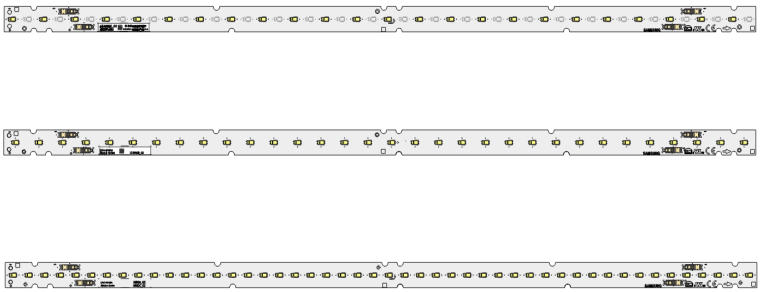
LED Module

LT-M562F
LT-M562G
LT-M562H



Features & Benefits

- Easy connection with re-workable poke-in connector
- Fit better to replace conventional T5, T8 fixture with narrow width
- Full Certifications

Applications

Indoor Lighting:

- Office / Retail / Living space
- Area Panels, Troffer and Linear Pendants
- Channel and Cove lighting

SAMSUNG

Table of Contents

1. Product Code Information

a) M562F

Nominal CCT (K)	Product Code
2700	SI-B9W111560WW
3000	SI-B9V111560WW
3500	SI-B9U111560WW
4000	SI-B9T111560WW

b) M562G

Nominal CCT (K)	Product Code
2700	SI-B9W151560WW
3000	SI-B9V151560WW
3500	SI-B9U151560WW
4000	SI-B9T151560WW

c) M562H

Nominal CCT (K)	Product Code
2700	SI-B9W171560WW
3000	SI-B9V171560WW
3500	SI-B9U171560WW
4000	SI-B9T171560WW

2. Characteristics

Item	Rating	Unit	Remark
Rated Lifetime	>50,000	hour	L70B50
Ingress Protection (IP)	no rating	-	
Ambient / Operating Temperature (t_{amb})	-20 ~ +50	ºC	
Storage Temperature	-30 ~ +80	ºC	

(a) M562F

Item	Nom. CCT (K)	Rating				Remark
		Min	Typ.	Max	Unit	
Luminous Flux (Φ_v)	2700	1110	1205	1300	lm	
	3000	1125	1225	1325		
	3500	1150	1250	1350		
	4000	1195	1300	1405		
Luminous Efficacy	2700	99	108	116	lm/W	I_f = 450 mA t_p = 50 ºC
	3000	101	110	119		
	3500	103	112	121		
	4000	107	116	126		
CCT	2700		2700		K	
	3000		3000			
	3500		3500			
	4000		4000			
Color Rendering Index (Ra)		90	-	-	-	
Operating Current (I_f)		-	450	540	mA	-
Operating Voltage (V_f)		23.6	24.8	26.0	Vdc	If = 450 mA tp = 50 ºC
Power Consumption		10.6	11.2	11.7	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: ±0.3V, Power Consumption: ±0.3W

(b) M562G

Item	Nom. CCT (K)	Rating				Remark
		Min	Typ.	Max	Unit	
Luminous Flux (Φ_v)	2700	1475	1605	1735	lm	I_f = 600 mA t_p = 50 ºC
	3000	1505	1635	1765		
	3500	1535	1670	1805		
	4000	1590	1730	1870		
Luminous Efficacy	2700	99	108	117	lm/W	
	3000	101	110	119		
	3500	103	112	121		
	4000	107	116	126		
CCT	2700		2700		K	
	3000		3000			
	3500		3500			
	4000		4000			
Color Rendering Index (Ra)		90	-	-	-	
Operating Current (I_f)		-	600	720	mA	-
Operating Voltage (V_f)		23.6	24.8	26.0	Vdc	If = 600 mA tp = 50 ºC
Power Consumption		14.1	14.9	15.6	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: ±0.3V, Power Consumption: ±0.3W

(c) M562H

Item	Nom. CCT (K)	Rating				Remark
		Min	Typ.	Max	Unit	
Luminous Flux (Φ_v)	2700	1780	1935	2090	lm	
	3000	1810	1970	2130		
	3500	1850	2010	2170		
	4000	1920	2085	2250		
Luminous Efficacy	2700	106	115	124	lm/W	I_f = 700 mA t_p = 50 ºC
	3000	108	117	127		
	3500	110	120	129		
	4000	114	124	134		
CCT	2700		2700		K	
	3000		3000			
	3500		3500			
	4000		4000			
Color Rendering Index (Ra)		90	-	-	-	
Operating Current (I_f)		-	700	1080	mA	-
Operating Voltage (V_f)		22.8	24.0	25.2	Vdc	If = 700 mA tp = 50 ºC
Power Consumption		16.0	16.8	17.6	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: ±0.3V, Power Consumption: ±0.3W

Item	Nominal*	Life**	Max***	Unit
Temperature	50 (t_p)	80($t_{p,50}$)	90(t_c)	ºC

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.

