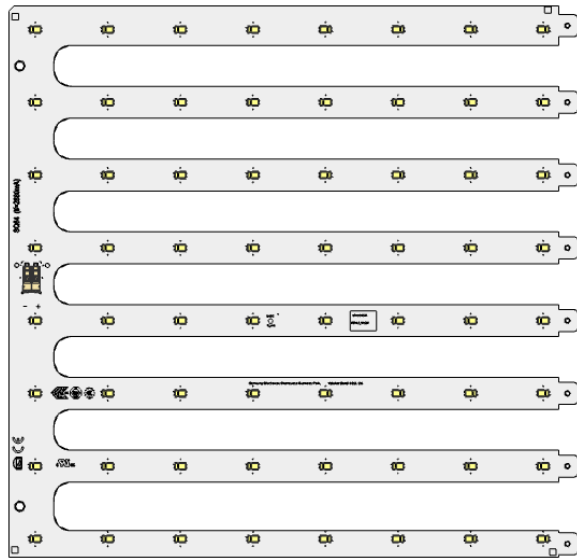


## LED Module

# FIN-SQ64



### 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



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## 1. Product Code Information

Nominal CCT (K)		Product Code
3000		SI-B8V102250WW
3500		SI-B8U102250WW
4000	Front CNT	SI-B8T102250WW
5000		SI-B8R102250WW
6500		SI-B8P102250WW

## 2. Characteristics

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

Item	Nom. CCT (K)	Rating			Unit	Remark
		Min	Typ.	Max		
Luminous Flux ( $\Phi_v$ )	3000	1245	1385	1540	lm	$I_f = 700 \text{ mA}$ $t_p = 35 \text{ }^\circ\text{C}$
	3500	1265	1405	1561		
	4000	1305	1450	1610		
	5000	1346	1495	1661		
	6500	1305	1450	1610		
Luminous Efficacy	3000	160	178	197	lm/W	
	3500	162	180	200		
	4000	167	186	206		
	5000	173	192	213		
	6500	167	186	206		
CCT	3000	2905	2993	3083	K (Initial)	
	3500	3298	3408	3526		
	4000	3757	3898	4045		
	5000	4744	4920	5103		
	6500	6087	6347	6623		
Color Consistency (initial)		-	-	3	Mac Adam step	
Color Rendering Index (Ra)		80	83	-	-	
Operating Current ( $I_f$ )		-	700	2400	mA	-
Operating Voltage ( $V_f$ )		10.3	11.2	12.2	Vdc	$I_f = 700 \text{ mA}$
Power Consumption		7.2	7.8	8.5	W	$t_p = 35 \text{ }^\circ\text{C}$

### Notes:

- $t_p$ : temperature at which performance is specified; measured at "Tc point".
- Samsung maintains a measurement tolerance of: Luminous flux:  $\pm 7 \%$ , CRI:  $\pm 3.0$ , Voltage:  $\pm 0.3 \text{ V}$ , Power Consumption:  $\pm 0.3 \text{ W}$

Item	Nominal*	Life**	Max***	Unit
Temperature	35 ( $t_p$ )	80( $t_{p,35}$ )	90( $t_c$ )	°C

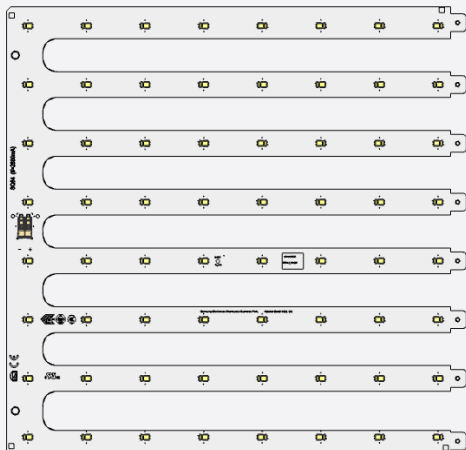
**Notes:**

- \* 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.

