LED Module

V-Series Gen2

SAMSUNG

Table of Contents

1. Product Code Information

- LT-V562C

Nominal CCT (K)	Product Code
3000	SI-B8V17256CWW
3500	SI-B8U17256CWW
4000	SI-B8T17256CWW
5000	SI-B8R17256CWW

- LT-VB22C

Nominal CCT (K)	Product Code
3000	SI-B8V342B2CUS
3500	SI-B8U342B2CUS
4000	SI-B8T342B2CUS
5000	SI-B8R342B2CUS

- LT-V562F

Nominal CCT (K)	Product Code
3000	SI-B8V26256CUS
3500	SI-B8U26256CUS
4000	SI-B8T26256CUS
5000	SI-B8R26256CUS

- LT-V564F

Nominal CCT (K)	Product Code
3000	SI-B8V52256CUS
3500	SI-B8U52256CUS
4000	SI-B8T52256CUS
5000	SI-B8R52256CUS

- LT-VB22F

Nominal CCT (K)	Product Code
3000	SI-B8V522B2CUS
3500	SI-B8U522B2CUS
4000	SI-B8T522B2CUS
5000	SI-B8R522B2CUS

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-V562C

Item	Nom. CCT (K)	Rating			If(mA)	Remark
		Min	Typ.	Max		
Luminous Flux (Φ_v)	3000	2480	2680	-	lm	I_f = 700mA t_p = 50ºC
	3500	2515	2720	-		
	4000	2600	2810	-		
	5000	2630	2845	-		
Luminous Efficacy	3000	153	165	-	lm/W	
	3500	155	167	-		
	4000	160	173	-		
	5000	162	175	-		
CCT	3000	2900	2987	3078	K (Initial)	-
	3500	3285	3395	3511		
	4000	3739	3878	4023		
	5000	4748	4928	5119		
Color Rendering Index (Ra)	-	80	83	-	-	-
Operating Current (I_f)	-	-	700	900	mA	-
Operating Voltage (V_f)	-	21.5	23.2	25.1	Vdc	I_f = 700mA t_p = 50ºC
Power Consumption	-	15.0	16.2	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: ±0.3 V, Power Consumption: ±0.3W
3) Measurement tolerance of the color coordinates is ± 0.005

- LT-VB22C

Item	Nom. CCT (K)	Rating			If(mA)	Remark
		Min	Typ.	Max		
Luminous Flux (Φ_v)	3000	4960	5360	-	lm	I_f = 700mA t_p = 50ºC
	3500	5030	5440	-		
	4000	5200	5620	-		
	5000	5265	5690	-		
Luminous Efficacy	3000	153	165	-	lm/W	
	3500	155	167	-		
	4000	160	173	-		
	5000	162	175	-		
CCT	3000	2900	2987	3078	K (Initial)	-
	3500	3285	3395	3511		
	4000	3739	3878	4023		
	5000	4748	4928	5119		
Color Rendering Index (Ra)	-	80	83	-	-	-
Operating Current (I_f)	-	-	700	900	mA	-
Operating Voltage (V_f)	-	43.0	46.4	50.2	Vdc	I_f = 700mA t_p = 50ºC
Power Consumption	-	30.1	32.5	35.1	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-V562F

