

Datasheet

MODEL NAME	CRI	CCT	SEC CODE
H inFlux Gen2 S02 Ver	80	30/35/40/5000K	SI-B8x117280WW
H inFlux Gen2 S03 Ver	80	30/35/40/5000K	SI-B8x161280WW
H inFlux Gen2 S04 Ver	80	30/35/40/5000K	SI-B8x221280WW
H inFlux Gen2 L04 Ver	80	30/35/40/5000K	SI-B8x221560WW
H inFlux Gen2 L06 Ver	80	30/35/40/5000K	SI-B8x321560WW
H inFlux Gen2 L09 Ver	80	30/35/40/5000K	SI-B8x441560WW

SAMSUNG				CUSTOMER
DEVELOP.	PRODUCT MANAGER	QA(DQA)	SALES	

SAMSUNG ELECTRONICS CO.,LTD.

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SAMSUNG

LED Module

H inFlux Gen2 Ver. CRI80



Features & Benefits

- Excellent solution for industrial lowbay, highbay
- Very high efficacy delivery around 202lm/W @ 80CRI 4000K, $t_c=55^{\circ}\text{C}$
- Wide lumen coverage from 2000lm to 9000lm per board
- Easy thermal management by flip-chip MPL designed by Samsung

Application

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



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1. Product Code Information

a) H inFlux G2_S02

Nominal CCT (K)	Product Code
3000	SI-B8V117280WW
3500	SI-B8U117280WW
4000	SI-B8T117280WW
5000	SI-B8R117280WW

b) H inFlux G2_S03

Nominal CCT (K)	Product Code
3000	SI-B8V161280WW
3500	SI-B8U161280WW
4000	SI-B8T161280WW
5000	SI-B8R161280WW

c) H inFlux G2_S04

Nominal CCT (K)	Product Code
3000	SI-B8V221280WW
3500	SI-B8U221280WW
4000	SI-B8T221280WW
5000	SI-B8R221280WW

d) H inFlux G2_L04

Nominal CCT (K)	Product Code
3000	SI-B8V221560WW
3500	SI-B8U221560WW
4000	SI-B8T221560WW
5000	SI-B8R221560WW

e) H inFlux G2_L06

Nominal CCT (K)	Product Code
3000	SI-B8V321560WW
3500	SI-B8U321560WW
4000	SI-B8T321560WW
5000	SI-B8R321560WW

f) H inFlux G2_L09

Nominal CCT (K)	Product Code
3000	SI-B8V441560WW
3500	SI-B8U441560WW
4000	SI-B8T441560WW
5000	SI-B8R441560WW

2. Characteristics

a) Basic Information

Item	Unit	Rating	Remark
Rated Lifetime	hour	>50,000	L70B50@ $t_c^{(1)} \leq 80^\circ\text{C}$, Rated current ²⁾
Ingress Protection (IP)	-	no rating	
Ambient / Operating Temperature (t_a)	$^\circ\text{C}$	-40 ~ +50	
Storage Temperature	$^\circ\text{C}$	-40 ~ +85	
Working voltage for Insulation	V	250	
Max pass-through current	A	2.4	

Notes

- ※ Rated Lifetime is calculated based on theoretical TM-21 calculations.
- ※ I_F : Forward current or Operating current
- ※ t_c : Case temperature at " t_c / t_p ".
- ※ t_a : ambient temperature

b) Electro-Optical Characteristics

- H inFlux G2_S02

Item	Nom. CCT (K)	Unit	Rating			Remark
			Min	Typ.	Max	
Luminous Flux	3000	lm	1990	2100	-	$I_f = 1000\text{mA}$ $t_c = 55^\circ\text{C}$
	3500		2040	2160	-	
	4000		2120	2230	-	
	5000		2120	2250	-	
Luminous Efficacy	3000	lm/W	179	189	-	
	3500		184	195	-	
	4000		191	201	-	
	5000		191	203	-	
Color Rendering Index (Ra)	-	-	80	-	-	-
Operating Current (I_f)	-	mA	80	1000	1600	-
Operating Voltage (V_f)	-	Vdc	10.7	11.1	11.9	$I_f = 1000\text{mA}$
Power Consumption	-	W	10.7	11.1	11.9	$t_c = 55^\circ\text{C}$

