

# BRIGHT LED ELECTRONICS

- Device Number : BPI-3C1-08
- Absolute Maximum Rating (Ta=25°C)

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| 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

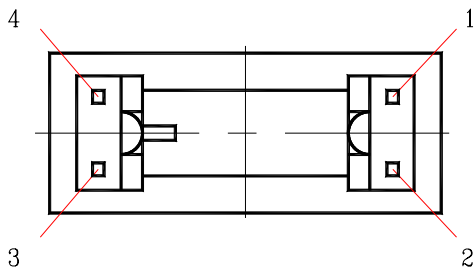
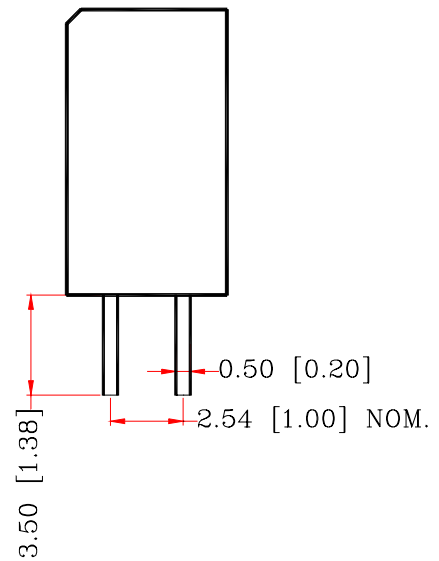
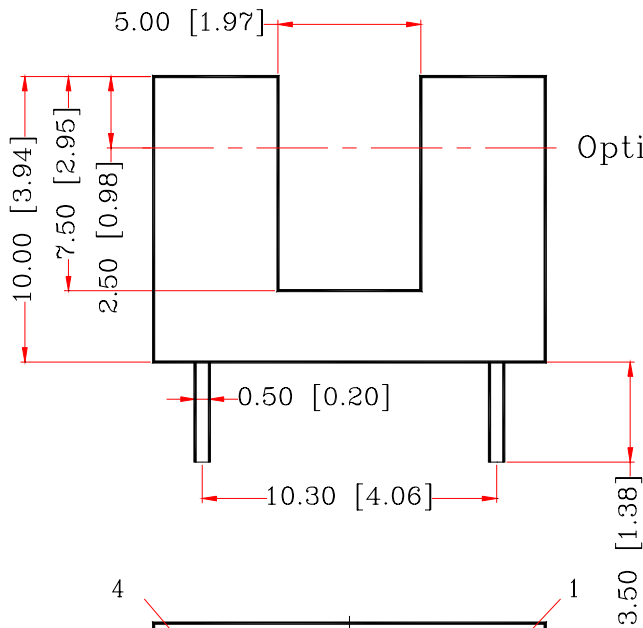
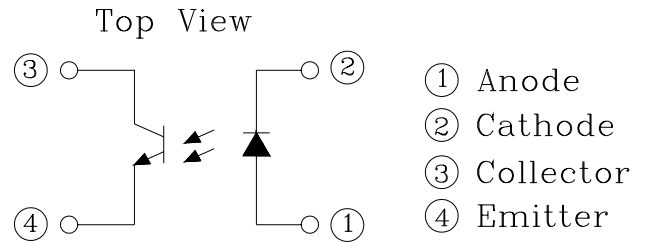
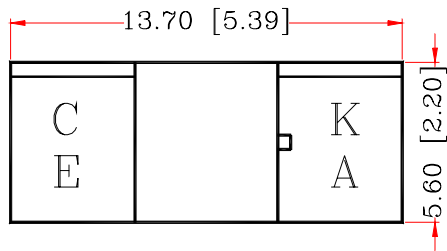
- Electrical Optical Characteristics (Ta=25°C)

| Parameter     |                        | Symbol               | Condition                                      | Min. | Typ. | Max. | 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                             | —    | —    | 10   | 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<br>I <sub>F</sub> =10mA | —    | —    | 0.4  | V    |
| Light Current |                        | I <sub>L</sub>       | V <sub>CE</sub> =5V<br>I <sub>F</sub> =10mA    | 0.5  | —    | 5    | mA   |
| Speed         | Rise Time              | Tr                   | I <sub>FP</sub> =20mA<br>V <sub>CE</sub> =5V   | —    | 20   | —    | μsec |
|               | Fall Time              | Tf                   | R <sub>L</sub> =1000Ω                          | —    | 20   | —    | μsec |

# BRIGHT LED ELECTRONICS

- Device Number : BPI-3C1-08
- Package Dimensions

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## Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25$ 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 : BPI-3C1-08
- Typical Electrical / Optical Characteristics Curves (Ta=25°C)

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Fig.1 Power Dissipation vs. Ambient Temperature