Item	Nom. CCT (K)	Rating			If(mA)	Remark
		Min	Typ.	Max		
Luminous Flux (Φ_v)	3000	3840	4150	-	lm	I_f = 1120mA t_p = 65ºC
	3500	3890	4205	-		
	4000	4020	4345	-		
	5000	4070	4400	-		
Luminous Efficacy	3000	147	159	-	lm/W	
	3500	149	161	-		
	4000	154	167	-		
	5000	156	169	-		
CCT	3000	2904	2991	3080	K (Initial)	-
	3500	3270	3378	3490		
	4000	3754	3892	4037		
	5000	4742	4925	5114		
Color Rendering Index (Ra)	-	80	83	-	-	-
Operating Current (I_f)	-	-	1120	1350	mA	-
Operating Voltage (V_f)	-	21.5	23.3	25.1	Vdc	I_f = 1120mA t_p = 65ºC
Power Consumption	-	24.1	26.1	28.1	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			If(mA)	Remark
		Min	Typ.	Max		
Luminous Flux (Φ_v)	3000	7680	8300	-	lm	I_f = 1120mA t_p = 65ºC
	3500	7780	8410	-		
	4000	8040	8690	-		
	5000	8140	8800	-		
Luminous Efficacy	3000	147	159	-	lm/W	
	3500	149	161	-		
	4000	154	167	-		
	5000	156	169	-		
CCT	3000	2904	2991	3080	K (Initial)	-
	3500	3270	3378	3490		
	4000	3754	3892	4037		
	5000	4742	4925	5114		
Color Rendering Index (Ra)	-	80	83	-	-	-
Operating Current (I_f)	-	-	1120	1350	mA	-
Operating Voltage (V_f)	-	43.0	46.5	50.3	Vdc	I_f = 1120mA t_p = 65ºC
Power Consumption	-	48.2	52.1	56.3	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			If(mA)	Remark
		Min	Typ.	Max		
Luminous Flux (Φ_v)	3000	7680	8300	-	lm	I_f = 1120mA t_p = 65ºC
	3500	7780	8410	-		
	4000	8040	8690	-		
	5000	8140	8800	-		
Luminous Efficacy	3000	147	159	-	lm/W	
	3500	149	161	-		
	4000	154	167	-		
	5000	156	169	-		
CCT	3000	2904	2991	3080	K (Initial)	-
	3500	3270	3378	3490		
	4000	3754	3892	4037		
	5000	4742	4925	5114		
Color Rendering Index (Ra)	-	80	83	-	-	-
Operating Current (I_f)	-	-	1120	1350	mA	-
Operating Voltage (V_f)	-	43.0	46.5	50.3	Vdc	I_f = 1120mA t_p = 65ºC
Power Consumption	-	48.2	52.1	56.3	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 – T.B.D

- LT-V562C, LT-VB22C

Item	Nominal(t_p)*	Life**	Max(t_c)***	Unit
Temperature	50	80	90	ºC

- LT-V562F, LT-V562F, LT-VB22F

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

Notes:

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

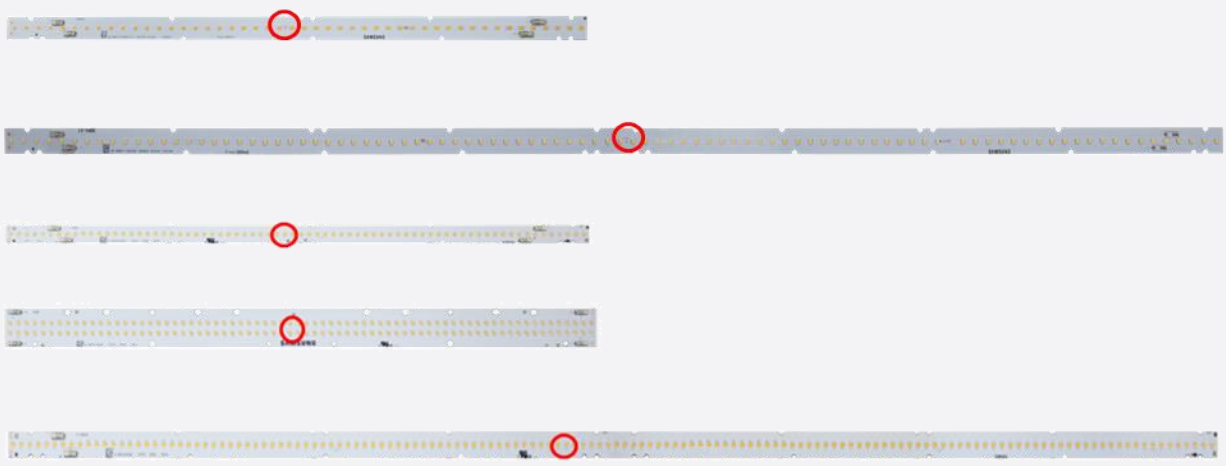
** Rated maximum performance temperature at which lifetime is specified.

