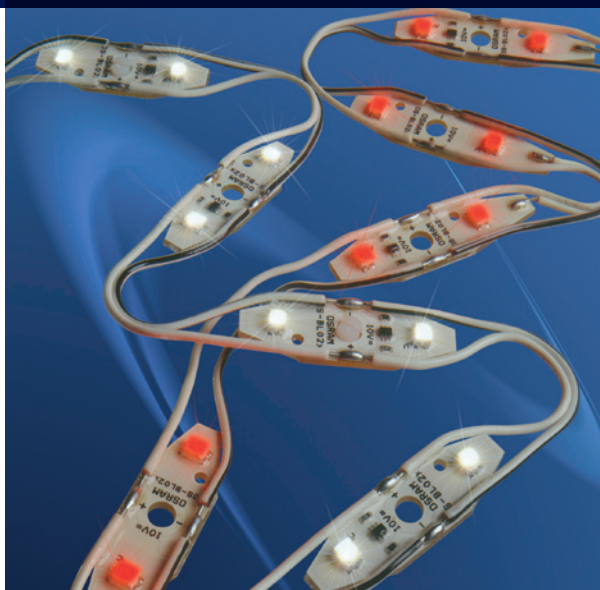


BACKlight 2G BL02

Chain LED Module for Signage



BACKlight BL02 LED chains are a durable, energy efficient, long life alternative to neon sources. Their flexible chain configuration makes them ideally suited to fit contours and curves typical to channel letter signs. The LED modules are quickly and easily configured as a neon retrofit or in new signs. Available in 6500K white, super red, amber red and orange, there is a BACKlight 2G BL02 chain for a wide variety of applications.

Each BACKlight 2G BL02 reel contains 120 circuit boards, each with two high brightness LEDs. Installation can be accomplished with a center mounting hole that allows the module to be installed with M4 screws. BACKlight 2G LED Modules are optimally paired with OPTOTRONIC® 10.5V power supplies.

Key Features & Benefits

- Small height and wide beam angle (120°) allow for the creation of extremely low-profile lettering with uniform illumination
- Flexible cables enable luminance to be adjusted, fitting into the tricky contours of a channel letter
- Installation "from the reel" and simple connection to control gear reduces installation costs
- Circuit boards are conformally coated to protect against dust, moisture and dripping water
- Colored LEDs allow for more efficient light transmission through colored acrylics
- Dimmable by pulse width modulation, a method that maintains consistent lumen output and color
- Long life: up to 100,000 hours (L₇₀) for colors and 50,000 hours (L₇₀) for white when temperature at Tc point is maintained at 40°C minimizing maintenance frequency

Product Offering

Ordering Description	Wattage	Color
B2G/BL02S/W3-865	22	White – 6500K
B2G/633/BL02/S1	19	Super Red
B2G/617/BL02/A2	19	Amber Red
B2G/606/BL02/O1	19	Orange

Application Information

Applications

- Channel letters
- Cove lighting
- Displays
- Effect lighting
- Signs

Specifications and Certifications



The BACKlight 2G BL02 is UL2108 Recognized for US and Canada Class 2 Unit (UL file # E258264)



UL2108 Classified for US and Canada Class 2 Unit (UL file # E311887)

RoHS Compliant

Listed in Sign Components Manual (SAM)



Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	Date

Ordering Information

Item Number	Ordering Abbreviation	Module Length**	Board Spacing	No. of LEDs	Power (W)	Voltage (Vdc)	Current (Amps)	Color	Color Temperature/Wavelength	Lumens (lm)*	Lumens/ft	Watts/ft
70272	B2G/BL02S/W3-865	15.75 ft	3.15 in.	120	22	10.5	2.1	White	6500K	440	28	1.4
70235	B2G/633/BL02/S1	15.75 ft.	3.15 in.	120	19	10.5	1.8	Super Red	633nm	245	16	1.2
70175	B2G/617/BL02/A2	15.75 ft.	3.15 in.	120	19	10.5	1.8	Amber Red	617nm	590	37	1.2
70236	B2G/606/BL02/O1	15.75 ft.	3.15 in.	120	19	10.5	1.8	Orange	606nm	490	31	1.2

*All data is related to entire module measured at Tc point of 25°C. Data reflects statistical mean values. Actual data may differ depending on variances in the manufacturing process.
End users need to take into account the lumen depreciation as the temperature rises with various thermal management solutions installed.

