Datasheet

MODEL NAME	CRI	CCT	SEC CODE
Q series Gen2 LT-Q282D Ver	80	30/4000K	SI-B8x055280EU
Q series Gen2 LT-Q562D Ver	80	30/4000K	SI-B8x105560EU

SAMSUNG				CUSTOMER
DEVELOP.	PRODUCT MANAGER	QA(DQA)	SALES	

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Rev	Remark	Page	Date	Traced
0.0	The Preliminary Specification established.	ALL	22.07.22.	JK Lee
1.0	The Specification updated.	ALL	23.05.17.	JK Lee

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LED Module

Q series Gen2 Ver. CRI80

Features & Benefits

- Superior Efficacy : 213lm/W @ 80CRI 4000K, t_c = 40℃
- Two length options : 1 ft and 2ft boards well-fitting in the various fixture designs

Application

- Replacement of T5/T8 tubes
- Office / Retail / Living space
- Troffer / Linear / Pendant

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Appendix

1. Product Code Information

a) LT-Q282D

Nominal CCT (K)	Product Code
3000	SI-B8V055280EU
4000	SI-B8T055280EU

b) LT-Q562D

Nominal CCT (K)	Product Code
3000	SI-B8V105560EU
4000	SI-B8T105560EU

2. Characteristics (I_F = 180mA, t_c = 40℃)

a) Basic Information

Item	Unit	Rating	Remark
Rated Lifetime	hour	>50,000	L70B50@ t_c[1)]≤80ºC, Rated current[2)]
Ingress Protection (IP)	-	no rating	
Ambient / Operating Temperature (t_a)	ºC	-20 ~ +50	
Storage Temperature	ºC	-30 ~ +80	
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 “tc / tp”.

※ t_a: ambient temperature

b) Electro-Optical Characteristics

- LT-Q282D

Item	Nom. CCT (K)	Unit	Rating			Remark
			Min	Typ.	Max	
Luminous Flux	3000	lm	930	985	-	I_f = 180mA t_c = 40ºC
	4000		990	1045	-	
Luminous Efficacy	3000	lm/W	190	201	-	
	4000		202	213	-	
CCT	3000	K	2944	3032	3124	t_c = 25ºC
	4000		3829	3966	4112	
Color Rendering Index (Ra)	-	-	80	-	-	-
Operating Current (I_f)	-	mA	20	180	360	-
Operating Voltage (V_f)	-	Vdc	26.3	27.2	29.1	I_f = 180mA t_c = 40ºC
Power Consumption	-	W	4.7	4.9	5.2	

- LT-Q562D

Item	Nom. CCT (K)	Unit	Rating			Remark
			Min	Typ.	Max	
Luminous Flux	3000	lm	1860	1970	-	I_f = 180mA t_c = 40ºC
	4000		1980	2090	-	
Luminous Efficacy	3000	lm/W	190	201	-	
	4000		202	213	-	
CCT	3000	K	2944	3032	3124	t_c = 25ºC
	4000		3829	3966	4112	
Color Rendering Index (Ra)	-	-	80	-	-	-
Operating Current (I_f)	-	mA	20	180	360	-
Operating Voltage (V_f)	-	Vdc	52.7	54.4	58.1	I_f = 180mA t_c = 40ºC
Power Consumption	-	W	9.5	9.8	10.5	

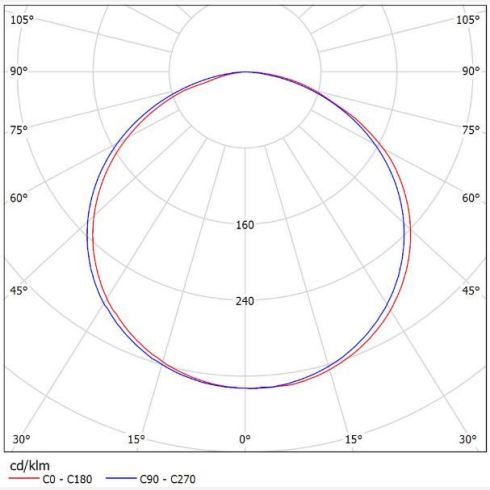
Notes

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

※ Measurement tolerance of CCT is ±5%

c) Light Distribution

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



d) Temperature Characteristics

Item	Unit	Nominal*	Life**	Max***
Case Temperature (t_c)	℃	40	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

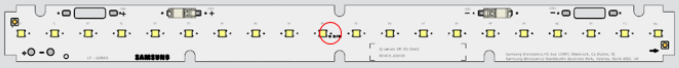
All temperatures are measured at the designated “tc / tp” as indicated on the module.

