CODE: INS-M101



LED LIGHTING SPECIFICATIONS

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DESCRIPTION

LED modules for edge lighting aluminium light boxes

MODEL NO

RX-300 - 9 light LED module RX -301 - 5 light LED module RX -303 - 6 amp transformer

ACCESSORIES

RX -304 – 70mm connector RX -305 – 300mm connector RX -306 – 2000mm connector RX -306 – parallel connector



TABLE OF CONTENTS

- 1 Photos of products
- **2** Accessories
- 3 Connection mode
- 4 Dimensions
- 5 Material composition
- 6 Characteristics and range of application
- 7 Specifications
- 8 Circuit schematic diagram
- 9 Photoelectric test report
- **10** LED features
- **11** Technical requests
- **12** Additional information
- **13** RX-303 Transformer Specification

1 PRODUCT PROFILES



RX -300 - 9 light LED module



RX -301 - 5 light LED module



RX -303 - 6 amp transformer

2 ACCESSORIES



RX -304 – 70mm connector



RX -305 – 300mm connector



RX -306 – 2000mm connector



RX -306 – parallel connector





Remark: Red line is anode, the black line is cathode, and the middle Green line connects with optional dimmers.

4 DIMENSIONS



LED LIGHTING SPECIFICATIONS

5 MATERIAL COMPOSITION

ltem	Parameter			
	RX-300 9 light module	RX-301 5 light module		
LED	9	5		
Resistance	9	3		
Capacitors	6	2		
IC	3	1		
Diode	6	2		
Inductance	3	1		
Aluminium Base board	1	1		

6 CHARACTERISTICS AND RANGE

Suitable for indoor and outdoor LED lighting and decoration, and the assembly of slim light boxes.

This series of LED strips are very easy and convenient to install, simply using the RX-206 T-nut to fix into the aluminium profile internal track.

This product has basic function of heat dissipation

When using the LED strip onto the aluminium profile it will assure heat dissipation.

7 SPECIFICATIONS

Value			Unit	Test condition	
Symbol	Min	Тур	Max		
Vf	-	3.0	3.4	V	lf=360mA
lr	-	-	10	uA	Vr=5V
201/2	-	125	-	Deg	lf=360mA
Х	-	0.3523	-		lf=360mA
Y	-	0.3614	-		lf=360mA
ССТ	-	6500	-	K	lf=360mA
0V	-	600	-	Lm	lf=360mA
	Symbol Vf Ir 201/2 X Y CCT OV	Symbol Min Vf - Ir - 201/2 - X - Y - OV -	Value Symbol Min Typ Vf - 3.0 lr - - 201/2 - 125 X - 0.3523 Y - 0.3614 CCT - 6500 0V - 600	ValueSymbolMinTypMaxVf-3.03.4lr10201/2-125-X-0.3523-Y-0.3614-CCT-6500-0V-600-	ValueUnitSymbolMinTypMaxVf-3.03.4Vlr-10uA201/2-125-DegX-0.3523Y-0.3614CCT-6500-K0V-600-Lm



RX-300 - 9 light LED module



RX -301 - 5 light LED module

9 PHOTOELECTRIC TEST REPORT



RX-300 - 9 light LED module

Light Source Spectrum Test Report

Color Parameter: Chromaticity Coordinates: x=0.3118 y=3249/u'=0.1988v'=0.4660 Correlated Color Temperature: Tc=6587K(Duv=0.0015) λ d=486.5nm Purity=7.9% Red Ratio:R=13.9% Peak Wavelength: λp =450.9nm Halfwidth: $\Delta \lambda d=23.2$ nm Color Rendering Index: Ra=77.1 R1=76 R2=81 R3=82 R4=78 R5=76 R6=73 R7=85 R8=67 R9=0 R10=51 R11=74 R12=48 R13=76 R14=89 R15=73 Photometric Parameters: Luminous Flux: Φ =570.2lm Luminous Efficacy: 66.61lm/w Radiation Flux : Φe=1.840W Electric Parameters: Voltage: V=24.00V Current: I = 0.3567A Power: P=8.561W Power Flux: PF=1.000 Classification: OUT White Light Classification: ANSI_6500K Instrument State: Integral Time: T = 40 ms lp = 51604(79%)