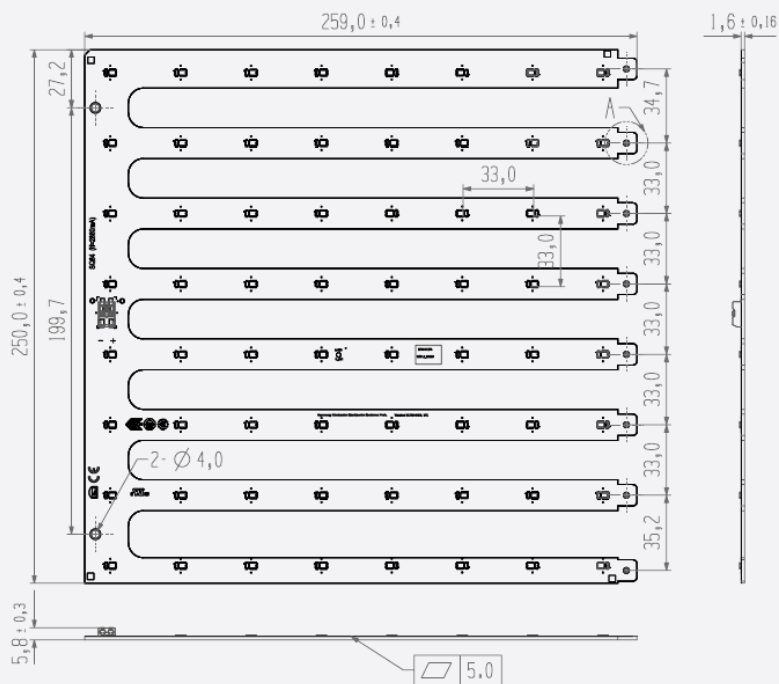
### 3. Structure and Assembly

#### a) Appearance



#### b) Dimension

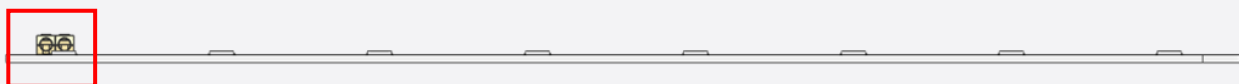
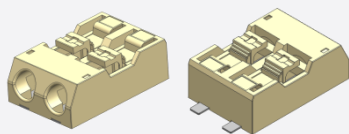
Dimension	Specification	Tolerance	Unit
Module Length	259.0	±0.4	mm
Module Width	250.0	±0.4	mm
Module Height	5.8	±0.3	mm
PCB Thickness	1.6	±0.16	mm
Module Weight	88	±4.4	g



### c) Assembly

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

[Front connector]

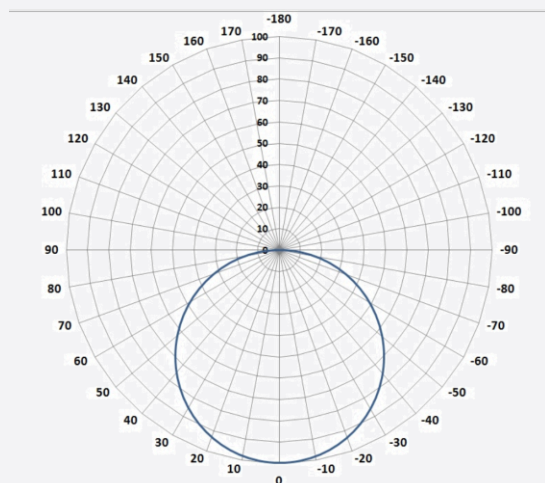


### d) Structure

Item	Specification
LED	LM561B+ Middle Power LED
PCB	Material: copper, solder mask, epoxy
Connector	Reworkable poke-in connector type
Wire	24~18 AWG; terminal strip length of 7.5~8.5 mm

