LED Module

H-Series Gen4

Features & Benefits

- Design flexibility for module length by cuttable design
- Achievement of specifications for DLC premium
- High efficacy with LM301D PKGs
- More lumen density by driving higher than H-series G3
- Mechanically compatible with old generation

Application

- Office, Building, Education
- Troffer, Linear
- Lowbay

SAMSUNG

Table of Contents

1. Product Code Information

CRI	Nominal CCT (K)	Product Code
80	3000	SI-B8V222B2HUS
	3500	SI-B8U222B2HUS
	4000	SI-B8T222B2HUS
	5000	SI-B8R222B2HUS
90	2700	SI-B9W222B2HUS
	3000	SI-B9V222B2HUS
	3500	SI-B9U222B2HUS
	4000	SI-B9T222B2HUS

2.Characteristics (I_F=960mA, t_p=40ºC)

a) Basic Information

Item	Rating	Unit	Remark
Rated Lifetime	>50,000	hour	L70B50 @ t_p <60℃,I_F=960mA
Ingress Protection (IP)	no rating	-	
Ambient / Operating Temperature (t_{amb})	-20 ~ +50	ºC	
Storage Temperature	-30 ~ +80	ºC	
Isolation Breakdown Voltage	Min. 500	Vac	

Notes:

※ I_F: Forward current or Operating current

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

※ t_a: ambient temperature

b) Electro-Optical Characteristics

- CRI80

Item	Nom. CCT (K)	Rating			Unit	Remark
		Min	Typ.	Max		
Luminous Flux (Φv)	3000	3510	3900	-	lm	I_f = 960 mA t_p = 40 ºC
	3500	3610	4010	-		
	4000	3730	4140	-		
	5000	3750	4170	-		
Luminous Efficacy	3000	166	185	-	lm/W	
	3500	171	190	-		
	4000	177	196	-		
	5000	178	197	-		
Color Rendering Index (Ra)	-	80	-	-	-	-
Operating Current (If)	-		960	3700	mA	I_f = 960 mA t_p = 40 ºC
Operating Voltage (Vf)	-	20.3	22.0	23.7	Vdc	
Power Consumption	-	19.5	21.1	22.8	W	

Notes:

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

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

- CRI90

Item	Nom. CCT (K)	Rating			Unit	Remark
		Min	Typ.	Max		
Luminous Flux (Φv)	2700	2880	3200	-	lm	I_f = 960 mA t_p = 40 ºC
	3000	2925	3250	-		
	3500	3015	3350	-		
	4000	3130	3480	-		
Luminous Efficacy	2700	136	152	-	lm/W	
	3000	138	154	-		
	3500	143	159	-		
	4000	148	165	-		
Color Rendering Index (Ra)	-	90	-	-	-	-
Operating Current (If)	-		960	3700	mA	I_f = 960 mA t_p = 40 ºC
Operating Voltage (Vf)	-	20.3	22.0	23.7	Vdc	
Power Consumption	-	19.5	21.1	22.8	W	

Notes:

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

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

c) Color Coordinate

- CRI80

Model	Nom. CCT (K)	CIE 1931 Chromaticity Coordinates					Remark
SI-B8V222B2HUS	3000	CIE x	0.4271	0.4393	0.4468	0.4340	I_F = 960 mA t_p = 25 ºC
		CIE y	0.3926	0.3968	0.4122	0.4077	
		Center	0.4368		0.4023		
SI-B8U222B2HUS	3500	CIE x	0.4013	0.4142	0.4207	0.4075	
		CIE y	0.3797	0.3859	0.4025	0.3959	
		Center	0.4109		0.3910		
SI-B8T222B2HUS	4000	CIE x	0.3776	0.3905	0.3949	0.3816	
		CIE y	0.3682	0.3760	0.3914	0.3832	
		Center	0.3861		0.3797		
SI-B8R222B2HUS	5000	CIE x	0.3427	0.3437	0.3544	0.3531	
		CIE y	0.3444	0.3571	0.3656	0.3527	
		Center	0.3484		0.3549		

Note:

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

- CRI90

Model	Nom. CCT (K)	CIE 1931 Chromaticity Coordinates					Remark
SI-B9W222B2HUS	2700	CIE x	0.4509	0.4626	0.4710	0.4589	I_F = 960 mA t_p = 25 ºC
		CIE y	0.4002	0.4030	0.4180	0.4152	
		Center	0.4609		0.4091		
SI-B9V222B2HUS	3000	CIE x	0.4269	0.4391	0.4466	0.4339	
		CIE y	0.3924	0.3966	0.4119	0.4075	
		Center	0.4366		0.4021		
SI-B9U222B2HUS	3500	CIE x	0.4012	0.4140	0.4206	0.4073	
		CIE y	0.3796	0.3858	0.4024	0.3958	
		Center	0.4108		0.3909		
SI-B9T222B2HUS	4000	CIE x	0.3760	0.3889	0.3934	0.3800	
		CIE y	0.3667	0.3745	0.3899	0.3817	
		Center	0.3846		0.3782		

Note:

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

d) Temperature Characteristics

Item	Nominal(t_p)*	Life**	Max(t_c)***	Unit
Temperature	40	60	90	ºC

Notes:

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

** Rated maximum performance temperature at which lifetime is specified.

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

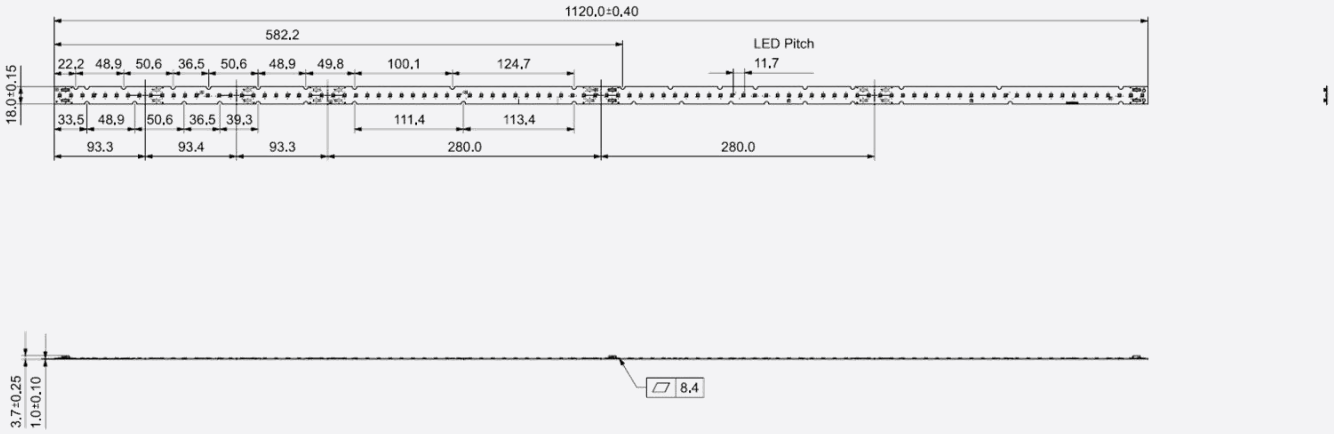
All temperatures are measured at the designated “Tc point” as indicated on the module. (See page 7)

e) Thermal Measurement

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

3. Structure and Assembly

a) Appearance & Dimension



Dimension	Specification	Tolerance	Unit
Module Length	1120.0	±0.40	mm
Module Width	18.0	±0.15	mm
Module Height	3.7	±0.25	mm
PCB Thickness	1.0	±0.10	mm
Module Weight	45.2	±2.26	g

b) Structure

Item	Specification
LED	LM301D Middle Power LED
PCB	Material : copper, solder mask, epoxy
Connector	Reworkable poke-in connector type
Wire	24~18 AWG ; terminal strip length of 7.5~9.5 mm

