

## LED Module

# V-series

VB22A



VB22B



VB22C



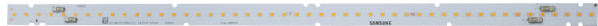
V562A



V562B



V562C



V282A



V282B



### Features & Benefits

- Cost effective solution, deliver better lm/\$
- Same mechanical foot-print as existing M-series
- Good efficacy, 146 lm/W @ 4000K
- 

### Applications

Indoor Lighting:

- Troffer / Linear / Line fixtures



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## 1. Product Code Information

### a) VB22A

Nominal CCT (K)	Product Code
3000	SI-B8V221B2CUS
3500	SI-B8U221B2CUS
4000	SI-B8T221B2CUS
5000	SI-B8R221B2CUS

### b) VB22B

Nominal CCT (K)	Product Code
3000	SI-B8V301B2CUS
3500	SI-B8U301B2CUS
4000	SI-B8T301B2CUS
5000	SI-B8R301B2CUS

### c) VB22C

Nominal CCT (K)	Product Code
3000	SI-B8V341B2CUS
3500	SI-B8U341B2CUS
4000	SI-B8T341B2CUS
5000	SI-B8R341B2CUS

**d) V562A**

Nominal CCT (K)	Product Code
3000	SI-B8V11156CWW
3500	SI-B8U11156CWW
4000	SI-B8T11156CWW
5000	SI-B8R11156CWW

**e) V562B**

Nominal CCT (K)	Product Code
3000	SI-B8V15156CWW
3500	SI-B8U15156CWW
4000	SI-B8T15156CWW
5000	SI-B8R15156CWW

**f) V562C**

Nominal CCT (K)	Product Code
3000	SI-B8V17156CWW
3500	SI-B8U17156CWW
4000	SI-B8T17156CWW
5000	SI-B8R17156CWW

## g) V282A

Nominal CCT (K)	Product Code
3000	SI-B8V06128CWW
3500	SI-B8U06128CWW
4000	SI-B8T06128CWW
5000	SI-B8R06128CWW

## h) V282B

Nominal CCT (K)	Product Code
3000	SI-B8V08128CWW
3500	SI-B8U08128CWW
4000	SI-B8T08128CWW
5000	SI-B8R08128CWW

## 2. Characteristics

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

### (a) VB22A

Item	Nom. CCT (K)	Rating			Unit	Remark
		Min	Typ.	Max		
Luminous Flux ( $\Phi_v$ )	3000	2426	2696	2968	lm	
	3500	2520	2800	3082		
	4000	2614	2904	3194		
	5000	2614	2904	3194		
Luminous Efficacy	3000	115	127	140	lm/W	$I_f = 840 \text{ mA}$ $t_p = 50 \text{ }^\circ\text{C}$
	3500	119	132	146		
	4000	124	137	151		
	5000	124	137	151		
CCT	3000	2980	3045	3110	K	
	3500	3360	3465	3570		
	4000	3830	3985	4130		
	5000	4810	5028	5240		
Color Consistency (initial)		-	-	3	Mac Adam step	
Color Rendering Index (Ra)		80	83	-	-	
Operating Current ( $I_f$ )		-	840	1080	mA	-
Operating Voltage ( $V_f$ )		22.68	25.2	27.72	Vdc	$I_f = 840 \text{ mA}$ $t_p = 50 \text{ }^\circ\text{C}$
Power Consumption		19.04	21.16	23.28	W	

#### Notes:

- 1)  $t_p$ : temperature at which performance is specified; measured at "tc point".
- 2) Samsung maintains a measurement tolerance of: Luminous flux:  $\pm 5\%$ , CRI:  $\pm 2.0$ , Voltage:  $\pm 0.3\text{V}$ , Power Consumption:  $\pm 0.5\text{W}$

