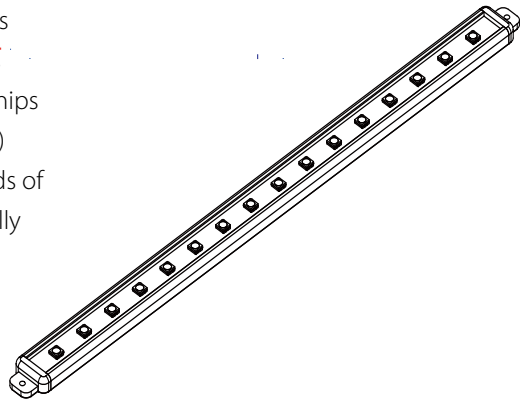


Solid-State Lighting Series

# PLCC Lightbar with Heatsink Series Datasheet

With the newly introduced PLCC Lightbar from Edison Opto, users can now fashion their own choices of lighting without the excess limitation of a lighting fixture. The PLCC Lightbar features multi-chips packaged 5050 PLCC SMDs on an extruded heat-sink 20mm (0.8") wide and length up to 120cm (47.2"). The plastic caps at both ends of the heat-sink combine with the slim linear are designed specifically to allow easy screw-tight installation at compact spaces where traditional light source cannot fit in.



## Features :

- High Brightness SMD LED
- Low Power Requirement & Energy Efficient
- Easily customized for length with several options

## Typical Applications :

- Tube Light Source
- Auditorium Walkway Lighting
- Stairway Accent Lighting
- Cabinet Lighting

## Specifications :

- CRI $\geq$ 80 
- Color : 



A Solid-State Lighting Premium Expert

## Table of Contents

---

|   |    |
|---|----|
| • LBlx-F16/x0205 Package Dimensions and Circuit Diagram.....        | 3  |
| • LBlx-F24/x0220 Package Dimensions and Circuit Diagram.....        | 4  |
| • LBlx-F32/x0228 Package Dimensions and Circuit Diagram.....        | 5  |
| • LBlx-F48/x0229 Package Dimensions and Circuit Diagram.....        | 6  |
| • LBlx-F64/x0230 Package Dimensions and Circuit Diagram.....        | 7  |
| • LBIRTB-N14/N0605 Package Dimensions and Circuit Diagram.....      | 8  |
| • LBIRTB-N21/N0620 Package Dimensions and Circuit Diagram.....      | 9  |
| • LBIRTB-N28/N0628 Package Dimensions and Circuit Diagram.....      | 10 |
| • LBIRTB-N42/N0628 Package Dimensions and Circuit Diagram.....      | 11 |
| • LBIRTB-N56/N0628 Package Dimensions and Circuit Diagram.....      | 12 |
| • Absolute Maximum Ratings.....                                     | 13 |
| • Electro-Optical Characteristics ( $T_a=25^{\circ}\text{C}$ )..... | 13 |
| • Environmental Compliance.....                                     | 17 |
| • Application Notes.....  | 17 |

## LBlx-F16/x0205 Package Dimensions and Circuit Diagram

### • Package Dimensions

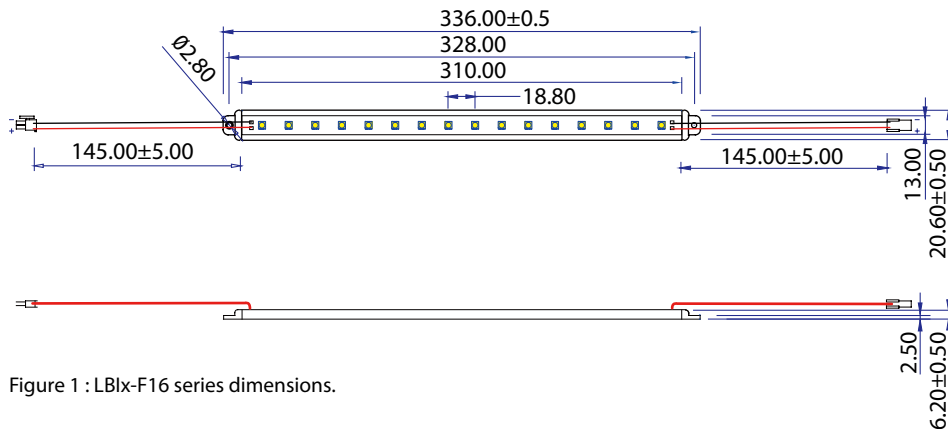


Figure 1 : LBlx-F16 series dimensions.

#### Notes:

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.20$  mm.

### • Circuit Diagram

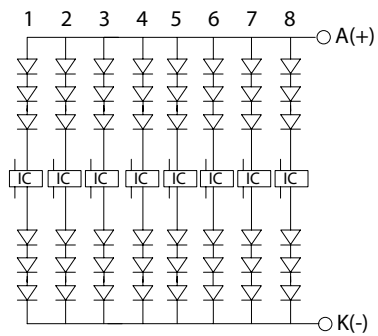


Figure 2 : LBlx-F16 series circuit diagram.