RX-301 - 5 light LED module

Light Source Spectrum Test Report

Color Parameter: Chromaticity Coordinates : x=0.3164 y=0.3258/u'=0.2016 v'=0.4672 Correlated Color Temperature: Tc=6324K(Duv=0.0003) λ d=485.8nm Purity=6.3% Red Ratio:R=14.0% Peak Wavelength: λp =446.4nm Halfwidth: $\Delta \lambda$ d=24.9nm Color Rendering Index: Ra=73.4 R1=73 R2=75 R3=75 R4=76 R5=75 R6=67 R7=80 R8=66 R9=0 R10=40 R11=75 R12=48 R13=72 R14=85 R15=70 Photometric Parameters: Luminous Flux: Φ =918.1lm Luminous Efficacy: 59.99m/w Radiation Flux : Φe=2.963W Electric Parameters: Voltage: V=24.00V Current: I = 0.6377A Power: P=15.30W Power Flux: PF=1.000 Classification: OUT White Light Classification: ANSI_6500K Instrument State: Integral Time: T = 25 ms lp = 48312(74%)

10 LED FEATURES

Item	Parameter			
	RX-300 9 light module	RX-301 5 light module		
LED	3	1		
LED compound mode	3 Cascade 3 Paraller	1 Cascade		
Min truncation size	159.6mm	-		
Lamp bead (centre) spacing	159.6mm	-		
LED current	640mA	360mA		
LED wavelength (nm) Or Tc (k)	6000K - 7000K	5000K - 7000K		
LED color	Warm White	White		
Weight	255g	176g		

11 TECHNICAL REQUESTS

ltem	Units	Parameter		
		RX-300 9 light module	RX-301 5 light module	
Working environment	С	20~50 30%-70%	20~50 30%-70%	
Storgage Conditions	С	20~50 30%-70%	20~50 30%-70%	
Limited Voltage	V	DC24+-0.5V	DC24+-0.5V	
Limited Current	mA	640+-10 %	360+-10%	
Output Power	W	15.3+-10%	8.7+-10%	
Luminous Flux	LM	920+-10%	600+-10%	

12 ADDITIONAL INFORMATION

File E353017 Project 12CA09157

May 7, 2012 REPORT ON COMPONENT – SIGN ACCESSORIES

Copyright © 2012 UL LLC. File E353017 Vol. 1 Sec. 1 Page 1 Issued: 2012-05-07 and Report Revised: 2012-07-12 DESCRIPTION PRODUCT COVERED: * USR, CNR – Component, Sign Accessories, LPS/Class 2 type, LED module, Models, LED -360-5, , LED Light Panel, Light Box, Model Designation and Input Electrical Ratings: Model Numbers Maximum Input Voltage Maximum Input Current, or Power LED590-96 12 V 960 mA 360-5, 24 V 1000 mA Light Panel, Light Box 24 V 100 W TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE USF) Special Considerations - These products have only been evaluated for use when connected to a LPS or Class 2 circuit. USR - indicates that these products comply with the Standard for Electric Sign Components, UL 879, 9th Edition. CNR indicates compliance with Canadian Standard C22.2 No. 207-M89 for Electric Signs, 1st Edition. File E353017 Vol. 1 Sec. 1 Page 2 Issued: 2012-05-07and Report Revised: 2012-05-18 Conditions of Acceptability -Use - For use only in (or with) complete equipment where the acceptability of the combination is determined by UL LLC. 1. These LED Modules are only intended for use with a LPS or Class 2output power sources. 2. These LED Modules are suitable for use in dry and damp locations. 3. These LED Modules are not provided with a mounting means. The suitability is to be determined in end product use. 4. The temperature rating of LED board is 105°C min., of supply leads is 60°C min., and of Light Guide Panel is 50°C min. The suitability is to be determined in end product use. 5. The suitability of supply means shall be determined in end product. File E353017 Vol. 1 Sec. 1 Page 3 Issued: 2012-05-07 and Report Revised: 2012-07-12 CONSTRUCTION DETAILS: General – The general design, shape, and arrangement shall be as illustrated in the following descriptive pages. Markings – Each unit or smallest unit container shall be legibly and permanently marked with the following: 1. Manufacturer's name trademark (if authorized). 2. model number. Installation Instructions – Optional, Each package or box containing these LED light board shall be provided with installation instructions that include the following: a) A location designation indicating the environmental condition for which the product has been evaluated (damp location); b) These products are only suitable for connection to a circuit from a Class 2 or LPS power source; File E353017 Vol. 1 Sec. 1 Page 4 Issued: 2012-05-07 and Report Revised: 2012-05-24 MODEL LED - FIG. 1 General – These products consists of LEDs soldered on one LED