c) Schematic Circuit

8S x 12P

d) Handling Guide

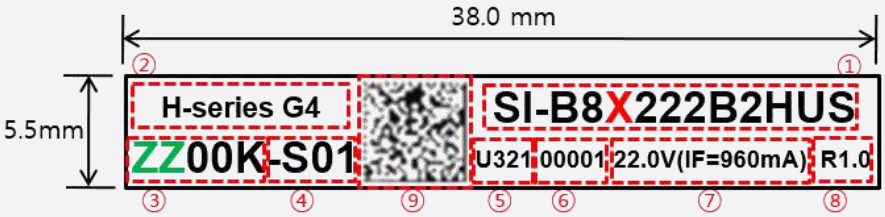
* Please use antistatic gloves or other ESD protection methods when handling this cuttable board to prevent ESD damage or contamination of LEDs.
* Customers should use proper tools and not use hands when they separate this cuttable board. It is not allowed to bend PCB and touch LED.
* Please be thoughful of securing withstanding voltage spec in case of cutting this board.
* If customers don't follow above guideline regarding handling, we won't be responsible for any quality issue.
* It is necessary to use after insulation work when exposed to insulating layer on PCB section.

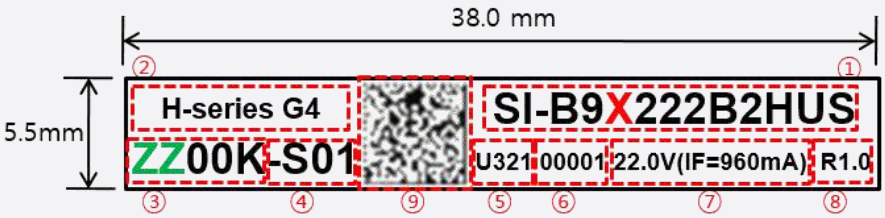
4. Certification and Declaration

Item	Compliant to	Remark
Certification	UL/cUL	E344519 Input Types(Input supply limitations) : Class 2
Declaration	RoHS	Hazardous Substance & Material

5. Label Structure

a) Module Label



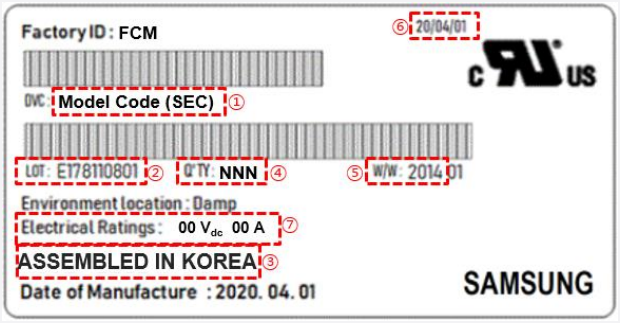


Number	Item	Remark
①	Model code	Refer to page 3 X = W, V, U, T, R
②	Product name	-
③	Color temperature	ZZ = 27, 30, 35, 40, 50
④	LED maker & Bin rank	-S (Samsung) 00~ZZ
⑤	SMT date	U321 (2020-March-21th)
⑥	Serial No.	00001~99999; Setting "00001" every working day
⑦	Voltage (IF).	
⑧	Product Revision	
⑨	QR Code	CRI80 : SI-B8X222B2HUS_U321100001ZZ00K-S01 CRI90 : SI-B9X222B2HUS_U321100001ZZ00K-S01

b) Tray & MBB Bag Label

Number	Item	Remark
①	Model Code	Refer to page 3
②	LOT ID	
③	Quantity	Refer to page 12
④	Date of production	
⑤	Date of Issue	
⑥	Place of origin	

c) Box Label



Number	Item	Remark
①	Model Code	Refer to page 3
②	LOT ID	
③	Place of origin	
④	Quantity	Refer to page 12
⑤	Describe production week	
⑥	Date of Issue	
⑦	Electrical Ratings	27 Vdc, 3.7 A

6. Packing Structure

Product	Packing	Quantity (ea)	Weight (kg)	Remark
H-Series Gen4	Tray	20	13	Weight (includes Modules, Trays and a Box)
	Outer Box	160		
	Pallet	2880	-	

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

Legal and additional information.

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