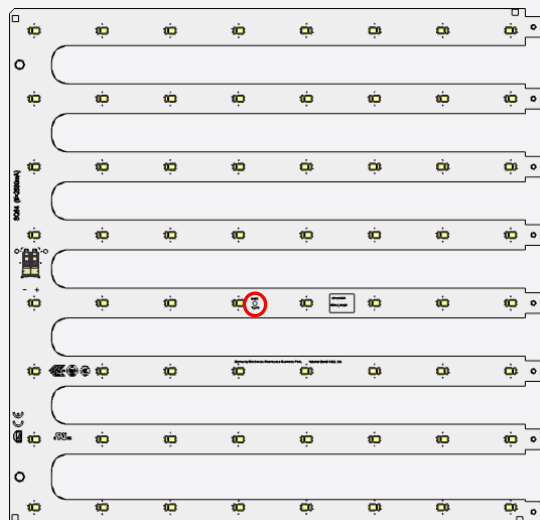
### e) Light Distribution

Polar Intensity Diagram: Beam Angle  $115 \pm 5^\circ$

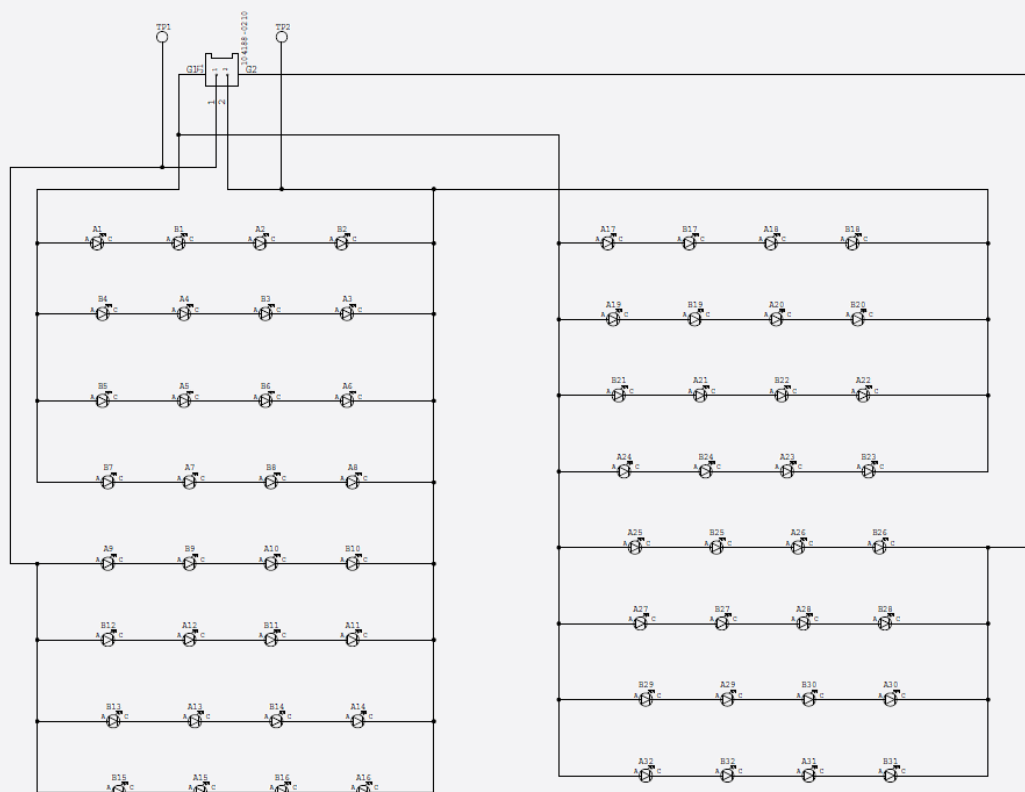


## f) Thermal Management

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



## g) Schematic Circuit





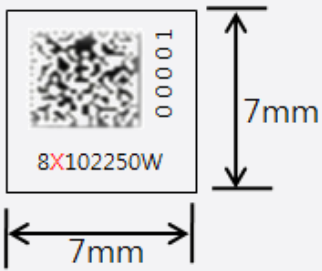
#### 4. Certification and Declaration

Item	Compliant to	Remark
Test & Certification	CE	IEC / EN 62031, IEC / EN 62471
	ENEC	IEC / EN 62031, IEC / EN 62471
	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 ]



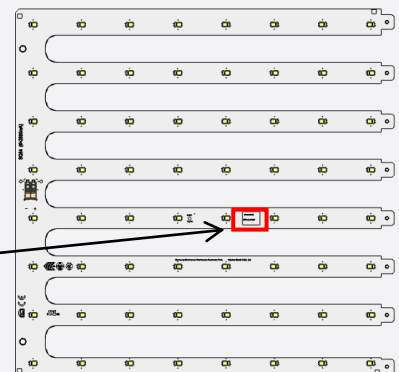
[ Information of Barcode ]

