

EdiLex Linear 5630 Series Datasheet



Features

- High Brightness SMD LED
- Low Power Requirement & Energy Efficient
- Light Weight Easy Assembly
- Design-in Quick Expansion
- Suitable for Restricted Space

Typical Applications

- Commercial Lighting
- Stairway Accent Lighting
- Cabinet Lighting
- General Lighting

Specification :

- Color : ○ ● ●

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General Information

Introduction

EdiLex strip lighting module are linear light LED Strips. They are intended for luminaire manufacturers who want to replace linear fluorescent luminaires with LED solutions. The LED Strip can be designed into existing fluorescent luminaires or used to create totally new shapes and concepts. Its “notched” mechanical design gives a three-dimensional scalability for light-lines.

Product Nomenclature

5
X1
T
X2
05
X3-X4
X5
X5-X6
xW
X7-X8
X
X9
XXX
X10-X12
XXXX
X13-X16

X1		X2		X3-X4		X5-X6		X7-X8	
Item	Module	LED Item	PLCC	Series	5630	Emitter Power	0.5W	Emitting Color	
5	Module	T	PLCC	05	5630	X5	0.5W	CW	Cool White
								NW	Neutral White
								WW	Warm White

X9		X10-X12		X13-X16	
Dimensions	Single row type	Total Quantity	22 in 1	Serial Number	CRI80
L	Single row type	022	22 in 1	0002	CRI80
P	Double row type/ Panel	033	33 in 1		
		044	44 in 1		
		072	72 in 1		

Absolute Maximum Ratings

Parameter	Symbol	Value	Units
Operating Temperature	T_{opr}	-20 ~ +50	°C
Storage Temperature	T_{stg}	-20 ~ +50	°C

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.

Characteristics

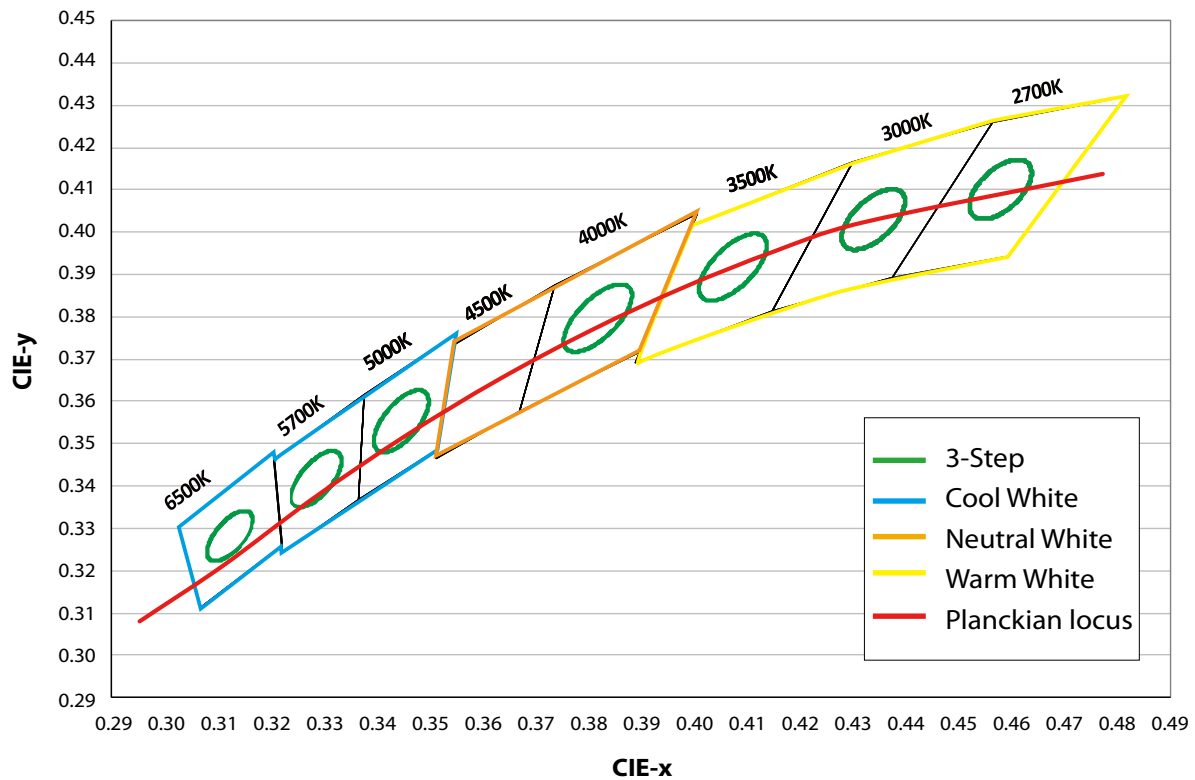
Parameter	Symbol	Value	Units	
Beam characteristic	$2\theta_{1/2}$	120	Degree	
T_p temperature	T_p	<65	°C	
Type of protection	IP	IP00	-	
Risk group (EN 62471:2008)	-	0	-	
CCT	-	2,700	K	
		3,000		
		3,500		
		4,000		
		5,000		
		5,700		
6,500				
Color consistency	-	3	SDCM	
CRI	-	80	-	
Lumen maintenance B50L70	$(T_p < 65^\circ)$	-	50,000	hrs

