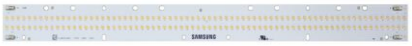
LED Module

V-series
F type
2ft & 4ft

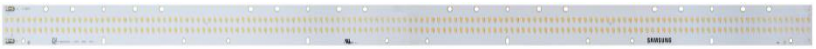
LT-V562F

LT-V564F



LT-VB22F

LT-VB24F



Features& Benefits

- Cost effective solution, deliver better lm/$
- Same mechanical foot-print as existing M-series
- Good efficacy, 143 lm/W @ 4000K

Applications

Indoor Lighting:

- Troffer / Linear / Line fixtures

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Table of Contents

1. Product Code Information

a) LT-V562F

Nominal CCT (K)	Product Code
3000	SI-B8V26156CUS
3500	SI-B8U26156CUS
4000	SI-B8T26156CUS
5000	SI-B8R26156CUS

b) LT-V564F

Nominal CCT (K)	Product Code
3000	SI-B8V52156CUS
3500	SI-B8U52156CUS
4000	SI-B8T52156CUS
5000	SI-B8R52156CUS

c) LT-VB22F

Nominal CCT (K)	Product Code
3000	SI-B8V521B2CUS
3500	SI-B8U521B2CUS
4000	SI-B8T521B2CUS
5000	SI-B8R521B2CUS

d) LT-VB24F

Nominal CCT (K)	Product Code
3000	SI-B8VZ91B2CUS
3500	SI-B8UZ91B2CUS
4000	SI-B8TZ91B2CUS
5000	SI-B8RZ91B2CUS

2. Characteristics

a) Basic Information

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

b) Electro-Optical Characteristics

- LT-V562F

Item	Nom. CCT (K)	Rating			Unit	Remark
		Min	Typ.	Max		
Luminous Flux (Φ_v)	3000	3245	3607	3970	lm	I_f = 1120 mA t_p =65ºC
	3500	3370	3744	4120		
	4000	3515	3908	4300		
	5000	3515	3908	4300		
Luminous Efficacy	3000	119	132	145	lm/W	
	3500	123	137	151		
	4000	129	143	157		
	5000	129	143	157		
CCT	3000	2940	3045	3130	K (Initial)	
	3500	3325	3465	3570		
	4000	3805	3985	4105		
	5000	4800	5028	5185		
Color Consistency (initial)		-	3	-	MacAdam step	
Color Rendering Index (Ra)		80	83	-	-	
Operating Current (I_f)		-	1120	1620	mA	-
Operating Voltage (V_f)		22.0	24.4	26.8	Vdc	I_f = 1120 mA t_p =65ºC
Power Consumption		24.60	27.33	30.06	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: ±0.3 V, Power Consumption: ±0.3W
3) Measurement tolerance of the color coordinates is ± 0.005

- LT-V564F

Item	Nom. CCT (K)	Rating			Unit	Remark
		Min	Typ.	Max		
Luminous Flux (Φ_v)	3000	6495	7214	7935	lm	I_f = 1120 mA t_p =65ºC
	3500	6740	7488	8235		
	4000	7035	7816	8600		
	5000	7035	7816	8600		
Luminous Efficacy	3000	119	132	145	lm/W	
	3500	123	137	151		
	4000	129	143	157		
	5000	129	143	157		
CCT	3000	2940	3045	3130	K (Initial)	
	3500	3325	3465	3570		
	4000	3805	3985	4105		
	5000	4800	5028	5185		
Color Consistency (initial)		-	3	-	MacAdam step	
Color Rendering Index (Ra)		80	83	-	-	
Operating Current (I_f)		-	1120	1620	mA	-
Operating Voltage (V_f)		43.92	48.8	53.68	Vdc	I_f = 1120 mA t_p =65ºC
Power Consumption		49.19	54.66	60.12	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: ±0.3 V, Power Consumption: ±0.3W
3) Measurement tolerance of the color coordinates is ± 0.005

