



BRIGHT LED ELECTRONICS CORP.

Total Page: 6
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Revision: 2.0

- Customer P/N:
- Device Number : BPI-3C1-05
- 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 |
|---------------|-----|-----|-----|-----|-----|-----|--|
| 2001.12.20 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | Initial Released |
| 2002.01.08 | 1.1 | 1.0 | 1.1 | 1.0 | 1.0 | 1.1 | Packaging Dimensions: Pin Length: 9.12mm→3.5mm 2. Packaging Bag Dimensions |
| 2002.03.21 | 1.2 | 1.1 | 1.1 | 1.0 | 1.0 | 1.1 | Light Current: IL: max 10Ma→5Ma |
| 2002.12.12 | 1.3 | 1.0 | 1.2 | 1.1 | 1.0 | 1.2 | Packaging Dimensions: Slit Width 1.1mm→0.4mm 2. Packaging Bag Dimensions |
| 2004.10.26 | 1.4 | -- | - | - | - | - | Features |
| 2004.11.26 | 2.0 | 1.0 | 1.2 | 1.1 | 1.0 | 1.3 | Packaging |

| | | | | | | | | | | | | | | | | | | | |
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| 郝 2004.11.26 志群 | 郝 2004.11.26 志群 | 彭 2004.11.26 洁 |

BRIGHT LED ELECTRONICS

- Device Number : BPI-3C1-05
- 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 | 40 | 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

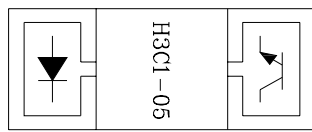
- Electrical Optical Characteristics (Ta=25°C)

| Parameter | | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---------------|------------------------|----------------------|--|------|------|------|------|
| 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 =10mA | | 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 =10mA | — | — | 0.4 | V |
| Light Current | | I _L | V _{CE} =5V I _F =10mA | 0.5 | — | 5.0 | mA |
| Speed | Rise Time | Tr | I _{FP} =20mA V _{CE} =5V | — | 20 | — | μsec |
| | Fall Time | Tf | R _L =1000Ω | — | 20 | — | μsec |

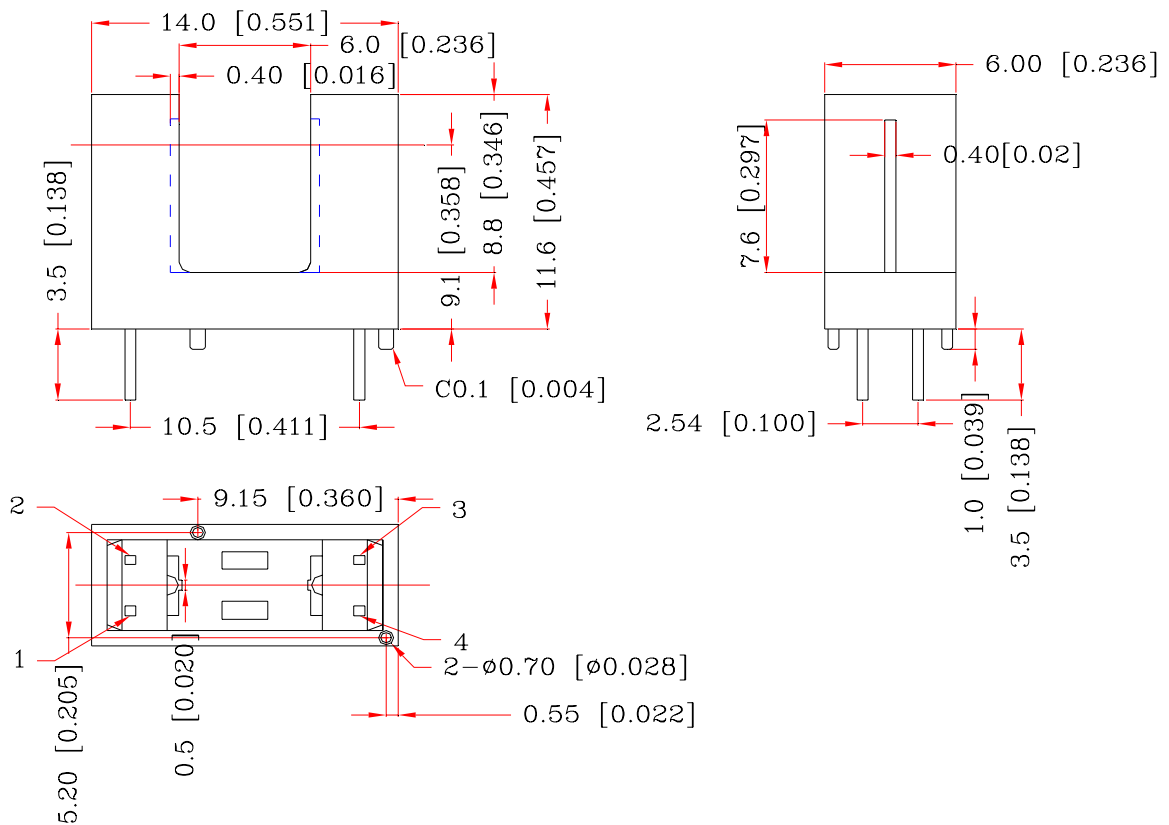
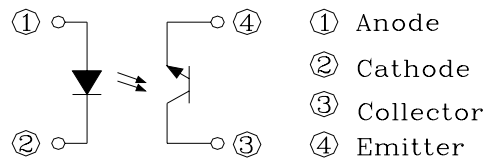
BRIGHT LED ELECTRONICS