*** 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 10)

d) Thermal Measurement

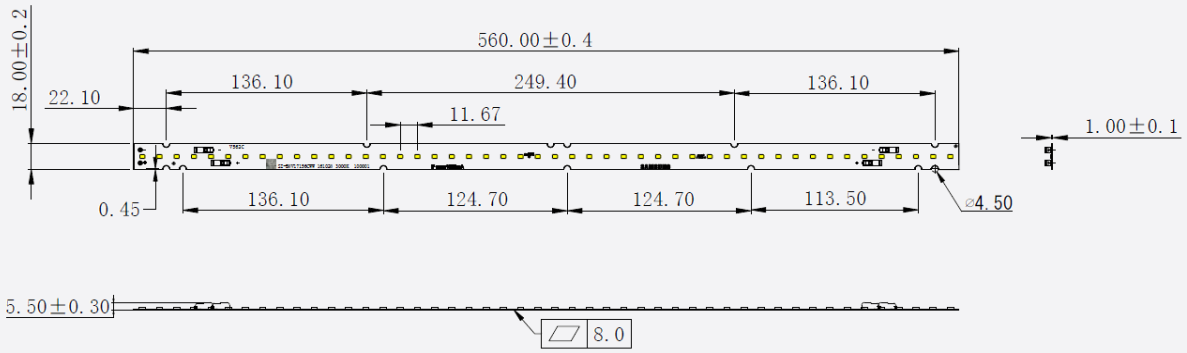
Performance temperatures are measured on “Tc point” as indicated on the module.



