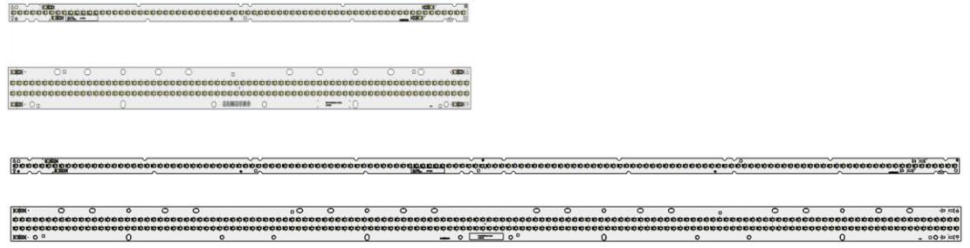


LED Module

F-series Gen3



Features & Benefits

- Provide high lumen density LED module up to 18,000 lm
- Offer high efficacy to satisfy DLC Premium
- Support two board length options : 4ft / 2ft
- Support two LED arrangement variations : 2-row / 1-row

Applications

- Industrial area such as warehouse, plant, indoor parking lot etc
- Highbay / Lowbay installed in the high ceiling sites
- Replacement of T5HO or T8 tubes

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1. Product Code Information

a) F562B

Nominal CCT (K)	Product Code
3000	SI-B8V261560WW
3500	SI-B8U261560WW
4000	SI-B8T261560WW
5000	SI-B8R261560WW

b) F564B

Nominal CCT (K)	Product Code
3000	SI-B8V521560WW
3500	SI-B8U521560WW
4000	SI-B8T521560WW
5000	SI-B8R521560WW

c) FB22B

Nominal CCT (K)	Product Code
3000	SI-B8V521B20WW
3500	SI-B8U521B20WW
4000	SI-B8T521B20WW
5000	SI-B8R521B20WW

d) FB24B

Nominal CCT (K)	Product Code
3000	SI-B8VZ91B20WW
3500	SI-B8UZ91B20WW
4000	SI-B8TZ91B20WW
5000	SI-B8RZ91B20WW

2. Characteristics

Item	Rating	Unit	Remark
Rated Lifetime	>50,000	hour	L70B50
Ingress Protection (IP)	no rating	-	
Ambient / Operating Temperature (t_{amb})	-30 ~ +55	°C	
Storage Temperature	-30 ~ +80	°C	

a) F562B

Item	Nom. CCT (K)	Rating			If(mA)	Remark
		Min	Typ.	Max		
Luminous Flux (Φ_v)	3000	3900	4335	4770	lm	
	3500	3960	4400	4840		
	4000	4050	4500	4950		
	5000	4185	4650	5115		
Luminous Efficacy	3000	151	168	185	lm/W	
	3500	154	171	188		
	4000	157	175	192		
	5000	162	181	199		
CCT	3000	-	3000	-	K	$I_f = 1120 \text{ mA}$ $t_p = 65 \text{ }^\circ\text{C}$
	3500	-	3500	-		
	4000	-	4000	-		
	5000	-	5000	-		
Color Rendering Index (Ra)		80	-	-	-	
Operating Current (I_f)		-	1120	-	mA	
Operating Voltage (V_f)		21.9	23.0	24.2	Vdc	
Power Consumption		24.5	25.8	27.0	W	

Notes:

- 1) t_p : temperature at which performance is specified; measured at “Tc point”.
- 2) Samsung maintains a measurement tolerance of: Luminous flux: $\pm 7 \%$, CRI: ± 3.0 , Voltage: $\pm 0.3 \text{ V}$, Power Consumption: $\pm 0.3 \text{ W}$
- 3) Max 4 kV for ESD(Direct contact)

b) F564B

Item	Nom. CCT (K)	Rating			If(mA)	Remark
		Min	Typ.	Max		
Luminous Flux (Φ_v)	3000	7800	8670	9540	lm	
	3500	7920	8800	9680		
	4000	8100	9000	9900		
	5000	8370	9300	10230		
Luminous Efficacy	3000	151	168	185	lm/W	
	3500	154	171	188		
	4000	157	175	192		
	5000	162	181	199		
CCT	3000	-	3000	-	K	
	3500	-	3500	-		
	4000	-	4000	-		
	5000	-	5000	-		
Color Rendering Index (Ra)		80	-	-	-	
Operating Current (I_f)		-	1120	-	mA	
Operating Voltage (V_f)		43.7	46.0	48.3	Vdc	
Power Consumption		48.9	51.5	54.1	W	

$I_f = 1120$ mA
 $t_p = 65$ °C

Notes:

- 1) t_p : temperature at which performance is specified; measured at "Tc point".
- 2) Samsung maintains a measurement tolerance of: Luminous flux: ± 7 %, CRI: ± 3.0 , Voltage: ± 0.3 V, Power Consumption: ± 0.3 W
- 3) Max 4 kV for ESD(Direct contact)

c) FB22B

Item	Nom. CCT (K)	Rating			If(mA)	Remark
		Min	Typ.	Max		
Luminous Flux (Φ_v)	3000	7800	8670	9540	lm	
	3500	7920	8800	9680		
	4000	8100	9000	9900		
	5000	8370	9300	10230		
Luminous Efficacy	3000	151	168	185	lm/W	
	3500	154	171	188		
	4000	157	175	192		
	5000	162	181	199		
CCT	3000	-	3000	-	K	I _f = 1120 mA t _p = 65 °C
	3500	-	3500	-		
	4000	-	4000	-		
	5000	-	5000	-		
Color Rendering Index (Ra)		80	-	-	-	
Operating Current (I _f)		-	1120	-	mA	
Operating Voltage (V _f)		43.7	46.0	48.3	Vdc	
Power Consumption		48.9	51.5	54.1	W	

Notes:

- 1) t_p: temperature at which performance is specified; measured at “Tc point”.
- 2) Samsung maintains a measurement tolerance of: Luminous flux: ±7 %, CRI: ±3.0, Voltage: ±0.3 V, Power Consumption: ±0.3W
- 3) Max 4 kV for ESD(Direct contact)

d) FB24B

Item	Nom. CCT (K)	Rating			If(mA)	Remark
		Min	Typ.	Max		
Luminous Flux (Φ_v)	3000	15605	17340	19075	lm	
	3500	15840	17600	19360		
	4000	16200	18000	19800		
	5000	16740	18600	20460		
Luminous Efficacy	3000	151	168	185	lm/W	
	3500	154	171	188		
	4000	157	175	192		
	5000	162	181	199		
CCT	3000	-	3000	-	K	I _f = 2240 mA t _p = 65 °C
	3500	-	3500	-		
	4000	-	4000	-		
	5000	-	5000	-		
Color Rendering Index (Ra)		80	-	-	-	
Operating Current (I _f)		-	2240		mA	
Operating Voltage (V _f)		43.7	46.0	48.3	Vdc	
Power Consumption		97.9	103.0	108.2	W	

Notes:

- 1) t_p: temperature at which performance is specified; measured at “Tc point”.
- 2) Samsung maintains a measurement tolerance of: Luminous flux: ±7 %, CRI: ±3.0, Voltage: ±0.3 V, Power Consumption: ±0.3W
- 3) Max 4 kV for ESD(Direct contact)

Item	Nominal*	Life**	Max***	Unit
Temperature	65 (t _p)	85(t _{p, 65})	95(t _c)	°C

Notes:

- * Temperature used to specify performance of the module (t_p).
- ** Rated maximum performance temperature at which lifetime is specified (t_{p, 50}).
- *** Rated maximum temperature, highest permissible temperature to avoid safety risk (t_c).

All temperatures are measured at the designated “Tc point” as indicated on the module.