Note:

CCT is measured with an accuracy of $\pm 5\%$.

Chromaticity coordinates

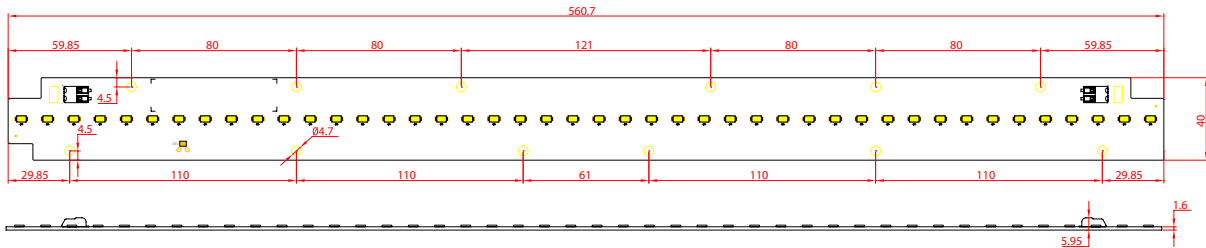
Color region stay within Macadam "3-Step" ellipse from the chromaticity center.
The chromaticity center refers to ANSI C78.377:2008.
Please refer to ANSI C78.377 for the chromaticity center.



CCT	Steps	Cx	Cy	a	b	theta
2700K	3	0.4578	0.4101	0.00810	0.00420	53.70
3000K	3	0.4338	0.4030	0.00834	0.00408	53.22
3500K	3	0.4073	0.3917	0.00927	0.00414	54.00
4000K	3	0.3818	0.3797	0.00939	0.00402	53.72
5000K	3	0.3447	0.3553	0.00822	0.00354	59.62
5700K	3	0.3287	0.3417	0.00746	0.00320	59.09
6500K	3	0.3123	0.3282	0.00669	0.00285	58.57

5T05X5xWL0440002 (L56W4)

Mechanical Dimensions



Note: All dimensions are in millimeters.