- LT-VB22F

Item	Nom. CCT (K)	Rating			Unit	Remark
		Min	Typ.	Max		
Luminous Flux (Φ_v)	3000	6495	7214	7935	lm	I_f = 1120 mA t_p =65ºC
	3500	6740	7488	8235		
	4000	7035	7816	8600		
	5000	7035	7816	8600		
Luminous Efficacy	3000	119	132	145	lm/W	
	3500	123	137	151		
	4000	129	143	157		
	5000	129	143	157		
CCT	3000	2940	3045	3130	K (Initial)	
	3500	3325	3465	3570		
	4000	3805	3985	4105		
	5000	4800	5028	5185		
Color Consistency (initial)		-	3	-	MacAdam step	
Color Rendering Index (Ra)		80	83	-	-	
Operating Current (I_f)		-	1120	1620	mA	-
Operating Voltage (V_f)		43.92	48.8	53.68	Vdc	I_f = 1120 mA t_p =65ºC
Power Consumption		49.19	54.66	60.12	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: ±0.3 V, Power Consumption: ±0.3W
3) Measurement tolerance of the color coordinates is ± 0.005

- LT-VB24F

Item	Nom. CCT (K)	Rating			Unit	Remark
		Min	Typ.	Max		
Luminous Flux (Φ_v)	3000	12985	14428	15870	lm	I_f = 2240 mA t_p =65ºC
	3500	13480	14976	16475		
	4000	14070	15632	17195		
	5000	14070	15632	17195		
Luminous Efficacy	3000	119	132	145	lm/W	
	3500	123	137	151		
	4000	129	143	157		
	5000	129	143	157		
CCT	3000	2940	3045	3130	K (Initial)	
	3500	3325	3465	3570		
	4000	3805	3985	4105		
	5000	4800	5028	5185		
Color Consistency (initial)		-	3	-	MacAdam step	
Color Rendering Index (Ra)		80	83	-	-	
Operating Current (I_f)		-	2240	3240	mA	-
Operating Voltage (V_f)		43.92	48.8	53.68	Vdc	I_f = 2240 mA t_p =65ºC
Power Consumption		98.38	109.31	120.24	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: ±0.3 V, Power Consumption: ±0.3W
3) Measurement tolerance of the color coordinates is ± 0.005

c) Temperature Characteristics

Item	Nominal(t_p)*	Life(t_s)**	Max(t_c)***	Unit
Temperature	65	80	90	ºC

Notes:

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

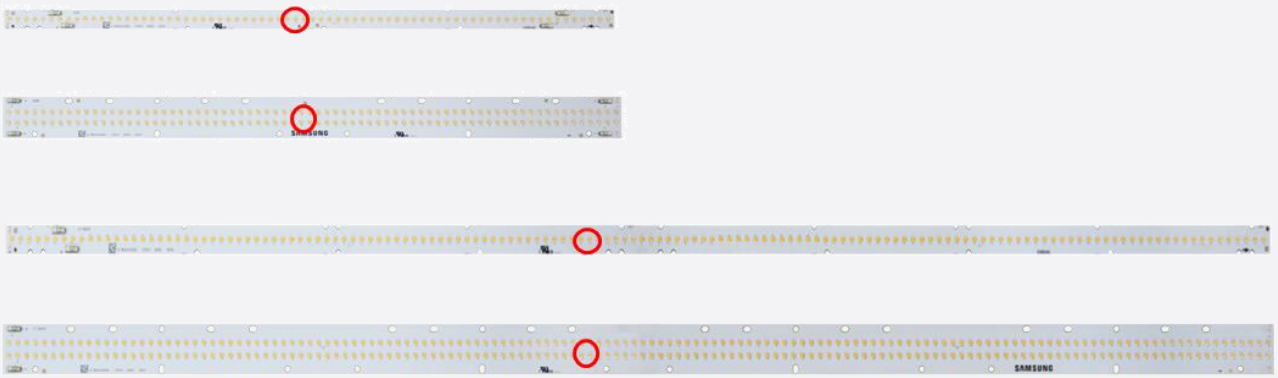
** Rated maximum performance temperature at which lifetime is specified.