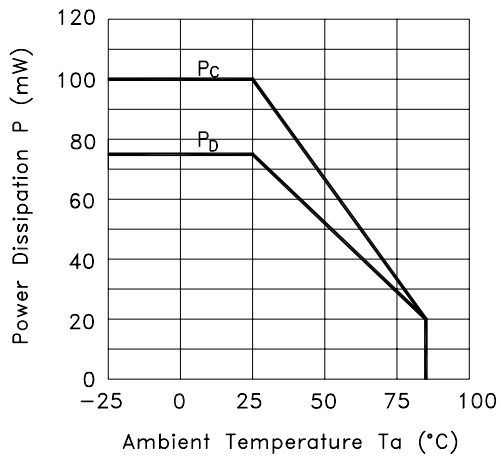


Fig.2 Forward Current vs. Forward Voltage

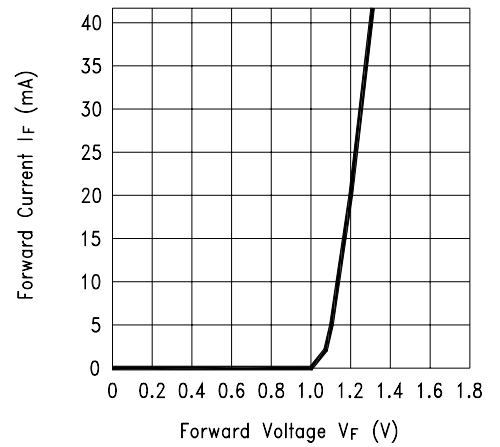


Fig.3 Collector Current vs. Collector-emitter Voltage

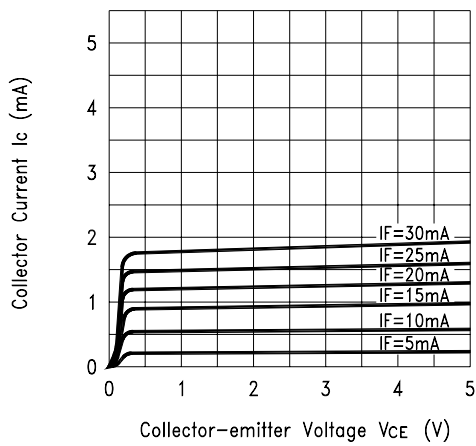
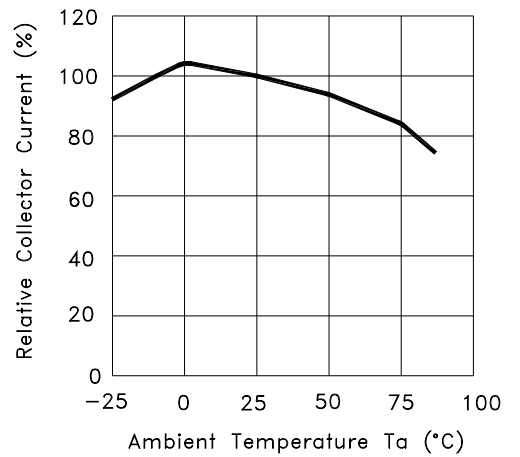


Fig.4 Collector Current vs. Ambient Temperature



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- Device Number : BPI-3C1-08
- Typical Electric / Optical Characteristics Curves (Ta=25°C)

