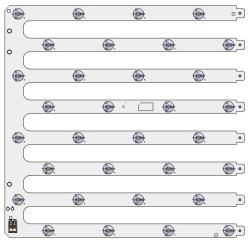
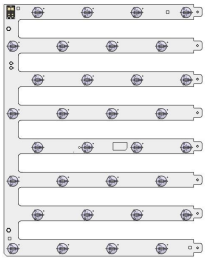
Data Sheet



<LAM-SQ32B>



<LAM-RT32B>

LAM-32LED (Lens Attached Module)			
Model Name	LAM-SQ32B, LAM-SQ32B		
Type	24V, 385mA		
Parts No.	**CCT**	**LAM-SQ32B**	**LAM-RT32B**
	3000K	**SI-B8V09526001**	**SI-B8V09528001**
	3500K	**SI-B8U09526001**	**SI-B8U09528001**
	4000K	**SI-B8T09526001**	**SI-B8T09528001**
	5000K	**SI-B8R09526001**	**SI-B8R09528001**
	6500K	**SI-B8P09526001**	**SI-B8P09528001**

SAMSUNG ELECTRONICS CO,.LTD.

SAN #24 NONGSEO-DONG, GIHEUNG-GU,
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Revision History

Rev.No	Data	Page	Revision	Remark
1.0	April, 2014	-	The first preliminary specification is established. Total 15 pages	-
1.5	April, 2014	-	The final specification is released. Total 15 pages.	-
2.0	May 2014	1,5	Higher flux version is added in the product list Total 12 pages	-
3.0	June 2014	3	Min and Max values of higher flux version is added.	-

Contents

1. Products and Application

This specification defines general specification and performance for Lens Attached LED module. Samsung LAM products target to replace conventional fluorescent lamps as T5, T8 and so on with LED solutions. Due to transferring LED, new luminaire transferred to LED can take more energy saving and longer life-time.

In special, Samsung has the competitiveness in middle-power solutions. This module uses LM561B. Middle power solutions provide more homogeneous and higher efficient lights.

Moreover, LAM solution that is integrated advanced optical technology designed by Samsung provides you higher uniformity. It's possible to design slimmer luminaire with clear appearance.

2. Specification

No	Item	Specifications	Unit	Remark
1	Dimension	SQ : 250 x 259 x 6.8 RT : 216 x 273 x 6.8	mm	Tolerance : ±0.5mm
2	Weight	SQ : 98g, RT : 90g	g	Tolerance : 5g
3	Rated Lifetime	50,000 hr	hr	L70B50 @Tc=80℃
4	Ingress Protection	N/A	-	-
5	Operating Temperature	Ta= -20 ~ +50	℃	not related lifetime
6	Storage Temperature	Ta= -40 ~ +80	℃	-

No.	Item	Specifications					Unit	Remark
		Sym.	Model	Min.	Nom.	Max.		
12	Luminous flux	Φ_v	3000K	1136	1260	1381	lm	@385mA, 24V Tp = 35℃
			3500K	1155	1280	1403		
			4000K	1191	1320	1447		
			5000K	1227	**1360**	1490		
			6500K	1191	1320	1447		
13	Efficiency	LPW	3000K	-	137	-	lm/W	@385mA, 24V Tp = 35℃
			3500K	-	139	-		
			4000K	-	143	-		
			5000K	-	**148**	-		
			6500K	-	143	-		
14	Operating Current	Iop	-	-	385	600	mA	-
15	Operating Voltage	Vdc	-	22.0	24.0	26.0	V	@385mA, Tp = 35℃
16	Power Consumption	-	-	-	9.2	-	W	@385mA, Tp = 35℃

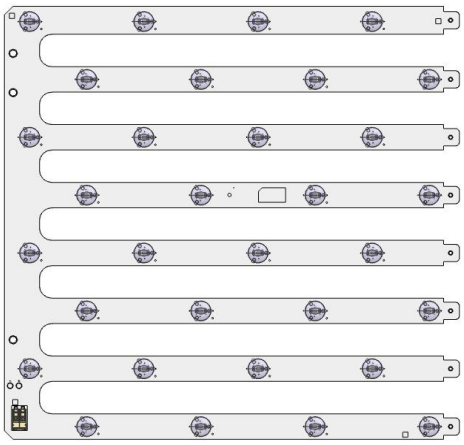
No.	Item	Sepcifications					Unit	Remark
		Sym.	Model	Min.	Nom.	Max.		
17	SDCM	-	~4000K	-	3	-	step	LED to LED @ initial time
			5/6500K	-	4	-		
18	Color Rendering Index	CRI	-	80	-	-	Ra	-
19	CCT	-	4000K	3,710	3,985	4,260	K	@385mA, 24V Tp = 35℃
			5000K	4,745	5,028	5,311		
			6500K	6,020	6,530	7,040		