3. Structure and Assembly

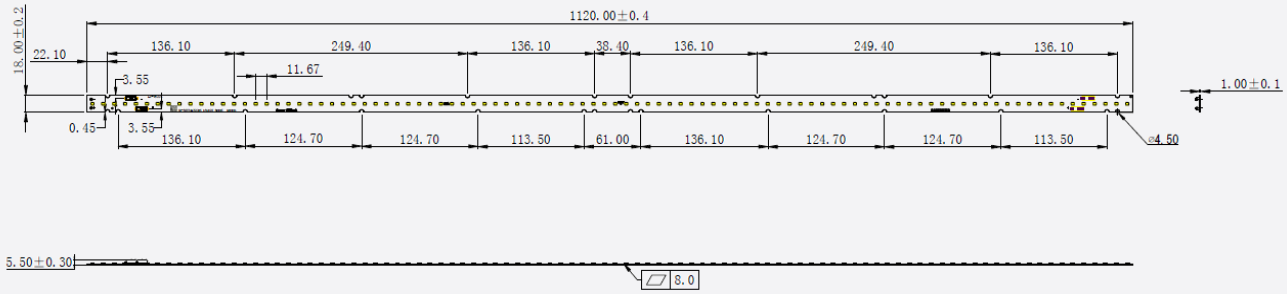
a) Appearance & Dimension

- LT-V562C



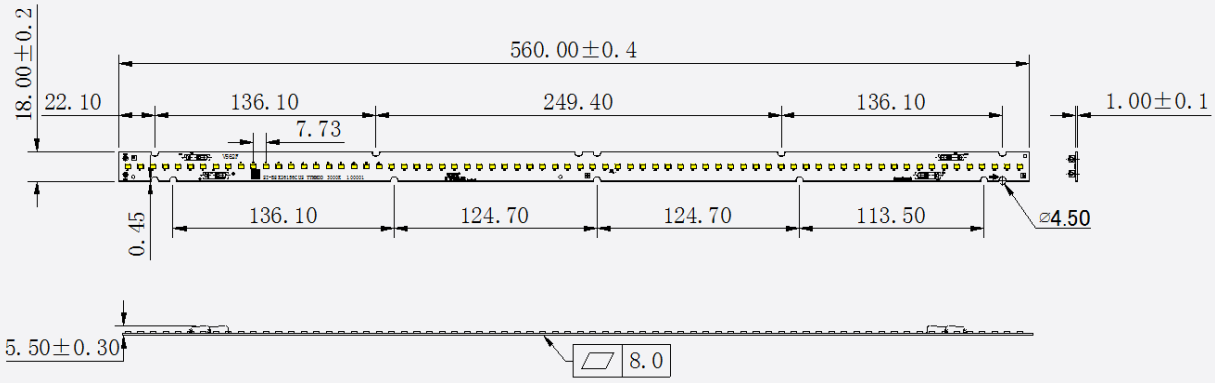
Dimension	Specification	Tolerance	Unit
Module Length	560	±0.4	mm
Module Width	18	±0.2	mm
Module Height	5.5	±0.3	mm
PCB Thickness	1.0	±0.1	mm
Module Weight	24.94	±1.5	g

- LT-VB22C



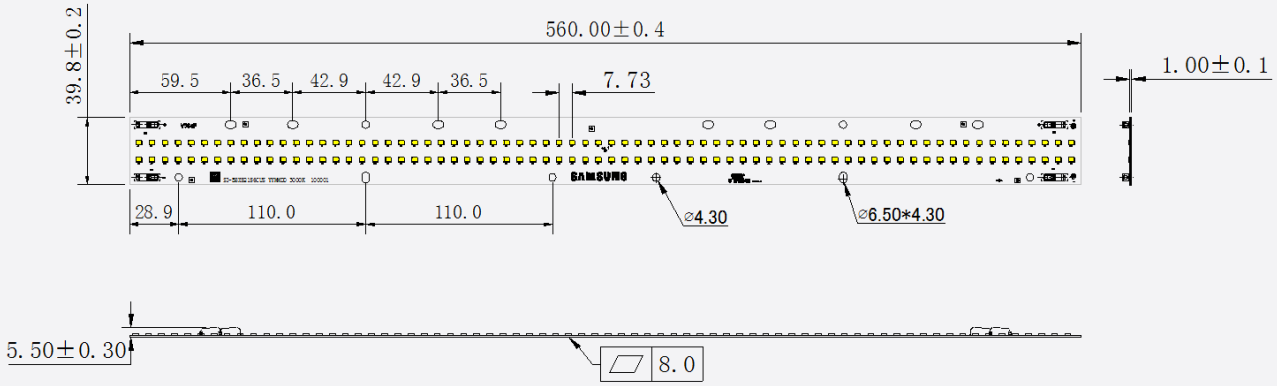
Dimension	Specification	Tolerance	Unit
Module Length	1120	±0.4	mm
Module Width	18	±0.2	mm
Module Height	5.5	±0.3	mm
PCB Thickness	1.0	±0.1	mm
Module Weight	49.1	±1.5	g