Electro-Optical Characteristics

Characteristic at 500mA,

Type	Order Code	CCT (K)	Typ. luminous flux at tp=25 °C (lm)	Typ. luminous flux at tp=65 °C (lm)	Min. forward voltage at tp=65 °C (V)	Max. forward voltage at tp=25 °C (V)	Typ. power consumption at tp=65 °C (W)	Efficacy of the module at tp=25 °C (lm/W)	Efficacy of the module at tp=65 °C (lm/W)
L56W4	5T05X5WWL0440002	3000K	2120	2045	31	36	16	132	128
	5T05X5NWL0440002	4000K	2225	2150	31	36	16	139	134
	5T05X5CWL0440002	5700K	2280	2200	31	36	16	143	138

Notes:

1. Luminous is measured with an accuracy of $\pm 10\%$
2. CCT is measured with an accuracy of $\pm 5\%$.
3. Max. Current=600mA

Assembly & Wire condition

1. Use M3 screw
2. The wiring can be solid cable with a cross section of 0.4 to 0.75mm². For the push-wire connection you have to strip the insulation (6-7mm)

Package Information

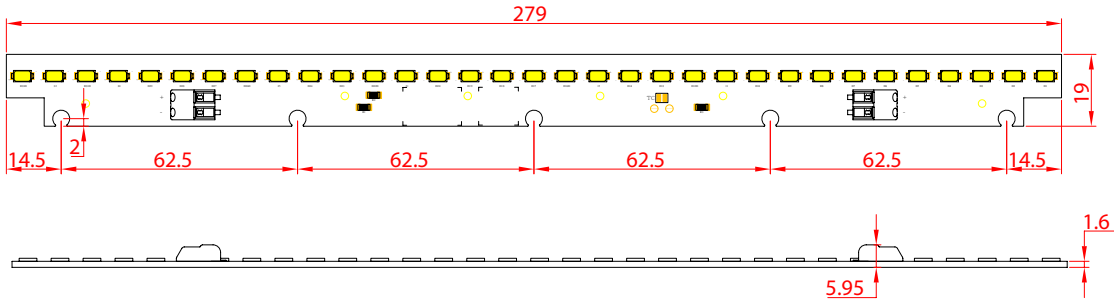
1. Packaging Quantity : 60pcs
2. Packaging carton size : 61cm x 17.7cm x 15cm
3. Weight : 0.066kg/pcs

Product image



5T05X5xWL0330002 (L28W2)

Package Dimensions



Note: All dimensions are in millimeters.

Electro-Optical Characteristics

Characteristic at 175mA,

Type	Order Code	CCT (K)	Typ. luminous flux at tp=25°C (lm)	Typ. luminous flux at tp=65°C (lm)	Min. forward voltage at tp=65°C (V)	Max. forward voltage at tp=25°C (V)	Typ. power consumption at tp=65°C (W)	Efficacy of the module at tp=25°C (lm/W)	Efficacy of the module at tp=65°C (lm/W)
L28W2	5T05X5WWL0330002	3000K	800	765	31	36	5.5	145	139
	5T05X5NWL0330002	4000K	850	815	31	36	5.5	154	148
	5T05X5CWL0330002	5700K	860	820	31	36	5.5	156	149

Notes:

1. Luminous is measured with an accuracy of $\pm 10\%$
2. CCT is measured with an accuracy of $\pm 5\%$.
3. Max. Current=450mA

Assembly & Wire condition

1. Use M3 screw
2. The wiring can be solid cable with a cross section of 0.4 to 0.75mm². For the push-wire connection you have to strip the insulation (6-7mm)

Package Information

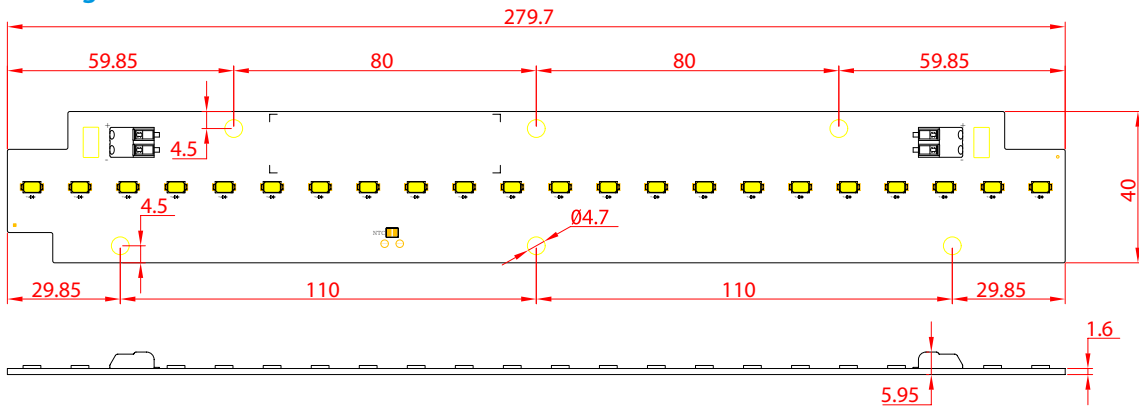
1. Packaging Quantity : 200pcs
2. Packaging carton size : 37cm x 26cm x 36cm
3. Weight : 0.017kg/pcs