- H inFlux G2_S03

Item	Nom. CCT (K)	Unit	Rating			Remark
			Min	Typ.	Max	
Luminous Flux	3000	lm	2850	3010	-	$I_f = 1430\text{mA}$ $t_c = 55^\circ\text{C}$
	3500		2920	3080	-	
	4000		3040	3180	-	
	5000		3040	3210	-	
Luminous Efficacy	3000	lm/W	180	190	-	
	3500		184	194	-	
	4000		192	200	-	
	5000		192	202	-	
Color Rendering Index (Ra)	-	-	80	-	-	-
Operating Current (I_f)	-	mA	110	1430	2200	-
Operating Voltage (V_f)	-	Vdc	10.7	11.1	11.9	$I_f = 1430\text{mA}$
Power Consumption	-	W	15.3	15.9	17.0	$t_c = 55^\circ\text{C}$

Notes

※ Samsung maintains a measurement tolerance of : Luminous flux $\pm 7\%$, Ra ± 3.0 , Voltage $\pm 5\%$

- H inFlux G2_S04

Item	Nom. CCT (K)	Unit	Rating			Remark
			Min	Typ.	Max	
Luminous Flux	3000	lm	3980	4200	-	$I_f = 1000\text{mA}$ $t_c = 55^\circ\text{C}$
	3500		4080	4320	-	
	4000		4240	4460	-	
	5000		4240	4500	-	
Luminous Efficacy	3000	lm/W	180	190	-	
	3500		185	195	-	
	4000		192	202	-	
	5000		192	204	-	
Color Rendering Index (Ra)	-	-	80	-	-	-
Operating Current (I_f)	-	mA	80	1000	1600	-
Operating Voltage (V_f)	-	Vdc	21.3	22.1	23.6	$I_f = 1000\text{mA}$
Power Consumption	-	W	21.3	22.1	23.6	$t_c = 55^\circ\text{C}$

- H inFlux G2_L04

Item	Nom. CCT (K)	Unit	Rating			Remark
			Min	Typ.	Max	
Luminous Flux	3000	lm	3980	4200	-	$I_f = 1000\text{mA}$ $t_c = 55^\circ\text{C}$
	3500		4080	4320	-	
	4000		4240	4460	-	
	5000		4240	4500	-	
Luminous Efficacy	3000	lm/W	180	190	-	
	3500		185	195	-	
	4000		192	202	-	
	5000		192	204	-	
Color Rendering Index (Ra)	-	-	80	-	-	-
Operating Current (I_f)	-	mA	80	1000	1600	-
Operating Voltage (V_f)	-	Vdc	21.3	22.1	23.6	$I_f = 1000\text{mA}$
Power Consumption	-	W	21.3	22.1	23.6	$t_c = 55^\circ\text{C}$

Notes

※ Samsung maintains a measurement tolerance of : Luminous flux $\pm 7\%$, Ra ± 3.0 , Voltage $\pm 5\%$

- H inFlux G2_L06

Item	Nom. CCT (K)	Unit	Rating			Remark
			Min	Typ.	Max	
Luminous Flux	3000	lm	5700	6020	-	$I_f = 1430\text{mA}$ $t_c = 55^\circ\text{C}$
	3500		5850	6160	-	
	4000		6080	6360	-	
	5000		6080	6420	-	
Luminous Efficacy	3000	lm/W	180	190	-	
	3500		184	194	-	
	4000		192	200	-	
	5000		192	202	-	
Color Rendering Index (Ra)	-	-	80	-	-	-
Operating Current (I_f)	-	mA	110	1430	2200	-
Operating Voltage (V_f)	-	Vdc	21.4	22.2	23.7	$I_f = 1430\text{mA}$
Power Consumption	-	W	30.6	31.7	33.9	$t_c = 55^\circ\text{C}$