- Device Number : BPI-3C1-05
- Package Dimensions

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Top View



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.

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- Device Number : BPI-3C1-05
- Typical Electrical / Optical Characteristics Curves (Ta=25°C)

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Fig.1 Power Dissipation vs. Ambient Temperature

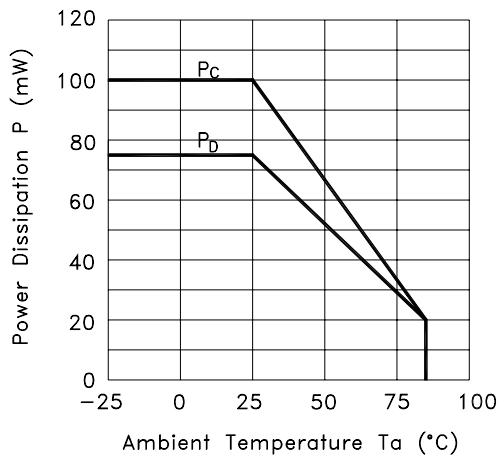


Fig.2 Forward Current vs. Forward Voltage

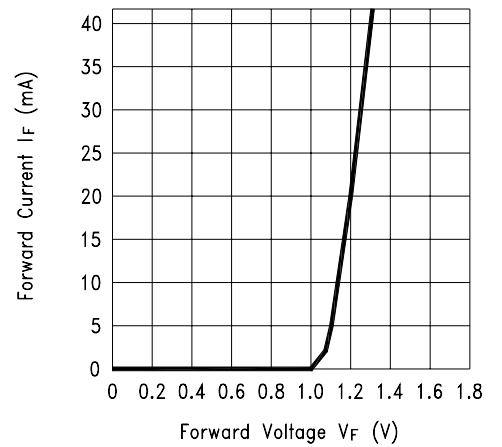


Fig.3 Collector Current vs. Collector-emitter Voltage