3. Structure and Assembly

a) Appearance

- F562B



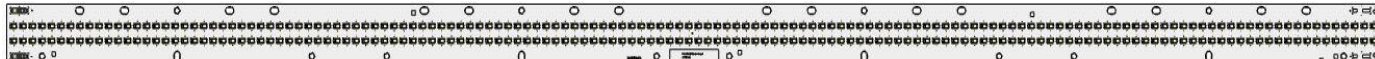
- F564B



- FB22B



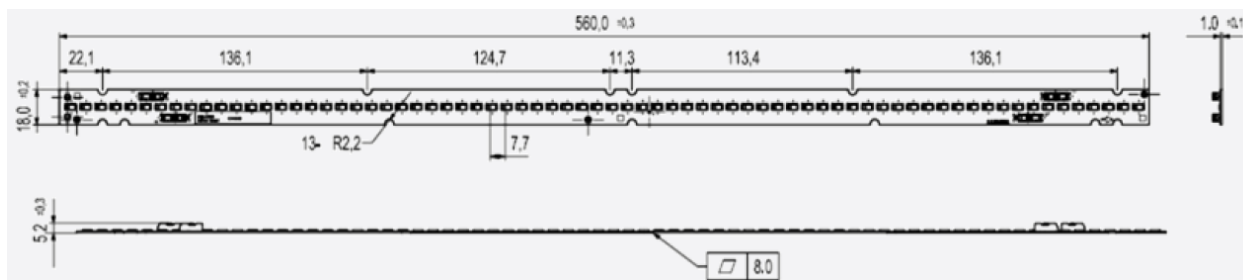
- FB24B



b) Dimension

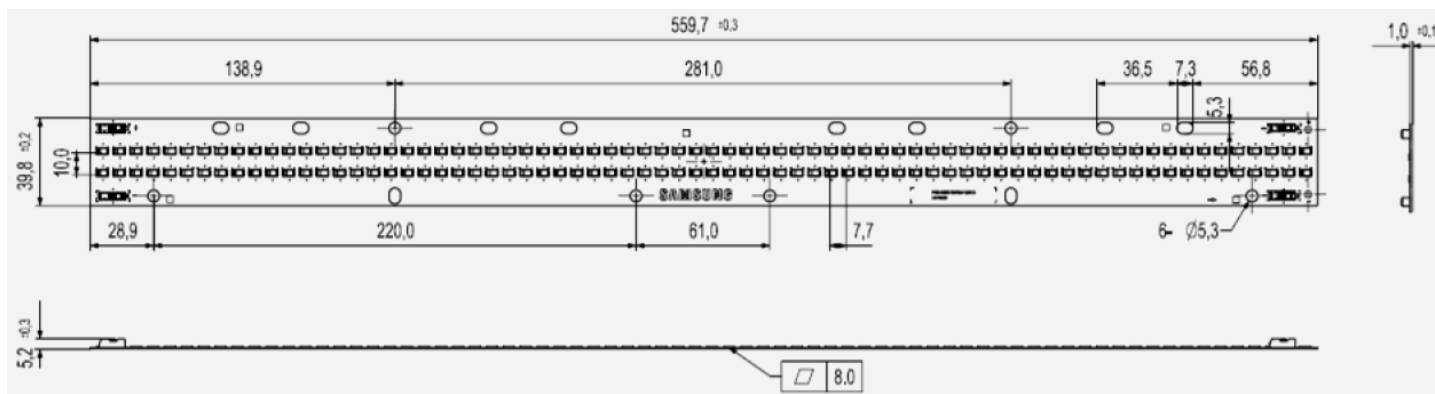
- F562B

Dimension	Specification	Tolerance	Unit
Module Length	560.0	±0.3	mm
Module Width	18.0	±0.2	mm
Module Height	5.2	±0.3	mm
PCB Thickness	1.0	±0.1	mm
Module Weight	26.8	±1.34	g



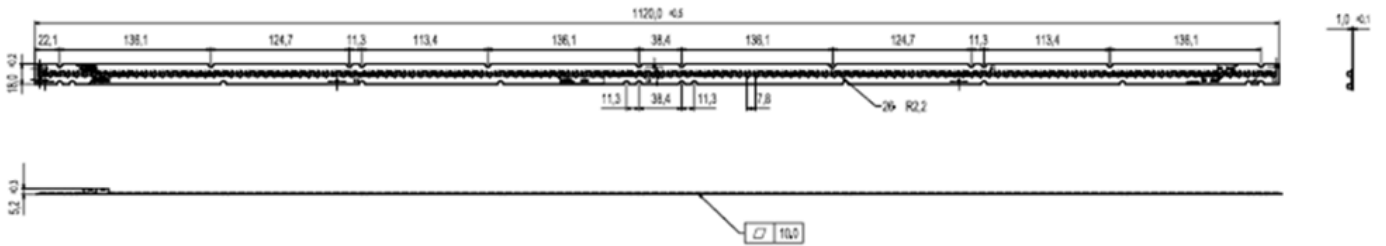
- F564B

Dimension	Specification	Tolerance	Unit
Module Length	559.7	±0.3	mm
Module Width	39.8	±0.2	mm
Module Height	5.2	±0.3	mm
PCB Thickness	1.0	±0.1	mm
Module Weight	58.7	±2.94	g



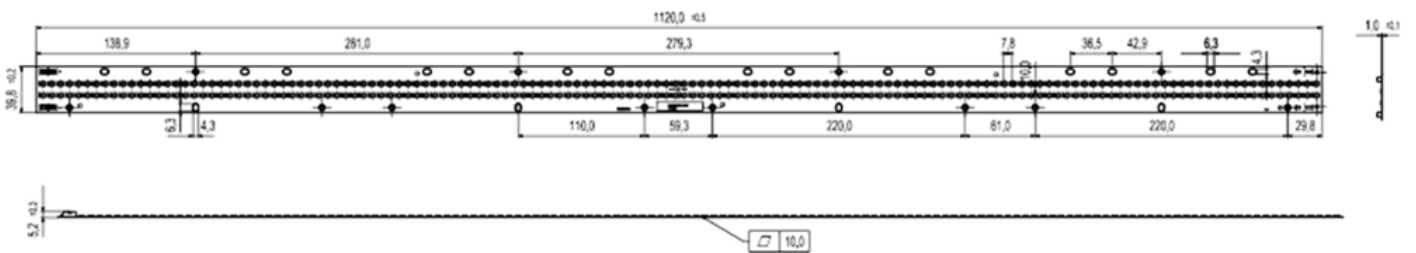
- FB22B

Dimension	Specification	Tolerance	Unit
Module Length	1120.0	±0.5	mm
Module Width	18.0	±0.2	mm
Module Height	5.2	±0.3	mm
PCB Thickness	1.0	±0.1	mm
Module Weight	50.6	±2.53	g