board. 1. Input Connection – Optional, R/C (AVLV2/8), or Listed (ZJCZ/7), rated 24 AWG, 60 V, 60°C, minimum.

2. LED Board – R/C metal based, rated HB, 105oC, minimum. Overall measured 590 mm long, 4.3 mm wide, 1.6 mm thick. See ILL. 1 for trace layout and schematic diagram 3. LEDs – SMD, each rated maximum 3.6 V Vf @ 30 mA lf. *4. Resistors – SMD, variable ohm, 1/10 W. File E353017 Vol. 1 Sec. 1 Page 5 Issued: 2012-05-07 and Report Revised: 2012-05-24 MODEL LED- FIG. 2 General – This product consists of LEDs soldered on one LED board. 1. Input Connection – Optional, R/C (AVLV2/8), or Listed (ZJCZ/7), rated 24 AWG, 60 V, 60°C, minimum. Maybe provided with connectors 2. LED Board – R/C (ZPMV2), metal based, rated HB, 105oC, minimum. Overall measured 360 mm long, 23 mm wide, 1.6 mm thick. See ILL. 3 for trace layout and schematic diagram (not to scale). 3. LEDs – SMD, each rated maximum 4 V Vf @ 1000 mA lf. 4. LED Lens/Reflector – R/C (QMFZ2), rated HB, 50°C minimum. 5. Other components on LED board – See table below for details: Component Rating C1 SMD, Capacitor, 22 UF, 35 V C2 SMD, Capacitor, 1 UF, 25 V C3 SMD, Capacitor, 1 UF, 25 V R1 SMD, Resistor, 150K ohm, 1/8 W R2 SMD, Resistor, 330 ohm, 1/4 W R-S1 SMD, Resistor, 27 ohm, 1/4 R-S2 Empty L1 SMD, Inductor, 100 uH Q1 SMD, Transistor, 4 A, 30 V, minimum U1 SMD, IC, part number MAX16819/MAX16820 D1, D2 SMD, Diode, 40 V. 2 A 2. Frame – Reinforced Aluminum alloy, 1.91 mm thick minimum for length 185 cm (73 in) or more, 0.91 mm thick minimum for length less than 185 cm, secured together by L bars. 3. L Bars , 1.42 mm thick minimum. 4. Reflector - Optional, R/C (QMFZ2) or (UYMR2/CN), rated HB, 50°C. 5. Light Guide Panel - R/C (QMFZ2) or (UYMR2/CN), rated HB, 50°C. Secured held to frame. 6. LED Board –connected in series or parallel, total wattage not exceeding 100 W. Secured to Frame by physical fit. File E353017 Vol. 1 Sec. 1 Page 8 Issued: 2012-05-07 and Report New: 2012-07-12 MODEL - FIG. 5 General – This product consists of LED modules and a Light Guide Panel. Figure 5 shows overall view of the product. 1. Input Connection – Optional, R/C (AVLV2/8) or Listed (ZJCZ/7), rated 24 AWG, 60 V, 60°C, minimum, provided with an optional polarized DC inlet connector. 2. Light Guide Panel - R/C (QMFZ2) or (UYMR2/CN), rated HB, 50°C 3. LED Board –connected in series or parallel, total wattage not exceeding 100 W. Secured to edge of Light Guide Panel. File E353017 Vol. 1 Sec. 1 Page 9 Issued: 2012-05-07 and Report New: 2012-07-12 MODEL CF - FIG. 6 General – This product consists of LED modules and a Light Guide Panel Figure 6 shows overall view of the product. 1. Input Connection – Optional, R/C (AVLV2/8) or Listed (ZJCZ/7), rated 24 AWG, 60 V, 60°C, minimum, provided with an optional polarized DC inlet connector. General – This product consisted of LEDs secured soldered on one I FD board 1. LED Board – R/C (ZPMV2), metal based, rated HB, 105oC, minimum. See ILL. 4 for schematic diagram and trace layout (not to scale).