- ① Model code : SI-B8X102250WW  
X : V(3000K), U(3500K), T(4000K), R(5000K), P(6500K)
- ② Space: Space
- ③ SMT date : K224 (2010-February-24th)  
A(2000), B(2001) ····· J(2009), K(2010), L(2011), ····· (year)  
1(January), ····· 9(September), A(October), B(November), C(December)(month)  
01, 02, ····· 31th (date)
- ④ SMT Line No. : 1 line  
1~9, A(10), B(11), C(12), D(13), E(14), F(15)
- ⑤ Serial No. : 00001  
00001~99999 : Setting "00001" every working day
- ⑥ Color temperature : YZ00K  
YZ : 30, 35, 40, 50, 65
- ⑦ LED Maker : -S (Samsung)
- ⑧ Group No. : 01 (Binning group)

[ QR CODE Information ]

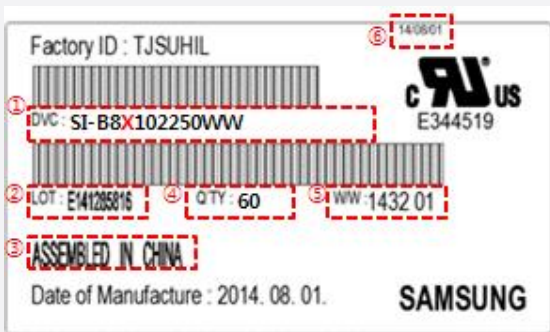
- ① Example : SI-B8X102250WW\_ N321100001YZ00K-S01
- ② 34 digit : Model code(14) + Space(1) + SMT date(4) + SMT line No.(1) + Serial No.(5)  
+ Color temperature(5) + LED maker(2) + GROUP No.(2)

Model CODE	SI-B8X102250WW
QR CODE Information	SI-B8X102250WW_K224100001YZ00K-S01



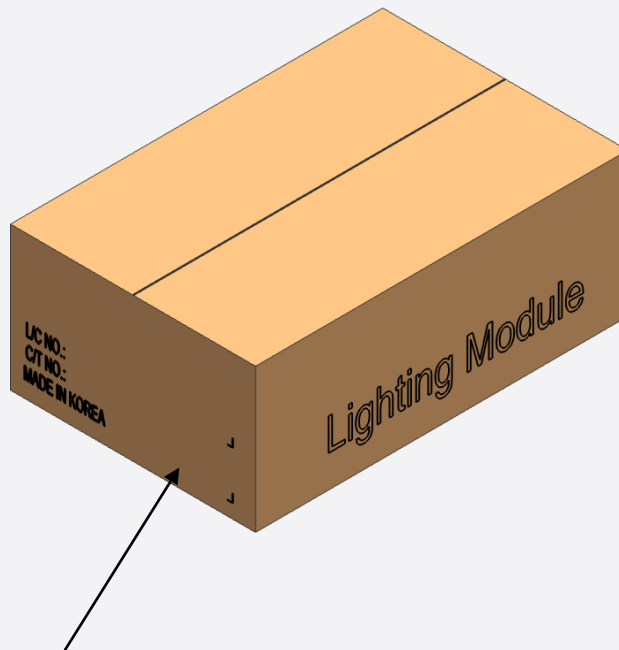
**b) Box Label**

- 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	4 ea	60 ea	1080 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

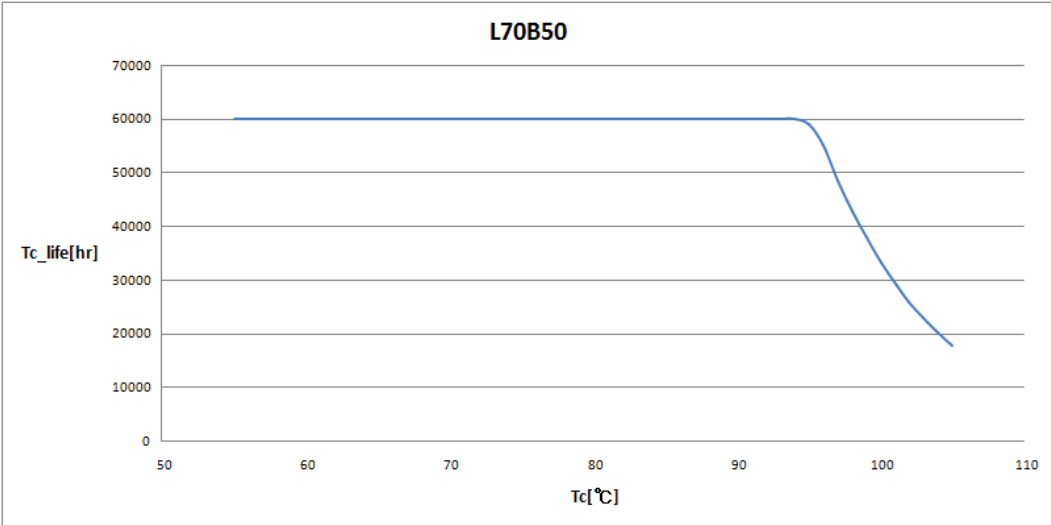
If over voltage which exceeds the absolute maximum rating is applied to LED Lighting Modules.