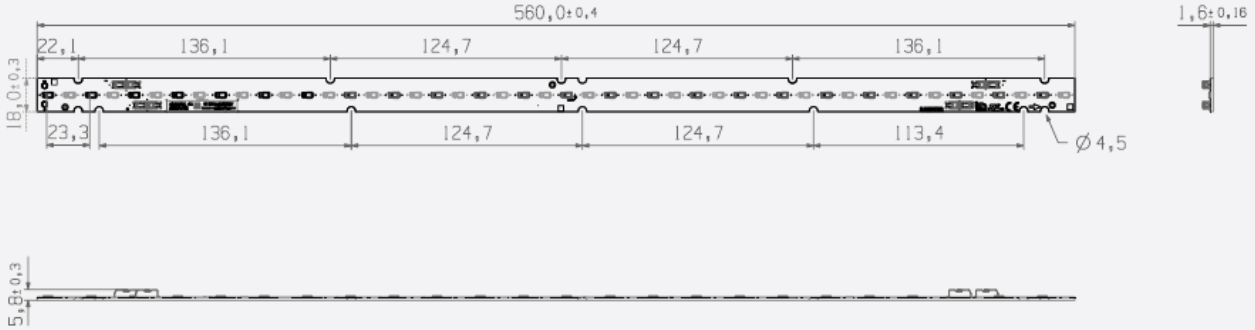
3. Structure and Assembly

a) Appearance

b) Dimension

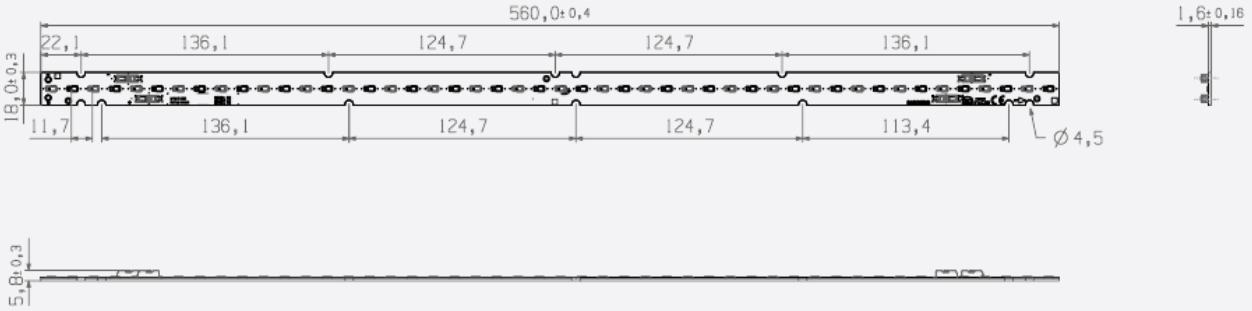
M562F

Dimension	Specification	Tolerance	Unit
Module Length	560.0	±0.4	mm
Module Width	18.0	±0.3	mm
Module Height	5.8	±0.3	mm
PCB Thickness	1.6	±0.16	mm
Module Weight	27.5	±1.4	g



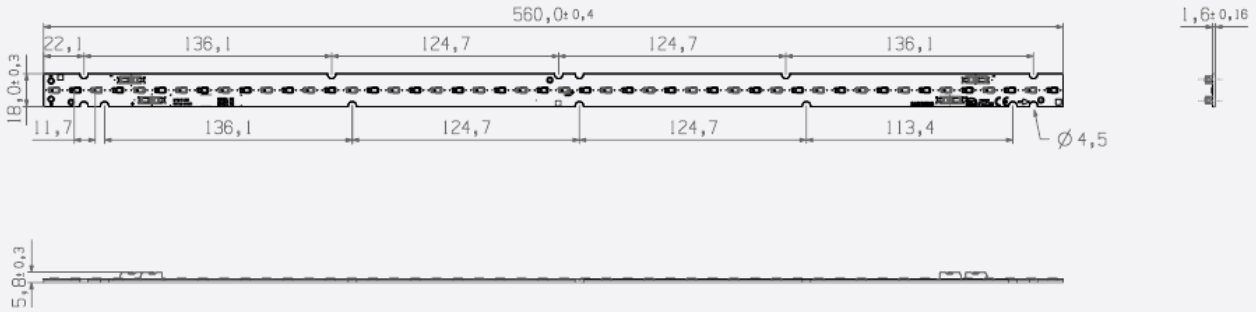
M562G

Dimension	Specification	Tolerance	Unit
Module Length	560.0	±0.4	mm
Module Width	18.0	±0.3	mm
Module Height	5.8	±0.3	mm
PCB Thickness	1.6	±0.16	mm
Module Weight	27.5	±1.4	g