- H inFlux G2_L09

Item	Nom. CCT (K)	Unit	Rating			Remark
			Min	Typ.	Max	
Luminous Flux	3000	lm	7960	8400	-	$I_f = 1000\text{mA}$ $t_c = 55^\circ\text{C}$
	3500		8160	8640	-	
	4000		8480	8920	-	
	5000		8480	9000	-	
Luminous Efficacy	3000	lm/W	180	190	-	
	3500		185	195	-	
	4000		192	202	-	
	5000		192	204	-	
Color Rendering Index (Ra)	-	-	80	-	-	-
Operating Current (I_f)	-	mA	80	1000	1600	-
Operating Voltage (V_f)	-	Vdc	42.7	44.2	47.1	$I_f = 1000\text{mA}$
Power Consumption	-	W	42.7	44.2	47.1	$t_c = 55^\circ\text{C}$

Notes

※ Samsung maintains a measurement tolerance of : Luminous flux $\pm 7\%$, Ra ± 3.0 , Voltage $\pm 5\%$

c) Color Coordinate

- H inFlux G2

Model	Nom. CCT (K)	CIE 1931 Chromaticity Coordinates				Remark
ALL	3000	CIE x	0.4227	0.4347	0.4420	0.4295
		CIE y	0.3891	0.3933	0.4084	0.4040
		Center	CIE x	0.4322	CIE y	0.3987
	3500	CIE x	0.3966	0.4097	0.4155	0.4020
		CIE y	0.3765	0.3827	0.3976	0.391
		Center	CIE x	0.4060	CIE y	0.3870
	4000	CIE x	0.3729	0.3849	0.3890	0.3766
		CIE y	0.3645	0.3718	0.3861	0.3786
		Center	CIE x	0.3809	CIE y	0.3753
	5000	CIE x	0.3396	0.3484	0.3496	0.3405
		CIE y	0.3414	0.3484	0.3613	0.3539
		Center	CIE x	0.3445	CIE y	0.3513

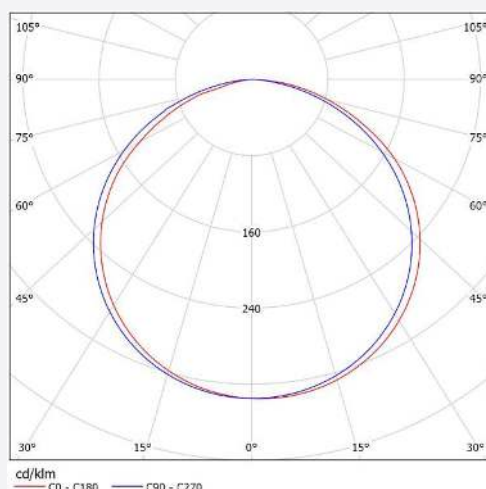
S02/S04/L04/L09 $I_F = 1000$ mA
S03/L06 $I_F = 1430$ mA
 $t_c = 25$ °C

Notes

※ Samsung maintains a measurement tolerance of CIE_x / CIE_y ± 0.005

d) Light Distribution

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



e) Temperature Characteristics

Item	Unit	Nominal*	Life**	Max***
Case Temperature (tc)	°C	55	80	90

Notes:

- * Nominal value at which typical performance is specified
- ** Value at which rated lifetime is specified
- *** Maximum value, highest permissible temperature to avoid safety risk

All temperatures are measured at the designated "tc / tp" as indicated on the module.

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

f) Thermal Measurement

Performance temperatures are measured on "tc / tp" as indicated on the module.