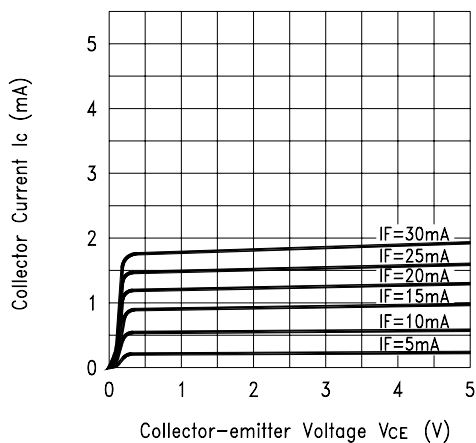
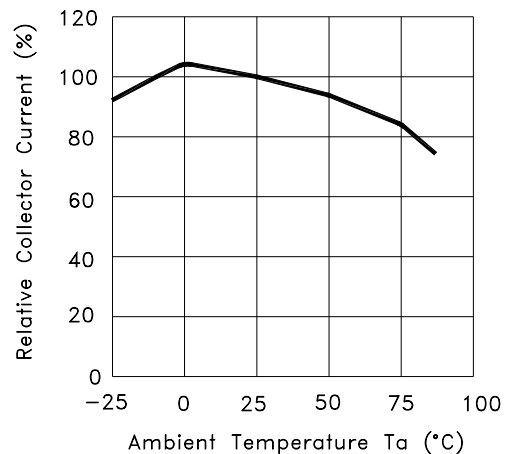


Fig.4 Collector Current vs. Ambient Temperature



BRIGHT LED ELECTRONICS

- Device Number : BPI-3C1-05
- Typical Electric / Optical Characteristics Curves ($T_a=25^\circ\text{C}$)

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

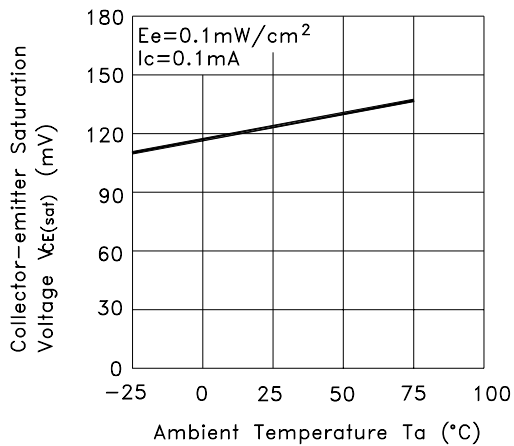


Fig.6 Response Time vs. Load Resistance

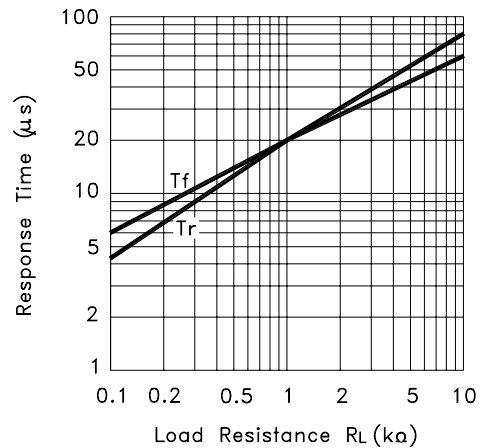
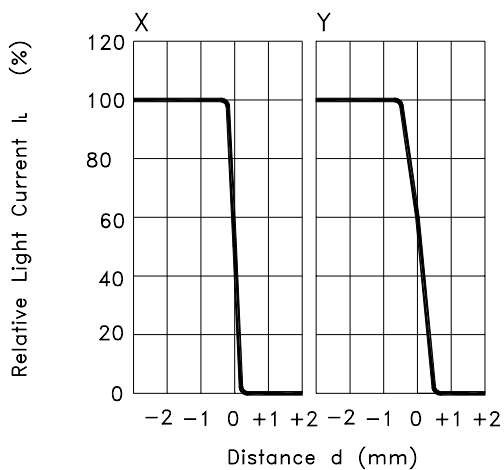
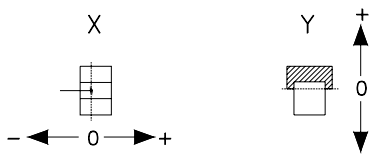


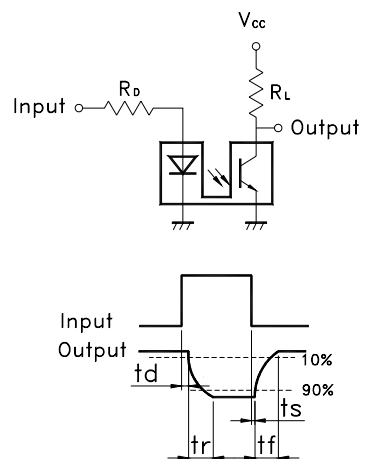
Fig.7 Sensing Position Characteristics (Typical)