*** 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 8)

d) Thermal Measurement

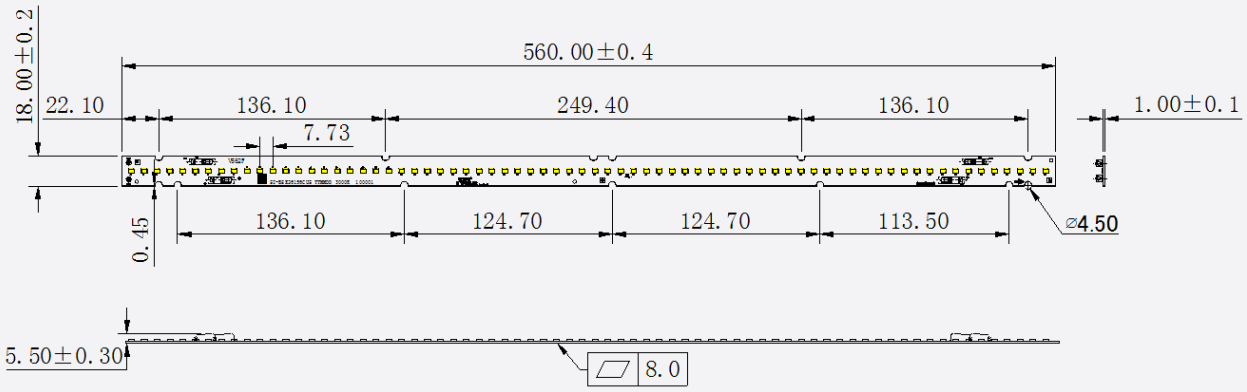
Performance temperatures are measured on “Tc point” as indicated on the module.