**There are two modules per reel. Data is for a single module of 120 LEDs.

Ordering Guide

B2G	/	BL02S	/	W3	8	65
BACKlight 2nd Generation		BL02		White 3rd Generation LED	CRI 8 > 80	Color Temp 65=6500K
B2G	/	633	/	BL02	/	S1
BACKlight 2nd Generation		Wavelength (nm)		BL02		Color Code

Power Supply Information

Maximum Allowed Length & Number of Boards per Power Supply

LED Item Number	OT20 (51599)		OT25 (51505)		OT50 (51509)	
	Max Length (ft.)	Max No. of Boards	Max Length (ft.)	Max No. of Boards	Max Length (ft.)	Max No. of Boards
70272	14.1	53	17.3	65	36.2	137
70235, 70236, 70175	15.7	59	20.5	77	40.9	155

Notes:

- Only parallel connection allowed.
- OPTOTRONIC® power supplies are optimally paired with SYLVANIA LED modules and are specifically designed with protection features for safe operation.
- The module is designed to work with constant voltage power supplies only. Reference the power supply PIB # ECS049 for product specification information.
- These values are an approximation based on the typical "power" values listed under the "Ordering Information" parameters. To accurately determine the maximum LED load, evaluate the application based on the application note "Determining the maximum LED load on a constant voltage power supply" LED026. This document can be found at www.sylvania.com.

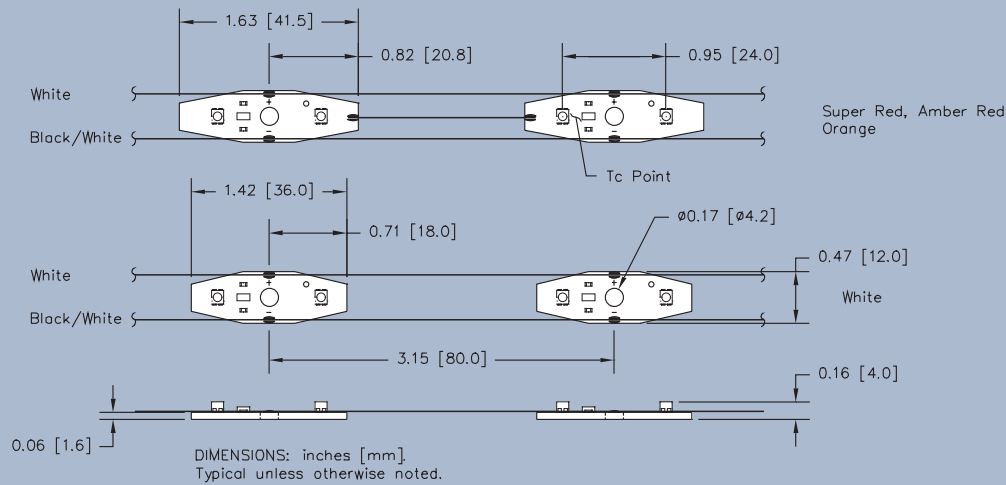
Minimum and Maximum Ratings

Parameter	Values
Operating Temperature at Tc Point	-20... +85°C (-4 to +185°F)
Storage Temperature	-20... +85°C (-4 to +185°F)
Voltage Range	10 to 11
Maximum Reverse Voltage	11

