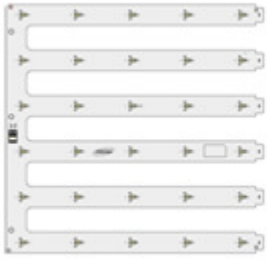
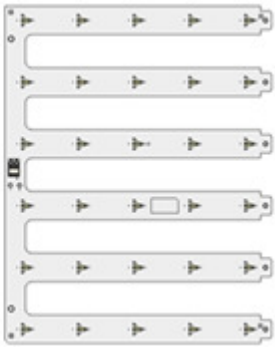
SPECIFICATION



< Finger-SQ30B >



< Finger-RT30B >

Finger-30LED			
Model Name	Finger-SQ30B, Finger-RT30B		
Type	15V, 700mA		
Parts No.	CCT	Square Type	Rectangular Type
	3000 K	SI-B8V112250WW	SI-B8V112280WW
	3500 K	SI-B8U112250WW	SI-B8U112280WW
	4000 K	SI-B8T112250WW	SI-B8T112280WW
	5000 K	SI-B8R112250WW	SI-B8R112280WW
	6500 K	SI-B8P112250WW	SI-B8P112280WW

SAMSUNG ELECTRONICS CO,.LTD.
SAN #24 NONGSEO-DONG, GIHEUNG-GU,
YONGIN-SI, GYEONGGI-DO, 446-711, KOREA

Revision History

Rev.No	Data	Page	Revision	Remark
1.0	July, 2013	-	The first preliminary specification is established. Total 13 pages	-
1.5	January 2014	-	Merged two types, square/rectangular Updated specification. Total 12 pages	-
2.0	March 2014	-	Release specification Total 12 pages	-
2.1	March 2014	4	The information of ESD has been added.	-
		4	The Fundamental specification has been added. (Type Classification, Eye Protection, Working Voltage for Insulation)	-
		6, 7	The Appearance drawing has been changed.	-
		10	Added certification.	

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 competitiveness in middle-power solutions. This module uses LM561B. Middle power solutions provide more homogeneous and higher efficient lights.

2. Specification

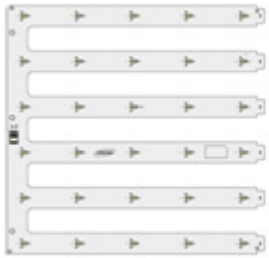
No.	Item	Specifications	Unit	Remark
2-1	Dimension	SQ : 259(L) x 250(W) x 5.8(h) RT : 216(L) x 273(W) x 7.4(h)	mm	Tolerance:±0.5mm
2-2	Weight	SQ : 93 RT : 85	g	Tolerance:±10%
2-3	Rated lifetime	>50,000	hour	L70B50 @Tc = 75℃
2-4	Ingress Protection	N/A	-	-
2-5	Operating Temperature	Ta = - 20 ~ 50	℃	-
2-6	Storage Temperatue	Ta = - 40 ~ 80	℃	-
2-7	ESD	8	KV	-
2-8	Type Classification	· Built-in module		
2-9	Eye Protection	· Risk group 1		
2-10	Working Voltage for Insulation	· 25 [V]		

No.	Item	Specifications					Unit	Remark
		Sym.	Model	Min.	Nom.	Max.		
2-11	Luminous flux	Φ_v	3000K	1207	1340	1496	lm	@700mA, Tp = 35℃
			3500K	1228	1370	1522		
			4000K	1271	**1440**	1574		
			5000K	1313	1490	1627		
			6500K	1228	1440	1522		
2-12	Efficiency	LPW	3000K	-	126	-	lm/W	@700mA Tp = 35℃
			3500K	-	128	-		
			4000K	-	**134**	-		
			5000K	-	139	-		
			6500K	-	134	-		
2-13	SDCM	-	~4000K	-	3	-	step	LED to LED, MacAdam @ initial time
			5000K~	-	4	-		
2-14	Color Rendering Index	CRI	-	80	-	-	Ra	-
2-15	CCT	-	3000K	2852	2970	3094	K	@700mA Tp = 35℃
			3500K	3189	3337	3493		
			4000K	3762	3958	4181		
			5000K	4709	5016	5369		
			6500K	6130	6563	7083		
2-16	Operating Current	Iop	-	-	700	900	mA	-
2-17	Operating Voltage	Vdc	-	13.8	15.3	16.8	V	@700mA, Tp = 35℃
2-18	Power Consumption	-	-	-	10.7	-	W	@700mA, Tp = 35℃

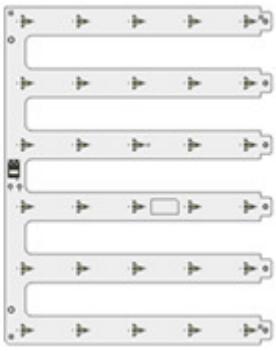
※ Measurement tolerance of luminous flux becomes ± 7% in the value, measurement tolerance of Vf becomes ± 0.3V in the value and the measurement tolerance of the color coordinates is ± 0.005.

