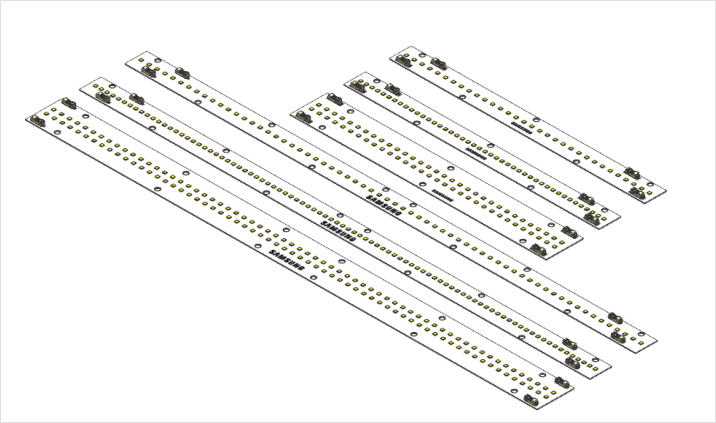
LED Module

H inFlux



Features & Benefits

- Excellent solution for highbay, lowbay and high mounted fixtures
- Very high efficacy delivery around 190lm/W @ 4000K, tp=55℃
- Additional LED protection effort
- Wide lumen flux coverage up to 40,000lm through module combination
- Easy thermal management by flip-chip MPL designed by Samsung

Applications

- Industrial lighting : warehouse, plant, parking lot etc.
- High ceiling indoor : building lobby etc

SAMSUNG

Table of Contents

Appendix

1. Product Code Information

a-1) H inFlux_S

Item		Product Code
S02	3000K / Ra80	SL-B8V1N30LAWW
	3500K / Ra80	SL-B8U1N30LAWW
	4000K / Ra80	SL-B8T1N30LAWW
	5000K / Ra80	SL-B8R1N30LAWW
S03	3000K / Ra80	SL-B8V1N60LAWW
	3500K / Ra80	SL-B8U1N60LAWW
	4000K / Ra80	SL-B8T1N60LAWW
	5000K / Ra80	SL-B8R1N60LAWW
S04	3000K / Ra80	SL-B8V2N70LAWW
	3500K / Ra80	SL-B8U2N70LAWW
	4000K / Ra80	SL-B8T2N70LAWW
	5000K / Ra80	SL-B8R2N70LAWW

a-2) H inFlux_L

Item		Product Code
L04	3000K / Ra80	SL-B8V2N80LAWW
	3500K / Ra80	SL-B8U2N80LAWW
	4000K / Ra80	SL-B8T2N80LAWW
	5000K / Ra80	SL-B8R2N80LAWW
L06	3000K / Ra80	SL-B8V3N80LAWW
	3500K / Ra80	SL-B8U3N80LAWW
	4000K / Ra80	SL-B8T3N80LAWW
	5000K / Ra80	SL-B8R3N80LAWW
L09	3000K / Ra80	SL-B8V4N90LAWW
	3500K / Ra80	SL-B8U4N90LAWW
	4000K / Ra80	SL-B8T4N90LAWW
	5000K / Ra80	SL-B8R4N90LAWW

2. Characteristics

(S02 : If 1,000mA , S03 : If 1,430mA , S04 : If 1,000mA tp 55℃)

(L04 : If 1,000mA , L06 : If 1,430mA , L09 : If 1,000mA tp 55℃)

a) Basic Information

Item	Unit	Rating	Remark
Rated Lifetime	Hour	>50,000	L70B50
Ingress Protection (IP)	-	no rating	
Ambient / Operating Temperature (t_a)	ºC	-40 ~ +50	
Storage Temperature	ºC	-40 ~ +85	
Working voltage for insulation	V	50	
Max pass-through current	A	3	
ESD	V	4,000 (Contact) 8,000 (Air)	IEC61000-4-2

Notes

※ tp: temperature at which performance is specified measured at “Tc point”.

