

Harris A. Wolin
Myers Wolin, LLC
100 Headquarters Plaza
North Tower, 6th Floor
Morristown, New Jersey 07960
Telephone: (973) 401-7159
Email: harris.wolin@myerswolins.com

Attorneys for Plaintiff
Bitro Group Inc.

**IN THE UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY**

BITRO GROUP INC.

Plaintiff,

v.

LEDWHOLESALERS.COM, INC.,

Defendant.

Case No.

**COMPLAINT FOR PATENT
INFRINGEMENT**

DEMAND FOR JURY TRIAL

Bitro Group Inc. (“Bitro”), by its undersigned attorneys, as and for its complaint against defendant LEDwholesalers.com, Inc., says:

THE PARTIES

1. Plaintiff Bitro is a New Jersey Corporation that maintains its principal place of business at 300 Lodi St., Hackensack, NJ 07601. Bitro is a leading provider of professional grade LED lighting products.

2. Upon information and belief, defendant LEDwholesalers.com, Inc. (“LEDwholesalers”) is a corporation organized under the laws of California, having a principal place of business at 26596 Corporate Ave., Hayward, CA 94545.

JURISDICTION AND VENUE

3. This is an action for patent infringement under the patent laws of the United States, 35 U.S.C. §1, *et seq.* This court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§1331 and 1338(a).

4. Venue is proper in this judicial district pursuant to 28 U.S.C. §1391(b).

THE PATENT-IN-SUIT

5. On August 18, 2015, the United States Patent and Trademark Office (“PTO”) duly and legally issued United States Patent No. 9,113,558 B2 (“the ‘558 patent”), entitled “LED Mount Bar Capable of Freely Forming Curved Surfaces Thereon,” to Seong Gon Baik (“Baik”). Baik, in turn, assigned all rights, title, and license in the ‘558 patent to LEDZONE CO., a foreign corporation in Korea with a business address at 112-20, Tongil-ro 1018, Deokyang-gu, Goyang-si, Kyeonggi-do, Korea (“LEDZONE”). Bitro is an exclusive licensee of all right, title and interest in the ‘558 patent, including the sole right to sue for infringement, by virtue of a license agreement executed in October of 2015. A true and correct copy of the ‘558 patent is attached as Exhibit A to this Complaint.

6. Traditional LED tape light strips provide lighting at regular intervals along a linear strip, but are not flexible in the direction of their width. Such LED tape light strips therefore cannot easily be used to provide lighting for custom shapes and letters.

7. The ‘558 patent describes and claims an LED tape light strip with a unique structure that allows it to be bent in the direction of its width, and is therefore ideal for lighting that must conform to unique shapes.

PLAINTIFF'S ON-GOING BUSINESS IN THE U.S. UNDER THE '558 PATENT

8. Bitro has been regularly and continually making, marketing, using and selling LED tape light strips made in accordance with the '558 patent in the U.S. since December of 2012. These activities include, but are not limited to, displaying such patented lighting systems at tradeshows throughout the U.S. and designing and installing such systems for customers.

9. Bitro has found that its uniquely flexible LED tape light strips, as well as installations incorporating the LED tape light strips, actively and successfully attract new customers and retain existing customers, who ultimately engage Bitro for installations incorporating all of Bitro's lighting products and services. As such the Bitro LED tape light strips utilizing the patented technology have become an important and valuable continuing source of business attraction and growth for Bitro.

INFRINGEMENT BY DEFENDANT

10. Bitro realleges and incorporates by reference paragraphs 1-9, inclusive, as though fully set forth in this paragraph.

11. Defendant LEDwholesalers displays on its website, and upon information and believe, sells into this judicial district, its "12-Volt UL 3D Ultra-Flex 6.56-Foot Single Color LED Strip," product code 20115, as shown at http://shop.ledwholesalers.com/index.php?route=product/product&path=39_81_97&product_id=650 (last viewed on August 11, 2016). A screen capture is attached as Exhibit B to this complaint.