Product image



5T05X5xWL0220002 (L28W4)

Package Dimensions



Note: All dimensions are in millimeters.

Electro-Optical Characteristics

Characteristic at 175mA,

Type	Order Code	CCT (K)	Typ. luminous flux at tp=25°C (lm)	Typ. luminous flux at tp=65°C (lm)	Min. forward voltage at tp=65°C (V)	Max. forward voltage at tp=25°C (V)	Typ. power consumption at tp=65°C (W)	Efficacy of the module at tp=25°C (lm/W)	Efficacy of the module at tp=65°C (lm/W)
L28W4	5T05X5WWL0220002	3000K	790	760	31	36	5.5	143	138
	5T05X5NWL0220002	4000K	830	800	31	36	5.5	150	145
	5T05X5CWL0220002	5700K	850	815	31	36	5.5	154	148

Notes:

1. Luminous is measured with an accuracy of $\pm 10\%$
2. CCT is measured with an accuracy of $\pm 5\%$.
3. Max. Current=300mA

Assembly & Wire condition

1. Use M3 screw
2. The wiring can be solid cable with a cross section of 0.4 to 0.75mm². For the push-wire connection you have to strip the insulation (6-7mm)

Package Information

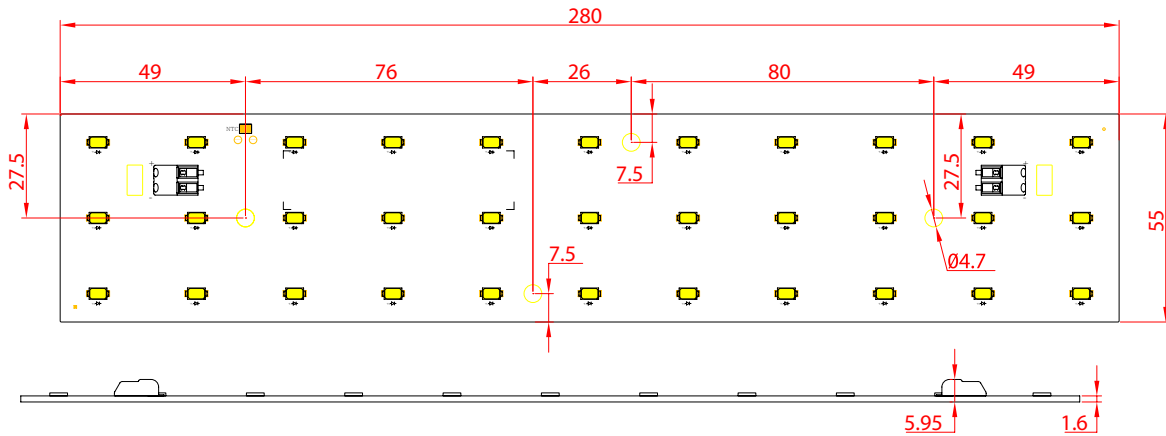
1. Packaging Quantity : 200pcs
2. Packaging carton size : 37cm x 26cm x 36cm
3. Weight : 0.033kg/pcs

Product image



5T05X5xWP0330002 (L28W6)

Package Dimensions



Note: All dimensions are in millimeters.