M562H

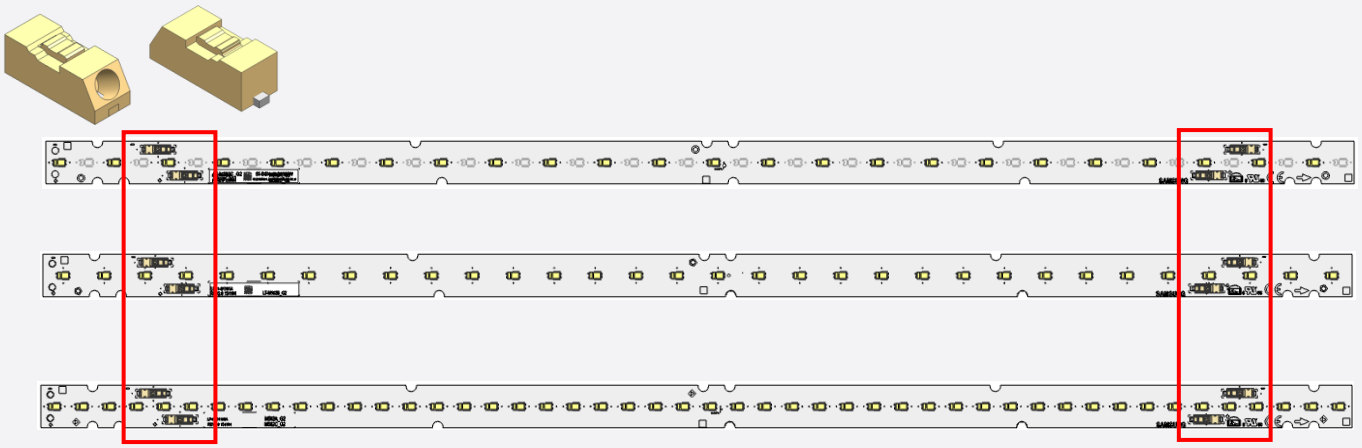
Dimension	Specification	Tolerance	Unit
Module Length	560.0	±0.4	mm
Module Width	18.0	±0.3	mm
Module Height	5.8	±0.3	mm
PCB Thickness	1.6	±0.16	mm
Module Weight	28.5	±1.5	g



c) Assembly

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

[Front connector]

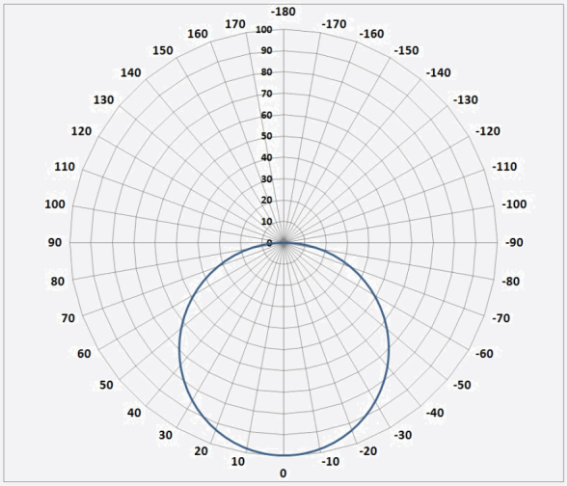


d) Structure

Item	Specification
LED	LM561B+ Middle Power LED
PCB	Material: copper, solder mask, epoxy
Connector	Reworkable poke-in connector type
Wire	0.2~0.75 ㎟ (24~18 AWG)