12. Defendant LEDwholesalers has been and is currently infringing the '558 patent in violation of 35 U.S.C. §271 by, among other things, designing, making, importing, using, selling, and/or offering for sale at least its Product Code 20115, entitled "12-Volt UL 3D

Ultra-Flex 6.56-Foot Single Color LED Strip” in and into the United States, and in this judicial district, that infringe one or more of the claims of the ’558 patent.

13. Upon information and belief, these infringing activities of LEDwholesalers are causing attraction to LEDwholesalers and other LEDwholesalers products in the marketplace. As such, and upon information and belief, by LEDwholesalers’ display and marketing of products infringing upon the ’558 patent, LEDwholesalers is attracting and directing customers to itself that would otherwise first be attracted to and seek business with Bitro.

14. Upon information and belief, defendant LEDwholesalers transacts business within this district, derives substantial revenues from intra-state and inter-state commerce and has committed tortious acts of patent infringement within this district and also without this district having injurious consequences within this district, and defendant LEDwholesalers is otherwise within the jurisdiction of this Court.

15. In particular, upon information and belief, defendant LEDwholesalers is offering for sale and/or selling into this district at least one product that infringes upon Bitro’s ’558 patent, and/or is actively doing business in this district and thereby is, and has been, regularly availing itself of the benefits of doing business in this district.

16. Due to these infringing activities, Bitro has sustained damages and suffered irreparable harm in and to its existing and prospective business, and will continue to sustain such damages and irreparable harm unless LEDwholesalers is permanently enjoined from infringing the ’558 patent.

17. LEDwholesalers had knowledge of and willfully, deliberately, and intentionally infringed the claims of the ’558 patent, rendering this an exceptional case pursuant

to 35 U.S.C. §285, and entitling Bitro to enhanced damages and attorneys' fees, along with a permanent injunction.

PRAYER FOR RELIEF

WHEREFORE, Bitro seeks judgment in its favor and against LEDwholesalers as follows:

- a. Adjudging and decreeing that LEDwholesalers has infringed the '558 patent;
- b. Permanently enjoining LEDwholesalers, its officers, agents, servants, employees, and attorneys, and all persons in active concert or participation with it from infringing the '558 patent;
- c. Damages as allowed by law to compensate Bitro for LEDwholesalers's infringement, together with prejudgment interest and costs of suit;
- d. Adjudging LEDwholesalers a willful infringer and awarding Bitro treble damages under 35 U.S.C. §284;
- e. Declaring that this is an exceptional case under 35 U.S.C. §285, and awarding reasonable attorneys' fees and expenses to Bitro;
- f. Adjudging LEDwholesalers an infringer of the '558 patent in violation of 35 U.S.C. §289, and awarding damages to Bitro to the extent of LEDwholesalers's total profit;
- g. For such other and further relief as the Court may deem just and appropriate.

JURY DEMAND

Bitro requests a jury trial on all issues triable by jury.

Dated: August 16, 2016

By: /s/ Harris A. Wolin

Harris A. Wolin

Trial Counsel

Myers Wolin, LLC

Attorneys for Plaintiff

Bitro Group Inc.

EXHIBIT A



US009113558B2

(12) **United States Patent**
Baik

(10) **Patent No.:** **US 9,113,558 B2**
(45) **Date of Patent:** **Aug. 18, 2015**

(54) **LED MOUNT BAR CAPABLE OF FREELY FORMING CURVED SURFACES THEREON**

(76) Inventor: **Seong Gon Baik**, Goyang-si (KR)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **13/505,738**

(22) PCT Filed: **Sep. 8, 2010**

(86) PCT No.: **PCT/KR2010/006098**

§ 371 (c)(1),
(2), (4) Date: **May 2, 2012**

(87) PCT Pub. No.: **WO2011/052885**

PCT Pub. Date: **May 5, 2011**

(65) **Prior Publication Data**

US 2012/0217520 A1 Aug. 30, 2012

(30) **Foreign Application Priority Data**

Nov. 2, 2009 (KR) 20-2009-0014232 U

(51) **Int. Cl.**

H01L 29/18 (2006.01)
H05K 1/02 (2006.01)
F21S 4/00 (2006.01)
F21Y 103/00 (2006.01)
H01L 25/075 (2006.01)
F21Y 101/02 (2006.01)