- FB24B

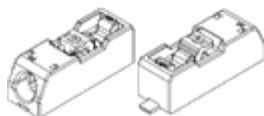
Dimension	Specification	Tolerance	Unit
Module Length	1120.0	±0.5	mm
Module Width	39.8	±0.2	mm
Module Height	5.2	±0.3	mm
PCB Thickness	1.0	±0.1	mm
Module Weight	112.0	±5.6	g



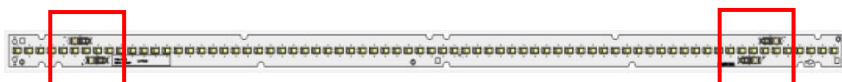
c) Assembly

Connectors on the board are provided for easy wiring with the LED driver and between modules

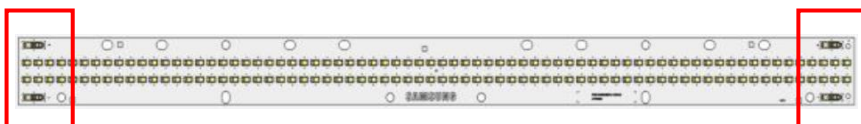
[Front connector]



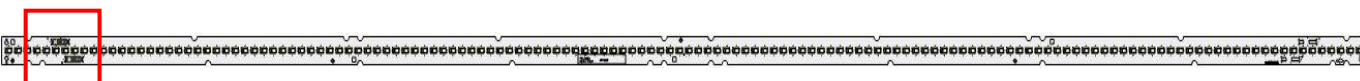
- F562B



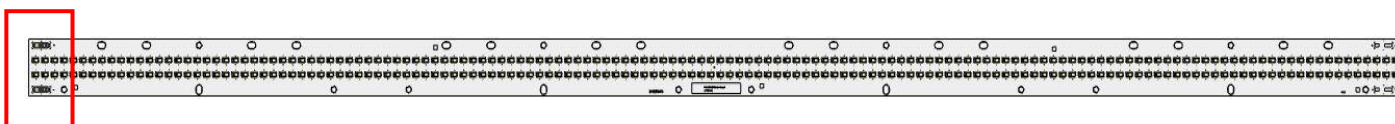
- F564B



- FB22B



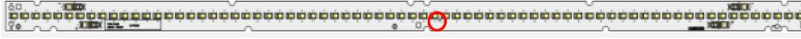
- FB24B



d) Thermal Management

Performance temperatures are measured on “Tc point” as indicated on the module.