3. Structure and Assembly

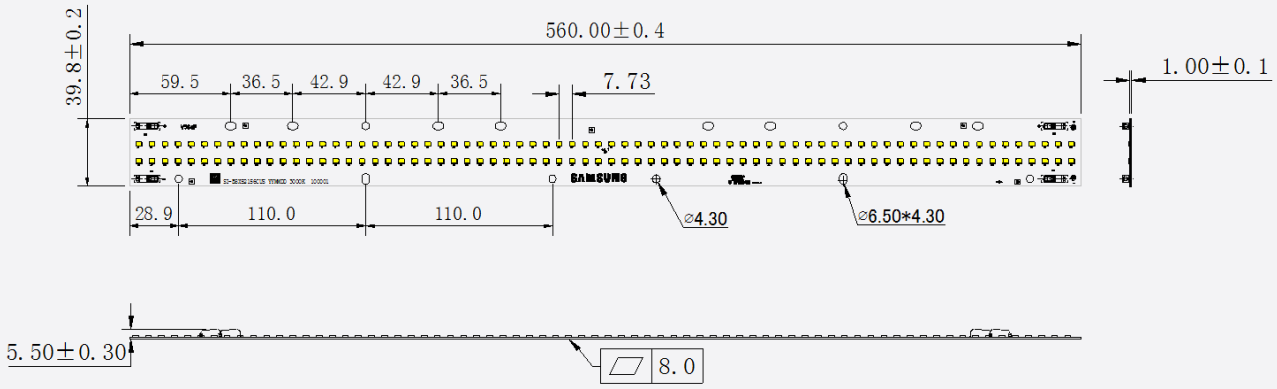
a) Appearance & Dimension

- LT-V562F



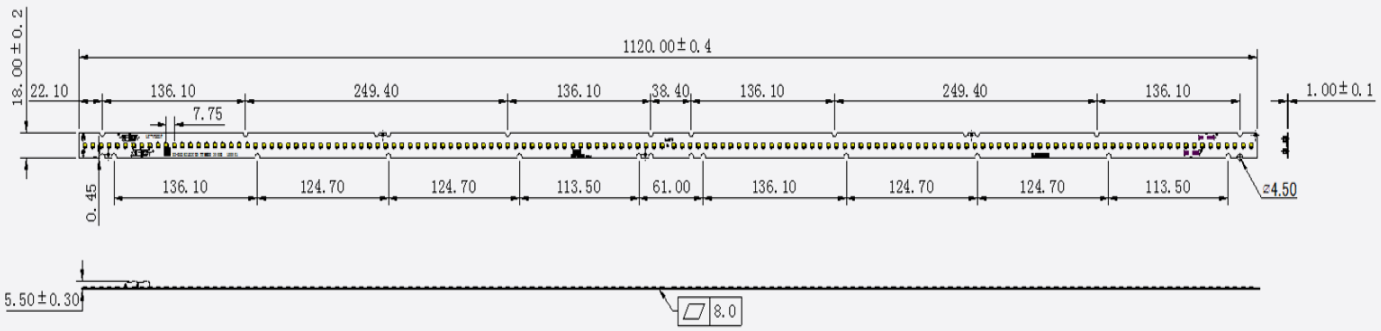
Dimension	Specification	Tolerance	Unit
Module Length	560	±0.4	mm
Module Width	18	±0.2	mm
Module Height	5.5	±0.3	mm
PCB Thickness	1.0	±0.1	mm
Module Weight	25.51	±1.5	g

- LT-V564F



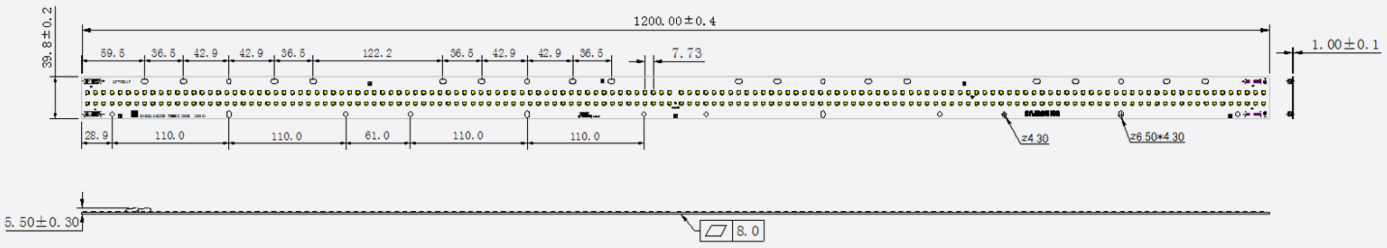
Dimension	Specification	Tolerance	Unit
Module Length	560	±0.4	mm
Module Width	39.8	±0.2	mm
Module Height	5.5	±0.3	mm
PCB Thickness	1.0	±0.1	mm
Module Weight	56.60	±1.5	g

- LT-VB22F



Dimension	Specification	Tolerance	Unit
Module Length	1120	±0.4	mm
Module Width	18	±0.2	mm
Module Height	5.5	±0.3	mm
PCB Thickness	1.0	±0.1	mm
Module Weight	50.85	±1.5	g

- LT-VB24F



Dimension	Specification	Tolerance	Unit
Module Length	1120	±0.4	mm
Module Width	39.8	±0.2	mm
Module Height	5.5	±0.3	mm
PCB Thickness	1.0	±0.1	mm
Module Weight	108.55	±1.5	g

b) Structure

Item	Specification
LED	SMD2835 Middle power LED
PCB	Material : copper, solder mask, epoxy
Connector	Reworkable poke-in connector type (Molex or Wago)
Wire	18-22AWG ; terminal strip length of 7.5-8.5mm (Appendix 4)

c) Schematic Circuit

- LT-V562F : 8S x 9P
- LT-V564F : 16S x 9P
- LT-VB22F : 16S x 9P
- LT-VB24F : 16S x 18P

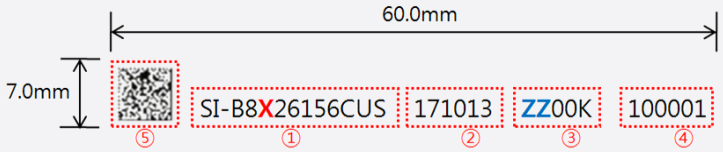
4. Certification and Declaration

Item	Compliant to	Remark
Test & Certification	UL	E344519
	cUL	E344519
Declaration	RoHS	Hazardous Substance & Material
	REACH	Hazardous Substance & Material