S02



S03



S04



L04



L06



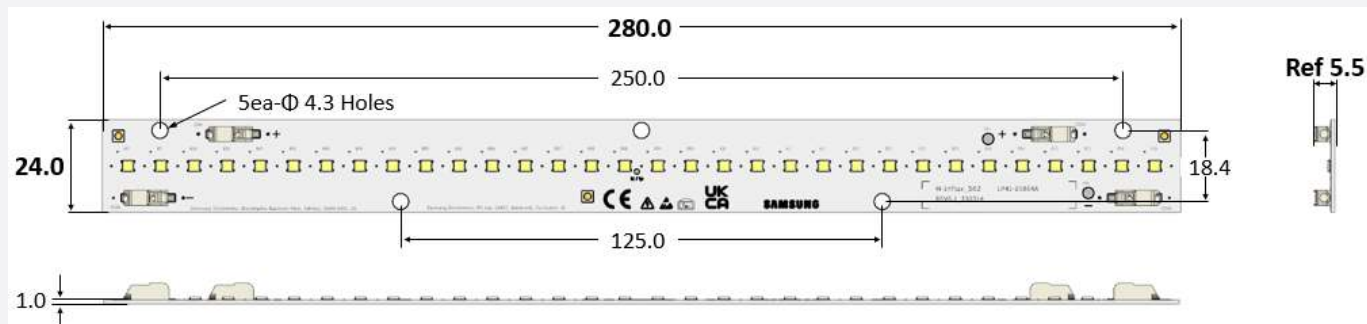
L09



3. Structure and Assembly

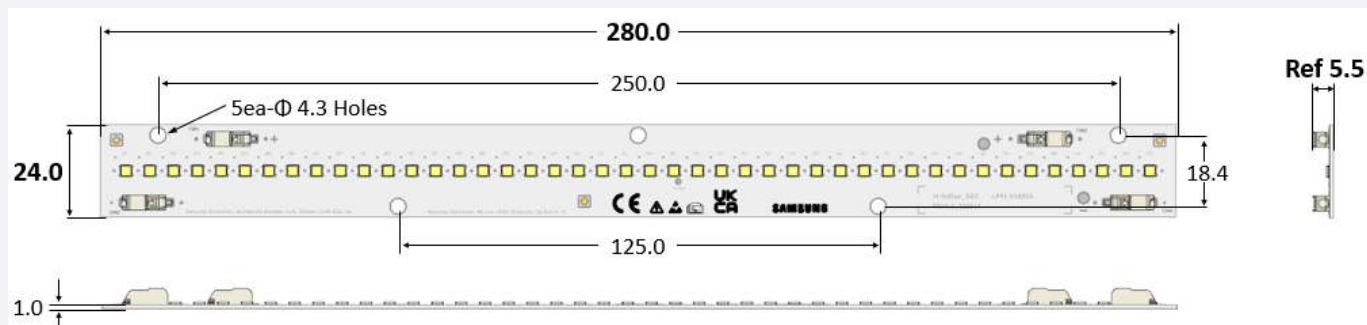
a) Appearance & Dimension

- H inFlux G2_S02



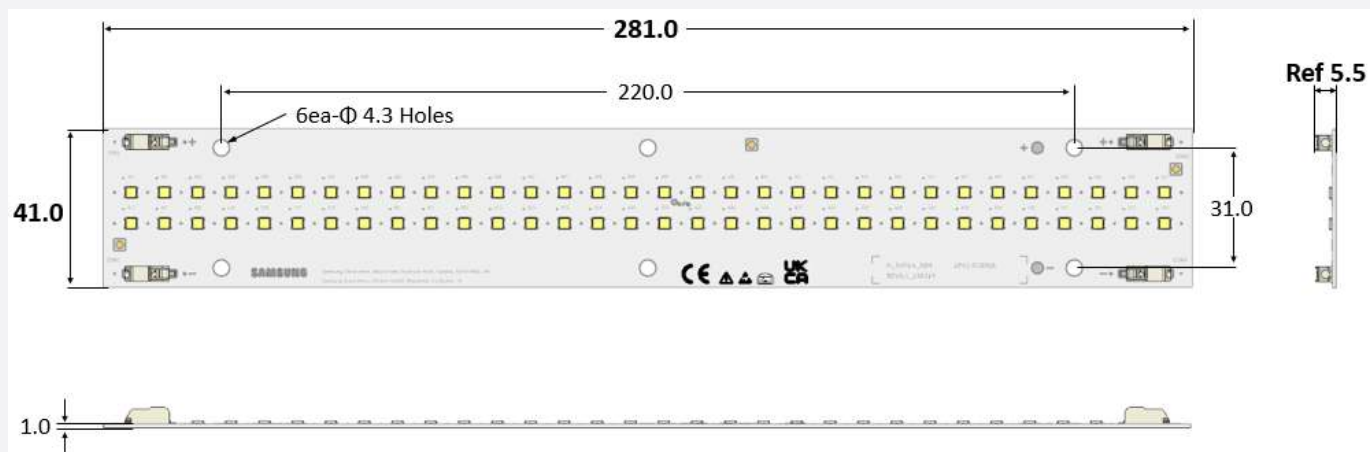
Dimension	Unit	Dimension	Tolerance
Module Length	mm	280.0	±0.3
Module Width	mm	24.0	±0.15
Module Height	mm	5.5	Ref.
PCB Thickness	mm	1.0	±0.1
Module Weight	g	22.5	Ref.

- H inFlux G2_S03