## LBlx-F24/x0220 Package Dimensions and Circuit Diagram

### • Package Dimensions

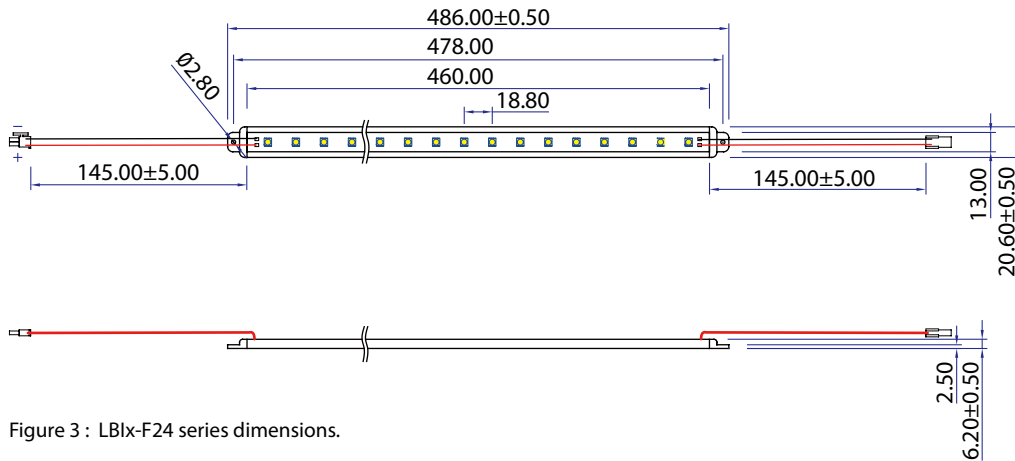


Figure 3 : LBlx-F24 series dimensions.

#### Notes:

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.20$  mm.

### • Circuit Diagram

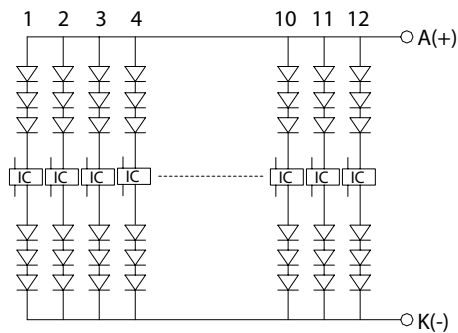


Figure 4 : LBlx-F24 series circuit diagram.

## LBlx-F32/x0228 Package Dimensions and Circuit Diagram

### • Package Dimensions

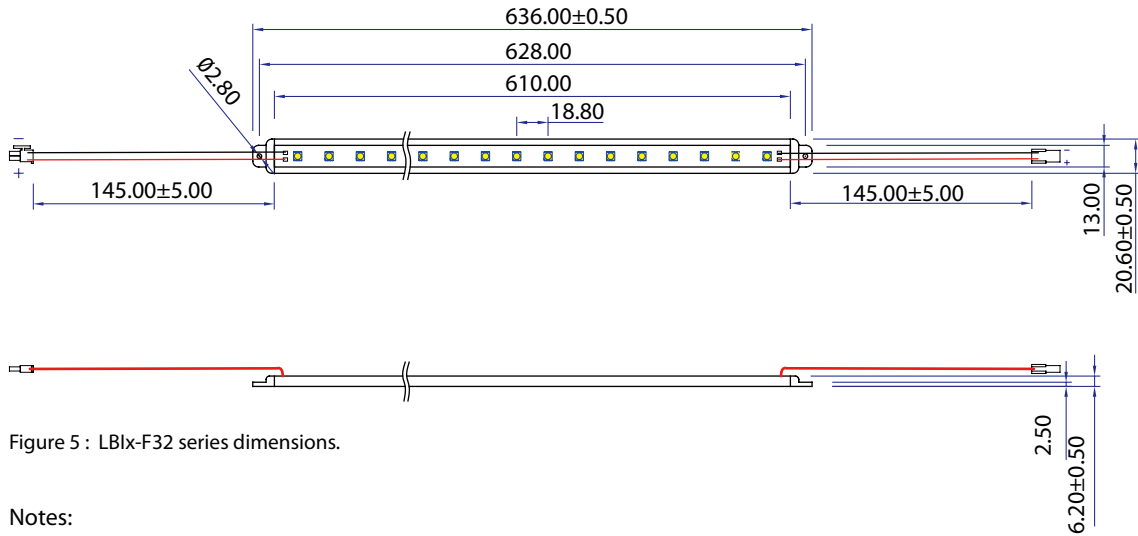


Figure 5 : LBlx-F32 series dimensions.

#### Notes:

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.20$  mm.

### • Circuit Diagram

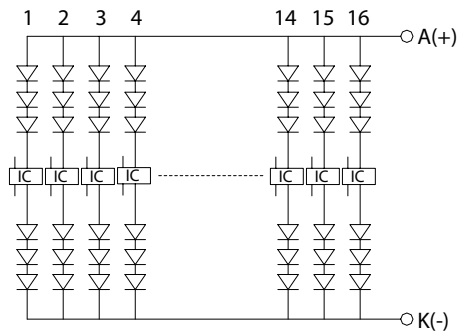


Figure 6 : LBlx-F32 series circuit diagram.