(52) **U.S. Cl.**

CPC **H05K 1/0278** (2013.01); **F21S 4/003** (2013.01); **F21Y 2101/02** (2013.01); **F21Y 2103/003** (2013.01); **H01L 25/0753** (2013.01); **H05K 2201/09063** (2013.01); **H05K 2201/09263** (2013.01); **H05K 2201/10106** (2013.01)

(58) **Field of Classification Search**

CPC F21S 4/007; F21S 48/215; F21S 4/003;

F21Y 2101/02; F21Y 2103/003; G09F 13/22; G09F 2013/1895; G09F 9/33; H05K 1/0393; H05K 1/148; H05K 2201/10106; H05K 1/0278; H01L 25/13; H01L 2224/48091; H01L 2924/00; H01L 2924/00014; H01L 25/0753; H01L 2224/48247; H01L 2924/12041; H01L 21/2007; H01L 2224/16; H01L 24/16; H01L 2224/73265; H01L 24/32; H01L 24/45; H01L 27/153

USPC 257/88, E33.055
See application file for complete search history.

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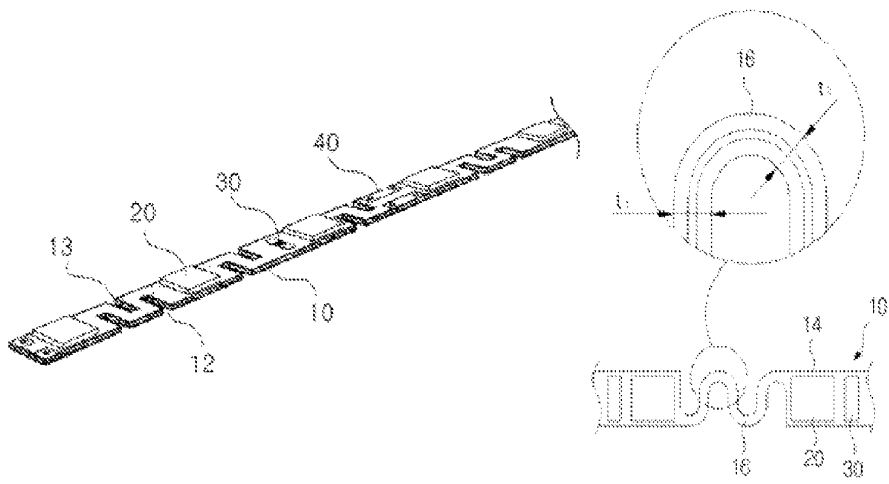
Primary Examiner — Duy T Nguyen

(74) Attorney, Agent, or Firm — AKC Patents LLC; Alikei K. Collins

(57) **ABSTRACT**

A bar on which a plurality of LEDs are mounted. The bar has a first side surface having a plurality of grooves and a second side surface having a plurality of grooves, wherein the plurality of first grooves formed at the first side surface and the plurality of second grooves formed at the second side surface intersect each other such that the bar can be easily bent in a widthwise direction.

4 Claims, 3 Drawing Sheets



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(56)