- F562B



- F564B



- FB22B

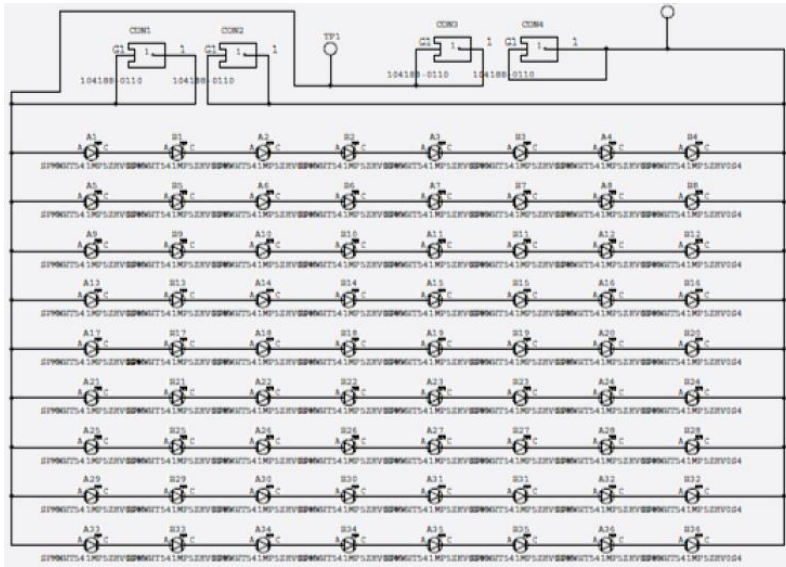


- FB24B

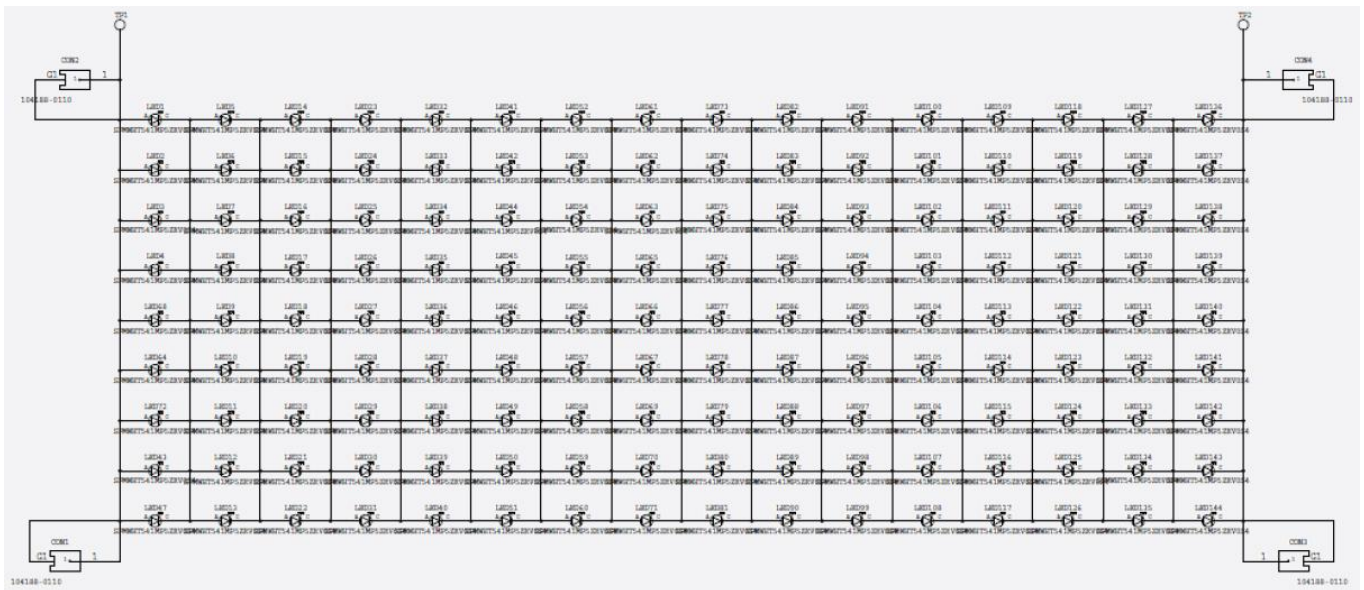


e) Schematic Circuit

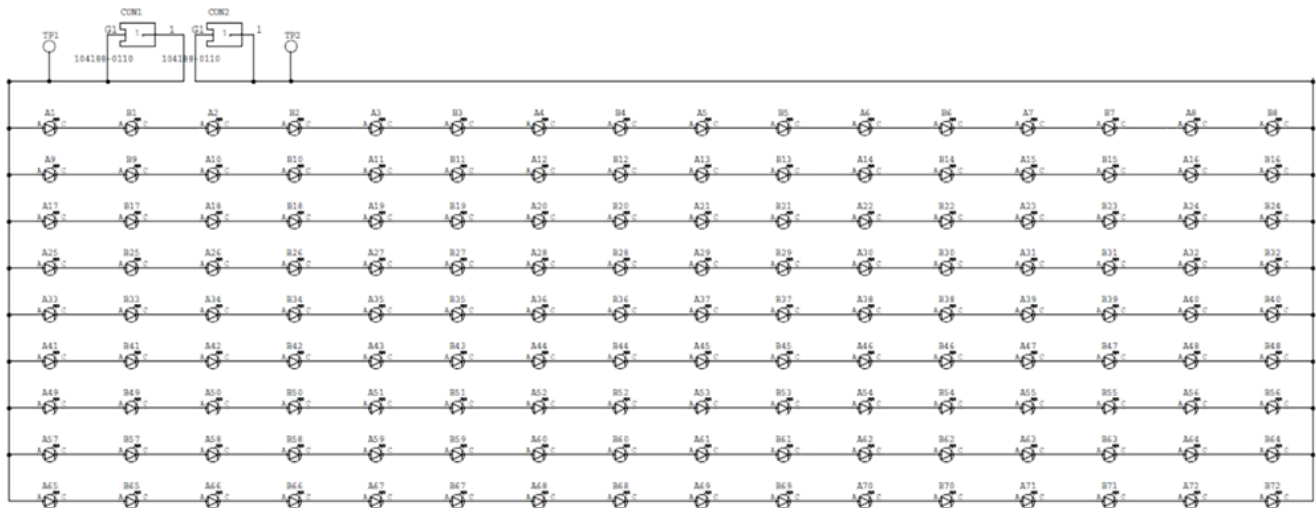
- F562B : 8s x 9p



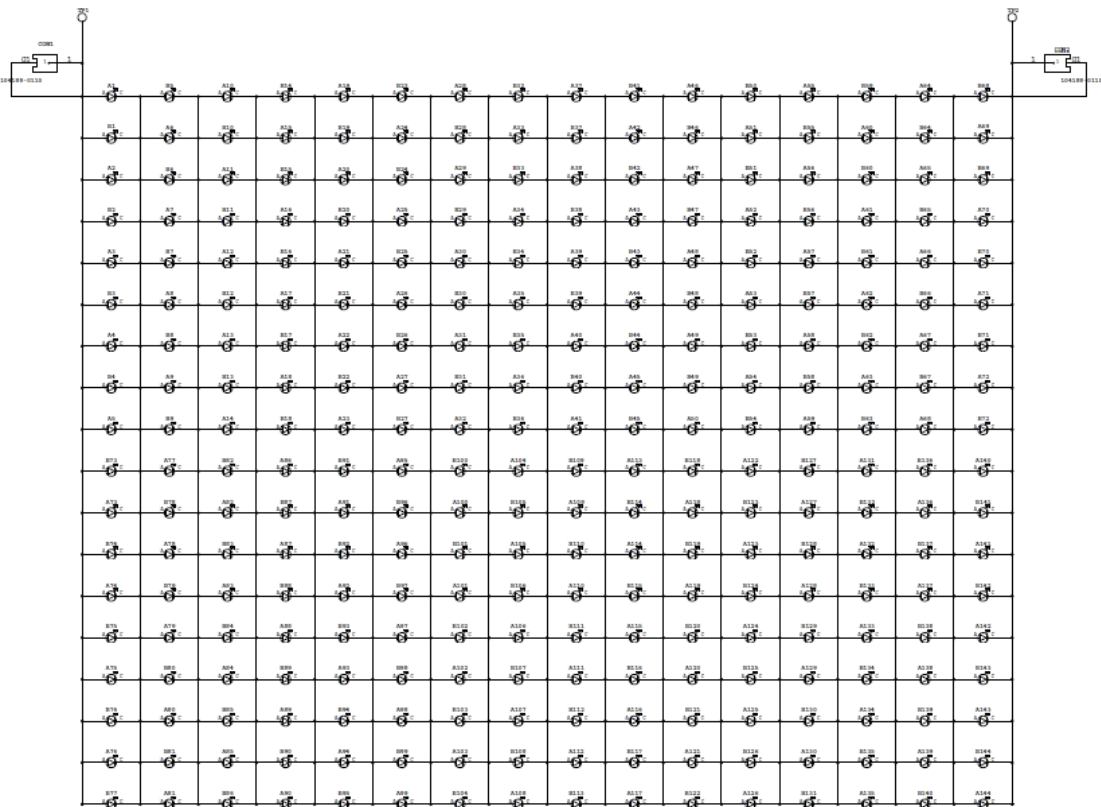
- F564B : 16s x 9p



- FB22B : 16s x 9p



- FB24B : 16s x 18p



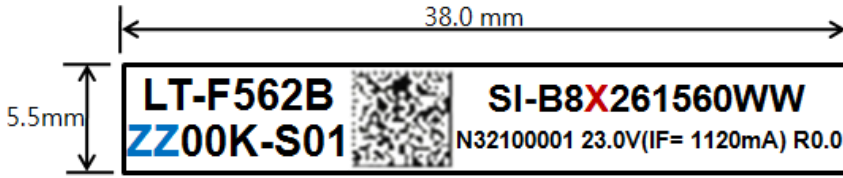
4. Certification and Declaration

Item	Compliant to	Remark
Test & Certification	CE	-
	ENEC	-
	VDE	-
	UL	-
	cUL	-
	Photo biological Safety(LM561C LED)	-
Declaration	RoHS	Hazardous Substance & Material
	REACH	Hazardous Substance & Material

5. Label Structure

a) Module Label

[Printing Label]