## LBlx-F48/x0229 Package Dimensions and Circuit Diagram

### • Package Dimensions

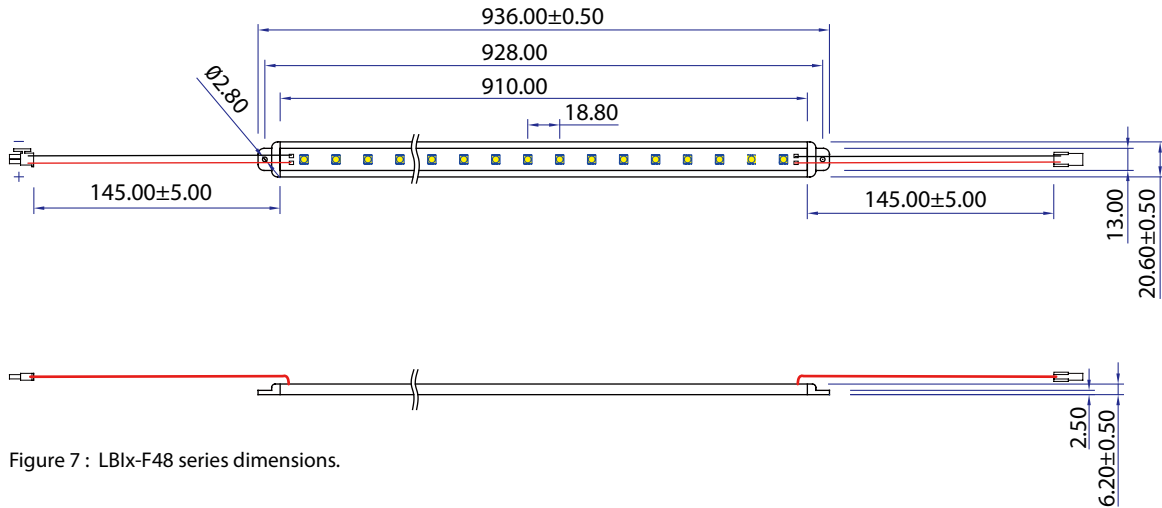


Figure 7 : LBlx-F48 series dimensions.

#### Notes:

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.20$  mm.

### • Circuit Diagram

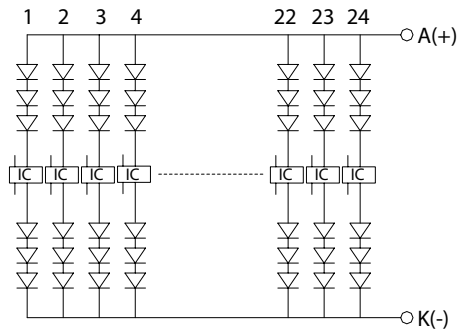


Figure 8 : LBlx-F48 series circuit diagram.

## LBlx-F64/x0230 Package Dimensions and Circuit Diagram

### • Package Dimensions

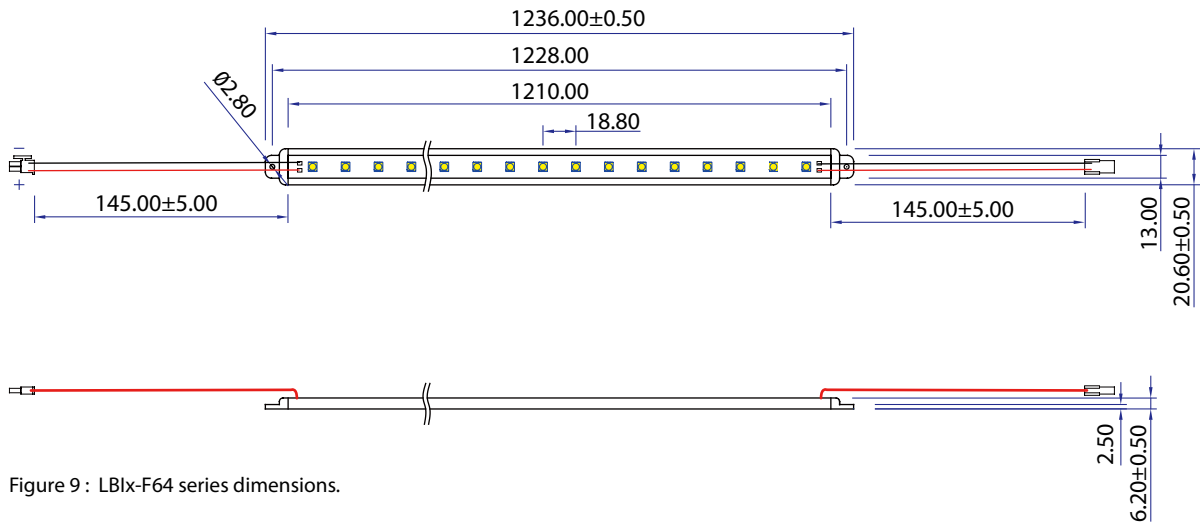


Figure 9 : LBlx-F64 series dimensions.

Notes:

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.20$  mm.

### • Circuit Diagram

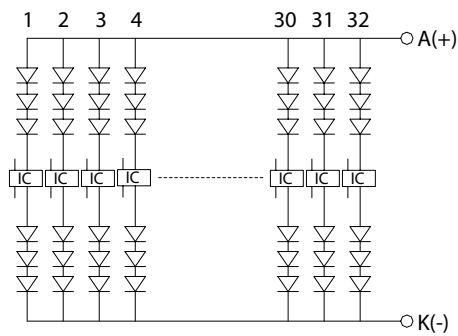


Figure 10 : LBlx-F64 series circuit diagram.