## (b) VB22B

Item	Nom. CCT (K)	Rating			Unit	Remark
		Min	Typ.	Max		
Luminous Flux ( $\Phi_v$ )	3000	3681	4090	4499	lm	
	3500	3796	4218	4640		
	4000	3883	4314	4745		
	5000	3883	4314	4745		
Luminous Efficacy	3000	115	128	141	lm/W	$I_f = 1260 \text{ mA}$ $t_p = 50 \text{ }^\circ\text{C}$
	3500	119	132	145		
	4000	121	135	148		
	5000	121	135	148		
CCT	3000	2980	3045	3110	K	
	3500	3360	3465	3570		
	4000	3830	3985	4130		
	5000	4810	5028	5240		
Color Consistency (initial)		-	-	3	Mac Adam step	
Color Rendering Index (Ra)		80	83	-	-	
Operating Current ( $I_f$ )		-	1260	1440	mA	-
Operating Voltage ( $V_f$ )		22.82	25.36	27.9	Vdc	$I_f = 1260 \text{ mA}$ $t_p = 50 \text{ }^\circ\text{C}$
Power Consumption		28.75	31.96	35.15	W	

**Notes:**

- 1)  $t_p$ : temperature at which performance is specified; measured at "tc point".
- 2) Samsung maintains a measurement tolerance of: Luminous flux:  $\pm 5\%$ , CRI:  $\pm 2.0$ , Voltage:  $\pm 0.3\text{V}$ , Power Consumption:  $\pm 0.5\text{W}$

## (c) VB22C

Item	Nom. CCT (K)	Rating			Unit	Remark
		Min	Typ.	Max		
Luminous Flux ( $\Phi_v$ )	3000	4086	4540	4994	lm	
	3500	4264	4738	5212		
	4000	4428	4920	5412		
	5000	4428	4920	5412		
Luminous Efficacy	3000	122	135	149	lm/W	$I_f = 700 \text{ mA}$ $t_p = 50 \text{ }^\circ\text{C}$
	3500	127	141	155		
	4000	132	146	161		
	5000	132	146	161		
CCT	3000	2980	3045	3110	K	
	3500	3360	3465	3570		
	4000	3830	3985	4130		
	5000	4810	5028	5240		
Color Consistency (initial)		-	-	3	MacAdam step	
Color Rendering Index (Ra)		80	83	-	-	
Operating Current ( $I_f$ )		-	700	1080	mA	-
Operating Voltage ( $V_f$ )		43.2	48.0	52.8	Vdc	$I_f = 700 \text{ mA}$
Power Consumption		30.24	33.6	36.96	W	$t_p = 50 \text{ }^\circ\text{C}$

**Notes:**

- 1)  $t_p$ : temperature at which performance is specified; measured at "tc point".
- 2) Samsung maintains a measurement tolerance of: Luminous flux:  $\pm 5\%$ , CRI:  $\pm 2.0$ , Voltage:  $\pm 0.3\text{V}$ , Power Consumption:  $\pm 0.5\text{W}$



## (d) V562A

Item	Nom. CCT (K)	Rating			Unit	Remark
		Min	Typ.	Max		
Luminous Flux ( $\Phi_v$ )	3000	1213	1348	1484	lm	I <sub>f</sub> = 420mA t <sub>p</sub> = 50 °C
	3500	1260	1400	1541		
	4000	1307	1452	1597		
	5000	1307	1452	1597		
Luminous Efficacy	3000	115	127	140	lm/W	
	3500	119	132	146		
	4000	124	137	151		
	5000	124	137	151		
CCT	3000	2980	3045	3110	K	
	3500	3360	3465	3570		
	4000	3830	3985	4130		
	5000	4810	5028	5240		
Color Consistency (initial)		-	-	3	Mac Adam step	
Color Rendering Index (Ra)		80	83	-	-	
Operating Current (I <sub>f</sub> )		-	420	540	mA	-
Operating Voltage (V <sub>f</sub> )		22.68	25.20	27.72	Vdc	I <sub>f</sub> = 420 mA
Power Consumption		9.52	10.58	11.64	W	t <sub>p</sub> = 50 °C

**Notes:**

- 1) t<sub>p</sub>: temperature at which performance is specified; measured at "tc point".
- 2) Samsung maintains a measurement tolerance of: Luminous flux: ±5%, CRI: ±2.0, Voltage: ±0.3V, Power Consumption: ±0.3W