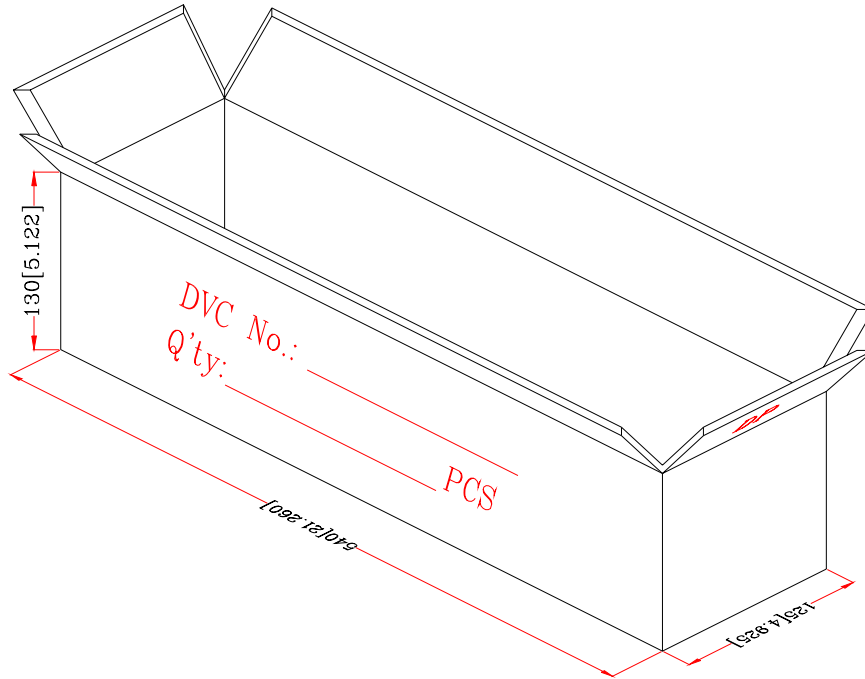
(Center of Optical axis)



Test Circuit for Response Time



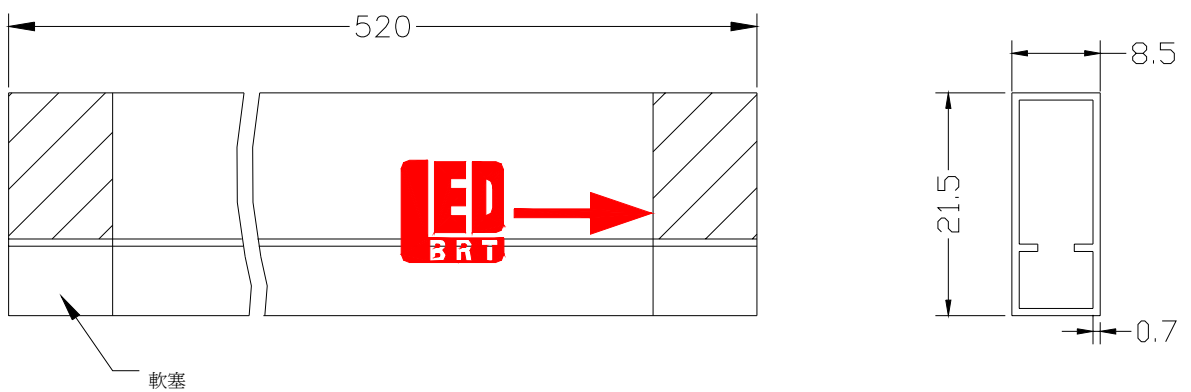
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- Device Number : BPI-3C1-05
- Packaging Box Dimensions

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- Packaging Tube Dimensions



Notes:

1. 35pcs per tube, 2.73kpcs per box.
2. All Dimensions are in millimeters (inches).
3. Specifications are subject to change without notice.

Mouser Electronics

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