- LT-V562F



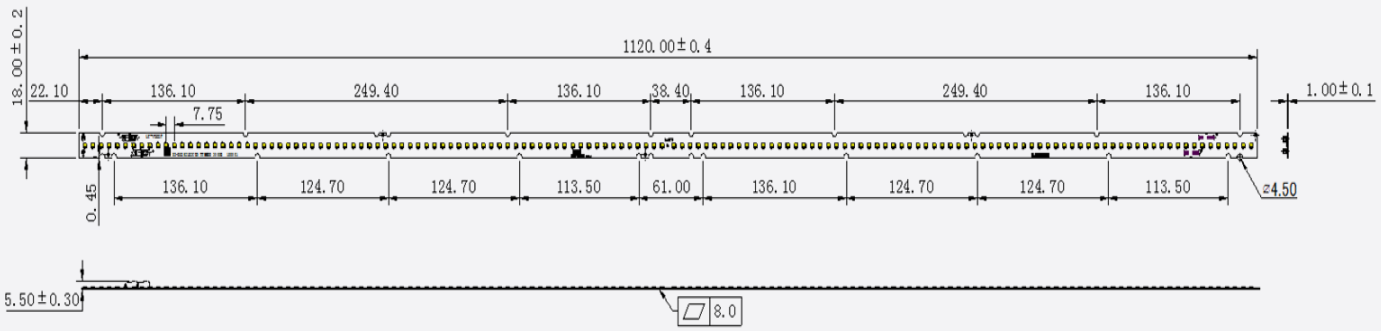
Dimension	Specification	Tolerance	Unit
Module Length	560	±0.4	mm
Module Width	18	±0.2	mm
Module Height	5.5	±0.3	mm
PCB Thickness	1.0	±0.1	mm
Module Weight	25.51	±1.5	g

- 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

b) Structure

Item	Specification
LED	LM281B+ 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
Test point	Solder is not printed on Test Point (T/P).

c) Schematic Circuit

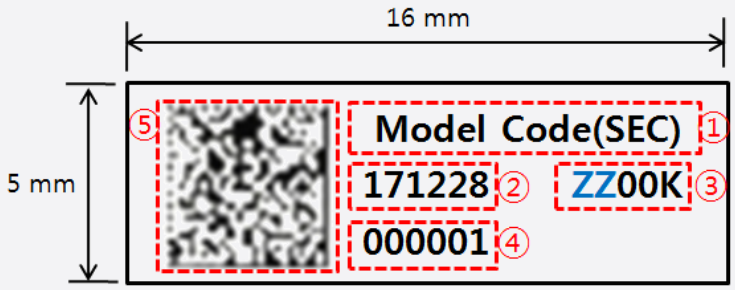
- LT-V562C : 8S x 6P
- LT-VB22C : 16S x 6P
- LT-V562F : 8S x 9P
- LT-V564F : 16S x 9P
- LT-VB22F : 16S x 9P

4. Certification and Declaration

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

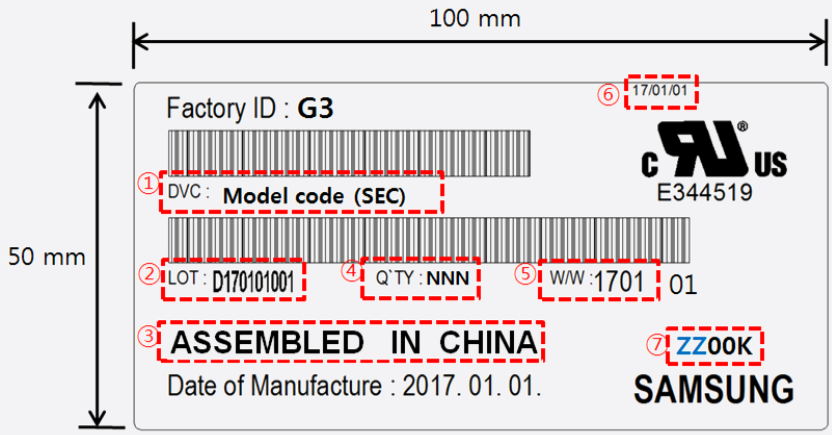
5. Label Structure

a) Module Label



Number	Item	Remark
①	Model code	Refer to page 3,4
②	Date of manufacture	-
③	Color temperature	ZZ = 30, 35, 40, 50
④	Series number	-
⑤	QR code	V562C : SI-B8X17256CWW YYMMDD ZZ00K 100001 VB22C : SI-B8X342B2CUS YYMMDD ZZ00K 100001 V562F : SI-B8X26256CUS YYMMDD ZZ00K 100001 V564F : SI-B8X52256CUS YYMMDD ZZ00K 100001 VB22F : SI-B8X522B2CUS YYMMDD ZZ00K 100001

b) Box Label



Number	Item	Remark
①	Product code	Refer to page 3,4
②	LOT ID	
③	Place of origin	
④	Quantity	Refer to page 17
⑤	Describe production week	
⑥	Date of Issue	
⑦	Color temperature	ZZ = 30, 35, 40, 50