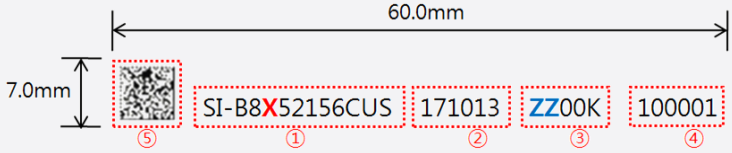
5. Label Structure

a) Module Label

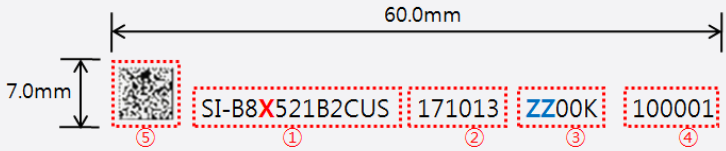
- LT-V562F



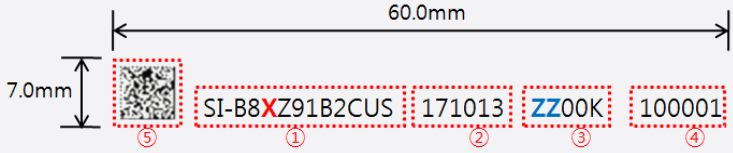
- LT-V564F



- LT-VB22F



- LT-VB24F



Number	Item	Remark
①	Model code	Refer to page 3 **X** = V(3000K), U(3500K), T(4000K), R(5000K)
②	Date of manufacture	-
③	Color temperature	ZZ = 30, 35, 40, 50
④	Series number	-
⑤	QR code	V562F : SI-B8X26156CUS YYMMDD ZZ00K 100001 V564F : SI-B8X52156CUS YYMMDD ZZ00K 100001 VB22F : SI-B8X521B2CUS YYMMDD ZZ00K 100001 VB24F :SI-B8XZ91B2CUS YYMMDD ZZ00K 100001

b) Box Label

Number	Item	Remark
①	Product code	Refer to page 3
②	LOT ID	
③	Place of origin	
④	Quantity	Refer to page 15
⑤	Describe production week	
⑥	Date of Issue	

6. Packing Structure

Product	Packing	Quantity (modules)
LT-V562F	Tray	40 ea
	Outer Box	280 ea
	Pallet	5600 ea
LT-V564F	Tray	30 ea
	Outer Box	150 ea
	Pallet	2400 ea
LT-VB22F	Tray	40 ea
	Outer Box	360 ea
	Pallet	3600 ea
LT-VB24F	Tray	40 ea
	Outer Box	160 ea
	Pallet	1600 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.