b) Electro-Optical Characteristics

b-1) H inFlux_S02

Item		Unit	Rating			Remark
			min	typ	max	
Luminous Flux	3000K	lm	1,780	1,980	2,180	If = 1,000 mA tp = 55 ºC
	3500K		1,820	2,030	2,240	
	4000K		1,920	2,140	2,360	
	5000K		1,920	2,140	2,360	
Luminous Efficacy	3000K	lm/W	160	178	197	
	3500K		163	183	202	
	4000K		172	193	213	
	5000K		172	193	213	
Operating Voltage		V	10.0	11.1	13.0	
Power Consumption		W	10.0	11.1	13.0	
Color Rendering Index (Ra)		-	80			
Operating Current		mA	-	1,000	1,600	

b-2) H inFlux_S03

Item		Unit	Rating			Remark
			min	typ	max	
Luminous Flux	3000K	lm	2,530	2,820	3,110	If = 1,430 mA tp = 55 ºC
	3500K		2,600	2,890	3,180	
	4000K		2,750	3,060	3,370	
	5000K		2,750	3,060	3,370	
Luminous Efficacy	3000K	lm/W	158	176	195	
	3500K		162	181	199	
	4000K		171	191	211	
	5000K		171	191	211	
Operating Voltage		V	10.0	11.2	13.0	
Power Consumption		W	14.0	16.0	19.0	
Color Rendering Index (Ra)		-	80			
Operating Current		mA	-	1,430	2,200	

Notes

※ Operating current tolerance may be ±5%.

※ tp: temperature at which performance is specified measured at “Tc point”.

※ Samsung maintains a measurement tolerance of Luminous flux ±7% , Ra ±3.0 , Voltage ±5%.

b-3) H inFlux_S04

Item		Unit	Rating			Remark
			min	typ	max	
Luminous Flux	3000K	lm	3,560	3,960	4,360	If = 1,000 mA tp = 55 ºC
	3500K		3,650	4,060	4,470	
	4000K		3,850	4,280	4,710	
	5000K		3,850	4,280	4,710	
Luminous Efficacy	3000K	lm/W	159	178	196	
	3500K		163	182	201	
	4000K		172	192	212	
	5000K		172	192	212	
Operating Voltage		V	20.0	22.3	25.0	
Power Consumption		W	20.0	22.3	25.0	
Color Rendering Index (Ra)		-	80			
Operating Current		mA	-	1,000	1,600	

b-4) H inFlux_L04

Item		Unit	Rating			Remark
			min	typ	max	
Luminous Flux	3000K	lm	3,560	3,960	4,360	If = 1,000 mA tp = 55 ºC
	3500K		3,650	4,060	4,470	
	4000K		3,850	4,280	4,710	
	5000K		3,850	4,280	4,710	
Luminous Efficacy	3000K	lm/W	159	178	196	
	3500K		163	182	201	
	4000K		172	192	212	
	5000K		172	192	212	
Operating Voltage		V	20.0	22.3	25.0	
Power Consumption		W	20.0	22.3	25.0	
Color Rendering Index (Ra)		-	80			
Operating Current		mA	-	1,000	1,600	

Notes

※ Operating current tolerance may be ±5%.

※ tp: temperature at which performance is specified measured at “Tc point”.

※ Samsung maintains a measurement tolerance of Luminous flux ±7% , Ra ±3.0 , Voltage ±5%.

b-5) H inFlux_L06

Item		Unit	Rating			Remark
			min	typ	max	
Luminous Flux	3000K	lm	5,060	5,630	6,200	If = 1,430 mA tp = 55 ºC
	3500K		5,220	5,800	6,380	
	4000K		5,490	6,110	6,730	
	5000K		5,490	6,110	6,730	
Luminous Efficacy	3000K	lm/W	158	176	194	
	3500K		163	181	200	
	4000K		171	191	211	
	5000K		171	191	211	
Operating Voltage		V	20.0	22.4	25.0	
Power Consumption		W	28.0	32.0	36.0	
Color Rendering Index (Ra)		-	80			
Operating Current		mA	-	1,430	2,200	

b-6) H inFlux_L09

Item		Unit	Rating			Remark
			min	typ	max	
Luminous Flux	3000K	lm	7,110	7,910	8,710	If = 1,000 mA tp = 55 ºC
	3500K		7,310	8,130	8,950	
	4000K		7,710	8,570	9,430	
	5000K		7,710	8,570	9,430	
Luminous Efficacy	3000K	lm/W	159	177	196	
	3500K		163	182	201	
	4000K		172	192	212	
	5000K		172	192	212	
Operating Voltage		V	41.0	44.6	49.0	
Power Consumption		W	41.0	44.6	49.0	
Color Rendering Index (Ra)		-	80			
Operating Current		mA	-	1,000	1,600	

Notes

※ Operating current tolerance may be ±5%.

※ tp: temperature at which performance is specified measured at “Tc point”.