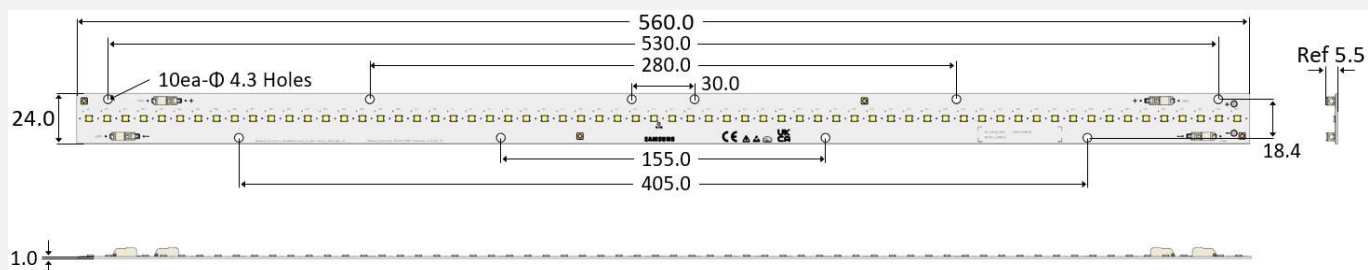
Dimension	Unit	Dimension	Tolerance
Module Length	mm	280.0	±0.3
Module Width	mm	24.0	±0.15
Module Height	mm	5.5	Ref.
PCB Thickness	mm	1.0	±0.1
Module Weight	g	22.5	Ref.

- H inFlux G2_S04



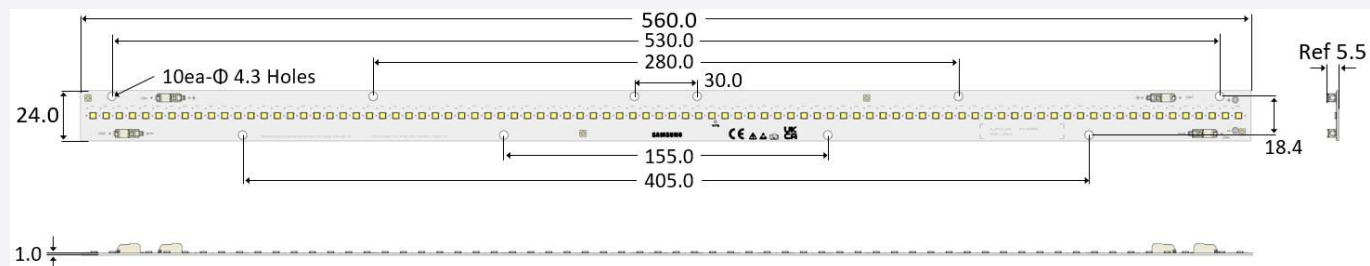
Dimension	Unit	Dimension	Tolerance
Module Length	mm	281.0	±0.3
Module Width	mm	41.0	±0.15
Module Height	mm	5.5	Ref.
PCB Thickness	mm	1.0	±0.1
Module Weight	g	38.2	Ref.