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Fig. 1

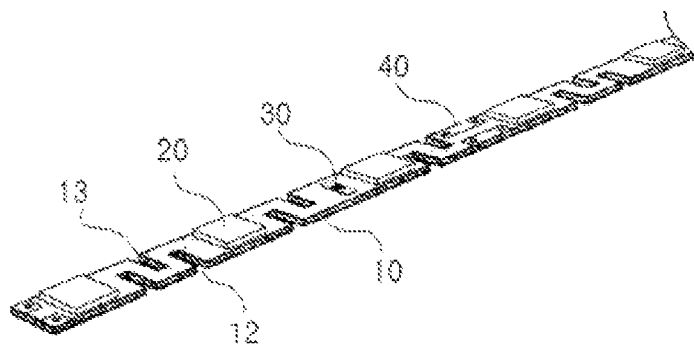


Fig. 2

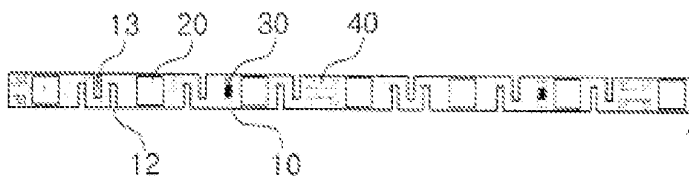


Fig. 3

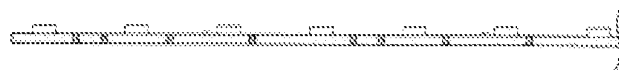


Fig. 4

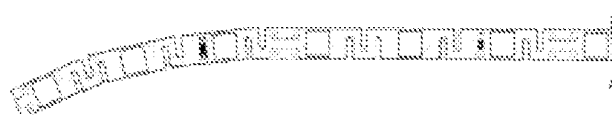
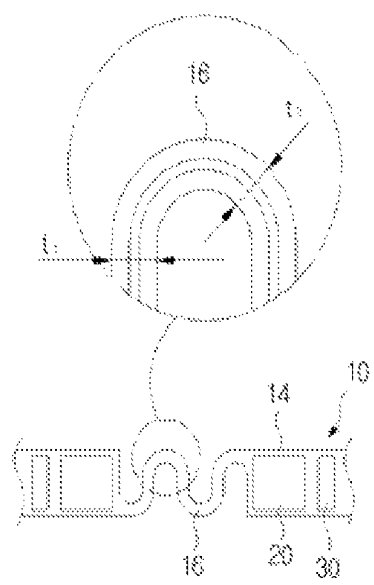


Fig. 5



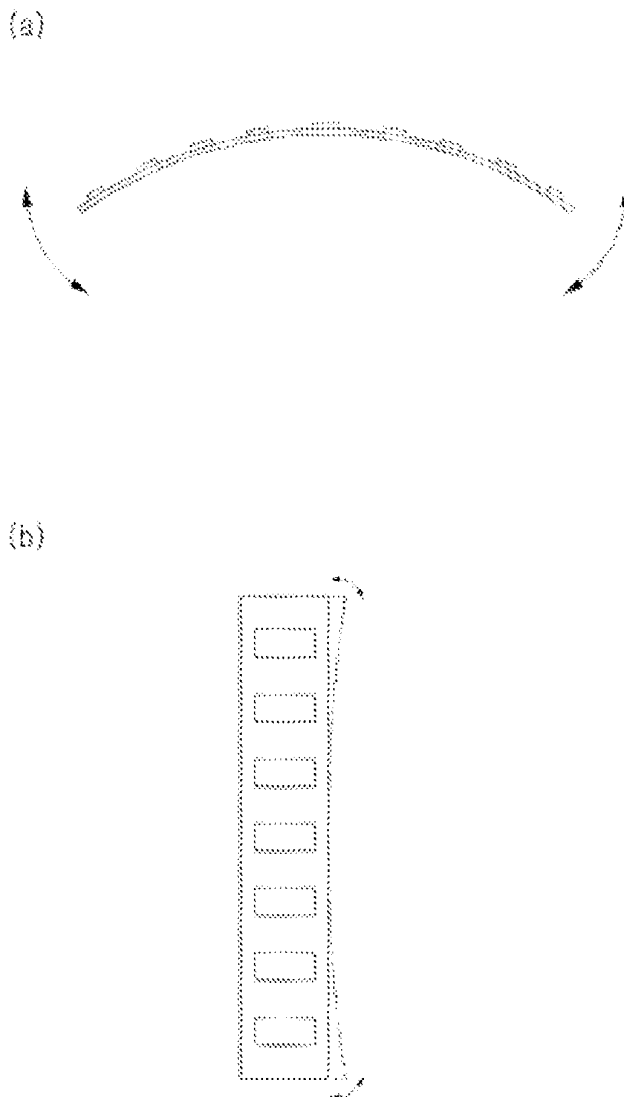


FIG. 6
(Prior Art)

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LED MOUNT BAR CAPABLE OF FREELY FORMING CURVED SURFACES THEREON

RELATED APPLICATIONS

This application is a 371 application of International Application No. PCT/KR2010/006098, filed Sep. 8, 2010, which in turn claims priority from Korean Patent Application No. 20-2009-0014232, filed Nov. 2, 2009, each of which is which is incorporated herein by reference in its entirety.