※ Samsung maintains a measurement tolerance of Luminous flux ±7% , Ra ±3.0 , Voltage ±5%.

c) Color coordinate

Model	Nom. CCT (K)	CIE 1931 Chromaticity Coordinates					Remark
S02	3000	CIE x	0.4323	0.4252	0.4378	0.4453	If = 1,000 mA tp = 25 ºC
		CIE y	0.4064	0.3911	0.3956	0.4111	
		Center	CIE x	0.4352	CIE y	0.4011	
	3500	CIE x	0.4050	0.3994	0.4128	0.4189	
		CIE y	0.3942	0.3791	0.3856	0.4010	
		Center	CIE x	0.4090	CIE y	0.3900	
	4000	CIE x	0.3788	0.3750	0.3872	0.3916	
		CIE y	0.3802	0.3656	0.3730	0.3880	
		Center	CIE x	0.3832	CIE y	0.3767	
	5000	CIE x	0.3394	0.3386	0.3484	0.3496	
		CIE y	0.3525	0.3407	0.3485	0.3607	
		Center	CIE x	0.3440	CIE y	0.3506	
S03	3000	CIE x	0.4323	0.4252	0.4378	0.4454	If = 1,430 mA tp = 25 ºC
		CIE y	0.4064	0.3912	0.3956	0.4112	
		Center	CIE x	0.4352	CIE y	0.4011	
	3500	CIE x	0.4054	0.3998	0.4131	0.4192	
		CIE y	0.3946	0.3795	0.3859	0.4013	
		Center	CIE x	0.4094	CIE y	0.3903	
	4000	CIE x	0.3789	0.3751	0.3872	0.3917	
		CIE y	0.3803	0.3656	0.3731	0.3881	
		Center	CIE x	0.3832	CIE y	0.3768	
	5000	CIE x	0.3395	0.3386	0.3485	0.3497	
		CIE y	0.3528	0.3410	0.3488	0.3610	
		Center	CIE x	0.3441	CIE y	0.3509	

Notes

Samsung maintains a measurement tolerance of CIE_x / CIE_y ± 0.005

Model	Nom. CCT (K)						Remark
S04	3000	CIE x	0.4321	0.4250	0.4376	0.4452	If = 1,000 mA tp = 25 ºC
		CIE y	0.4063	0.3911	0.3955	0.4111	
		Center	CIE x	0.4350	CIE y	0.4010	
	3500	CIE x	0.4051	0.3995	0.4128	0.4189	
		CIE y	0.3944	0.3793	0.3857	0.4011	
		Center	CIE x	0.4091	CIE y	0.3901	
	4000	CIE x	0.3793	0.3755	0.3877	0.3921	
		CIE y	0.3812	0.3666	0.3740	0.3890	
		Center	CIE x	0.3837	CIE y	0.3777	
	5000	CIE x	0.3397	0.3388	0.3487	0.3499	
		CIE y	0.3530	0.3412	0.3490	0.3613	
		Center	CIE x	0.3443	CIE y	0.3511	
L04	3000	CIE x	0.4323	0.4252	0.4378	0.4454	If = 1,000 mA tp = 25 ºC
		CIE y	0.4064	0.3911	0.3956	0.4111	
		Center	CIE x	0.4352	CIE y	0.4010	
	3500	CIE x	0.4049	0.3993	0.4126	0.4187	
		CIE y	0.3942	0.3791	0.3856	0.4010	
		Center	CIE x	0.4089	CIE y	0.3900	
	4000	CIE x	0.3790	0.3752	0.3874	0.3918	
		CIE y	0.3807	0.3660	0.3735	0.3885	
		Center	CIE x	0.3834	CIE y	0.3772	
	5000	CIE x	0.3414	0.3406	0.3504	0.3516	
		CIE y	0.3548	0.3430	0.3508	0.3631	
		Center	CIE x	0.3460	CIE y	0.3529	