※ Measurement tolerance of luminous flux becomes ± 7% in the value, measurement tolerance of Vf becomes ± 0.3V in the value and the measurement tolerance of the color coordinates is ± 0.005.

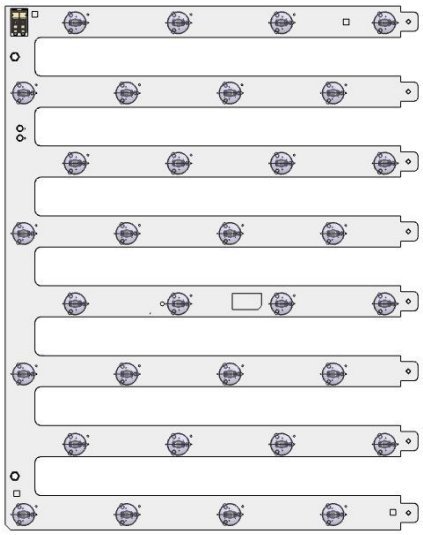
3. Structure and Assembly

3-1. Appearance

<LAM-SQ32B>

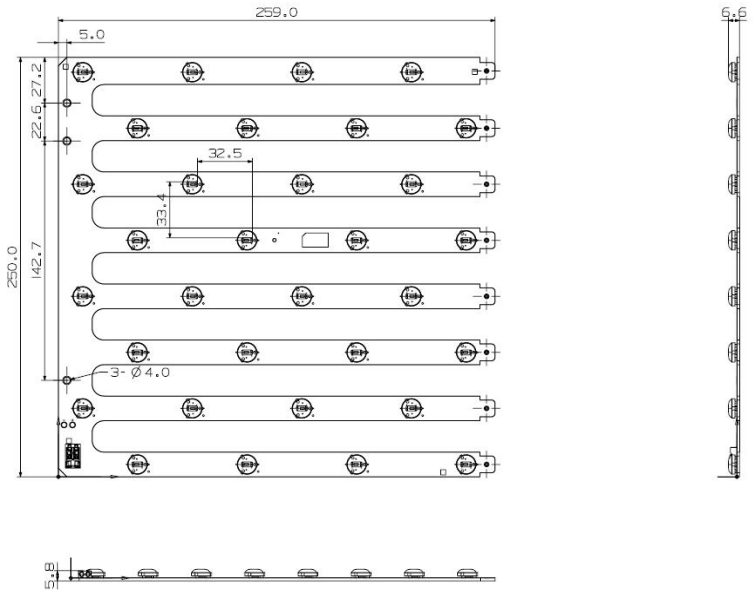


<LAM-RT32B>

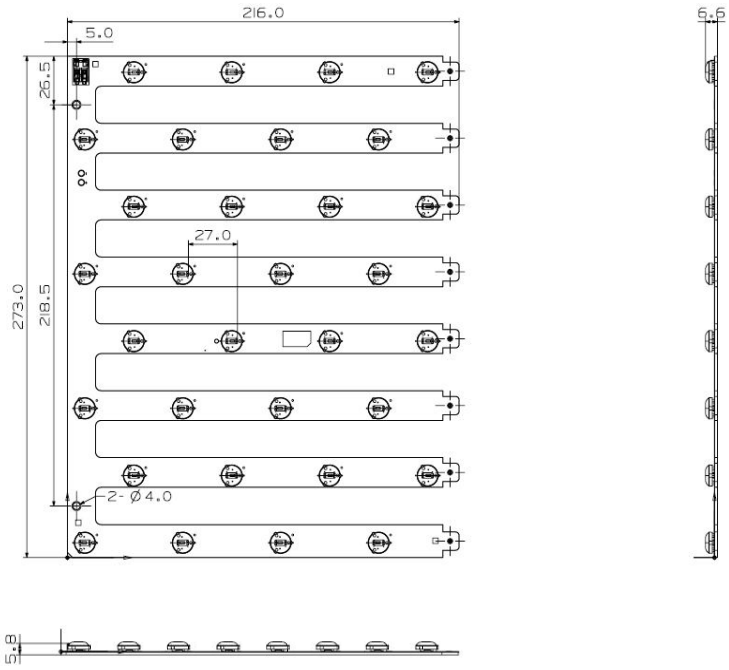


3-2. Dimension

(1) LAM-SQ32B