It will cause damage Circuits(that LED is included) and result in destruction.

Do not directly look into lighted LED with naked eyes.

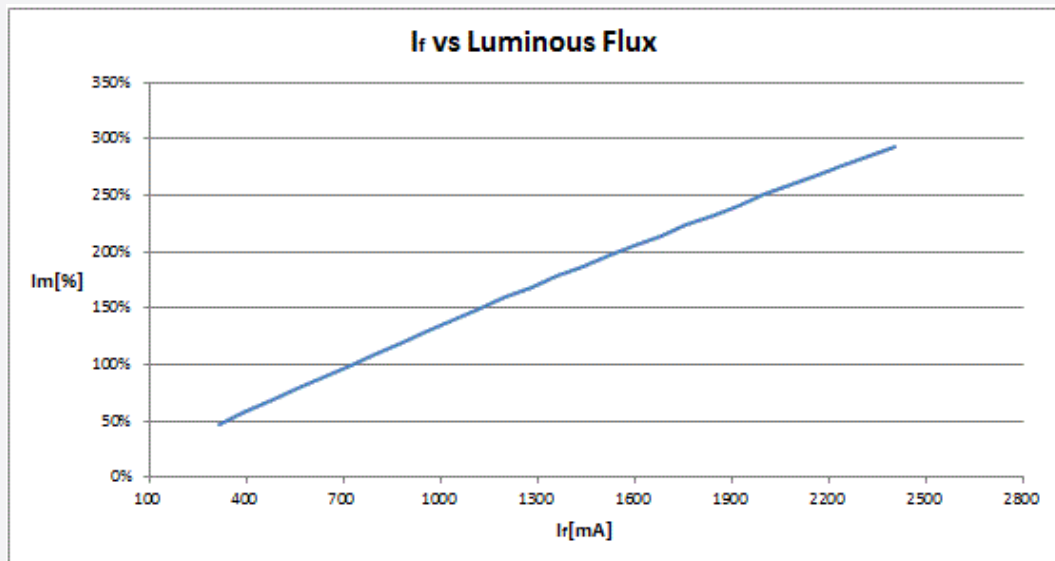
Please use this product within 5 months, which is kept in its original packaging unopened when stocked

