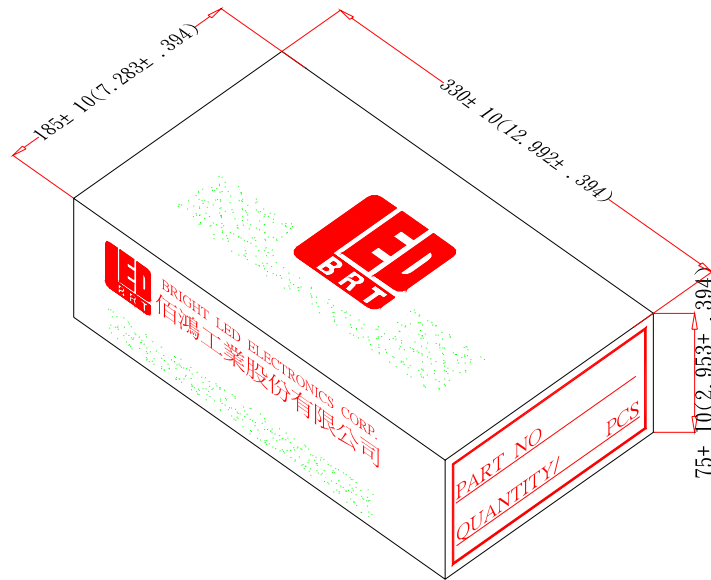
Test Circuit for Response Time



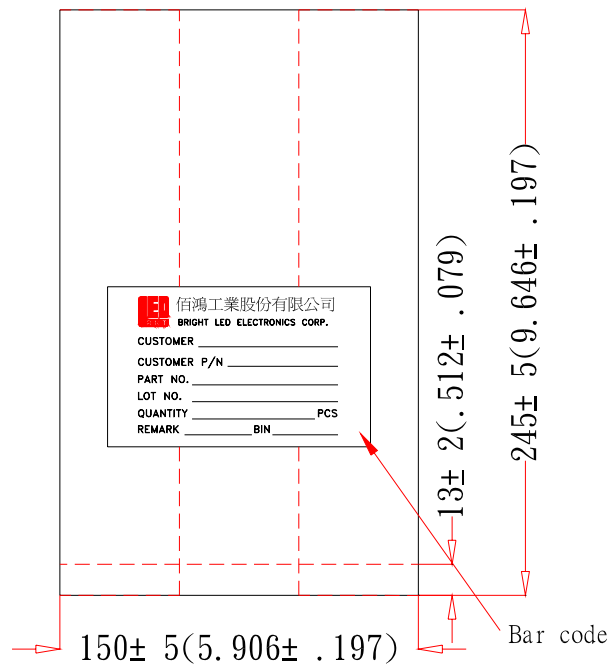
BRIGHT LED ELECTRONICS

- Device Number : BPR-302
- Packaging Box Dimensions

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- Packaging Bag Dimensions



Notes:

1. 1000pcs per bag, 4kpcs per box.
2. All Dimensions are in millimeters (inches).
3. Specifications are subject to change without notice.