## LBIRTB-N14/N0605 Package Dimensions and Circuit Diagram

### • Package Dimensions

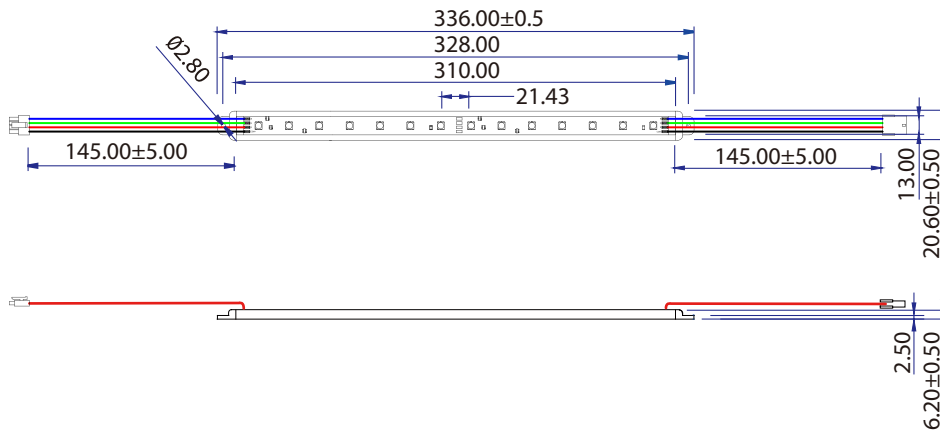


Figure 11 : LBIRTB-N14/N0605 series dimensions.

#### Notes:

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.20$  mm.

### • Circuit Diagram

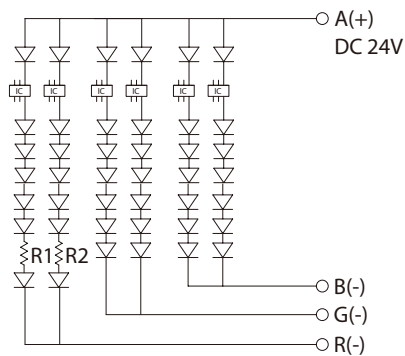


Figure 12 : LBIRTB-N14/N0605 series circuit diagram.

## LBIRTB-N21/N0620 Package Dimensions and Circuit Diagram

### • Package Dimensions

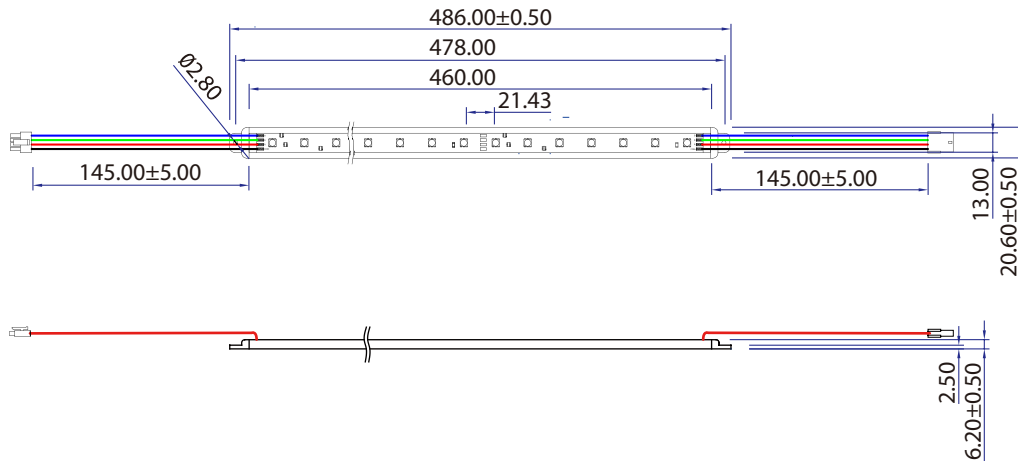


Figure 13 : LBIRTB-N21/N0620 series dimensions.

#### Notes:

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.20$  mm.

### • Circuit Diagram

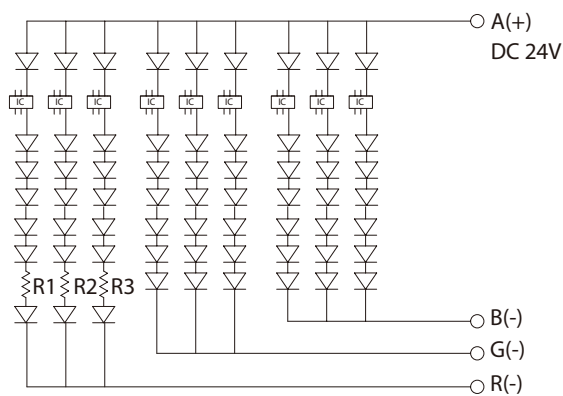


Figure 14 : LBIRTB-N21/N0620 series circuit diagram.