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

e) Thermal Measurement

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

LT-Q282D



LT-Q562D

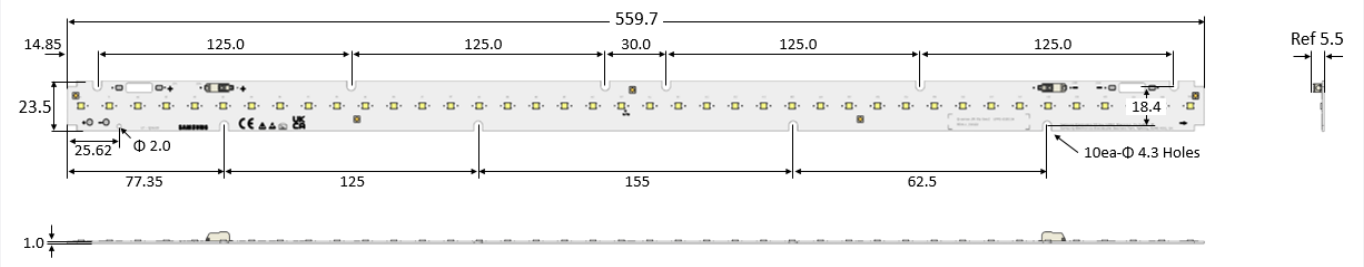
3. Structure and Assembly

a) Appearance & Dimension

- LT-Q282D

Dimension	Unit	Dimension	Tolerance
Module Length	mm	279.7	±0.3
Module Width	mm	23.5	±0.2
Module Height	mm	5.5	Ref.
PCB Thickness	mm	1.0	±0.1
Module Weight	g	14.0	Ref.

- LT-Q562D



Dimension	Unit	Dimension	Tolerance
Module Length	mm	559.7	±0.3
Module Width	mm	23.5	±0.2
Module Height	mm	5.5	Ref.
PCB Thickness	mm	1.0	±0.1
Module Weight	g	28.0	Ref.

b) Structure

Item	Specification
LED	LM301B EVO Middle Power LED
PCB	CEM-3 PCB
Connector	Either Wago 2060-451/998-404 or BJB 46.131.2001.50

c) Schematic Circuit

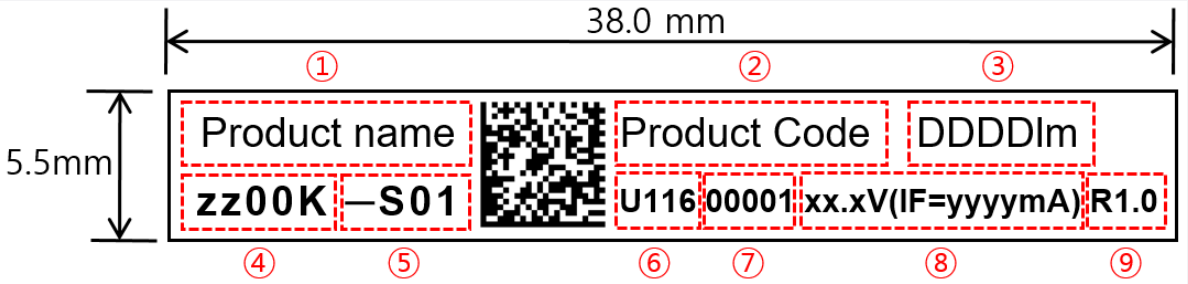
- LT-Q282D : 10S x 2P
- LT-Q562D : 20S x 2P

4. Certification and Declaration

Item	Compliant to	Remark
Test & Certification	CE	IEC / EN 62031, IEC / EN 62471
	UCKA	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 10
②	Product code	Refer to page 10
③	Luminous Flux	Refer to page 10
④	Color Temperature	zz00K zz = 30, 40
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 10
⑨	Model Revision	R1.0

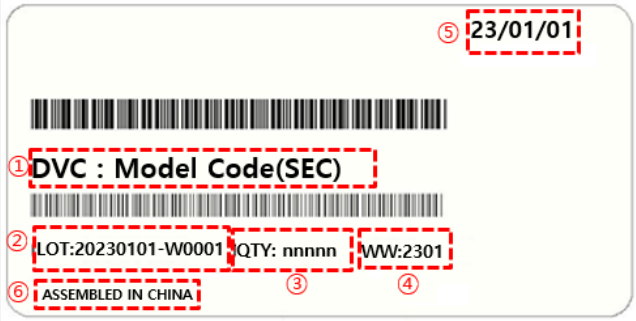
※ Module Label attachment point (1ea/bar)

LT-Q282D

LT-Q562D

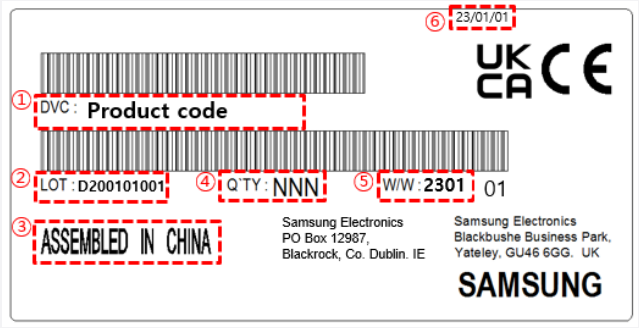
① Product name	② Product code	③ Luminous Flux	④ CCT	⑧ Typical VF	⑧ Typical IF
LT-Q282D	SI-B8V055280EU	985	3000	27.2	180
LT-Q282D	SI-B8T055280EU	1045	4000	27.2	180
LT-Q562D	SI-B8V105560EU	1970	3000	54.4	180
LT-Q562D	SI-B8T105560EU	2090	4000	54.4	180

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	Product 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	

6. Packing Structure

Product	Packing	Quantity (modules)	Weight (kg)	Dimension (mm)		
				Length	Width	Height
LT-Q282D	Tray	30	6.5	380	355	32.3
	Outer Box	240		385	360	225
	Pallet	5,760	-	1200	800	130
LT-Q562D	Tray	30	10.9	580	380	34
	Outer Box	240		585	385	225
	Pallet	3,840	-	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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