**APPENDIX 1. Tc vs Lifetime**

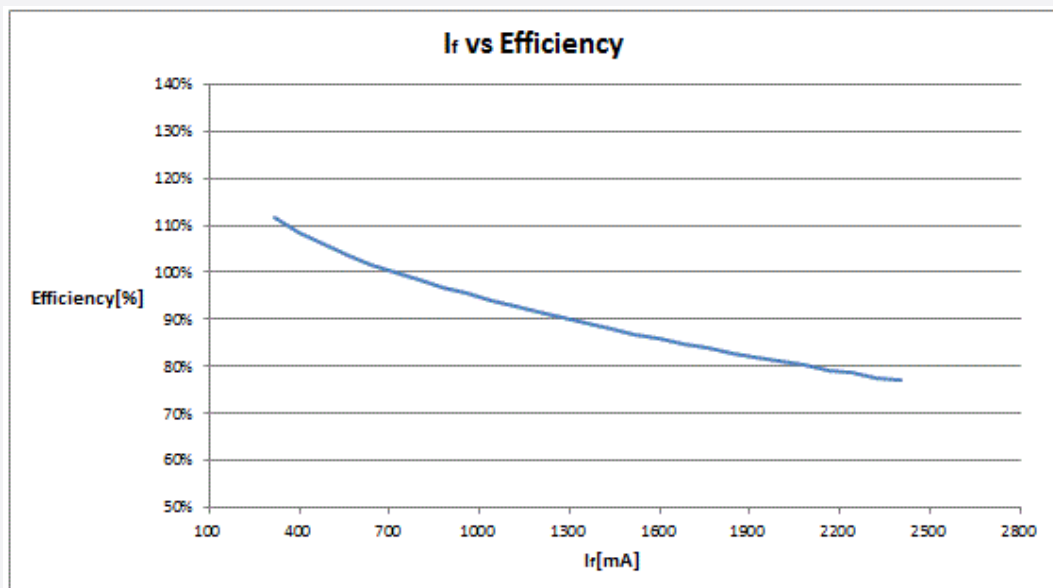


@150mA/LED

## APPENDIX 2. $I_r$ vs Luminous Flux



## APPENDIX 3. $I_r$ vs Efficiency



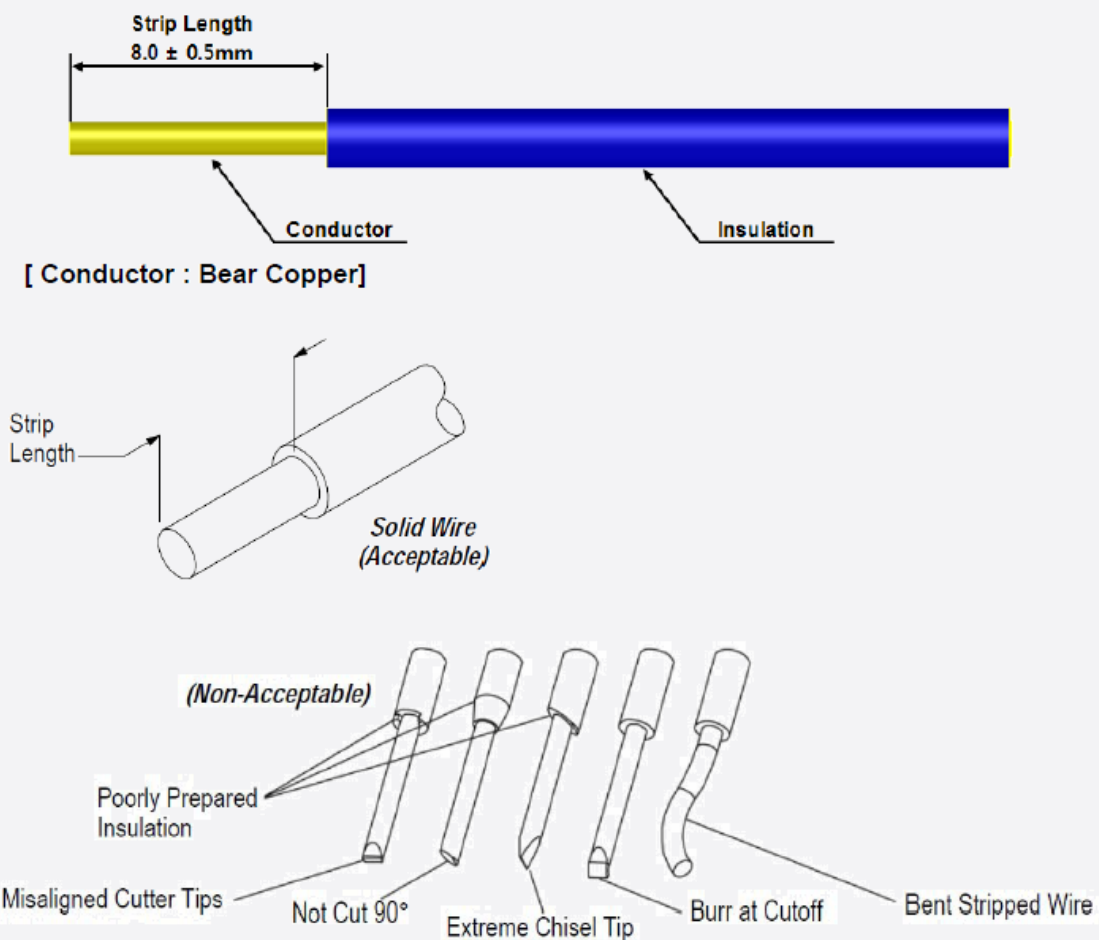
## APPENDIX 4. Applicable Solid Wires

### A. Applicable solid wires

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  $\Phi$ 2.1mm Max.

### B. Wire strip length



# Legal and additional information.

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