Notes

Samsung maintains a measurement tolerance of CIE_x / CIE_y ± 0.005

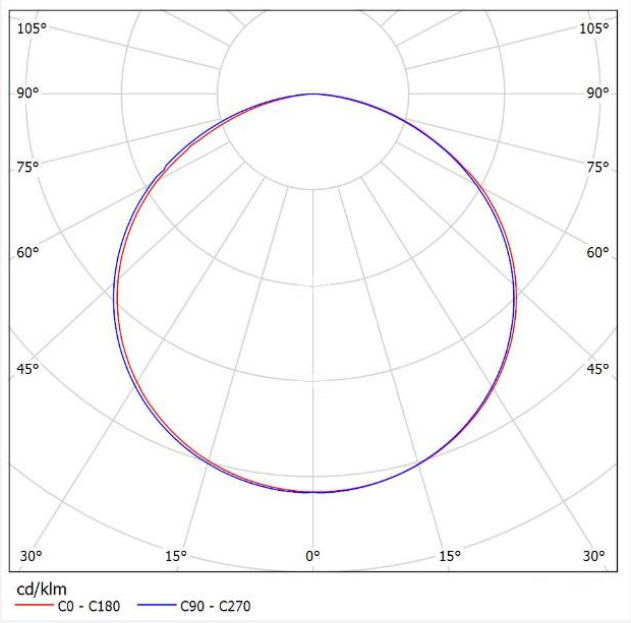
Model	Nom. CCT (K)						Remark
L06	3000	CIE x	0.4321	0.4250	0.4376	0.4451	If = 1,430 mA tp = 25 ºC
		CIE y	0.4063	0.3910	0.3955	0.4110	
		Center	CIE x	0.4350	CIE y	0.4009	
	3500	CIE x	0.4052	0.3996	0.4130	0.4191	
		CIE y	0.3942	0.3791	0.3856	0.4010	
		Center	CIE x	0.4092	CIE y	0.3900	
	4000	CIE x	0.3791	0.3753	0.3874	0.3919	
		CIE y	0.3806	0.3659	0.3734	0.3884	
		Center	CIE x	0.3834	CIE y	0.3771	
	5000	CIE x	0.3399	0.3391	0.3489	0.3501	
		CIE y	0.3530	0.3412	0.3490	0.3613	
		Center	CIE x	0.3445	CIE y	0.3511	
L09	3000	CIE x	0.4321	0.4250	0.4375	0.4451	If = 1,000 mA tp = 25 ºC
		CIE y	0.4060	0.3907	0.3952	0.4107	
		Center	CIE x	0.4349	CIE y	0.4007	
	3500	CIE x	0.4051	0.3995	0.4129	0.4189	
		CIE y	0.3942	0.3791	0.3855	0.4009	
		Center	CIE x	0.4091	CIE y	0.3899	
	4000	CIE x	0.3793	0.3755	0.3876	0.3920	
		CIE y	0.3808	0.3661	0.3736	0.3886	
		Center	CIE x	0.3836	CIE y	0.3773	
	5000	CIE x	0.3397	0.3389	0.3487	0.3499	
		CIE y	0.3530	0.3412	0.3490	0.3613	
		Center	CIE x	0.3443	CIE y	0.3511	

Notes

Samsung maintains a measurement tolerance of CIE_x / CIE_y ± 0.005

d) Light Distribution (All)

Item	Unit	Nominal	Tolerance	Remark
Beam Angle (FWHM)	˚(degree)	118	± 5	



e) Temperature Characteristics

Item	Unit	Nominal*	Life**	Max*** (tc)
Temperature Case (Tc)	℃	55	80	90

Notes:

* Temperature used to specify performance of the module (tp).

** Rated maximum performance temperature at which lifetime is specified (??).

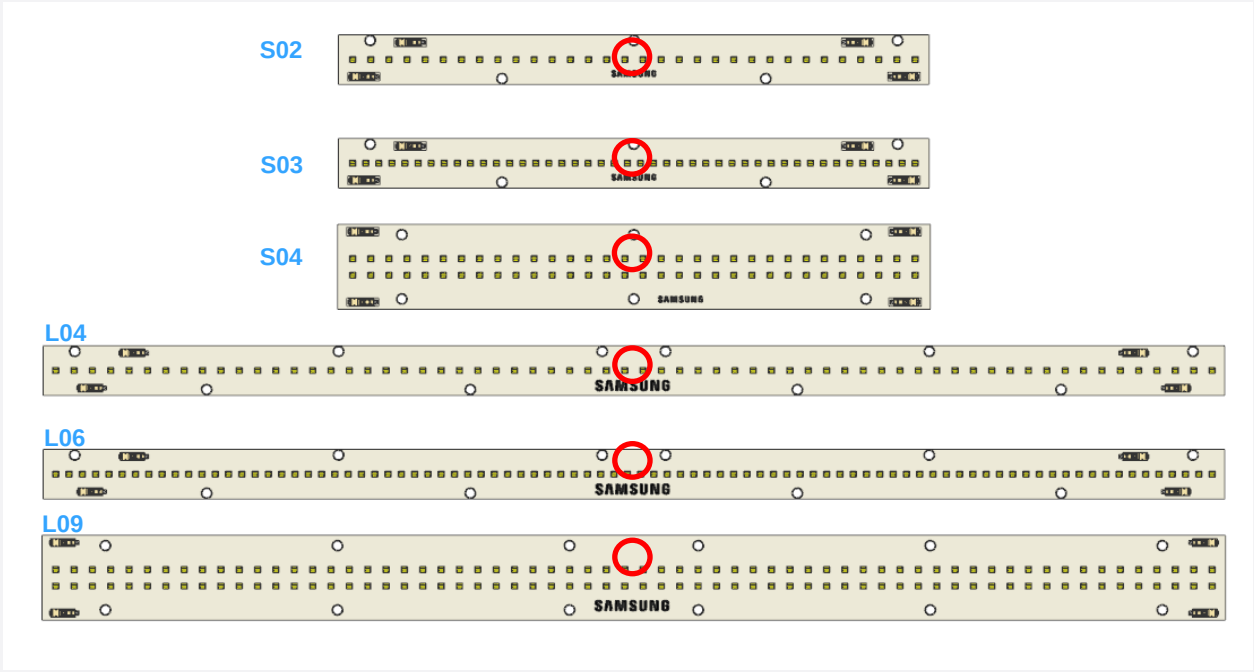
*** Rated maximum temperature, highest permissible temperature to avoid safety risk (tc).