3. Structure and Assembly

3-1. Appearance



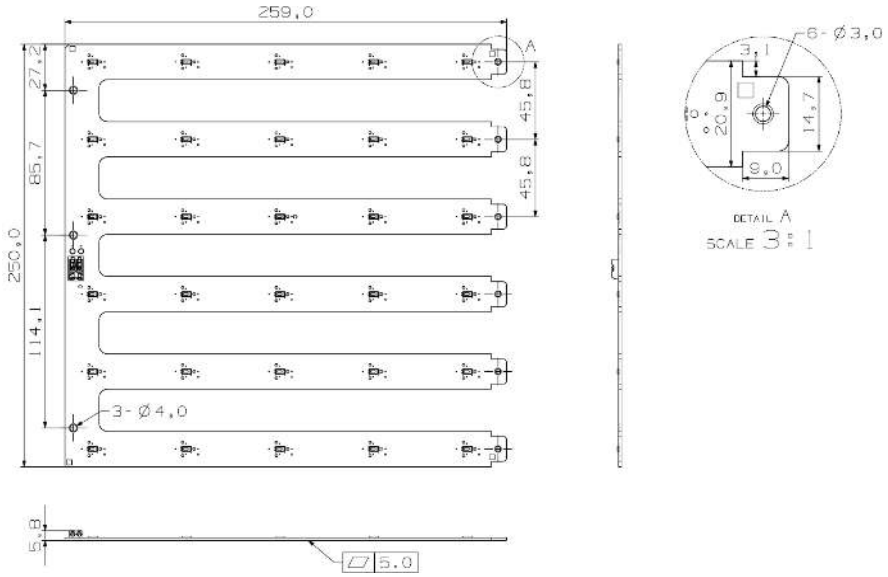
<Finger-SQ30B>



<Finger-RT30B>

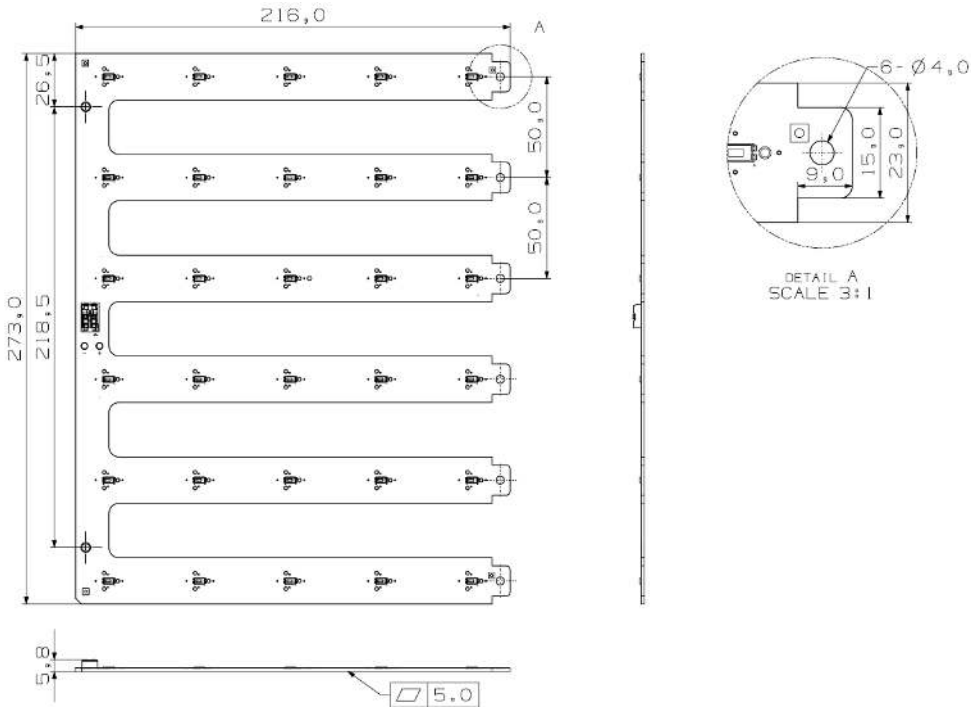
3-2. Dimension

(1) Finger-SQ30B



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	5.8 ± 0.2 mm

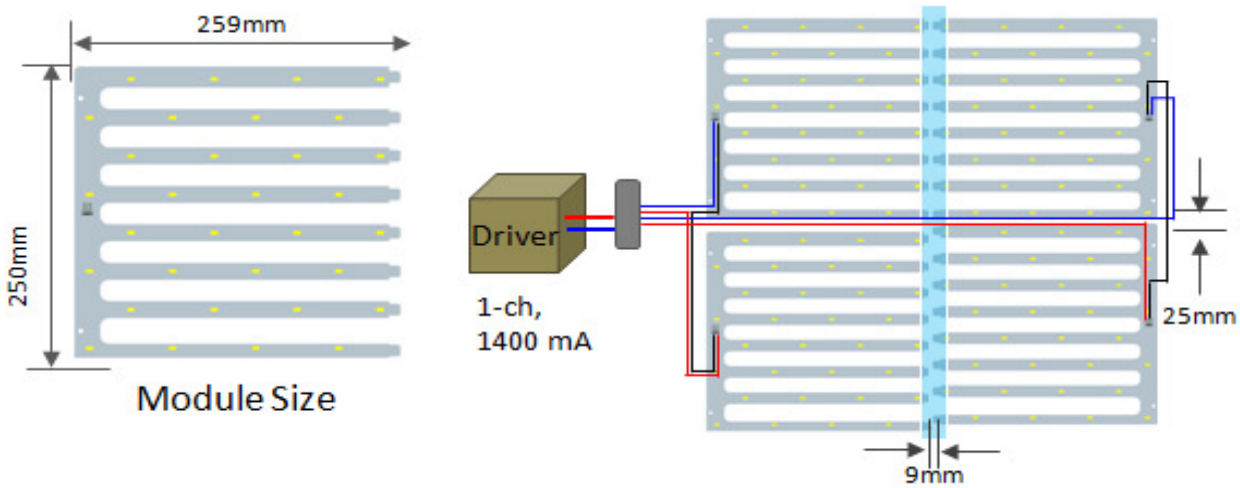
(2) Finger-RT30B



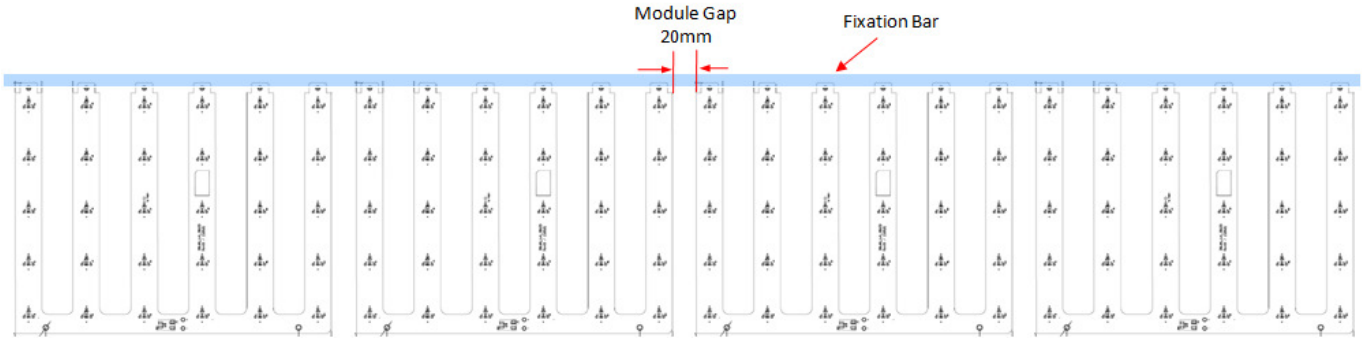
Item		Specifications
L	Length of PCB	216.0 ± 0.5 mm
W	Width of PCB	273.0 ± 0.5 mm
H1	Thickness of PCB	1.6 ± 0.1 mm
H2	Height of PCBA	5.8 ± 0.2 mm

3-3. Assembly

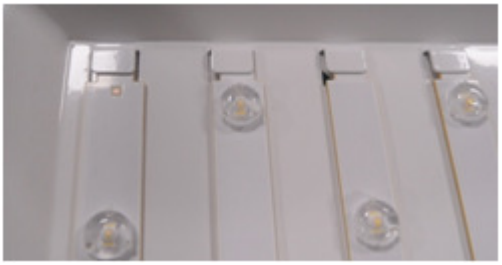
(1) Design case of 2x2 (600mm x 600mm) luminaire, 4 set of LAM-SQ30B



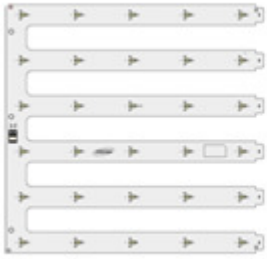
(2) Design case of 1x4 (300mm x 1200mm) luminaire, 4 set of LAM-RT30B