(2) LAM-RT32B



<LAM-SQ32B>

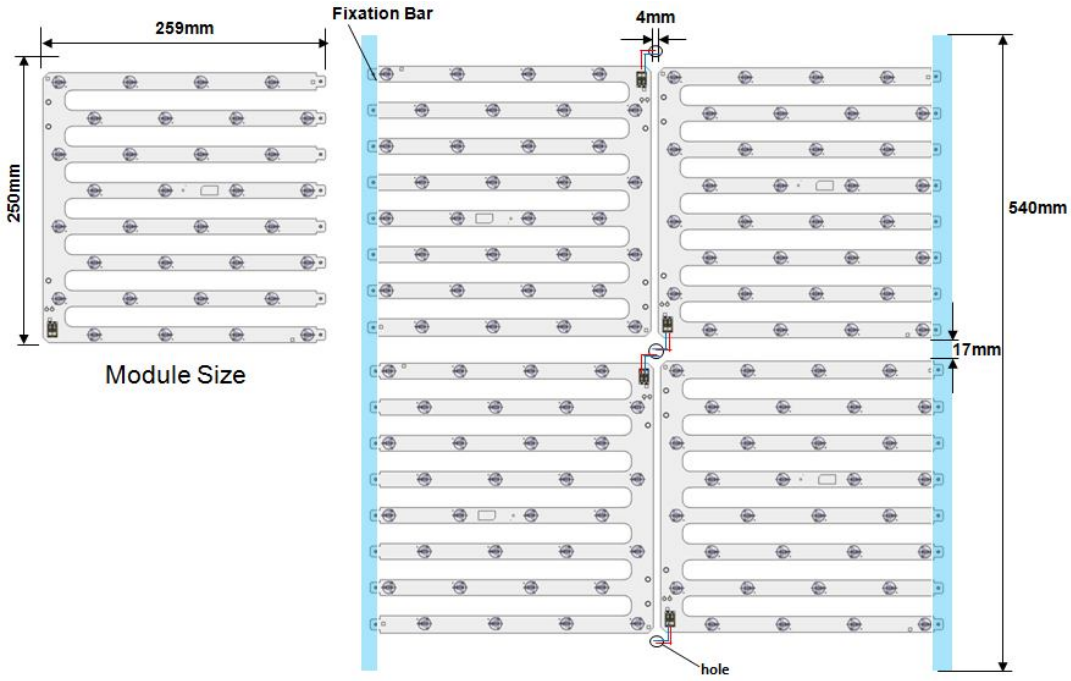
<LAM-RT32B>

Item		Specifications
L	Length of PCB	259.0 ± 0.5 mm
W	Width of PCB	250.0 ± 0.5 mm
H1	Thickness of PCB	1.6 ± 0.1 mm
H2	Height of PCBA	6.8 ± 0.2 mm

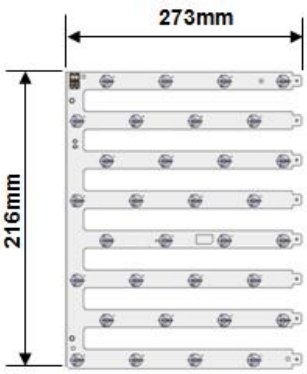
Item		Specifications
L	Length of PCB	273.0 ± 0.5 mm
W	Width of PCB	216.0 ± 0.5 mm
H1	Thickness of PCB	1.6 ± 0.1 mm
H2	Height of PCBA	6.8 ± 0.2 mm