- H inFlux G2_L04



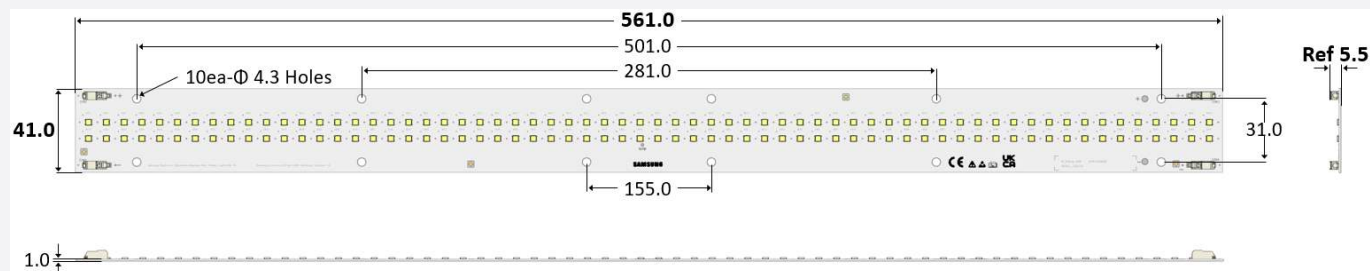
Dimension	Unit	Dimension	Tolerance
Module Length	mm	560.0	±0.3
Module Width	mm	24.0	±0.15
Module Height	mm	5.5	Ref.
PCB Thickness	mm	1.0	±0.1
Module Weight	g	38.2	Ref.

- H inFlux G2_L06



Dimension	Unit	Dimension	Tolerance
Module Length	mm	560.0	± 0.3
Module Width	mm	24.0	± 0.15
Module Height	mm	5.5	Ref.
PCB Thickness	mm	1.0	± 0.1
Module Weight	g	38.2	Ref.

- H inFlux G2_L09



Dimension	Unit	Dimension	Tolerance
Module Length	mm	561.0	± 0.3
Module Width	mm	41.0	± 0.15
Module Height	mm	5.5	Ref.
PCB Thickness	mm	1.0	± 0.1
Module Weight	g	75.5	Ref.

b) Structure

Item	Specification
LED	LM301B EVO Middle Power LED
PCB	MC PCB
Connector	1pin poke-in type

c) Schematic Circuit

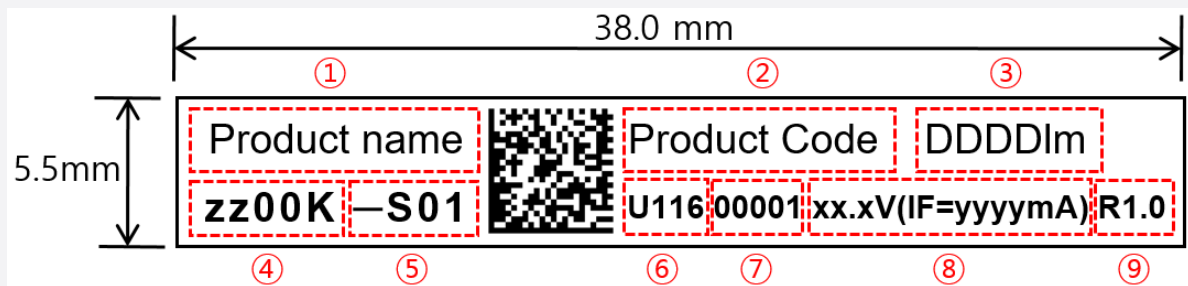
- S02 : 4S x 8P
- S03 : 4S x 11P
- S04 : 8S x 8P
- L04 : 8S x 8P
- L06 : 8S x 11P
- L09 : 16S x 8P