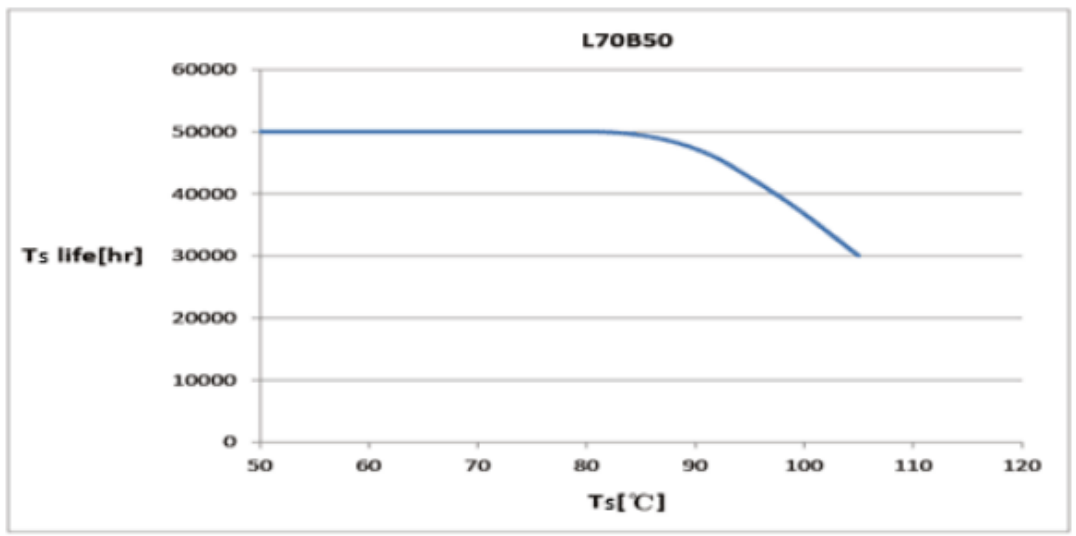
D. Static Electricity
Static electricity or surge voltage damages the LED Lighting Modules. Please keep the working
process anti-static electricity condition to prevent the Lighting from destroying, as following.
(1) Anyone who handles the unit should be well grounded.(earth ring or anti-static glove)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

