

Bridgelux LED Array Wiring Options

Product Data Sheet DS18

Introduction

The Bridgelux family of LED Array products delivers high performance, compact and cost-effective solid-state lighting solutions to serve the general lighting market. These products combine the higher efficacy, lifetime, and reliability benefits of LEDs with the light output levels of many conventional lighting sources.

The Bridgelux ES and RS Array product families deliver between 800 and 8000 lumens under application conditions in warm, neutral and cool white color temperatures.

The wiring option further enhances the plug and play simplicity delivered by these LED Arrays, helping to facilitate quick design cycles and ease system-level integration challenges. Pre-wired Arrays enable the use of interconnection methods common to the lighting industry while avoiding soldering.

Features

- Compatible with industry standard assembly methods
- Simplified system design integration
- 5-Year warranty
- RoHS compliant and Pb free

Benefits

- Simplifies the manufacturing process
- Reduces design costs and accelerates time to market
- Reduced maintenance costs
- Environmentally friendly, no disposal issues



Availability

Wiring options are available for Bridgelux ES Rectangle and RS Array configurations. Wiring options are not available for Bridgelux ES Star or LS Array configuration.

Wire Specification and Ratings

Table 1: Wire Specifications and Ratings

Part Number ^[1]	Conductor Size	Conductor Type	Length (L) (Figure 1)	Insulation Color	Insulation Temp Rating	Insulation Voltage Rating	UL Rating ^[2]	RoHS Compliant
- W01	18 AWG (0.82 mm ²)	Tinned stranded copper	165 ±5 mm (6 inches)	Red (positive) Black (negative)	125°C	300V	VW-1	Yes
- W03	18 AWG (0.82 mm ²)	Tinned stranded copper	460 ±5 mm (18 inches)	Red (positive) Black (negative)	125°C	300V	VW-1	Yes

Notes for Table 1:

1. To order, use the standard LED Array part number with a - Wxx extension. For example, to purchase the BXRA-W0802-00000 array with 6 inch wires, the specified part number would be BXRA-W0802-00000-W01. Consult your Bridgelux sales representative for further information.
2. Flammability rating tested according to UL-758.
3. Specifications apply to both the red (positive) and the black (negative) wires.

Wire Termination

Table 2: Wire Termination

Part Number	Wire Termination at Free End (Dimension S in Figure 1)	Array Type	Wire Orientation
- W01	Stripped 12 mm (0.5 inch) typical from end Exposed conductor soldered	RS Array	Parallel Orientation (see Figure 1)
		ES Array	In-line Orientation (see Figure 2)
- W03	Stripped 12 mm (0.5 inch) typical from end Exposed conductor soldered	RS Array	Parallel Orientation (see Figure 1)
		ES Array	In-line Orientation (see Figure 2)