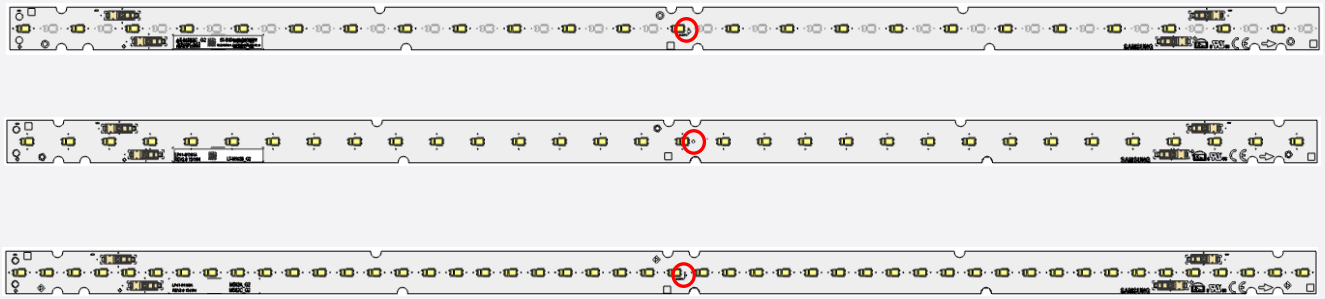
e) Light Distribution

Polar Intensity Diagram: Beam Angle 115 ± 5°



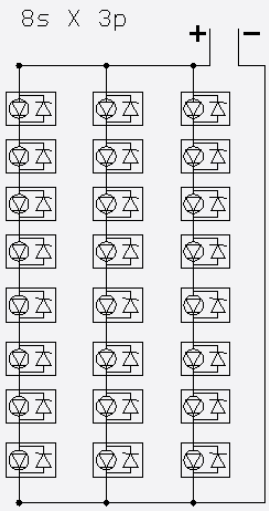
f) Thermal Management

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

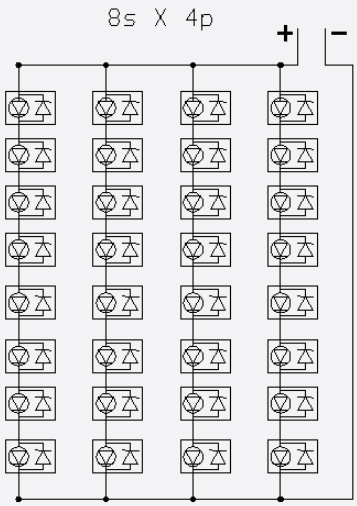


g) Schematic Circuit

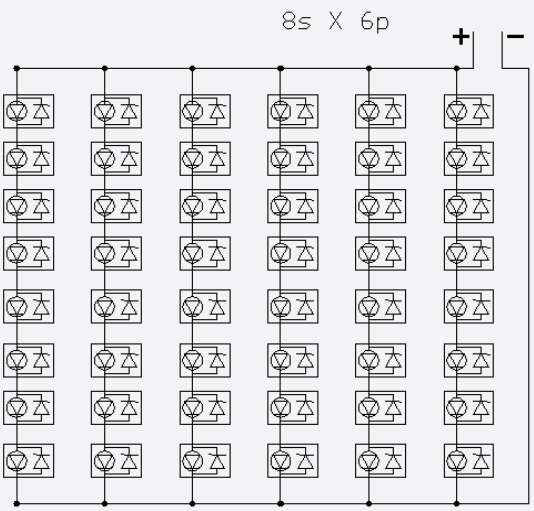
M562F



M562G



M562H



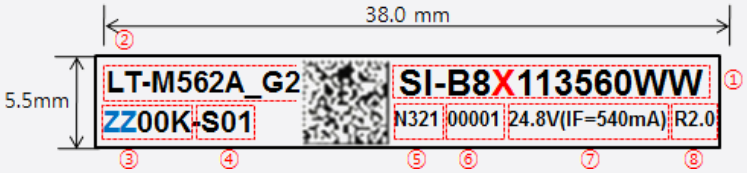
4. Certification and Declaration

Item	Compliant to	Remark
Test & Certification	CE	IEC / EN 62031, IEC / EN 62471
	ENEC	-
	VDE	-
	UL	E344519
	cUL	E344519
	Photo biological Safety(LM561B+ LED)	IEC / EN 62471
Declaration	RoHS	Hazardous Substance & Material
	REACH	Hazardous Substance & Material

5. Label Structure

a) Module Label

[Printing Label]



[Information of Barcode]

① Model code: SI-B9X111560WW

SI-B9X151560WW

SI-B9X171560WW

X: W(2700K) V (3000K), U (3500K), T (4000K)

② Product name: LT-M562A_G2

LT-M562B_G2

LT-M562C_G2

③ Color temperature: ZZ00K

ZZ: 27, 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 Voltage (IF)