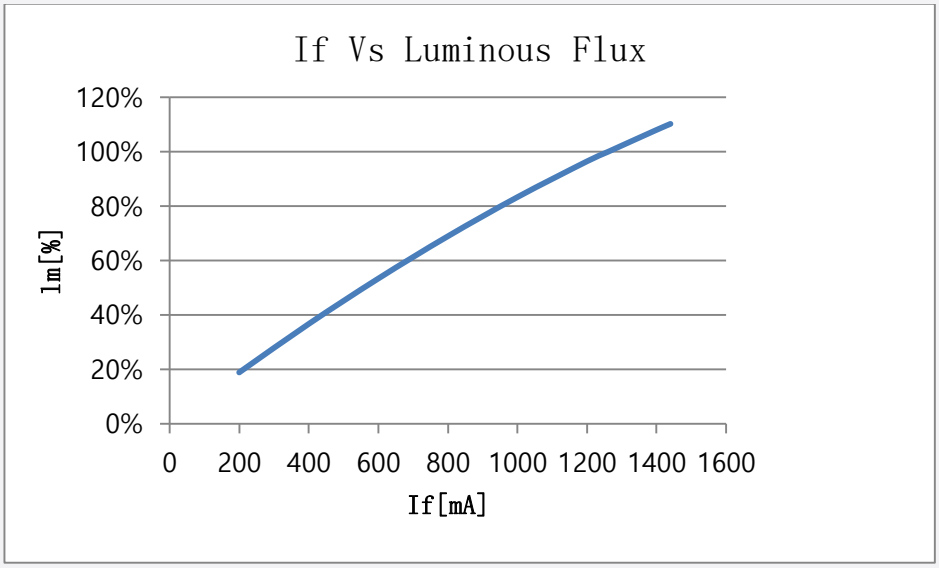
Appendix

1. Ts vs Lifetime



@150mA/LED

2. If vs Luminous Flux



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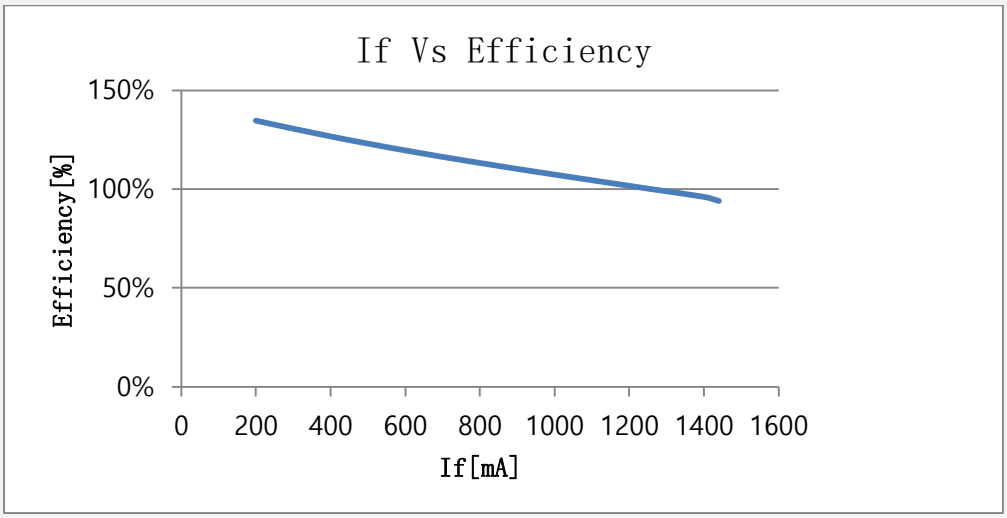
Appendix

3. If vs Efficiency



Appendix

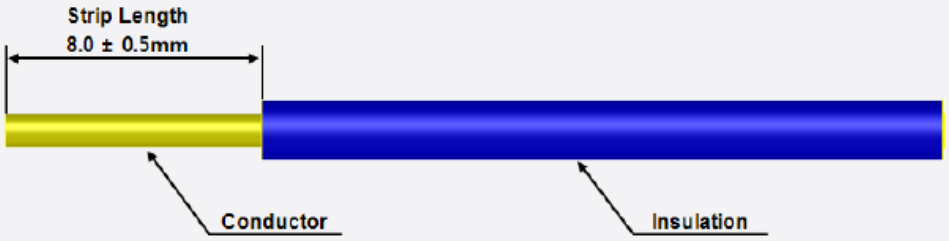
4. Applicable Solid Wire

a) Applicable solid wires only

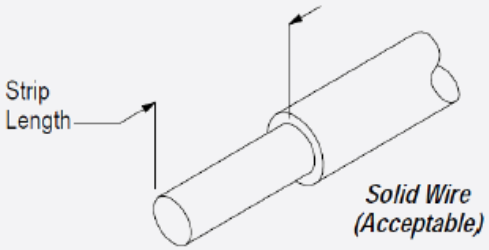
Wire Range AWG NO.	Number of Conductors / Diameter of a conductors (NO. / mm)	Insulation Diameter (mm)	Conductor Type
24	1 / 0.51	1.35	Solid
22	1 / 0.64	1.48	
20	1 / 0.81	1.65	
18	1 / 1.02	1.86	

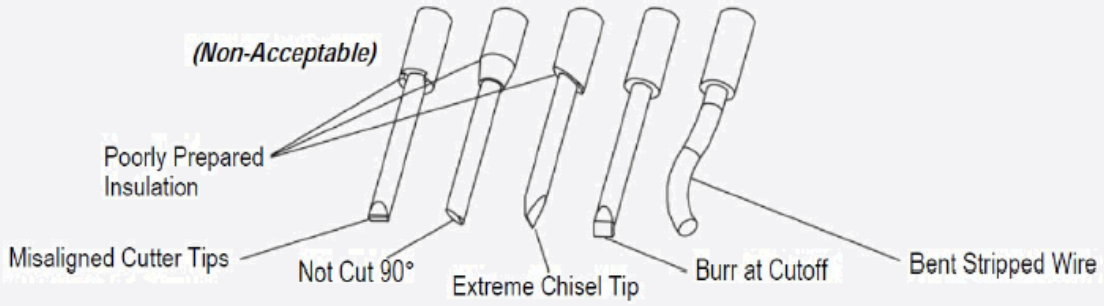
※ outside insulation diameter Φ2.1mm Max.

b) Wire strip length



[Conductor : Bear Copper]





Legal and additional information.

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