[Information of Barcode – LT-F562B]

① Model code : SI-B8X261560WW

X : V(3000K), U(3500K), T(4000K), R(5000K)

② Product name : LT-F562B

③ Color temperature: ZZ

ZZ : 30, 35, 40, 50

④ LED maker: -S (Samsung)

Group No.: 01 (Binning group)

⑤ SMT date: N321 (2013-March-21)

A (2000), B (2001) ······ K (2010), L (2011), M (2012), N (2013) ······ (year)

1 (January), ······ 9(September), A (October), B (November), C (December) (month)

01, 02, 03, ······ 31th (date)

⑥ Serial No.: 00001~99999; Setting "00001" every working day

⑦ 23.0V (IF=1120mA)

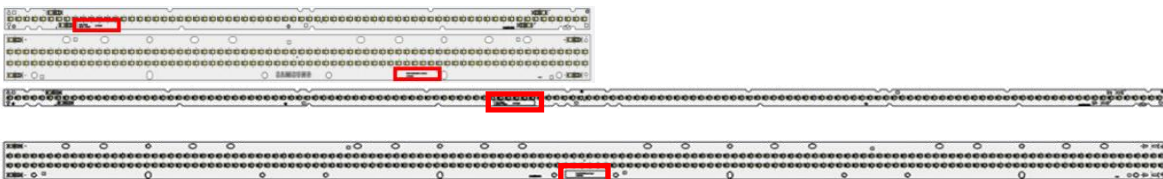
⑧ Product Revision: R0.0

[QR CODE Information – LT-F562B]