FIELD OF THE INVENTION

The present invention relates to a bar on which a plurality of LEDs are mounted, more particularly, a LED mount bar capable of freely forming curved surfaces thereon which can be easily bent in a required form.

BACKGROUND OF THE INVENTION

As electronic components are reduced in size and designs of electronic products are gradually diversified, the forms of modules mounted with the electronic components are diversified. For example, in the field of advertisement or illumination, for achieving illumination of desired letters or patterns, there are more and more needs to arrange a plurality of LEDs on a plane module (it can be hardly bent) in the same form as relevant letters or relevant patterns.

By the way, the bar used in the field of illumination or advertisement can be relatively well bent in up-and-down direction of the bar, as illustrated in FIG. 6 (refer to FIG. 6 (a)), however, can be hardly bent in a width direction of the bar (refer to FIG. 6 (b)), therefore, in order to arrange the plurality of LEDs in a desired form, a plurality of bars mounted with LEDs have to be connected one by one or the bars have to be specially fabricated so as to conform to required form, thus there is disadvantage that work is troublesome and much cost and time are consumed.

SUMMARY OF THE INVENTION

The present invention has been devised for solving the above-mentioned problems, and its object is to provide a LED mount bar capable of freely forming curved surfaces thereon wherein the bar mounted with a plurality of LEDs can be freely bent according to the requirement of users and thus the plurality of LEDs can be arranged in a desired form.

According to a first embodiment of the present invention for achieving the object, there is provided a LED mount bar capable of freely forming curved surfaces thereon and mounted with a plurality of LEDs in a long row or long plural rows, wherein the bar is characterized in that a plurality of grooves are formed at first and second side surfaces of the bar such that the bar can be easily bent in a width direction, and a plurality of first grooves formed at the side surface and a plurality of second grooves formed at the second first side surface are staggered.

According to a second embodiment of the present invention for achieving the object, there is provided a LED mount bar capable of freely forming curved surfaces thereon and mounted with a plurality of LEDs in a long row or long plural rows, wherein the bar is characterized in that it comprises a plurality of mounts for mounting at least one LEDs and connection portions of curved form for connecting the plurality of mounts.

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Since the bar according to the present invention can be bent in a form desired by users, the users can arrange the LEDs mounted on the bar in the desired form (for example, a circular form).

Therefore, according to the present invention, a plurality of LEDs can be arranged in the form required by the users, without connecting one by one a plurality of bars mounted with LEDs or specially fabricating the bars.

In addition, since the present invention enables the bar mounted with a plurality of LEDs to be freely bent, the bar mounted with a plurality of LEDs can be very conveniently installed so as to conform to the shape of a device and also time and cost required for installing of the bar can be drastically decreased.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of a LED mount bar according to a first embodiment of the present invention.

FIG. 2 is a top view of the LED mount bar illustrated in FIG. 1.

FIG. 3 is a side view of the LED mount bar illustrated in FIG. 1.

FIG. 4 is a top view illustrating an example of using the LED mount bar illustrated in FIG. 1.

FIG. 5 is a top view of a LED mount bar according to a second embodiment of the present invention.

FIG. 6 illustrates an example of using a conventional LED mount bar.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

In the following, the present invention will be described in detail with reference to the attached drawings.

FIG. 1 is a perspective view of a LED mount bar according to a first embodiment of the present invention, FIG. 2 is a top view of the LED mount bar illustrated in FIG. 1, FIG. 3 is a side view of the LED mount bar illustrated in FIG. 1, FIG. 4 is a top view illustrating an example of using the LED mount bar illustrated in FIG. 1, and FIG. 5 is a top view of a LED mount bar according to a second embodiment of the present invention.

(A First Embodiment)

A LED mount bar (10) according to the present invention comprises LEDs (20), resistors (30) and power terminals (40).