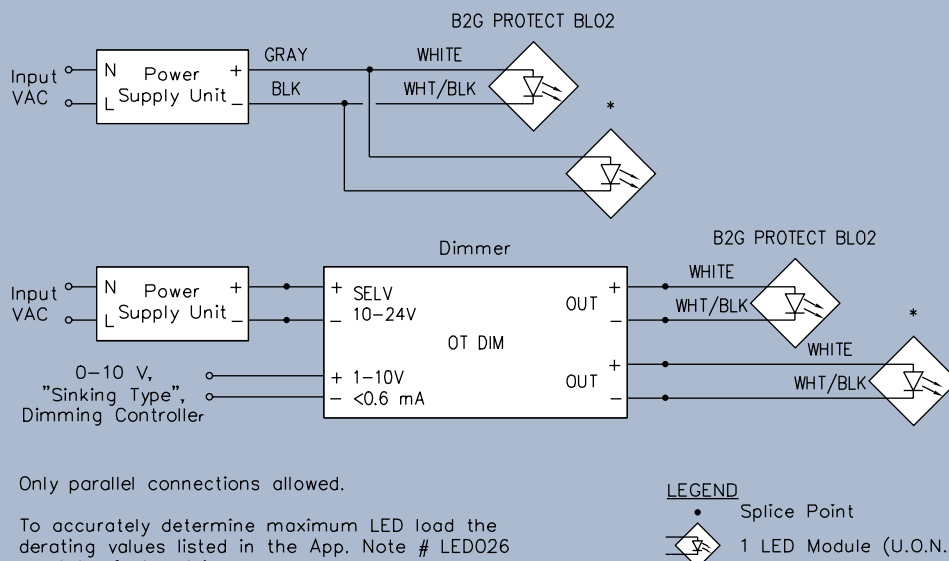
Notes:

- Exceeding maximum ratings may damage the LED module and cause potential safety hazards.
- Elevated operating temperatures can be expected to negatively impact the service life in terms of lumen output.

Assembly Diagram



Wiring Diagram



Only parallel connections allowed.

To accurately determine maximum LED load the derating values listed in the App. Note # LED026 must be factored in.

Reference the "Maximum Product Load" circuit requirement charts for the maximum product load per power supply.

* Remaining feet of LED module connected in parallel based on load info provided in the "Power Supply Information" chart.

Safety Information

WARNING: ONLY QUALIFIED PERSONNEL SHOULD PERFORM INSTALLATION.

TO AVOID ELECTRICAL SHOCK OR COMPONENT DAMAGE, DISCONNECT POWER BEFORE ATTEMPTING INSTALLATION OF THE POWER SUPPLIES AND/OR MODULES.

Failure to install the power supplies and/or LED modules in accordance with the National Electric Code (NEC), all applicable Federal, State and local electric codes as well as the specific Underwriters Laboratories (UL) safety standards for the installation, location and application may cause serious personal injury, death, property damage and/or product malfunction.

1. The LED module itself and all its components shall not be subjected to mechanical stress and assembly must not damage or destroy conducting paths on the circuit board.
2. Installation of LED modules shall be made with regard to all applicable electrical and safety standards. Only qualified personnel should be allowed to perform installation.
3. Observe correct electrical polarity, incorrect polarity may destroy the module. (Depending on the product, incorrect polarity may lead to emission of red or no light.)
4. Electrostatic Discharge (ESD) precautions shall be incorporated when handling or installing the module. (For more information, reference document # LED093 ESD Protection for LED Systems.)
5. Circuit boards should be attached securely to the intended substrate, but do not over-tighten screws or rivets. Heavy vibration should be avoided.
6. The module itself is protected against condensation water with a polymeric conformal coating. Supplementary soldering on any solder pad will destroy the conformal coating and with it protection against water.

Assembly Information

1. Mounting holes allow for installation by screw or rivet.
2. Mounting of the BACKlight 2G module may also be performed with screws (#4 round head screws & plastic washer) by using the 5/32" (4mm) holes in the circuit board. See the "BACKlight 2G Installation Guide" LED032 for more details.
3. Care should be taken not to over torque the mounting screws and damage the circuit board.
4. To connect the LED modules with each other or with an OPTOTRONIC® Power Supply, SYLVANIA recommends standard wire connectors.
5. De-rate maximum LED load for remote mounting or exterior applications.
6. Super Red, Amber Red and Orange modules cannot be cut at three-wire junctions. Only cutting at two wire junctions is allowed. White BL02 modules can be cut at any increment.

Warranty

SYLVANIA LED products are covered by our LED Module, OPTOTRONIC® Power Supply or Control Warranty.

The BACKlight 2G BL02 is covered under the warranty as long as the temperature at the Tc point does not exceed 40°C; exceeding this temperature will void all warranties.

For additional information or to download the warranty registration form, refer to the latest version of the warranty available in the literature section of www.sylvania.com/LED.

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