① Example: SI-B8X261560WW_ N321100001ZZ00K-S01

② 34 digits: Model code (14) + Space (1) + SMT date (4) + SMT line No. (1) + Serial No. (5)
+ Color temperature (5) + Dash(1)+LED maker (1) + GROUP No. (2)

Model CODE	SI-B8X261560WW
QR CODE Information	SI-B8X261560WW_ N321100001ZZ00K-S01



b) Tray & MBB Label

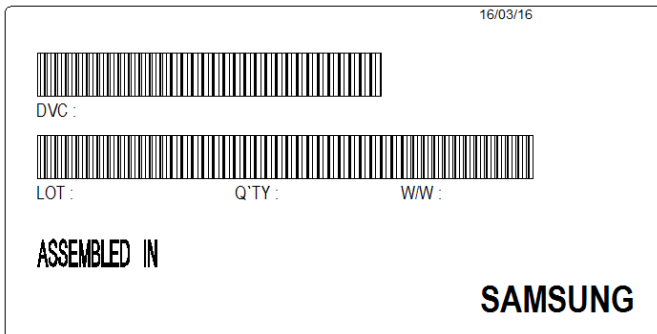
- 100mm x 50mm



- ① Model code(SEC)
- ② LOT: 20160101-E0001
 Packing Date(8 digit) → 20160101
 Production Site(1digit) → PyeongTaek SUHIL(E), TianJIn SUHIL(D), SLED(B)
 Serial no(4 digit) → 0001~9999, A111~A999
- ③ QTY: Quantity of Packaged Bar (5 Digit)
- ④ W/W: Production Year(2 digit) + Production Week(2 digit)
- ⑤ Issue date of Label: 12:year/01:month/30:day

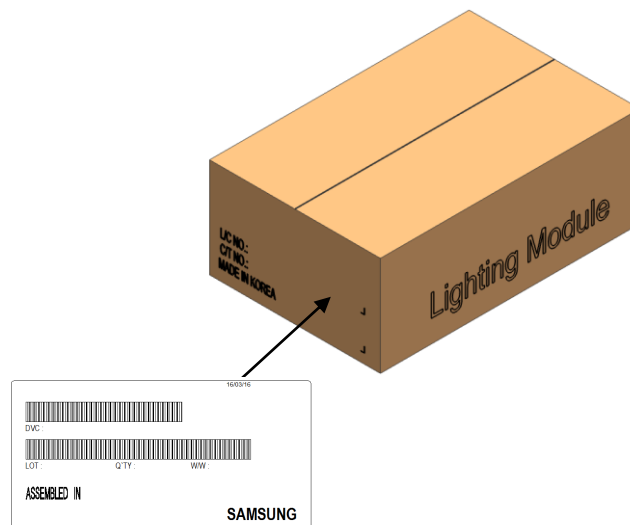
c) Box Label

- 100mm x 50mm



The lot number is composed of the following characters:

- ① Product code
- ② Lot ID
- ③ Place of origin
- ④ Quantity
- ⑤ Describe production week
- ⑥ Date of Issue



6. Packing Structure - T.B.D

- F562B

ARTICLE	TRAY	BOX	PALLET	REMARK
Quantity				-
Size(mm)				-
Module Weight (g)	26.8 ±1.34			

- F564B

ARTICLE	TRAY	BOX	PALLET	REMARK
Quantity				
Size(mm)				
Module Weight (g)	58.7 ±2.94			

- FB22B

ARTICLE	TRAY	BOX	PALLET	REMARK
Quantity				
Size(mm)				
Module Weight (g)	50.6 ±2.53			

- FB24B

ARTICLE	TRAY	BOX	PALLET	REMARK
Quantity				
Size(mm)				
Module Weight (g)	112.0 ±5.6			

7. Precautions in Handling & Use

A. The LED Lighting Modules 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).

Also when the LEDs are illuminating, operating current should be decided after considering the ambient maximum temperature.

B. Handling

To prevent the LED Lighting Modules from making any defectives, please handle the LED Lighting Modules with care as follows.

- (1) Don't drop the unit and don't give the unit any shocks.
- (2) Don't bend the PCB and don't touch the LED Resin.
- (3) Don't storage the Module in a dusty place or room.
- (4) Don't take the product apart.
- (5) Don't touch the LED and also PCB and other circuit parts of Module with your naked fingers or sharpness things.
- (6) Take care so that do not pull wire with hand in case of carries or moves LED Lighting Modules.

C. Cleaning

The LED Lighting Modules should not be used in any type of fluid such as water, oil, organic solvent, etc.

It is recommended that IPA (Isopropyl Alcohol) be used as a solvent for cleaning the LED Lighting Modules.