Electro-Optical Characteristics

Characteristic at 175mA,

Type	Order Code	CCT (K)	Typ. luminous flux at tp=25°C (lm)	Typ. luminous flux at tp=65°C (lm)	Min. forward voltage at tp=65°C (V)	Max. forward voltage at tp=25°C (V)	Typ. power consumption at tp=65°C (W)	Efficacy of the module at tp=25°C (lm/W)	Efficacy of the module at tp=65°C (lm/W)
L28W6	5T05X5WWP0330002	3000K	800	765	30	36	5.3	150	144
	5T05X5NWP0330002	4000K	850	815	30	36	5.3	160	153
	5T05X5CWP0330002	5700K	860	820	30	36	5.3	162	155

Notes:

1. Luminous is measured with an accuracy of $\pm 10\%$
2. CCT is measured with an accuracy of $\pm 5\%$.
3. Max. Current=450mA

Assembly & Wire condition

1. Use M3 screw
2. The wiring can be solid cable with a cross section of 0.4 to 0.75mm². For the push-wire connection you have to strip the insulation (6-7mm)

Package Information

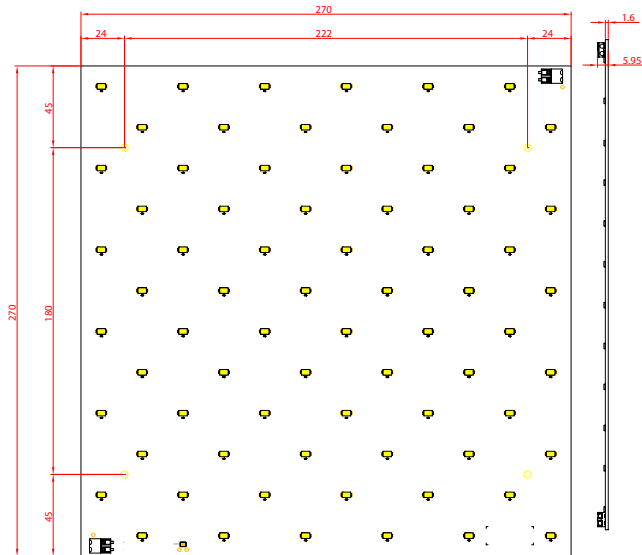
1. Packaging Quantity : 200pcs
2. Packaging carton size : 37cm x 26cm x 36cm
3. Weight : 0.05kg/pcs

Product image



5T05X5xWP0720002 (L27W27)

Package Dimensions



Product image



Note: All dimensions are in millimeters.

Electro-Optical Characteristics

Characteristic at 350mA,

Type	Order Code	CCT (K)	Typ. luminous flux at tp=25°C (lm)	Typ. luminous flux at tp=65°C (lm)	Min. forward voltage at tp=65°C (V)	Max. forward voltage at tp=25°C (V)	Typ. power consumption at tp=65°C (W)	Efficacy of the module at tp=25°C (lm/W)	Efficacy of the module at tp=65°C (lm/W)
L27W27	5T05X5WWP0720002	3000K	1750	1660	33	38.4	11.5	152	144
	5T05X5NWP0720002	4000K	1845	1750	33	38.4	11.5	160	152
	5T05X5CWP0720002	5700K	1890	1800	33	38.4	11.5	164	157

Notes:

1. Luminous is measured with an accuracy of $\pm 10\%$
2. CCT is measured with an accuracy of $\pm 5\%$.
3. Max. Current=900mA