The bar (10) is thin and elongate, and is made of material having a predetermined elasticity and strength (for reference, the bar can be made of the same material as that of the conventional PCB). Arranged on the bar (10) are a plurality of the LEDs (20), a plurality of the resistors (30), a plurality of the power terminals (40) and other electronic components. The bar (10) formed as described above may be cut to a unit of fixed length, if required. Meanwhile, a plurality of grooves (12, 13) are formed at both side surfaces of the bar (10). Preferably, the plurality of grooves (12, 13) are formed at side surfaces of the portions of the bar (10) where any electronic components are not mounted. Here, grooves (12) formed at a first side surface of the bar (10) (right side surface of the bar in FIG. 1) and grooves (13) formed at a second side surface of the bar (left side surface of the bar in FIG. 1) are staggered, thus the bar (10) is partially in the form of zigzag.

The plurality of LEDs (20) are arranged along the longitudinal direction of the bar (10) with a fixed interval, and the resistors (30) are arranged on the bar (10) depending on the number of the LEDs (20) arranged and capacitance of the

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LEDs (20). Then, the power terminals (40) are arranged in a unit of minimum length to which the bar (10) can be cut (for example, one power terminal per four LEDs (20)).

Since the bar (10) of the present invention constructed as above has a structure where the portion of the bar (10) mounted with any LEDs (20) and the portion of the bar (10) mounted with another LEDs (20) adjacent to the LEDs (20) are connected in the zigzag form for easy bending, the plurality of LEDs (20) are easy to be arranged in a curved form as illustrated in FIG. 4 or in a circular form.

(A Second Embodiment)

The bar (10) according to the second embodiment consists of a plurality of mounts (14) for mounting electronic components or LEDs (20) and connection portions (16) for connecting the mounts (14).

The mounts (14) are arranged along the longitudinal direction of the bar (10) with a fixed interval, and are mounted with various electronic components (the LEDs (20), resistors (30) and power terminals (40)) depending on the purpose of using of the bar (10).

The connection portions (16) have a zigzag form where linear portions and curved portions are repeatedly connected and connect two mounts (14) with each other. Preferably, as illustrated in FIG. 5, for the connection portions (16), width (t1) of the linear portion and width (t2) of the curved portion are identical to each other. If the width of the linear portion is identical to that of the curved portion, as described above, strain in width direction of the linear portion is identical to that of the curved portion, therefore, the connection portion is easy to be bent without deviation in the width direction, compared to the first embodiment having no curved portion.

Thus, this embodiment is very advantageous in the case that the bar (10) should be bent to a great degree to be mounted.

What is claimed:

1. A LED mount bar to mount thereon a plurality of LEDs in a row, the mount bar extending along a first direction and comprising:

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a plurality of LED mounting portions, each mounting portion arranged in the row along the first direction to mount a LED thereon; and

a plurality of connection portions arranged in the row along the first direction and being co-planar with the LED mounting portions and wherein each connection portion is arranged between two neighboring LED mounting portions and is configured to connect the two neighboring LED mounting portions, and wherein each connection portion comprises a plurality of consecutive segments, each segment comprising a linear portion and a curved portion;

wherein the LED mount bar has an elongated shape extending along the first direction and wherein the LED mounting portions and the connection portions are monolithic and integral to each other and form together the elongated LED mount bar;

wherein each connection portion includes first and second sides opposite to each other, wherein the first and second sides have first and second grooves respectively, wherein the first and second grooves are formed at different positions in a length of the connection portion; wherein for each connection portion, width of the linear portions and width of the curved portions are identical to each other;

wherein each of the connection portions comprises a zigzag form, where the linear portions and curved portion are repeatedly connected; and

wherein each connection portion is configured to bend in a width direction, wherein said width direction is co-planar with and perpendicular to the first direction.

2. The LED mount bar of claim 1, wherein the first side further has a third groove formed at a different position from the positions of the first and second grooves in the length of the connection portion.