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

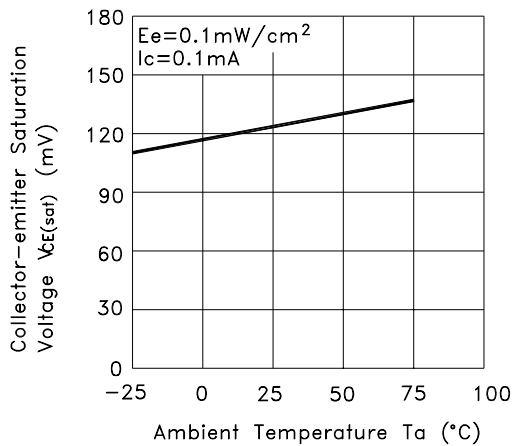


Fig.6 Response Time vs. Load Resistance

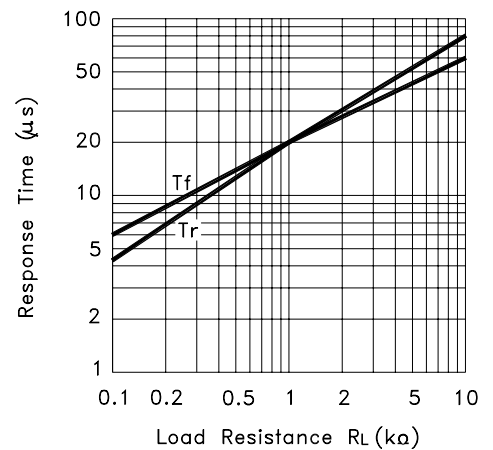
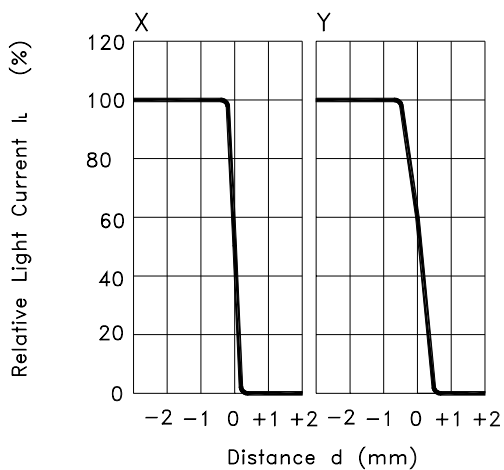
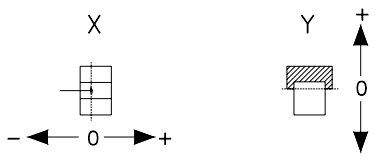


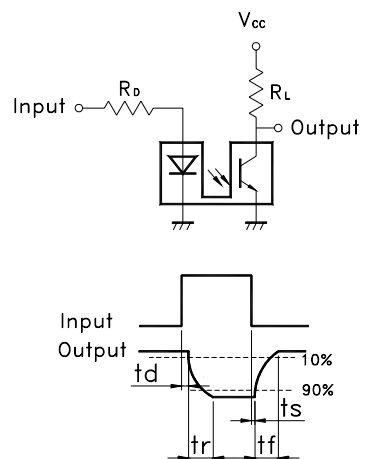
Fig.7 Sensing Position Characteristics (Typical)



(Center of Optical axis)



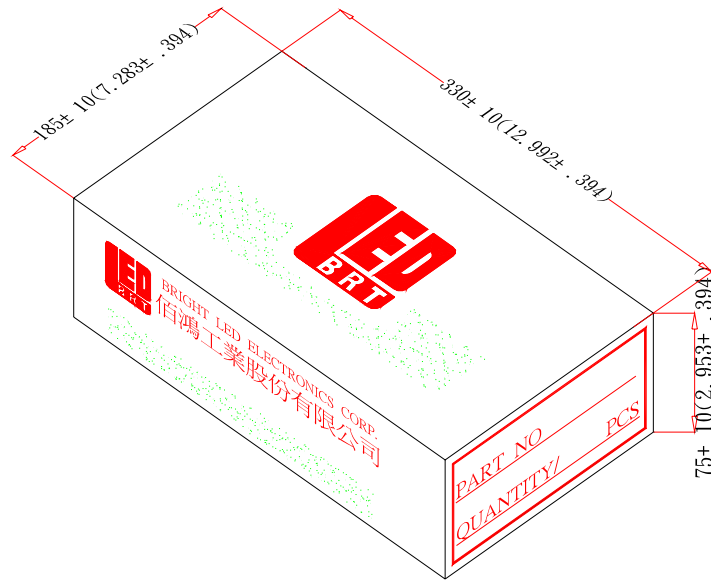
Test Circuit for Response Time



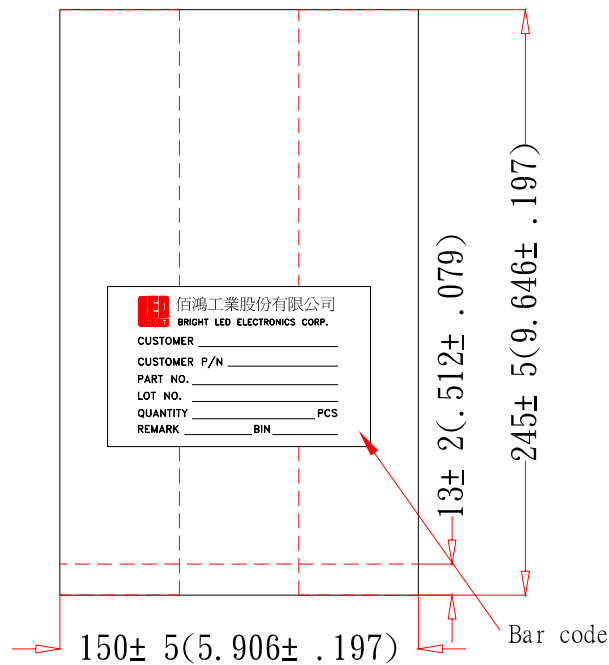
# BRIGHT LED ELECTRONICS

- Device Number : BPI-3C1-08
- Packaging Box Dimensions

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## ● 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.