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

Please use heat-sink(or heat dissipation solution) with proper thermal capacity(operating wattage).

f) Thermal mearsurement

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

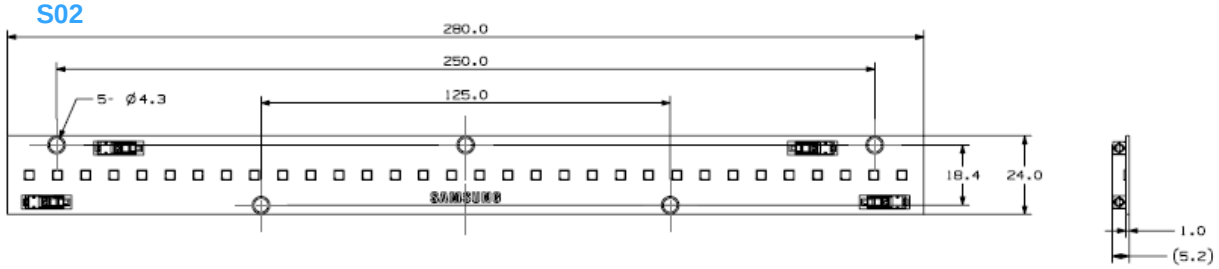


3. Structure & Assembly

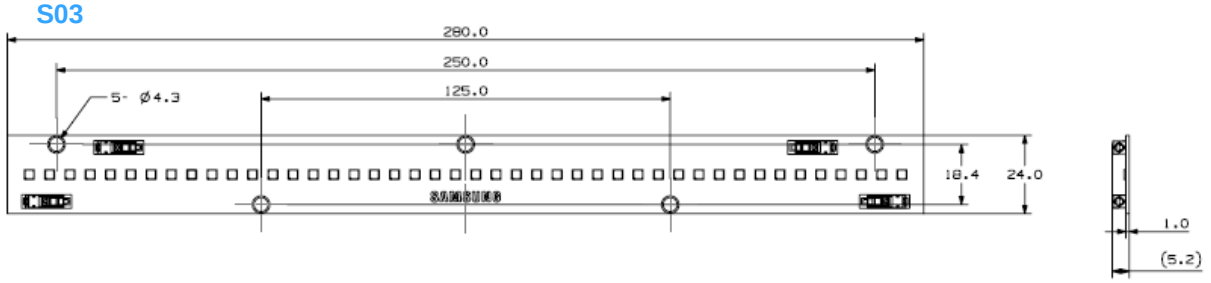
a) Appearance & Dimension

a-1) H inFlux S

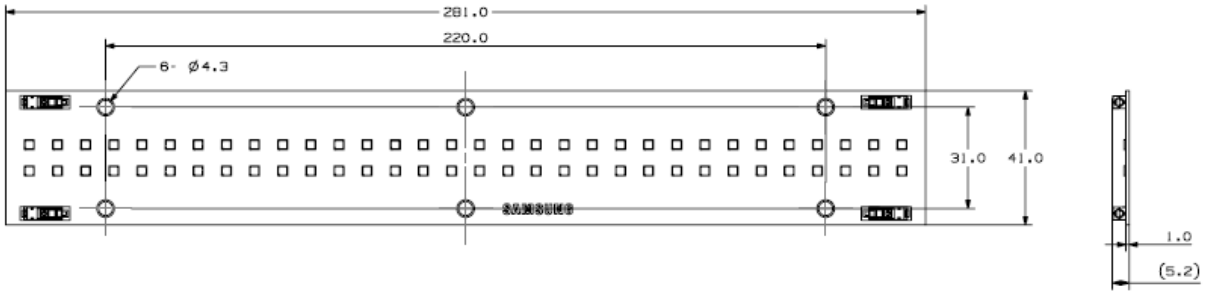
S02



S03

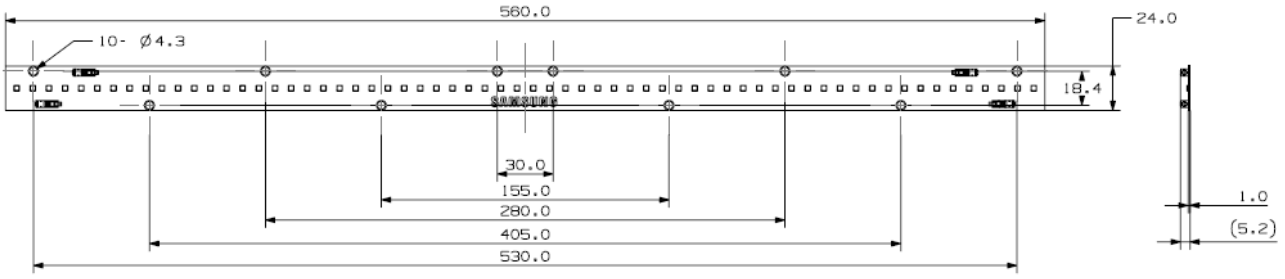


S04

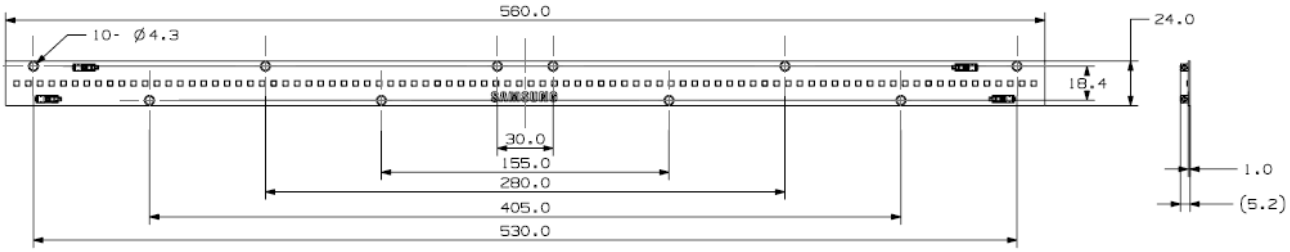