3. The LED mount bar of claim 1, wherein each of the first and second grooves has the linear portion.

4. The LED mount bar of claim 1, wherein each of the first and second grooves has the curved portion.

* * * * *

EXHIBIT B



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12-Volt UL 3D Ultra-Flex 6.56-Foot Single Color LED Strip with 156xSMD2835, 20115



Product Code: 20115

Availability: 500

Price: \$19.90

12 or more \$18.40

40 or more \$16.90

Available Options

* Color Temperature*:

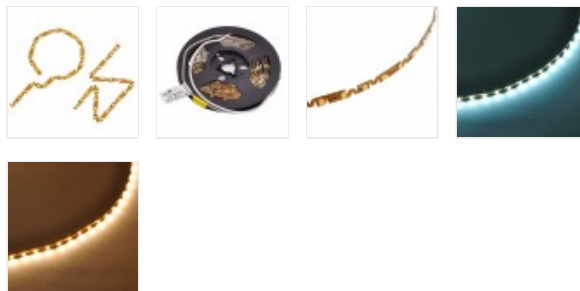
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Qty: 1

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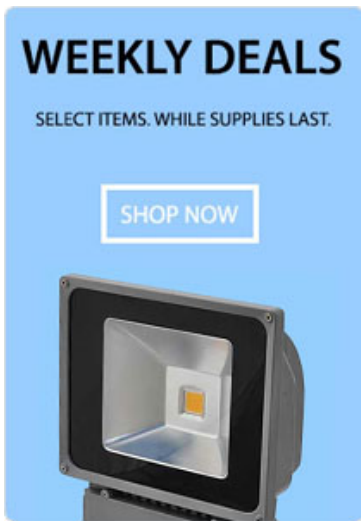
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Description

Reviews (0)

Product Features



- UL-recognized, efficient LED strip with 156xSMD2835 LEDs
- Unique design for ultra flexibility in making side-to-side turns without cutting
- Cutable every 3 LEDs, approx. every 2", at designated cut marks
- Cut sections may be linked by directly soldering wires
- Dimmable with optional compatible dimmable transformer and wall dimmer switch or PWM dimmers
- Eco-friendly - uses very little energy, without harmful radiations

Product Description

This high quality 12 Volt, flexible single color LED strip is perfect for nearly any applications including mood and accent lighting. It features 156xSMD2835 LEDs in white or warm white color temperatures. The entire roll is 6.56 feet (2 meters) in length, and is cuttable and re-linkable. This strip produces super bright light while being very energy efficient and not consuming a lot of power.

Unlike other LED strips, the unique design of this slim strip allows it to make various side-to-side turns, making it an excellent choice for projects that involve round contours.

Designed for the average homeowner as well as lighting professionals, this light can be used for architectural lighting, sign letter lighting, concealed lighting, perimeter lighting amongst many other applications. This LED ribbon is a cool and efficient way to decorate tables, shelves, entertainment rooms, kitchens, bedrooms, closets, etc. They can also function as eye-catching special effects at stores and expo booths.

Note

- Do not lengthen the LED strip by directly connecting additional strips to it; additional lengths should be wired in parallel.
- Unroll LED strip completely before powering on.
- Unused wires of the LED strip must be isolated.
- Test all components before cutting or permanently mounting the strip.

Product Specification

LED Quantity/Type:	156xSMD2835	
Input Voltage:	12VDC	
Power:	11W	
Beam Angle:	115°	
Available Color Temperatures:	White 6500-7500K	Warm White 2800-3100K
Light Output (lumen):	944	910
CRI:	77	
Operating Temperature:	-25~60°C	
Strip Width:	6mm	
Length:	6.56ft (2m)	
PCB Color:	Copper	
Compliance:	UL, CE, RoHS	
IP Rating:	IP33	
Wire Leads:	20AWG	
Case Quantity:	40 pcs/cs	

Related Items:



PWM Dimming Controller for LED Lights or Ribbon, 12-24V 8A

#3301

\$7.00



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12-Volt 30-Watt Waterproof Power Supply with 3-Prong Plug

#3207-12V

\$16.00

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Aluminum Channel System with Cover, End Caps, and Mounting Clips, for LED Strip Installations, Pack of 5x 1m Segments

#1901-V|1902-U

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12V 36-Watt UL Constant Voltage Single Output Waterproof Switching Power Supply

#3270

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