4. Certification and Declaration

Item	Compliant to	Remark
Test & Certification	UL/cUL	E344519
	CE	IEC / EN 62031, IEC / EN 62471
	UKCA	IEC / EN 62031, IEC / EN 62471
	Eye Protection(Photo-biological Safety)	Risk Group1
	Type Classification	Built In Module
Declaration	RoHS/REACH	Hazardous Substance & Material

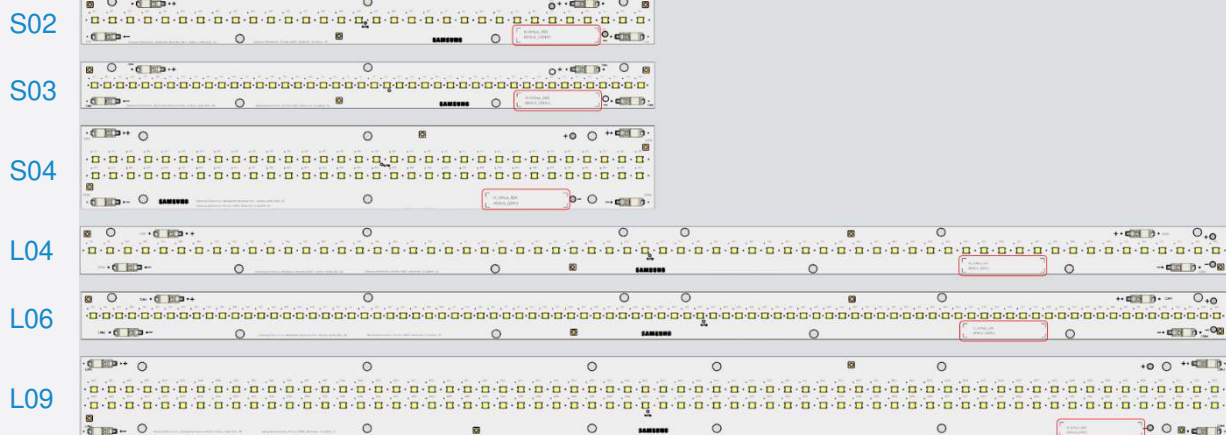
5. Label Structure

a) Module Label



Number	Item	Remark
①	Product name	Refer to page 17
②	Product code	Refer to page 17
③	Luminous Flux	Refer to page 17
④	Color Temperature	zz00K zz = 30, 35, 40, 50
⑤	LED Maker, Group No.	-S : Samsung 01 : Binning group
⑥	SMT date	U116(2020-01-16)
⑦	Serial No.	00001~99999
⑧	Typical Voltage (Typical Input current)	Refer to page 17
⑨	Model Revision	R1.0

※ Module Label attachment point (1ea/bar)