6. Packing Structure

Product	Packing	Quantity (modules)
LT-V562C	Tray	40 ea
	Outer Box	280 ea
	Pallet	5600 ea
LT-VB22C	Tray	20 ea
	Outer Box	200 ea
	Pallet	2400 ea
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	20 ea
	Outer Box	200 ea
	Pallet	2400 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
Please be careful when taking a product out from packaging.

Appendix

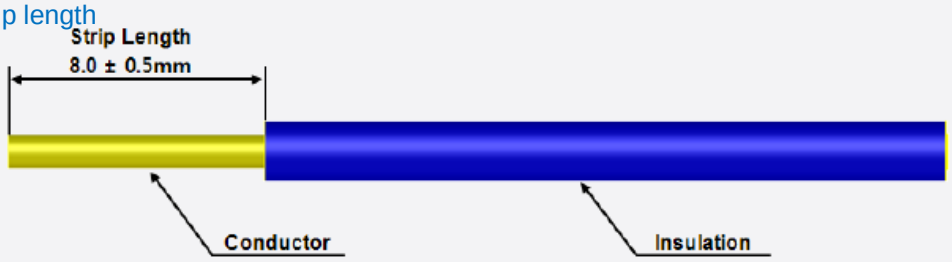
1. Applicable Solid Wire

a) Applicable solid wires only

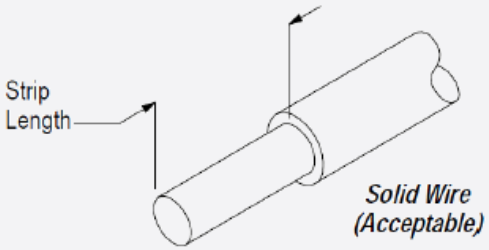
Wire Range AWG NO.	Number of Conductors / Diameter of a conductors (NO. / mm)	Insulation Diameter (mm)	Conductor Type
24	1 / 0.51	1.35	Solid
22	1 / 0.64	1.48	
20	1 / 0.81	1.65	
18	1 / 1.02	1.86	

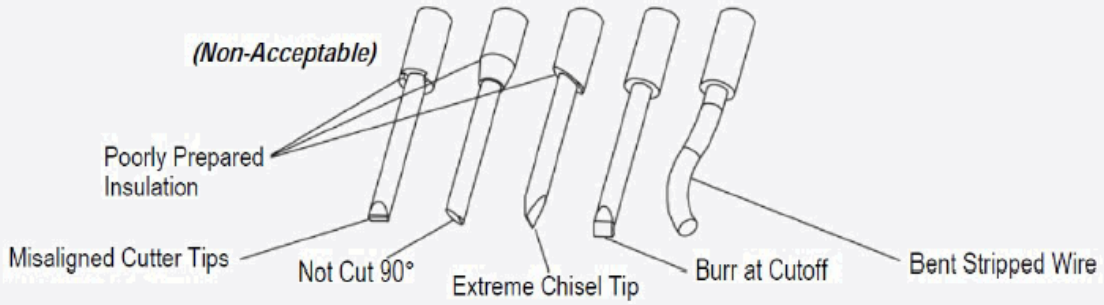
※ outside insulation diameter Φ2.1mm Max.

b) Wire strip length



[Conductor : Bear Copper]





Legal and additional information.

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