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 Lighting Modules by the ultrasonic.

Before cleaning, a pre-test should be done to confirm whether any damage to the LED Lighting Modules will occur.

D. Static Electricity

Static electricity or surge voltage damages the LED Lighting Modules. Please keep the working process anti-static electricity condition to prevent the Lighting from destroying, as following.

- (1) Anyone who handles the unit should be well grounded.(earth ring or anti-static glove)
- (2) Anyone who handles the unit should wear anti-electrostatic working clothes.
- (3) All kinds of device and instruments, such as working table, measuring instruments and assembly jigs in your production lines should be well grounded.

E. Storage

The LED Lighting Modules must be stored to insert a package of a moisture absorbent material(silica gel) in a box.

F. Others

If over voltage which exceeds the absolute maximum rating is applied to LED Lighting Modules.

It will cause damage Circuits(that LED is included) and result in destruction.

Do not directly look into lighted LED with naked eyes.

Please use this product within 5 months, which is kept in its original packaging unopened when stocked

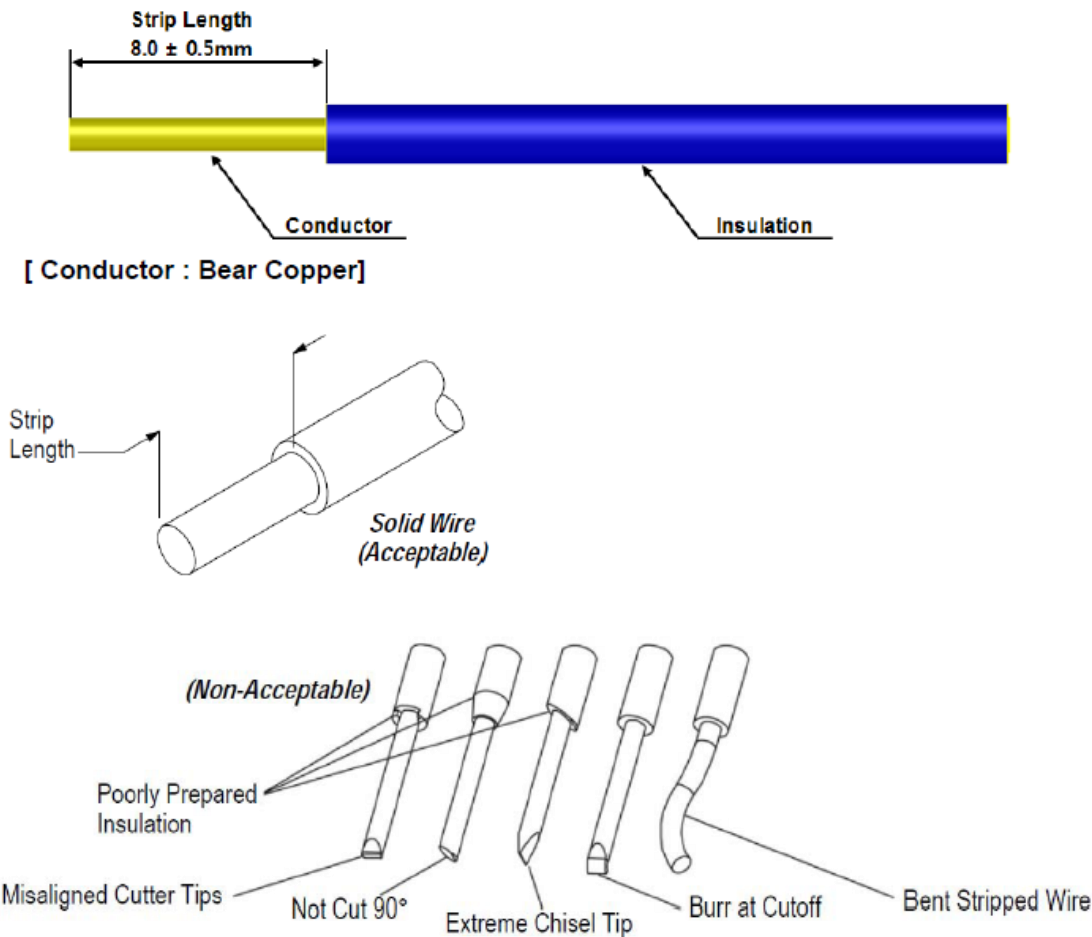
Please be careful when taking a product out from packaging.

APPENDIX 1. APPLICABLE SOLID WIRES

A. Applicable solid wires

Wire Range AWG NO.	Number of Conductors / Diameter of a conductors (NO. / mm)	Insulation Diameter (mm)	Conductor Type
24	1 / 0.51	1.35	Solid
22	1 / 0.64	1.48	
20	1 / 0.81	1.65	
18	1 / 1.02	1.86	

B. Wire strip length



Legal and additional information

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