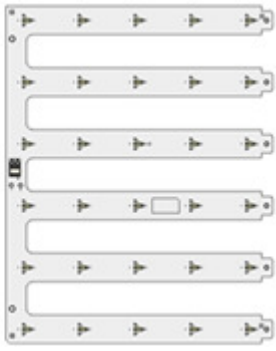
(3) Fixation by Hook



3-4. Structure



<Finger-SQ30B>

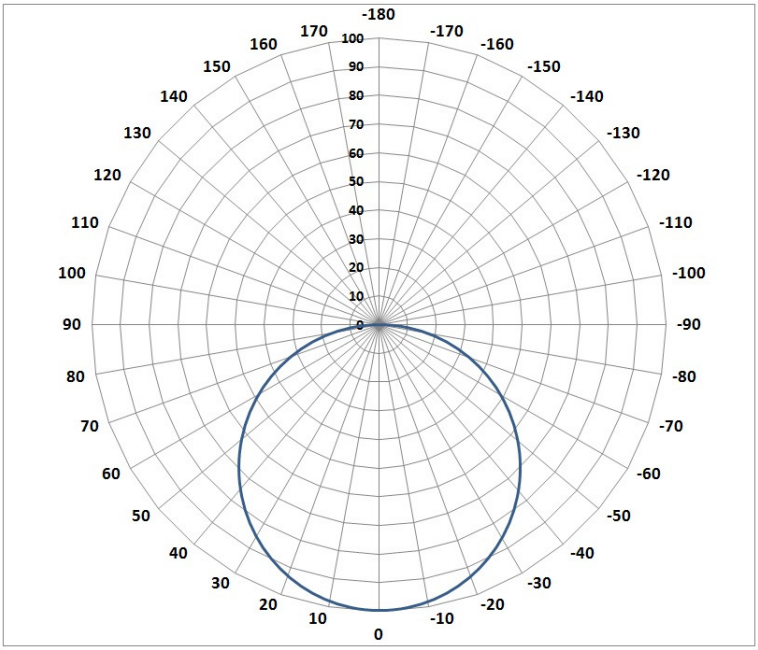


<Finger-RT30B>

No.		Item	Specifications
Module Assembly	3-1	LED	LM561B : Middle Power LED 30 ea
	3-2	PCB	Material : Copper, Solder mask and Epoxy
	3-3	Connector	AWG 24-18, Strip Length 6-7 mm

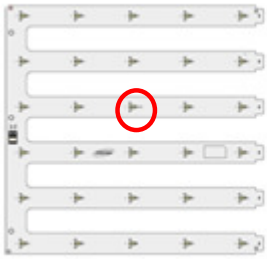
3-5. Light Distribution

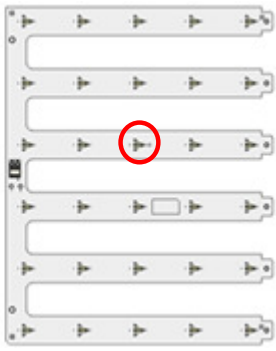
(1) Polar Intensity Diagram : Beam Angle 115 ± 5 [°]



3-6. Thermal Management

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





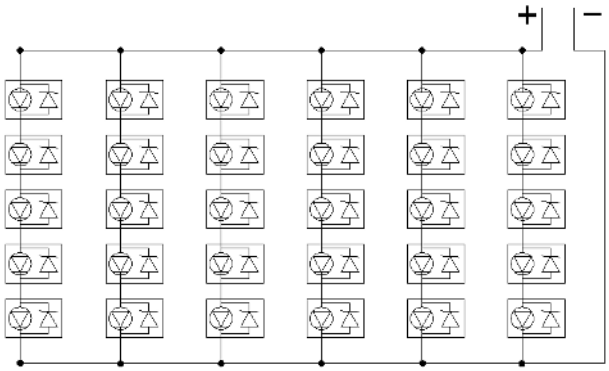
(2) Tc_life : Max temperature to reach 50,000 hours

- Tc_life=75℃ for >50,000 @ 700mA (L70B50)

(3) Tc_max : Max temperature to operate

- Tc_max = 75℃

3-7. Circuit Schematic



4. Approbation

Item	Compliant to	Result / Remark
General	Eye safety : IEC62471	LM561B LED
Hazardous Substance & Materials	RoHS, Reach	Declared
Certification	CE	EN 62031:2008/A1:2013 EN 62471:2008
	ENEC	EN 62031:2008/A1:2013 EN 62471:2008

5. Packing

5-1 Dimension & Module Q'ty

(1) Finger-SQ30B

Item	1 box	1 pallet
Dimension	365 x 332 x 295 mm	1100 x 800 x 145 mm
Q'ty	60 modules	1800 modules 30 boxes

(2) Finger-RT30B

Item	1 box	1 pallet
Dimension	375 x 280 x 295 mm	1200 x 800 x 145 mm
Q'ty	60 modules	2400 modules 40 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.