a-2) H inFlux L

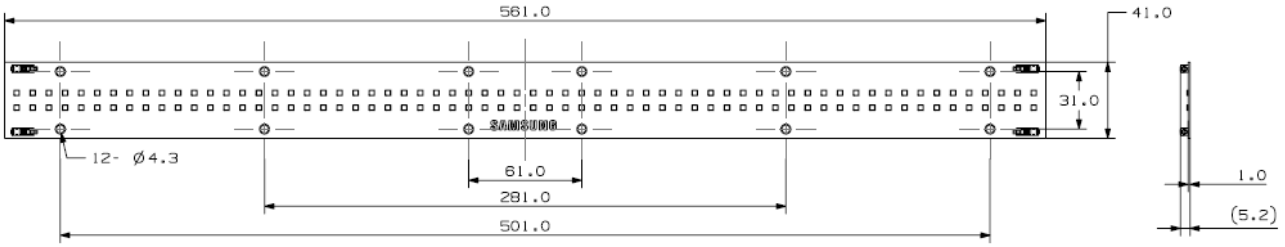
L04



L06



L09



b) Dimension

Item		Unit	Dimension	Tolerance
Module Diameter	H influx_S02 / S03	mm	280 X 24	±0.3
	H influx_S04		281 X 41	
	H influx_L04 / L06		560 X 24	
	H influx_L09		561 X 41	
Module Height	All		Ref. 5.2	-
Screw Hole	All		4.3	±0.2
Module Weight	S02	g	22.5	±4.0
	S03		22.5	
	S04		38.2	
	L04		44.2	
	L06		44.4	
	L09		75.5	

c) Structure

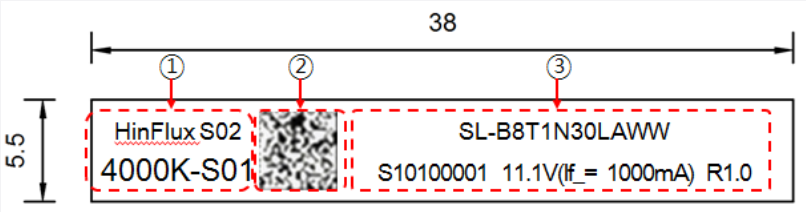
Item	Specification
LED	LM301B
CONNECTOR	1pin-pokein
PCB	MCPCB 1oz