## LBIRTB-N28/N0628 Package Dimensions and Circuit Diagram

### • Package Dimensions

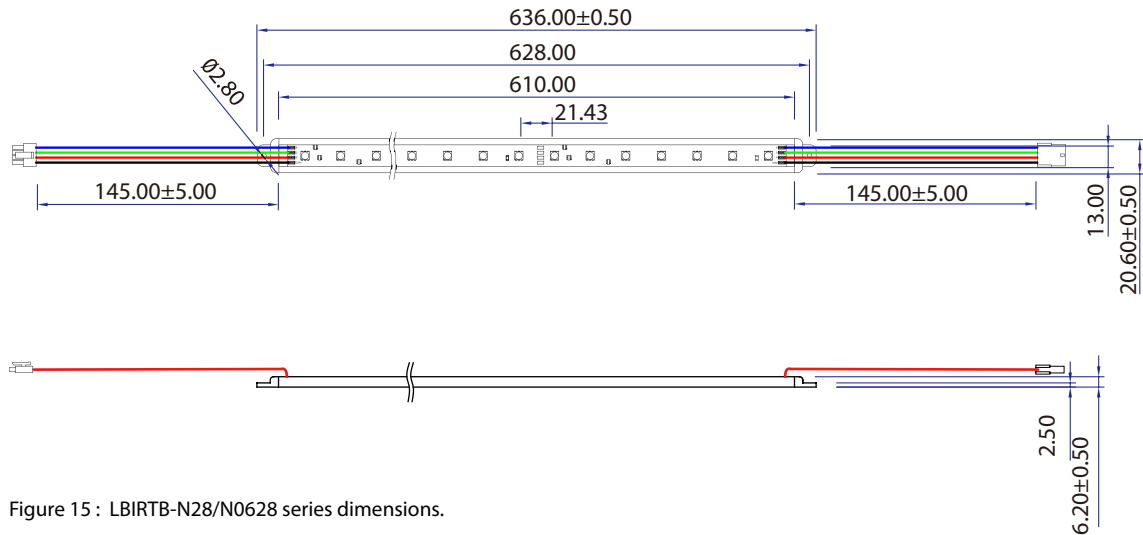


Figure 15 : LBIRTB-N28/N0628 series dimensions.

#### Notes:

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.20$  mm.

### • Circuit Diagram

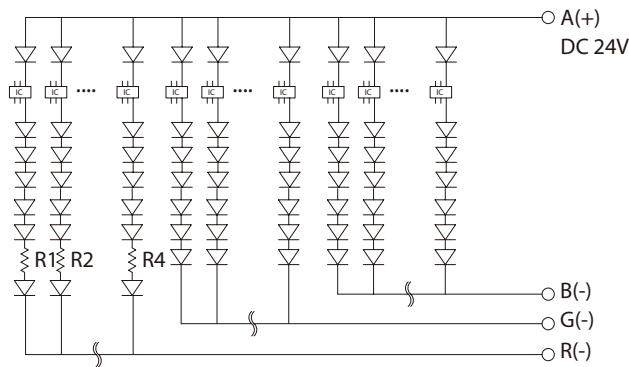


Figure 16 : LBIRTB-N28/N0628 series circuit diagram.

## LBIRTB-N42/N0629 Package Dimensions and Circuit Diagram

### • Package Dimensions

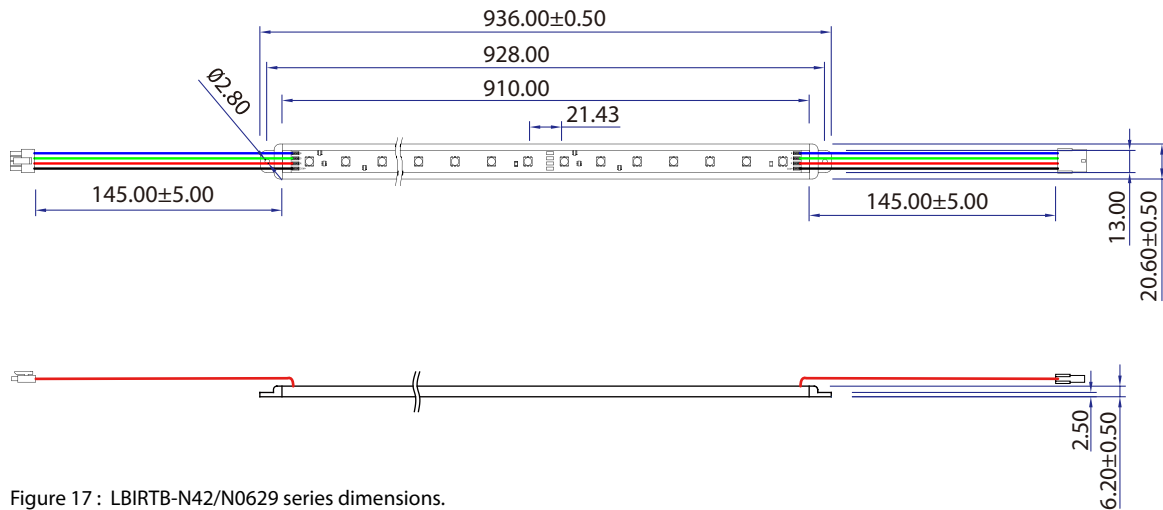


Figure 17 : LBIRTB-N42/N0629 series dimensions.

#### Notes:

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.20$  mm.