3-3. Assembly

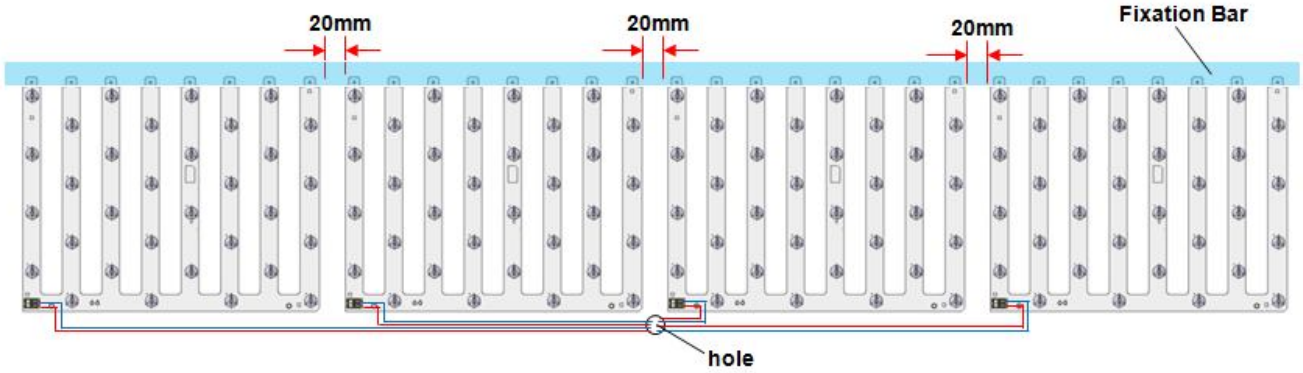
(1) Design case of 2x2 (600mm x 600mm) luminaire



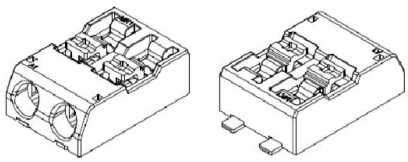
(2) Design Case of 1x4 (300 x 1200 mm) luminaire



Module Size



(3) Connector : Terminal strip type

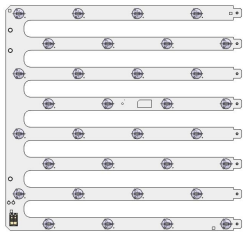


AWG 24-18

① Insert solid conductors via push-in termination.

② Insert or remove fine-standard conductors by lightly pressing on push-button.

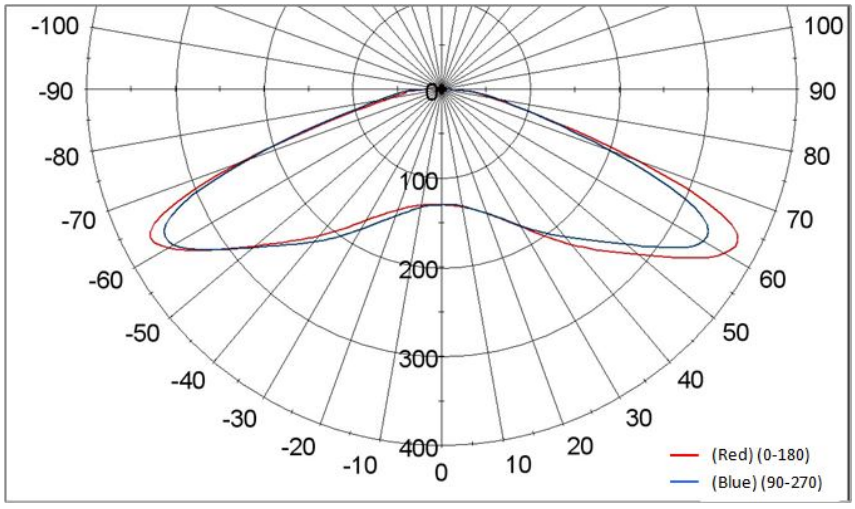
3-4. Structure



No.		Item	Specifications
Module Assembly	3-1	LED	LM561B : Middle Power LED 32 ea
	3-2	PCB	Material : Copper, Solder mask and Epoxy
	3-3	Lens	PC (Poly Carbonate)
	3-4	Connector	2-pin Poke-in type