Drawing and Wire Orientation

Figure 1: Wire Length

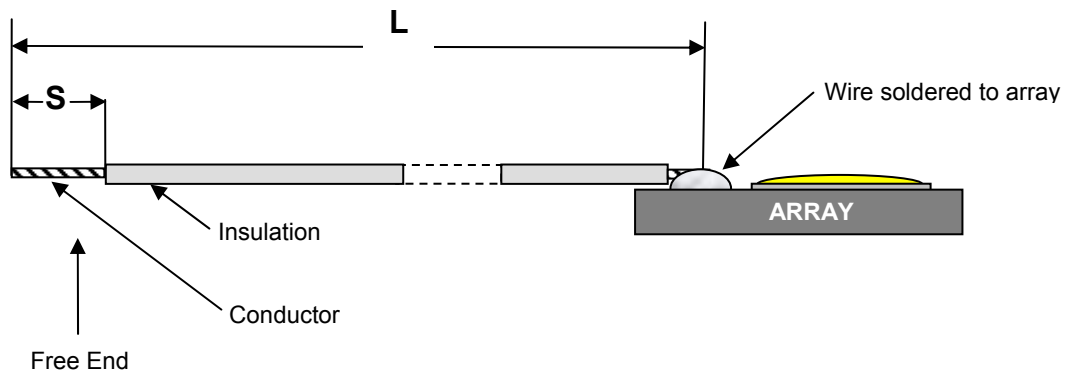


Figure 2: RS Array Parallel Wire Orientation

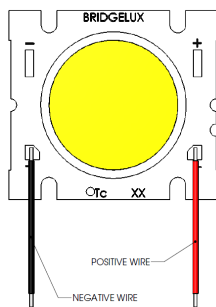
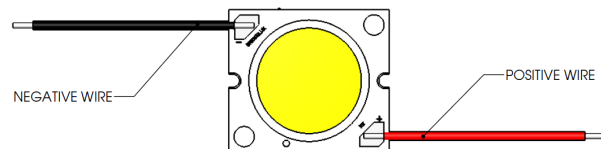


Figure 3: ES Array In-line Wire Orientation



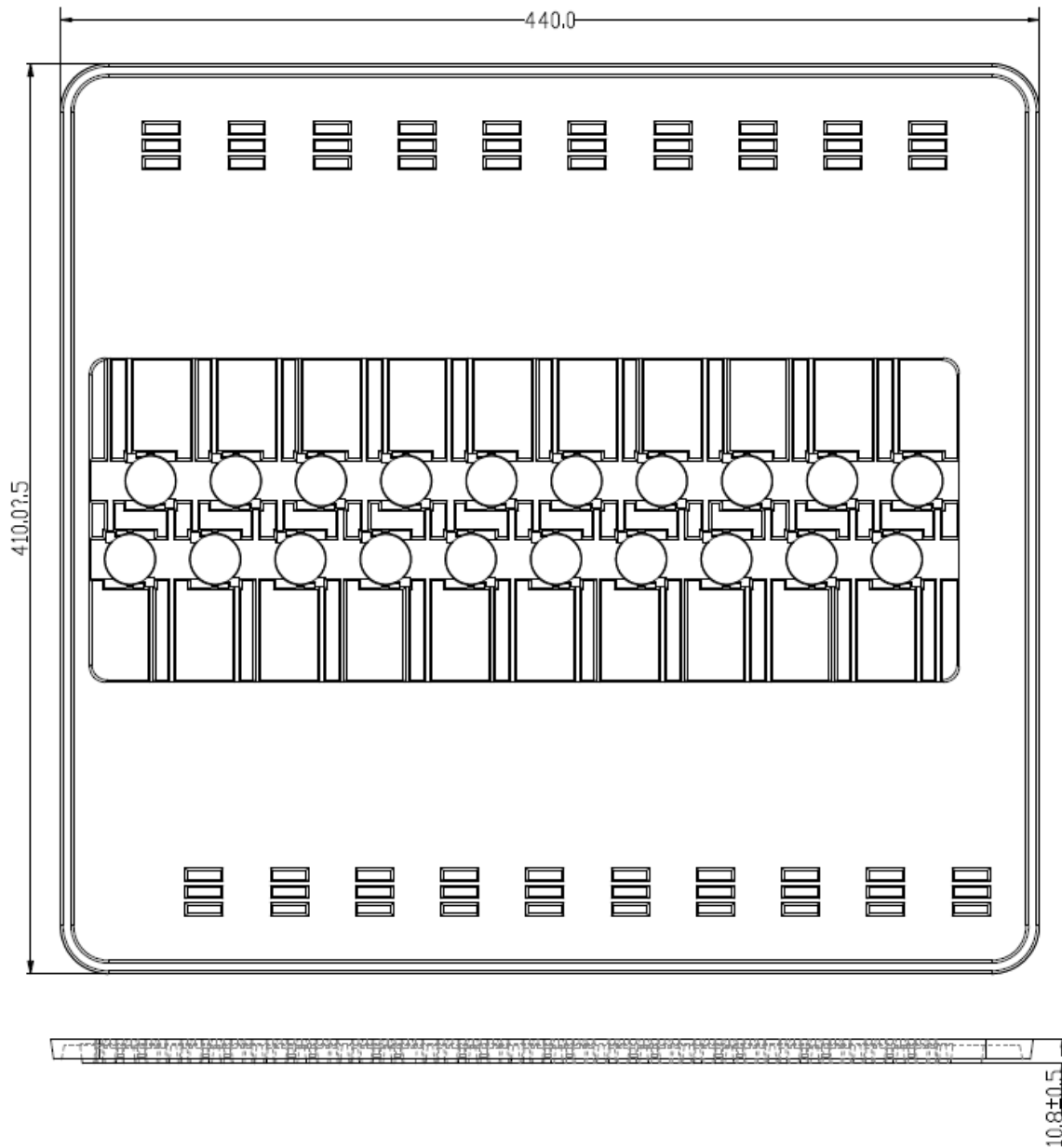
Notes for Figures 1, 2 and 3:

1. Note difference in wire orientation for wire attachment to RS Array and ES Rectangle Array.
2. Drawings are not to scale.

Product Packaging Tray Design

Bridgelux LED Arrays with wires are placed in trays and then packaged in bags prior to loading into boxes for shipment. Five trays are loaded per bag. Each bag is labeled with the information required for effective inventory management. There are 20 Rectangular ES Arrays per tray or 10 RS Arrays per tray. Drawings of the trays are shown in Figures 4 and 5.

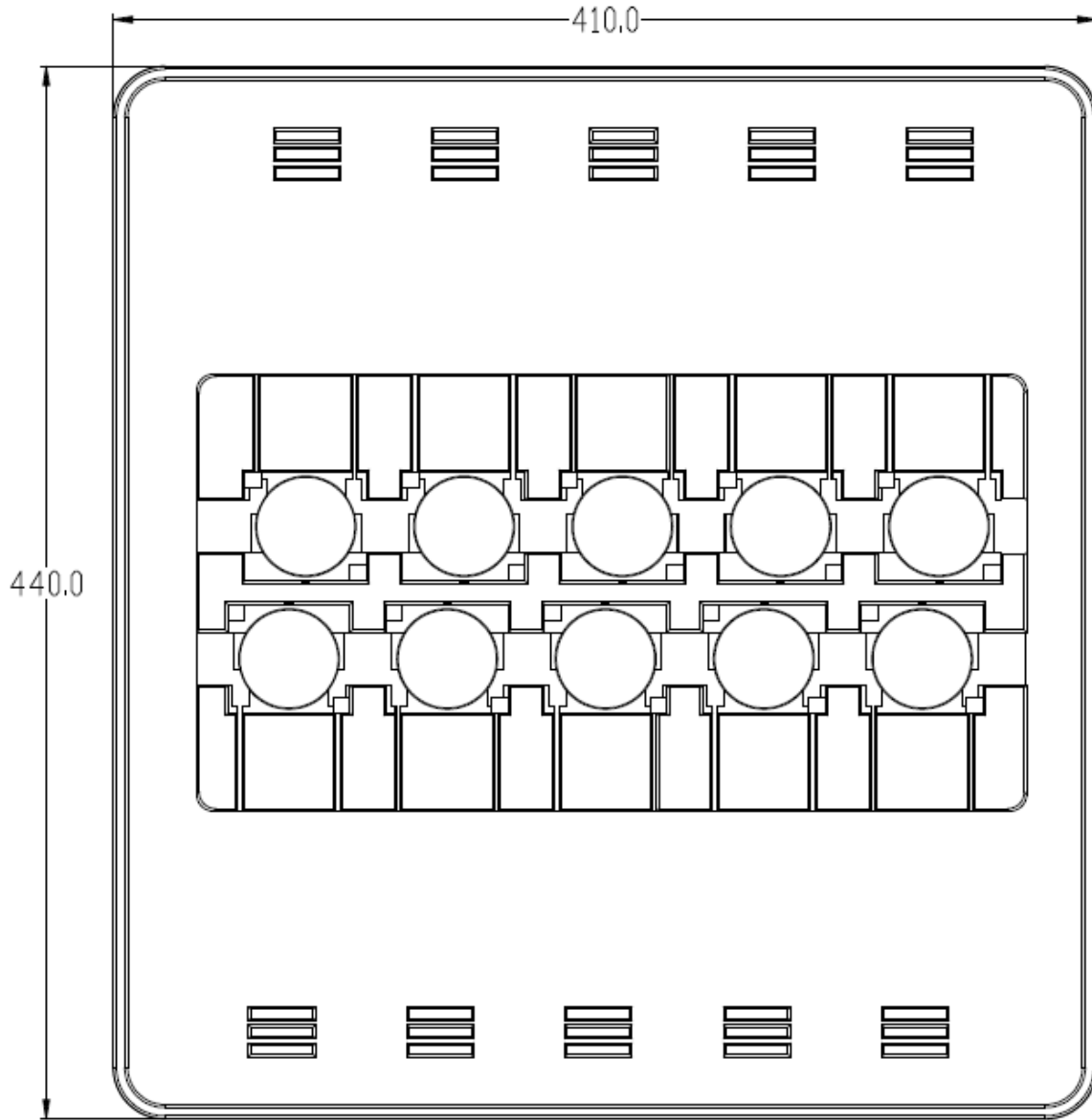
Figure 4: Drawing of Tray for Rectangular ES Arrays With Wires