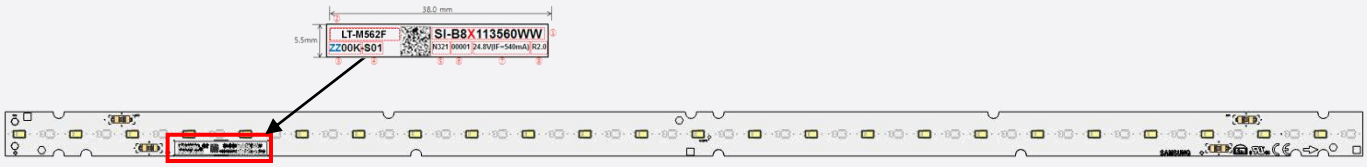
⑧ Product Revision: R2.0

[QR CODE Information]

① Example: SI-B9X113560WW_ 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-B9X111560WW
QR CODE Information	SI-B9X111560WW_N321100001ZZ00K-S01



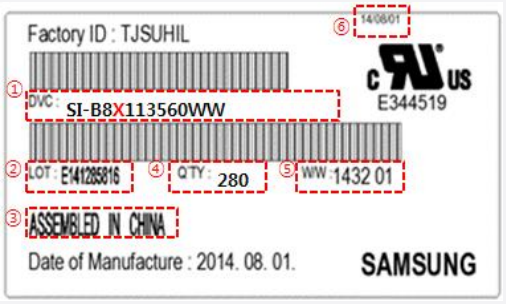
b) Tray & MBB Label

- 100mm x 50mm

① Model code: SI-B9X111560WW
② LOT: 20150101-D0001
Packing Date(8 digit) → 20150101
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

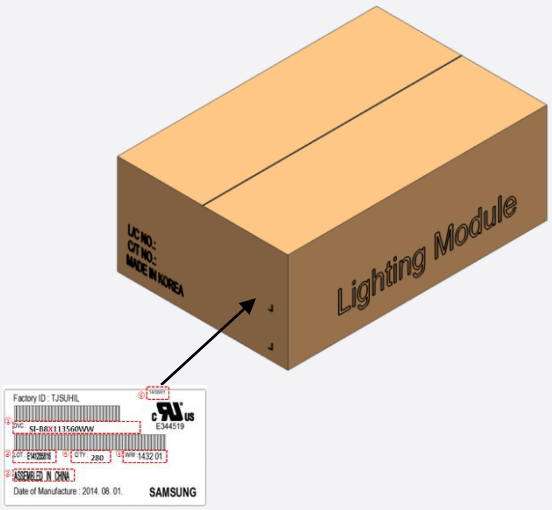
c) Box Label

- 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

ARTICLE	TRAY	BOX	PALLET	REMARKS
Quantity	40 ea	280 ea	5600 ea	

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.

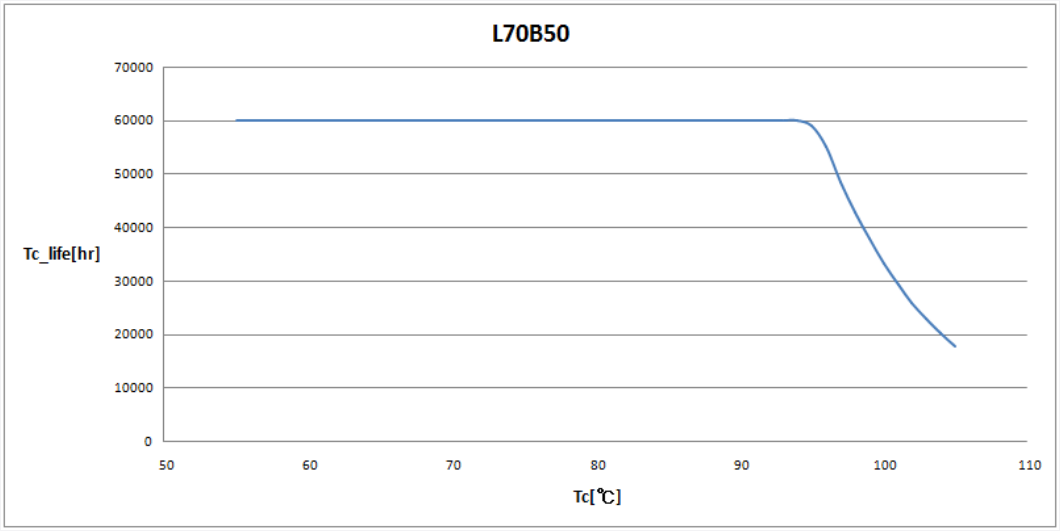
D. Static Electricity
Static electricity or surge voltage damages the LED Lighting Modules. Please keep the working
process anti-static electricity condition to prevent the Lighting from destroying, as following.
(1) Anyone who handles the unit should be well grounded.(earth ring or anti-static glove)
(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