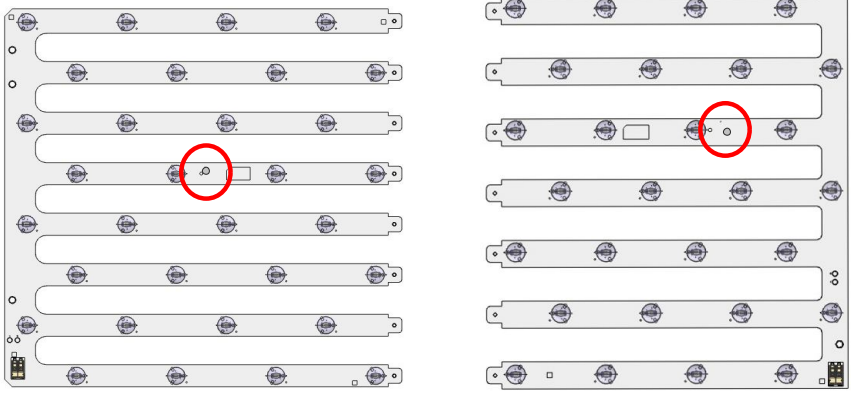
3-5. Light Distribution

(1) Polar Intensity Diagram : Beam Angle 145 ± 5 [°]



3-6. Thermal Management

(1) Tc Point : See the below red mark.



(2) Tc_life : Max temperature to reach 50,000 hours

- Tc_life = 80℃ >for 50,000 @ ≤ 400 mA (L70B50)

(3) Tc_max : Max temperature to operate

- Tc_max = 65 ℃

4. Approbation

Item	Compliant to	Result / Remark
General	Eye safety : IEC62471	LM561B LED
Hazardous Substance & Materials	RoHS	Declared
	Reach	Declared
Certification	UL/cUL	E344519

5. Packing

5-1 Dimension & Module Q'ty

(1) LAM-SQ32

Item	1 box	1 pallet
Dimension	365 x 332 x 267 mm	1200 x 800 x 145 mm
Q'ty	60 modules	1800 modules, 30 boxes

(2) LAM-RT32

Item	1 box	1 pallet
Dimension	365 x 332 x 267 mm	1200 x 800 x 145 mm
Q'ty	60 modules	1800 modules, 30 boxes

6. Precautions In Handling

1) LED Lighting for white light are devices which are materialized by combining white LEDs. The color of white light can differ a little unusually to diffuser plate(sign-board panel).

2) Handling
- Don't drop the unit and don't give the unit any shocks.
- Don't storage the Module in a dusty place or room.
- Don't take the unit to pieces.

3) Cleaning
- This LED Module should not be used in any type of fluid such as oil, organic solvent, etc.
- It is recommended that IPA(Isopropyl Alcohol) be used as a solvent for cleaning the LED Module.
- When using other solvents, it should be confirmed beforehand whether the solvents will dissolve the package and the resin or not. Freon solvents should not be used to clean the LEDs because of worldwide regulations. Do not clean the LED Module by the ultrasonic.
- Before cleaning, a pre-test should be done to confirm whether any damage to the LED Lighting will occur.

4) Static Electricity
- Static electricity or surge voltage damages the LED Lighting.

5) Discoloration

- VOCs (volatile organic compounds) may be occurred by adhesives, flux, hardener or organic additives which is used in luminaires (fixture) and LED silicone bags are permeable to it. It may lead a discoloration when LED expose to heat or light.
- This phenomenon can give a significant loss of light emitted(output) from the luminaires(fixtures).
- In order to prevent these problems, we recommend you to know the physical properties for the materials used in luminaires, it requires to select carefully.

6) Risk of Sulfurization (or Tarnishing)

- The lead frame from Samsung Electronics is a plated package and it may change to black (or dark colored) when it is exposed to Ag (a), Sulfur (S), Cchlorine (Cl) or other halogen compound. It requires attention.
- Sulfide (Sulfurization) of the lead frame may cause a change of degradation intensity, chromaticity coordinates and it may cause open circuit in extreme cases. It requires attention.
- Sulfide (Sulfurization) of the lead frame may cause of storage and using with oxidizing substances together. Therefore, LED is not recommend to use and store with the below list.
  : Rubber, Plain paper, lead solder cream etc.

7) Others

- If over voltage which exceeds the absolute maximum rating is applied to LED Lighting, it will cause damage Circuits(that LED is included) and result in destruction.
- Do not directly look into lighted LED with naked eyes for long time.

Samsung-Electronics may make changes to specifications and product descriptions at any time, without notice.

This is the last page.