### • Circuit Diagram

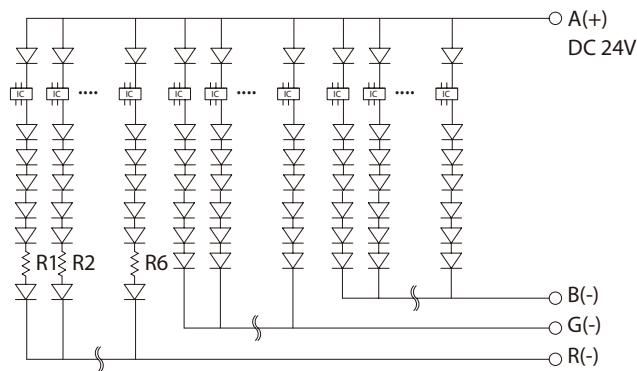


Figure 18 : LBIRTB-N42/N0629 series circuit diagram.

## LBIRTB-N56/N0630 Package Dimensions and Circuit Diagram

### • Package Dimensions

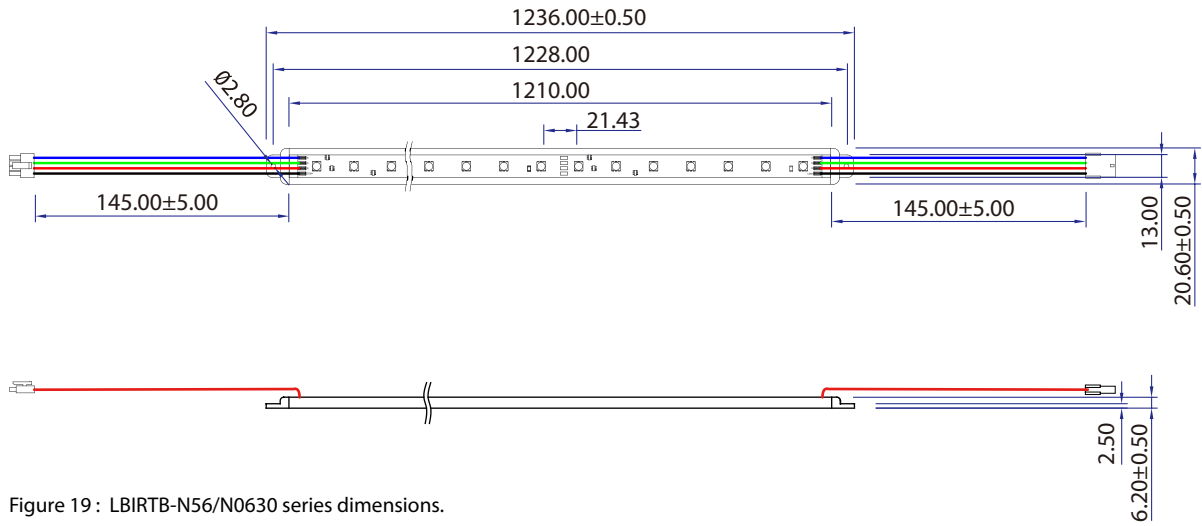


Figure 19 : LBIRTB-N56/N0630 series dimensions.

#### Notes:

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.20$  mm.

### • Circuit Diagram

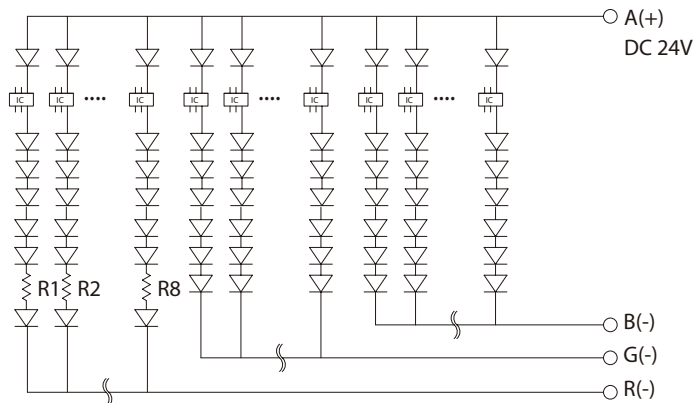


Figure 20 : LBIRTB-N56/N0630 series circuit diagram.

## Absolute Maximum Ratings

| Parameter                | Symbol    | Rating    | Units |
|--------------------------|-----------|-----------|-------|
| LED Junction Temperature | $T_j$     | 125       | °C    |
| Operating Temperature    | $T_{opr}$ | -30 ~ +85 | °C    |
| Storage Temperature      | $T_{stg}$ | -40 ~ +85 | °C    |

Table 1 : Absolute maximum ratings for PLCC lightbar with heatsink series.

Notes:

1. Proper current derating must be observed to maintain junction temperature below the maximum at all time.
2. LEDs are not designed to be driven in reverse bias.