APPENDIX 1. Tc vs Lifetime

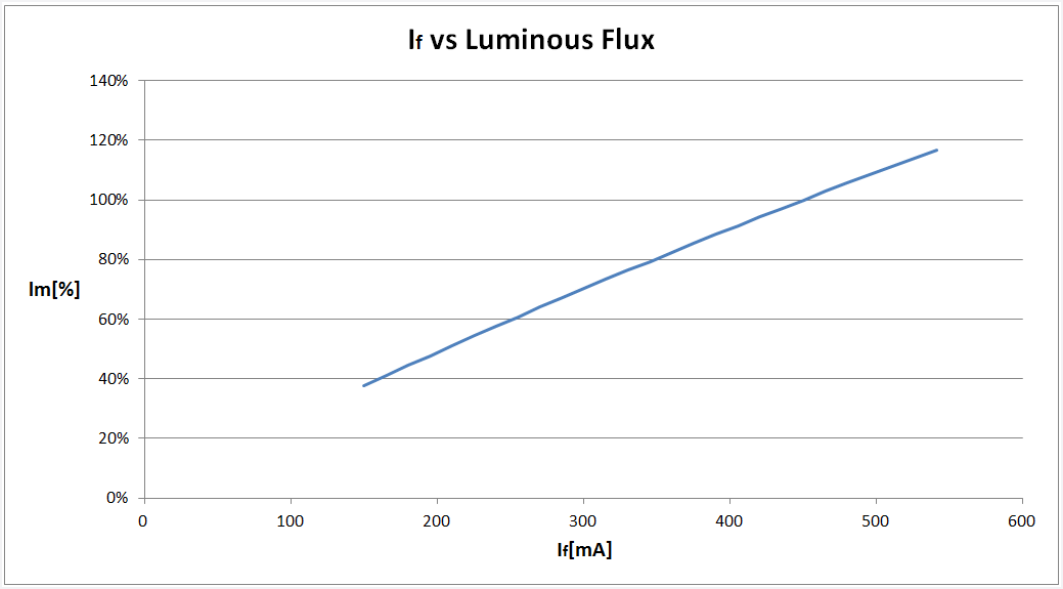
M562F, M562G, M562H



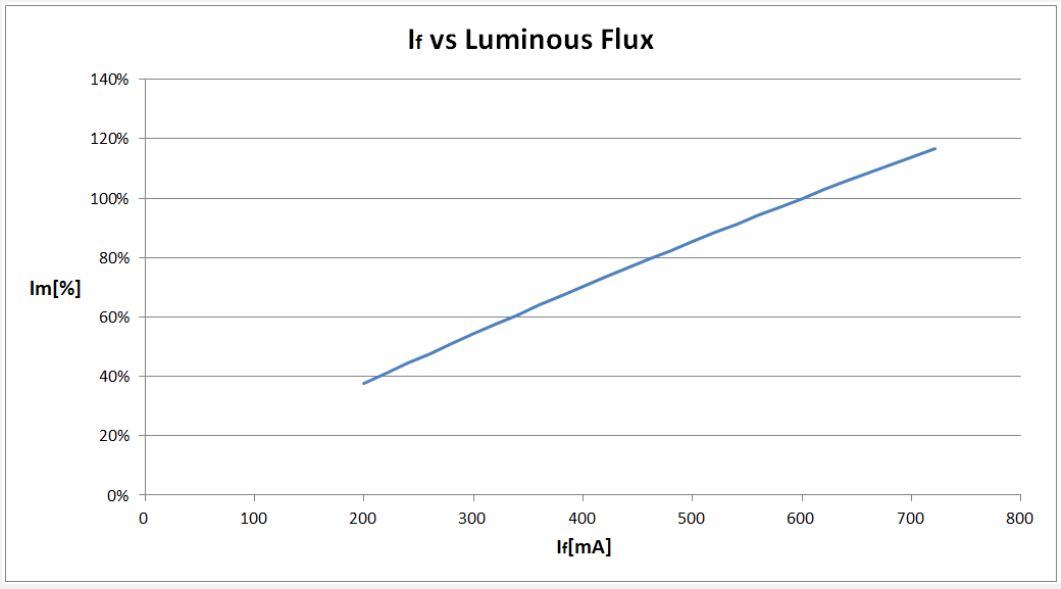
@150mA/LED

APPENDIX 2. I_f vs Luminous Flux

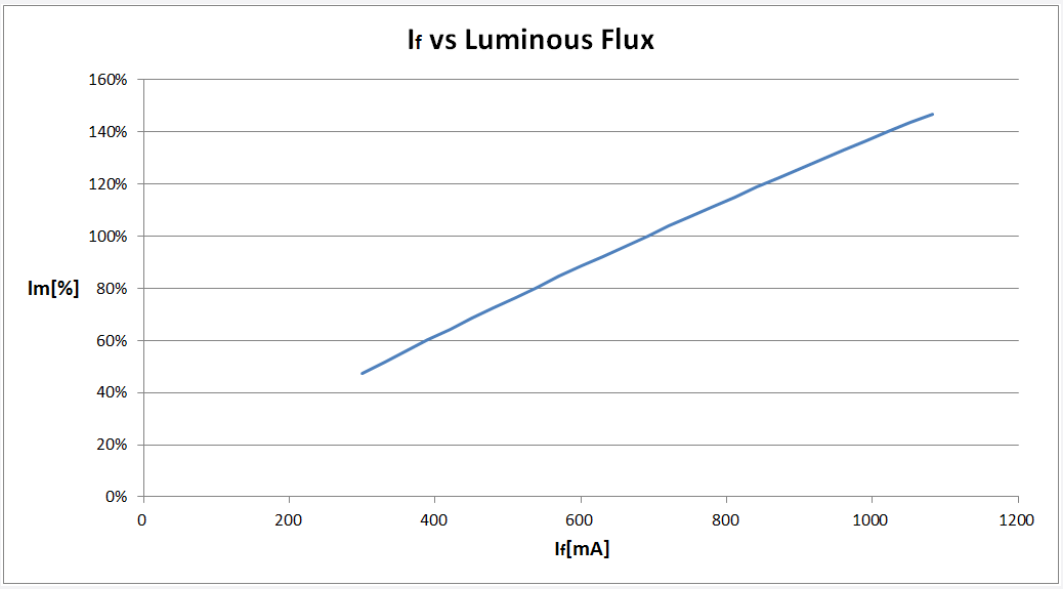
(a) M562F



(b) M562G

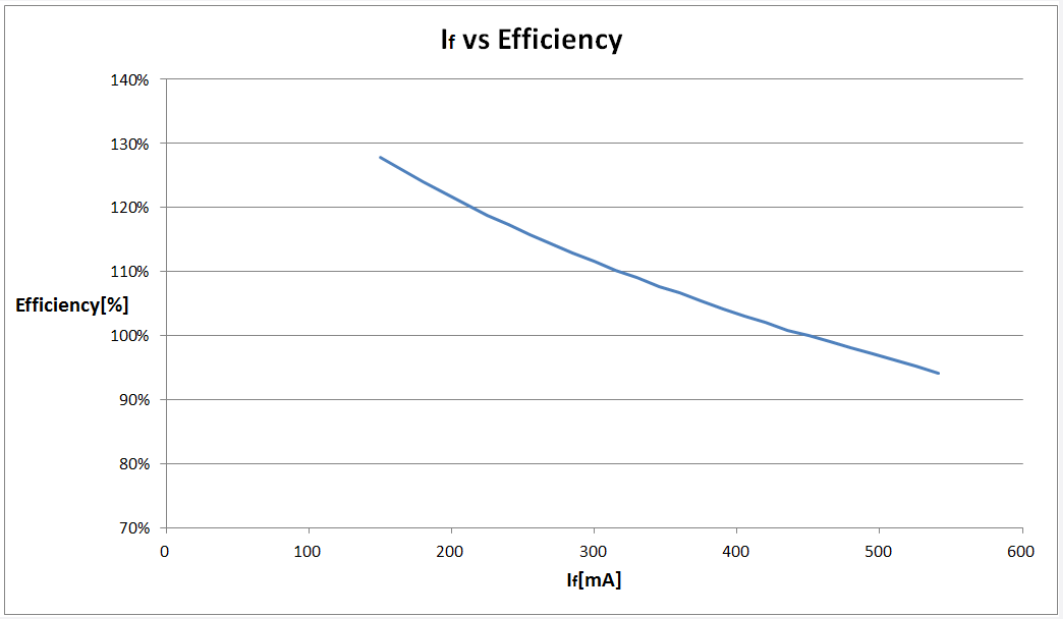


(c) M562H

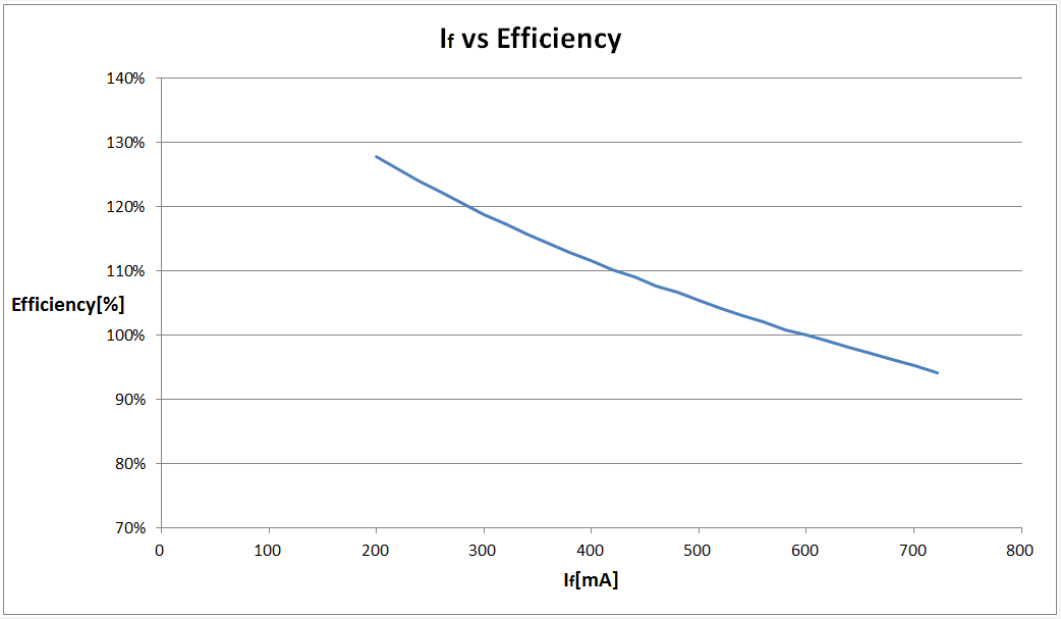

If vs Luminous Flux
160%
140%
120%
100%
80%
60%
40%
20%
0%
Im[%]
0
200
400