4. Certification and Declaration

Item	Compliant to	Remark
Test & Certification	UL / cUL	E344519
	CE	Declaration of Conformity
	Photo-biological Safety	RG1
	Type Classification	Built in module 
Declaration	RoHS	Hazardous Substance & Material
	REACH	Hazardous Substance & Material

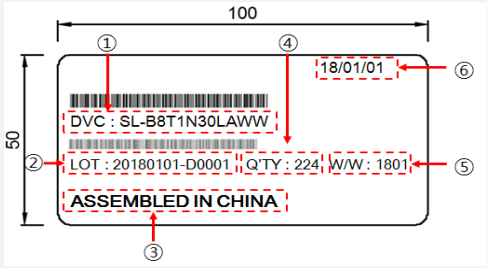
5. Label Structure

a) Module Label



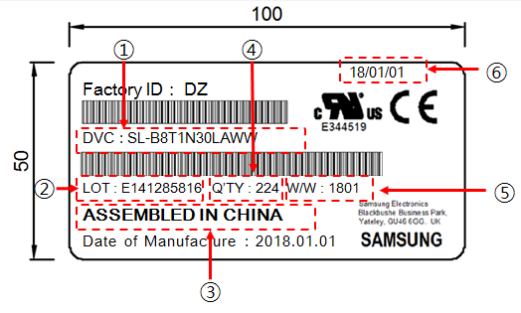
Number	Item	Remark
①	Model Information	-
②	2D Barcode	-
③	Product code Information	-

b) Tray Label



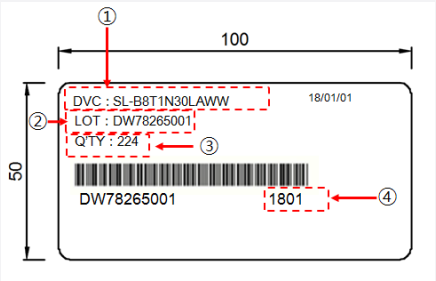
Number	Item	Remark
①	Model Number (Product Code)	SL-B8T1N30LAWW
②	Tray Lot No.	20180101-D0001
③	Country of Origin	ASSEMBLED IN CHINA
④	Packing Quantity	224
⑤	Manufacture Date (year & week)	1801
⑥	Manufacture Date (year/month/date)	18/01/01

c) Box Label



Number	Item	Remark
①	Model Number (Product Code)	SL-B8T1N30LAWW
②	Lot No.	E141285816
③	Country of Origin	ASSEMBLED IN CHINA
④	Packing Quantity	224
⑤	Product Date (year & week)	1801
⑥	Product Date (year/month/date)	18/01/01

d) Pallet Label



Number	Item	Remark
①	Product Code	SL-B8T2N80L5US
②	Pallet Lot No.	DW7B26501
③	Packing Quantity	1920
④	Manufacture date (yy/ww)	1801

6. Packing Structure

a) Packing quantity

Product	Packing	Quantity (ea)	Weight (kg)	Remark
H inFlux_S02 H inFlux_S03	Tray	32	8.9	Weight (includes Modules, Trays and a Box)
	Outer Box	256		
	Pallet	6,144		
H inFlux_S04	Tray	32	8.9	Weight (includes Modules, Trays and a Box)
	Outer Box	160		
	Pallet	3,840		
H inFlux_L04 H inFlux_L06	Tray	30	12.3	Weight (includes Modules, Trays and a Box)
	Outer Box	210		
	Pallet	3,360		
H inFlux_L09	Tray	30	12.3	Weight (includes Modules, Trays and a Box)
	Outer Box	120		
	Pallet	1,920		

7. Precautions in Handling & Use

1) This LED Module should not be used in any type of fluid such as water, oil, organic solvent, etc. When washing is required, IPA is recommended to use. When using other solvents it should be confirmed beforehand whether the solvents may react with the Module material. The banned freon solvents should not be used. Do not clean using ultrasonic cleaner.

2) The LEDs are sensitive to the static electricity and surge. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED Modules. If voltage exceeding the absolute maximum rating is applied to LEDs, it may cause damage or even destruction to LED devices. Damaged LEDs may show some unusual characteristics such as increase in leak current, lowered turn-on voltage, or abnormal lighting of LEDs at low current.