✕ Information of Module Label

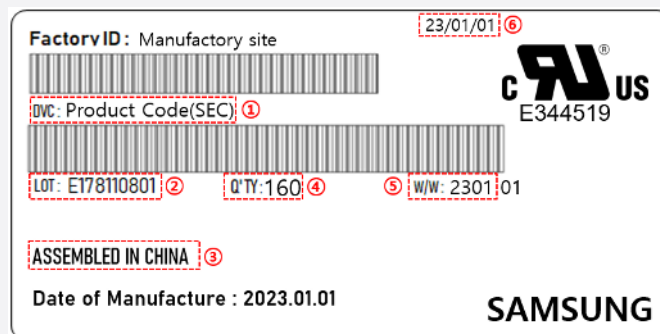
① Product name	② Product code	③ Luminous Flux	④ CCT	⑤ Typical VF	⑥ Typical IF
H inFlux S02	SI-B8V117280WW	2100	3000	11.1	1000
H inFlux S02	SI-B8U117280WW	2160	3500	11.1	1000
H inFlux S02	SI-B8T117280WW	2230	4000	11.1	1000
H inFlux S02	SI-B8R117280WW	2250	5000	11.1	1000
H inFlux S03	SI-B8V161280WW	3010	3000	11.1	1430
H inFlux S03	SI-B8U161280WW	3080	3500	11.1	1430
H inFlux S03	SI-B8T161280WW	3180	4000	11.1	1430
H inFlux S03	SI-B8R161280WW	3210	5000	11.1	1430
H inFlux S04	SI-B8V221280WW	4200	3000	22.1	1000
H inFlux S04	SI-B8U221280WW	4320	3500	22.1	1000
H inFlux S04	SI-B8T221280WW	4460	4000	22.1	1000
H inFlux S04	SI-B8R221280WW	4500	5000	22.1	1000
H inFlux L04	SI-B8V221560WW	4200	3000	22.1	1000
H inFlux L04	SI-B8U221560WW	4320	3500	22.1	1000
H inFlux L04	SI-B8T221560WW	4460	4000	22.1	1000
H inFlux L04	SI-B8R221560WW	4500	5000	22.1	1000
H inFlux L06	SI-B8V321560WW	6020	3000	22.2	1430
H inFlux L06	SI-B8U321560WW	6160	3500	22.2	1430
H inFlux L06	SI-B8T321560WW	6360	4000	22.2	1430
H inFlux L06	SI-B8R321560WW	6420	5000	22.2	1430
H inFlux L09	SI-B8V441560WW	8400	3000	44.2	1000
H inFlux L09	SI-B8U441560WW	8640	3500	44.2	1000
H inFlux L09	SI-B8T441560WW	8920	4000	44.2	1000
H inFlux L09	SI-B8R441560WW	9000	5000	44.2	1000

b) Tray & MBB Bag Label



Number	Item	Remark
①	Model Code	Refer to page 3, 4
②	LOT ID	
③	Quantity	Refer to page 19
④	Date of production	
⑤	Date of Issue	
⑥	Place of origin	

c) Box Label



Number	Item	Remark
①	Product Code	Refer to page 3, 4
②	LOT ID	
③	Place of origin	
④	Quantity	Refer to page 18
⑤	Describe production week	
⑥	Date of Issue	

6. Packing Structure

Product	Packing	Quantity (modules)	Weight (kg)	Dimension (mm)		
				Length	Width	Height
S02/S03	Tray	32	8.9	380	355	32.3
	Outer Box	256		385	360	225
	Pallet	6,144	-	1200	800	130
S04	Tray	32	8.9	380	355	47.5
	Outer Box	160		385	360	225
	Pallet	3,840	-	1200	800	130
L04/L06	Tray	30	12.3	580	380	34
	Outer Box	210		585	385	200
	Pallet	3,360	-	1200	800	130
L09	Tray	30	12.3	580	380	52.5
	Outer Box	120		585	385	200
	Pallet	1,920	-	1200	800	130

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.
- 11) Solder ball
There might be solder ball and/or residue on the surface of module as long as they do NOT affect performance and safety.
- 12) When you install products in fixture, you should not connect the product while it is powered on. It will cause damage Circuits(that LED is included) and result in emitting smoke and ignition.
- 13) Do not connect more than 2 product while the product is in operation.

[Appendix]

1. Applicable Solid Wire Information

a) Strip details

Connection method	Push In
Solid Conductor	0.2-0.75mm ² / 24-18 AWG
Strip length	7-9mm / 0.28-0.35 inches
Outside insulation diameter	≤2.1mm / ≤0.082 inches
Conductor connection direction to PCB	0 °

b) Important processing notes

Depending on the SMD soldering process and associated parameters a minor discoloration might occur.
However, this will not influence the functionality.

Legal and additional information.

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