600
800
1000
1200
If[mA]

APPENDIX 3. If vs Efficiency

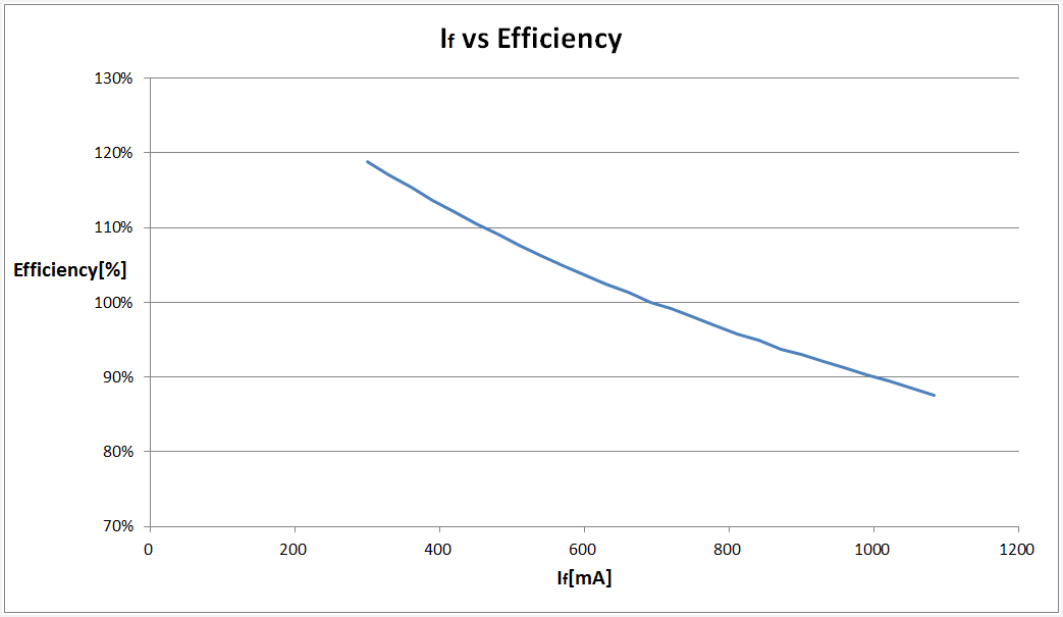
(a) M562F



(b) M562G



(C) M562H


If vs Efficiency
130%
120%
110%
Efficiency[%]
100%
90%
80%
70%
0
200
400
600
800
1000
1200
If[mA]

Legal and additional information.

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Samsung Electronics Co., Ltd. is a global leader in technology, opening new possibilities for people everywhere. Through relentless innovation and discovery, we are transforming the worlds of TVs, smartphones, tablets, PCs, cameras, home appliances, printers, LTE systems, medical devices, semiconductors and LED solutions. We employ 286,000 people across 80 countries with annual sales of US$216.7 billion. To discover more, please visit www.samsungled.com.

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