3) VOCs (Volatile Organic Compounds) can be generated from adhesives, flux, hardener or organic additives used in luminaires (fixtures). Transparent LED silicone encapsulant is permeable to those chemicals and they may lead a discoloration of encapsulant when they exposed to heat or light. This phenomenon can cause a significant loss of light emitted (output) from the luminaires (fixtures). In order to prevent these problems, we recommend users to know the physical properties of the materials used in luminaires, and they must be selected carefully.

4) Risk of sulfurization (or tarnishing)
The LED uses a silver-plated lead frame and its surface color may change to black (or dark colored) when it is exposed to sulfur (S), chlorine (Cl) or other halogen compound. Sulfurization of lead frame may cause intensity degradation, change of chromaticity coordinates and, in extreme cases, open circuit. It requires caution. Due to possible sulfurization of lead frame, the LED Modules should not be used and stored together with oxidizing substances made of materials such as rubber, plain paper, lead solder cream, etc.

5) The resin area is very sensitive, please do not handle, press, touch or rub it.

6) Do not drop the Module or give shocks.

7) Do not store the Module in a dusty place or humid location.

8) Do not disassemble the Module.

9) Do not directly look into the lighted LED with naked eyes for a long period of time.

10) Please consider the creepage and clearance distance at the end product.

Legal and additional information.

About Samsung Electronics Co., Ltd.

Samsung inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, digital appliances, network systems, and semiconductor and LED solutions. For the latest news, please visit the Samsung Newsroom at news.samsung.com

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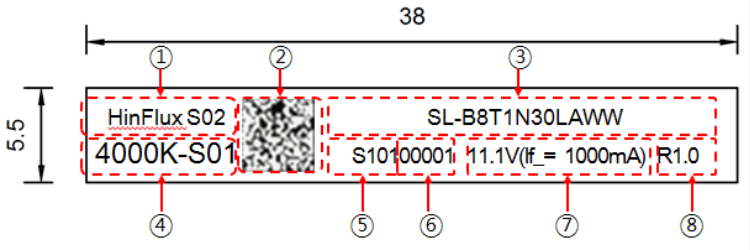
[Appendix]

1. Label Information

a-1) Information of Printed Label

Label Image


No	Item	Remark
1	Model Name	HinFlux S02
2	2D Barcode	-
3	Product code	SL-B8T1N30LAWW
4	CCT - LEDmaker / Bin rank	4000K-S01
5	SMT date	S101 (2018-01-01)
6	Serial No.	00001
7	Typical Voltage (Typical Input current)	11.1 V (If = 1000mA)
8	Product Revision	R1.0

a-2) 2D Barcode Information

QR code	No	Item	Remark
SL-B8T1N30LAWW_S1011000014000K-S01	1	Product code	SL-B8T1N30LAWW
	2	Space	_
	3	SMT date	S101
	4	SMT line No.	1
	5	Serial No	00001
	6	CCT	4000K
	7	LED Maker	-S
	8	Bin Group No	01

a-3) Tray Label Barcode Information

Barcode	No	Item	Remark
SL-B8T1N30LAWW	1	Product code (DVC)	SL-B8T1N30LAWW
20180101-D0001	1	Tray Lot No.	20180101-D0001

a-4) Outbox Label Barcode Information

Barcode	No	Item	Remark
SL-B8T1N30LAWW	1	Product code (DVC)	SL-B8T1N30LAWW
E141285816	1	Outbox Lot No.	E141285816

a-5) Pallet Label Barcode Information

Barcode	No	Item	Remark
DW7B265001	1	Pallet Lot No.	DW7B265001

2. Applicable Wire Information

a) Applicable wire

Wire Range AWG No.	Number of Conductors/ Diameter of a conductors (No./mm)	Insulation Diameter (mm)	Conductor Type
24	1 / 0.51 (0.2mm2)	1.35	Solid
22	1 / 0.64 (0.3mm2)	1.48	
20	1 / 0.81 (0.5mm2)	1.65	
18	1 / 1.02 (0.8mm2)	1.86	
22	17 / 0.76 (Reference) After soldering : Φ 0.9mm Max	1.6	Strand
20	21 / 0.95 (Reference) After soldering : Φ 1.1mm Max	1.78	
18	23 / 1.1 (Reference) After soldering : Φ 1.25mm Max	2.21	

Notes

※ Outside insulation diameter Φ2.1mm Max

※ Regarding strand conductor wire, strictly recommend that Pre bond wire type which is dipping into soldering after twisting

b) Wire Strip length

[Conductor : Bear Copper]