## Electro-Optical Characteristics ( $T_a=25^{\circ}\text{C}$ )

### • LBix-F16/x0205 Series

| Part No.        | Color         | Number of LEDs | Input Voltage (V DC) | Power (W) | Current (mA) | Radiance Angle | $\lambda_d(\text{nm})/$<br>CCT(K) | Lumen Flux(lm) |
|-----------------|---------------|----------------|----------------------|-----------|--------------|----------------|-----------------------------------|----------------|
| LBIR-F16/N0205  | Red           | 16             | 15                   | 2.40      | 160          | 120°           | 625nm                             | 58             |
| LBIY-F16/N0205  | Yellow        | 16             | 15                   | 2.40      | 160          | 120°           | 590nm                             | 62             |
| LBIA-F16/N0205  | Amber         | 16             | 15                   | 2.40      | 160          | 120°           | 615nm                             | 58             |
| LBIG-F16/N0205  | True Green    | 16             | 24                   | 3.84      | 160          | 120°           | 525nm                             | 133            |
| LBIB-F16/N0205  | Blue          | 16             | 24                   | 3.84      | 160          | 120°           | 470nm                             | 37             |
| LBIW-F16/D0205  | Cool White    | 16             | 24                   | 3.84      | 160          | 120°           | 6000K                             | 192            |
| LBIIH-F16/D0205 | Neutral White | 16             | 24                   | 3.84      | 160          | 120°           | 4100K                             | 163            |
| LBIX-F16/D0205  | Warm White    | 16             | 24                   | 3.84      | 160          | 120°           | 3050K                             | 163            |

Table 2 : LBix-F16 series electrico-optical characteristics.

Note :

Flux is measured with an accuracy of  $\pm 10\%$ .

• LBlx-F24/x0220 Series

| Part No.        | Color         | Number of LEDs | Input Voltage (V DC) | Power (W) | Current (mA) | Radiance Angle | λd(nm)/ CCT(K) | Lumen Flux(lm) |
|-----------------|---------------|----------------|----------------------|-----------|--------------|----------------|----------------|----------------|
| LBIR-F24/N0220  | Red           | 24             | 15                   | 3.60      | 240          | 120°           | 625nm          | 87             |
| LBIY-F24/N0220  | Yellow        | 24             | 15                   | 3.60      | 240          | 120°           | 590nm          | 94             |
| LBIA-F24/N0220  | Amber         | 24             | 15                   | 3.60      | 240          | 120°           | 615nm          | 87             |
| LBIG-F24/N0220  | True Green    | 24             | 24                   | 5.76      | 240          | 120°           | 525nm          | 200            |
| LBIB-F24/N0220  | Blue          | 24             | 24                   | 5.76      | 240          | 120°           | 470nm          | 56             |
| LBIW-F24/D0220  | Cool White    | 24             | 24                   | 5.76      | 240          | 120°           | 6000K          | 288            |
| LBIIH-F24/D0220 | Neutral White | 24             | 24                   | 5.76      | 240          | 120°           | 4100K          | 245            |
| LBIX-F24/D0220  | Warm White    | 24             | 24                   | 5.76      | 240          | 120°           | 3050K          | 245            |

Table 3 : LBlx-F24 series electrico-optical characteristics.

Note :

Flux is measured with an accuracy of ± 10%.

• LBlx-F32/x0228 Series

| Part No.        | Color         | Number of LEDs | Input Voltage (V DC) | Power (W) | Current (mA) | Radiance Angle | λd(nm)/ CCT(K) | Lumen Flux(lm) |
|-----------------|---------------|----------------|----------------------|-----------|--------------|----------------|----------------|----------------|
| LBIR-F32/N0228  | Red           | 32             | 15                   | 4.80      | 320          | 120°           | 625nm          | 116            |
| LBIY-F32/N0228  | Yellow        | 32             | 15                   | 4.80      | 320          | 120°           | 590nm          | 125            |
| LBIA-F32/N0228  | Amber         | 32             | 15                   | 4.80      | 320          | 120°           | 615nm          | 116            |
| LBIG-F32/N0228  | True Green    | 32             | 24                   | 7.68      | 320          | 120°           | 525nm          | 266            |
| LBIB-F32/N0228  | Blue          | 32             | 24                   | 7.68      | 320          | 120°           | 470nm          | 75             |
| LBIW-F32/D0228  | Cool White    | 32             | 24                   | 7.68      | 320          | 120°           | 6000K          | 384            |
| LBIIH-F32/D0228 | Neutral White | 32             | 24                   | 7.68      | 320          | 120°           | 4100K          | 326            |
| LBIX-F32/D0228  | Warm White    | 32             | 24                   | 7.68      | 320          | 120°           | 3050K          | 326            |

Table 4 : LBlx-F32 series electrico-optical characteristics.

Note :

Flux is measured with an accuracy of ± 10%.

• LBlx-F48/x0229 Series

| Part No.       | Color         | Number of LEDs | Input Voltage (V DC) | Power (W) | Current (mA) | Radiance Angle | $\lambda_d$ (nm)/ CCT(K) | Lumen Flux(lm) |
|----------------|---------------|----------------|----------------------|-----------|--------------|----------------|--------------------------|----------------|
| LBIR-F48/N0229 | Red           | 48             | 15                   | 7.20      | 480          | 120°           | 625nm                    | 175            |
| LBIY-F48/N0229 | Yellow        | 48             | 15                   | 7.20      | 480          | 120°           | 590nm                    | 187            |
| LBIA-F48/N0229 | Amber         | 48             | 15                   | 7.20      | 480          | 120°           | 615nm                    | 175            |
| LBIG-F48/N0229 | True Green    | 48             | 24                   | 11.52     | 480          | 120°           | 525nm                    | 399            |
| LBIB-F48/N0229 | Blue          | 48             | 24                   | 11.52     | 480          | 120°           | 470nm                    | 112            |
| LBIW-F48/D0229 | Cool White    | 48             | 24                   | 11.52     | 480          | 120°           | 6000K                    | 576            |
| LBIH-F48/D0229 | Neutral White | 48             | 24                   | 11.52     | 480          | 120°           | 4100K                    | 490            |
| LBIX-F48/D0229 | Warm White    | 48             | 24                   | 11.52     | 480          | 120°           | 3050K                    | 490            |

Table 5 : LBlx-F48 series electrico-optical characteristics.