13 RX-303 TRANSFORMER SPECIFICATION

DESCRIPTION: AC/DC ADAPTER OUR MODEL NO:120W 24V6.0A SPECIFICATION NO:XVE-12090017-5 PRODUCT NO: RX-303

RX-303 transformer Switching Power Supply Specifications

1. SCOPE: This specification defines the input, output, performance characteristics, environment, noise and safety requirements

2. INPUT CHARACTERISTICS:

2.1 Input Voltage: Nominal Voltage:100-240Vac Variation Range:90-264Vac

2.2 Input Frequency: Nominal Frequency: 50-60Hz Variation Frequency: 47-63Hz

2.3 Input Current:2Arms max At any input voltage and rated, DC output rated load.

2.4 Inrush Current: 25°C, 240Vac 15A. 15Amps Max. Cold start at 240Vac input, with rated load and 25°Cambient.

2.5 AC Ac Leakage Current:240Vac 3mA. 3mA Max At 240Vac input.

3.1 OUTPUT CHARACTERISTICS:

Output	Load Condition	Output range	Ripple & Noise
Voltage	Rated	Peak	
24V DC	6A	7.5A	23.5-24.5V ←300mVP-

3.2 Line/ Load Regulation					
Output	Load Condition	Line Regulation	Load Regulation	Remark	
Rate	Min. Load	Max. Load			
24V DC	0.0A	6A	+- 3%	+- 5%	

3.3 Ripple And Noise:
20MHz 4.7uF 0.1uF_o
The ripple and noise are as follows when measure with Max.
Bandwidth of 20MHz and
Parallel 4.7uF/0.1uF, crossed connected at testing point.

3.4 Turn On Delay Time:
115Vac 2S. 2 second Max. At 115Vac input and output Max. Load. 3.5
Rise Time: 115Vac 40mS_o
40mS Max. At 115Vac input and output Max. Load. 3.6 Hold Up
Time: 115V 5mS_o
5mS Min. At 115Vac input and output Max. Load.

3.7 Efficiency:100Vac 80%. 80%Min.At 100Vac input and output Max. Load.240Vac 81%.

81%Min.At 240Vac input and output Max. Load. 3.8 Overshoot: 15%. 15% Max.When power supply at turn on or turn off.

4、PROTECTION REQUIREMENT:

4.1: Short Circuit Protection: The power supply will be auto recovered when short circuit faults remove.

4.2 Over current Protection : The power supply will be auto recovered when over current faults remove.

4.3 Over Voltage Protection The power supply will not be auto recovered when faults remove.

5、ENVIRONMENTAL REQUIREMENT:

5.1 Operating Temperature: 0℃~ 40℃, Full load Normal operation 0℃to40℃,Full load Normal operation.

5.2 Storage Temperature: -20°Cto85°C, With package.

5.3 Relative Humidity:
 5%(0°C)~90%(40°C),72
 5%(0°C)~90%(40°C)RH,72Hrs,Full load Normal operating.

5.4 Vibration: 1、Operating: IEC 721-3-3 3M3 5~9Hz,A=1.5mm 9~200Hz,Acceleration 5m/s2 2、Transportation: IEC 721-3-2 2M2 5-9Hz, A=3.5mm 9~200Hz, Acceleration=5m/S2 200~500HZ, Acceleration=15m/S2 3、Axes,10 cycles per axis. No permanent damage may occur during testing. The product has to restores its original situation after power off/on.)

5.5 Dropping Packed: 1 corner,3 edges, and 6 surfaces 76cm Height:76cm

6、EMC SAFETY AND EMC REQUIREMENT:

6.1 CCC CE UL

6.2 DIELECTRIC STRENGTH: Primary to secondary: 1500Vac/5mA/60s.

7、MECHANICAL REQUIREMENT: 7.1 Enclosure: L171*W72.5*H34.5mm The power supply size L: L171*W72.5*H34.5mm