Notes for Figure 4:

1. Drawings are not to scale.
2. Drawing dimensions are in millimeters.

Figure 5: Drawing of Tray for RS Arrays With Wires



Notes for Figure 5:

1. Drawings are not to scale.
2. Drawing dimensions are in millimeters.

Design Resources

Bridgelux has developed a comprehensive set of application notes and design resources to assist customers in successfully designing with Bridgelux LED Array products. Included below is a list of available resources which can be downloaded from the Bridgelux web site under the Design Resources section. These documents are updated regularly as new information becomes available, including complimentary infrastructure products such as commercially available secondary optics and electronic driver solutions.

Application Notes

- AN10: Effective Thermal Management of Bridgelux LED Arrays
- AN11: Assembly Considerations for Bridgelux LED Arrays
- AN12: Electrical Drive Considerations for Bridgelux LED Arrays
- AN14: Reliability Data Sheet for Bridgelux LED Arrays
- AN15: Reflow Soldering of Bridgelux LED Arrays
- AN16: Optical Considerations for Bridgelux LED Arrays

Optical Source Models

Optical source models and ray set files are available for all Bridgelux LED Array products, and can be downloaded directly from the Bridgelux web site. The list below contains the formats currently available. If you require a specific format not included in this list, please contact your Bridgelux sales representative for assistance.

- Zemax
- ASAP
- IESNA
- LightTools
- LucidShape
- OPTIS SPEOS
- PHOTOPIA
- TracePro
- Radiant Imaging Source Model

3D CAD Models

Three dimensional CAD models depicting the product outline of all Bridgelux LED Arrays are available in both SAT and STEP formats. These CAD files can be downloaded directly from the Bridgelux web site.

About Bridgelux

Bridgelux is a leading developer and manufacturer of technologies and solutions transforming the \$40 billion global lighting industry into a \$100 billion market opportunity. Based in Livermore, California, Bridgelux is a pioneer in solid-state lighting (SSL), expanding the market for light-emitting diode (LED) technologies by driving down the cost of LED lighting systems. Bridgelux's patented light source technology replaces traditional technologies (such as incandescent, halogen, fluorescent and high intensity discharge lighting) with integrated, solid-state lighting solutions that enable lamp and luminaire manufacturers to provide high performance and energy-efficient white light for the rapidly growing interior and exterior lighting markets, including street lights, commercial lighting and consumer applications. With more than 500 patent applications filed or granted worldwide, Bridgelux is the only vertically integrated LED manufacturer and developer of solid-state light sources that designs its solutions specifically for the lighting industry.

For more information about the company, please visit www.bridgelux.com

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