Note :

Flux is measured with an accuracy of  $\pm 10\%$ .

• LBlx-F64/x0230 Series

| Part No.       | Color         | Number of LEDs | Input Voltage (V DC) | Power (W) | Current (mA) | Radiance Angle | $\lambda_d$ (nm)/ CCT(K) | Lumen Flux(lm) |
|----------------|---------------|----------------|----------------------|-----------|--------------|----------------|--------------------------|----------------|
| LBIR-F64/N0230 | Red           | 64             | 15                   | 9.60      | 640          | 120°           | 625nm                    | 233            |
| LBIY-F64/N0230 | Yellow        | 64             | 15                   | 9.60      | 640          | 120°           | 590nm                    | 250            |
| LBIA-F64/N0230 | Amber         | 64             | 15                   | 9.60      | 640          | 120°           | 615nm                    | 233            |
| LBIG-F64/N0230 | True Green    | 64             | 24                   | 15.36     | 640          | 120°           | 525nm                    | 532            |
| LBIB-F64/N0230 | Blue          | 64             | 24                   | 15.36     | 640          | 120°           | 470nm                    | 150            |
| LBIW-F64/D0230 | Cool White    | 64             | 24                   | 15.36     | 640          | 120°           | 6000K                    | 768            |
| LBIH-F64/D0230 | Neutral White | 64             | 24                   | 15.36     | 640          | 120°           | 4100K                    | 630            |
| LBIX-F64/D0230 | Warm White    | 64             | 24                   | 15.36     | 640          | 120°           | 3050K                    | 630            |

Table 6 : LBlx-F64 series electrico-optical characteristics.

Note :

Flux is measured with an accuracy of  $\pm 10\%$ .

• LBIRTB-Nxx/N06xx Series

| Part No.             | Color      | Number of LEDs | Input Voltage (V DC) | Power (W) | Current (mA) | Radiance Angle | $\lambda_d$ (nm)/ CCT(K) | Lumen Flux(lm) |
|----------------------|------------|----------------|----------------------|-----------|--------------|----------------|--------------------------|----------------|
| LBIRTB-N14/<br>N0605 | Red        | 14             | 24                   | 0.96      | 40           | 120°           | 625nm                    | 16.80          |
|                      | True Green |                |                      |           | 40           | 120°           | 525nm                    | 38.08          |
|                      | Blue       |                |                      |           | 40           | 120°           | 470nm                    | 11.20          |
| LBIRTB-N21/<br>N0620 | Red        | 21             | 24                   | 1.44      | 60           | 120°           | 625nm                    | 25.20          |
|                      | True Green |                |                      |           | 60           | 120°           | 525nm                    | 57.12          |
|                      | Blue       |                |                      |           | 60           | 120°           | 6000K                    | 16.80          |
| LBIRTB-N28/<br>N0628 | Red        | 28             | 24                   | 1.92      | 80           | 120°           | 625nm                    | 33.60          |
|                      | True Green |                |                      |           | 80           | 120°           | 525nm                    | 76.16          |
|                      | Blue       |                |                      |           | 80           | 120°           | 470nm                    | 22.40          |
| LBIRTB-N42/<br>N0629 | Red        | 42             | 24                   | 2.88      | 120          | 120°           | 625nm                    | 50.40          |
|                      | True Green |                |                      |           | 120          | 120°           | 525nm                    | 114.24         |
|                      | Blue       |                |                      |           | 120          | 120°           | 470nm                    | 33.60          |
| LBIRTB-N56/<br>N0630 | Red        | 56             | 24                   | 3.84      | 160          | 120°           | 625nm                    | 67.20          |
|                      | True Green |                |                      |           | 160          | 120°           | 525nm                    | 152.32         |
|                      | Blue       |                |                      |           | 160          | 120°           | 470nm                    | 44.80          |

Table 5 : LBIRTB-Nxx/N06xx series electrico-optical characteristics.

Note :

Flux is measured with an accuracy of  $\pm 10\%$ .



A Solid-State Lighting Premium Expert

## Environmental Compliance

PLCC lightbar with heatsink series are compliant to the Restriction of Hazardous Substances Directive or RoHS. The restricted materials including lead, mercury cadmium hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ether (PBDE) are not used in PLCC lightbar with heatsink series to provide an environmentally friendly product to the customers.

## Application Notes

PLCC Lightbar series are available in red, yellow, green, blue, white, neutral white and warm white for application such as under-cabinet lighting, cove lighting and wall washing. Moreover, additional fine-tuned high color rendering index (CRI) version of white, neutral white and warm white all make PLCC Lightbar the ideal lighting choice for vividly displaying fruit and vegetables and/or refrigeration products, presenting the true color of the products and reflecting the freshness of goods.