Assembly & Wire condition

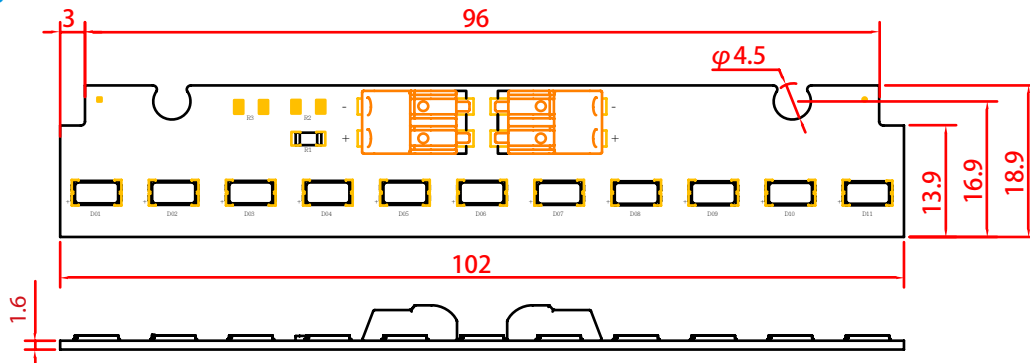
1. Use M3 screw
2. The wiring can be solid cable with a cross section of 0.4 to 0.75mm². For the push-wire connection you have to strip the insulation (6-7mm)

Package Information

1. Packaging Quantity : 20pcs
2. Packaging carton size : 35.2cm x 33.3cm x 32.3cm
3. Weight : 0.22kg/pcs

5T05X5xWL0110002 (L11W2)

Package Dimensions



Note: All dimensions are in millimeters.

Electro-Optical Characteristics

Characteristic at 90mA,

Type	Order Code	CCT (K)	Typ. luminous flux at tp=25°C (lm)	Typ. luminous flux at tp=65°C (lm)	Min. forward voltage at tp=65°C (V)	Max. forward voltage at tp=25°C (V)	Typ. power consumption at tp=65°C (W)	Efficacy of the module at tp=25°C (lm/W)	Efficacy of the module at tp=65°C (lm/W)
L11W2	5T05X5WWL0110002	3000K	390	375	31.5	36	2.8	139	134
	5T05X5NWL0110002	4000K	410	390	31.5	36	2.8	146	139
	5T05X5CWL0110002	5700K	420	400	31.5	36	2.8	150	143

Notes:

1. Luminous is measured with an accuracy of $\pm 10\%$
2. CCT is measured with an accuracy of $\pm 5\%$.
3. Max. Current=150mA

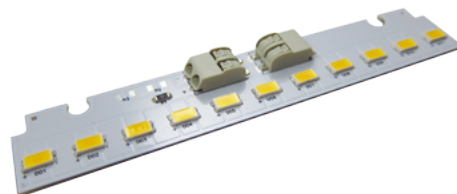
Assembly & Wire condition

1. Use M3 screw
2. The wiring can be solid cable with a cross section of 0.4 to 0.75mm². For the push-wire connection you have to strip the insulation (6-7mm)

Package Information

1. Packaging Quantity : 500pcs
2. Packaging carton size : 48.8cm x 26cm x 36.4cm
3. Weight : 0.006kg/pcs

Product image



Reliability Test Items

The following table describes operating life, mechanical, and environmental tests performed on EdiLex series.

Operating life, mechanical and environmental tests performed on EdiLex series.

No.	Item	Test Condition	Stress Duration	Failure Criteria
1	Room Temperature Operation life	25°C, $I_f=DC$ max	1000 Hours	Note 2
2	High Temperature Operation life	50°C, $I_f=DC$ max	1000 Hours	Note 2
3	Low Temperature Operation life	-40°C, $I_f=DC$ max	1000 Hours	Note 2

Notes:

1. DC max is defined to be 160mA for EDILED series.

2. Failure Criteria :

- Light Output Degradation : Percentage level shift $\geq 5\%$ at 1000hrs

-Electrical failures : V_f shifts $\geq 10\%$

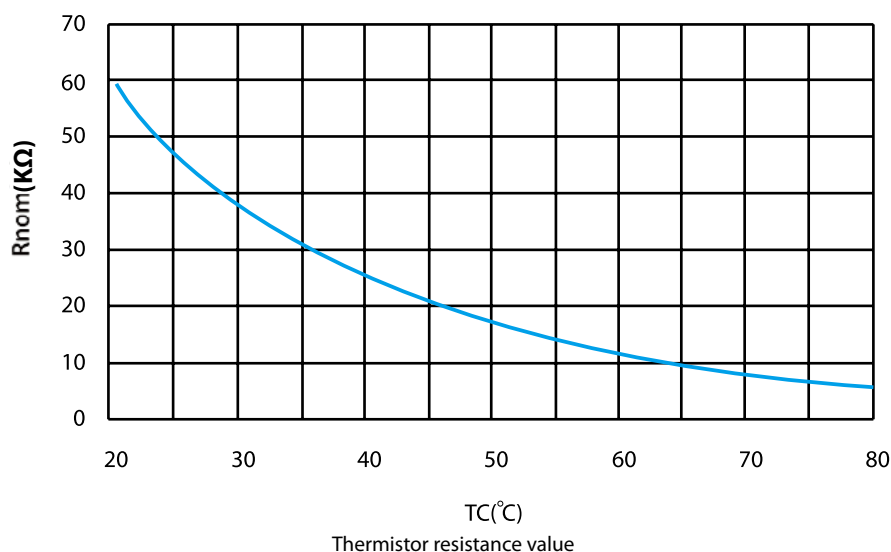
Thermal management should be well designed when using EdiLex. The module can guarantee the best reliability and life when the temperature at TC point is kept under 60 °C.

How to measure the temperature of the Strip?

At the Tc point there is a thermistor, which can be used for temperature measurements. For all measurements the temperature must be stable before any reliable data can be obtained (between 0.5 and 3 hours). There are two methods for carrying out measurements:

1. via thermocouples that are firmly glued to the upper surface of the LED Strip; or
2. via the NTC thermistor which is mounted at the LED Strip's Tc point.

Here, two small lead wires need to be soldered and connected to a multimeter to read the resistance value of the NTC (see drawing below).



Environmental Compliance

EdiLex strip lighting module 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 FPC series to provide an environmentally friendly product to the customers.

Application Notes

EdiLex strip lighting module are available in 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 EdiLex strip lighting module 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.

Caution

1. DO NOT add or change wires while the circuit of Module is active.
2. Long time exposure to sunlight or UV should be avoided; otherwise, it may cause the discoloration of lens.
3. DO NOT use adhesives to attach the LED that outgas organic vapor.
4. DO NOT use the products with materials containing Sulfur.
5. DO NOT assemble in humid environment or the conditions of containing oxidizing gas such as Cl, H₂S, NH₃, SO₂, NO_x, etc.
6. DO NOT make any modifications on the products.
7. DO NOT press the product; even a slight pressure may damage the product. The environments such as high temperatures, high humidity or direct expose to sunlight should be avoided since the product is sensitive to these conditions.
8. DO NOT wear any conductive accessories (such as jewelry) which could accidentally get an electric shock.
9. The failure of internal component may cause excessive voltages.
10. DO NOT directly make the HI-POT test on the module.
11. Thermal management depends on the material, condition of the installation, and the circumstances of the application.
To maintain a certain T_c temperature, thermal gap filler or thermal grease is suggested to be utilized.
12. Do not connect or remove module when the driver is operating since hot-plugging would cause transient voltage and damage LED.

Revision History

Versions	Modification	Date
1	Establish a Datasheet.	2014/07/24
2	1. Revise Order Code 2. Revise Mechanical Dimensions 3. Update Chromaticity coordinates	2014/09/01
3	Add Cautions information	2017/05/16

About Edison Opto

Edison Opto is a leading manufacturer of high power LED and a solution provider experienced in LDMS. LDMS is an integrated program derived from the four essential technologies in LED lighting applications- Thermal Management, Electrical Scheme, Mechanical Refinement, Optical Optimization, to provide customer with various LED components and modules. More Information about the company and our products can be found at www.edison-opto.com

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