## (e) V562B

Item	Nom. CCT (K)	Rating			Unit	Remark
		Min	Typ.	Max		
Luminous Flux ( $\Phi_v$ )	3000	1841	2045	2250	lm	
	3500	1898	2109	2320		
	4000	1941	2157	2373		
	5000	1941	2157	2373		
Luminous Efficacy	3000	115	128	141	lm/W	$I_f = 630 \text{ mA}$ $t_p = 50 \text{ }^\circ\text{C}$
	3500	119	132	145		
	4000	121	135	148		
	5000	121	135	148		
CCT	3000	2980	3045	3110	K	
	3500	3360	3465	3570		
	4000	3830	3985	4130		
	5000	4810	5028	5240		
Color Consistency (initial)		-	-	3	Mac Adam step	
Color Rendering Index (Ra)		80	83	-	-	
Operating Current ( $I_f$ )		-	630	720	mA	-
Operating Voltage ( $V_f$ )		22.82	25.36	27.9	Vdc	$I_f = 630 \text{ mA}$ $t_p = 50 \text{ }^\circ\text{C}$
Power Consumption		14.38	15.98	17.58	W	

**Notes:**

- 1)  $t_p$ : temperature at which performance is specified; measured at "tc point".
- 2) Samsung maintains a measurement tolerance of: Luminous flux:  $\pm 5\%$ , CRI:  $\pm 2.0$ , Voltage:  $\pm 0.3\text{V}$ , Power Consumption:  $\pm 0.5\text{W}$

## (f) V562C

Item	Nom. CCT (K)	Rating			Unit	Remark
		Min	Typ.	Max		
Luminous Flux ( $\Phi_v$ )	3000	2043	2270	2497	lm	
	3500	2132	2369	2606		
	4000	2214	2460	2706		
	5000	2214	2460	2706		
Luminous Efficacy	3000	122	135	149	lm/W	If = 700 mA $t_p = 50^\circ\text{C}$
	3500	127	141	155		
	4000	132	146	161		
	5000	132	146	161		
CCT	3000	2980	3045	3110	K	
	3500	3360	3465	3570		
	4000	3830	3985	4130		
	5000	4810	5028	5240		
Color Consistency (initial)		-	-	3	MacAdam step	
Color Rendering Index (Ra)		80	83	-	-	
Operating Current ( $I_f$ )		-	700	1080	mA	-
Operating Voltage ( $V_f$ )		21.6	24.0	26.4	Vdc	If = 700 mA
Power Consumption		15.12	16.8	18.48	W	$t_p = 50^\circ\text{C}$

**Notes:**

- 1)  $t_p$ : temperature at which performance is specified; measured at "tc point".
- 2) Samsung maintains a measurement tolerance of: Luminous flux:  $\pm 5\%$ , CRI:  $\pm 2.0$ , Voltage:  $\pm 0.3\text{V}$ , Power Consumption:  $\pm 0.5\text{W}$

## (g) V282A

Item	Nom. CCT (K)	Rating			Unit	Remark
		Min	Typ.	Max		
Luminous Flux ( $\Phi_v$ )	3000	651	724	796	lm	
	3500	672	746	821		
	4000	692	769	846		
	5000	692	769	846		
Luminous Efficacy	3000	115	128	140	lm/W	$I_f = 450 \text{ mA}$ $t_p = 50^\circ\text{C}$
	3500	119	132	145		
	4000	122	136	149		
	5000	122	136	149		
CCT	3000	2980	3045	3110	K	
	3500	3360	3465	3570		
	4000	3830	3985	4130		
	5000	4810	5028	5240		
Color Consistency (initial)		-	-	3	Mac Adam step	
Color Rendering Index (Ra)		80	83	-	-	
Operating Current ( $I_f$ )		-	450	540	mA	-
Operating Voltage ( $V_f$ )		11.34	12.60	13.86	Vdc	$I_f = 450 \text{ mA}$
Power Consumption		5.10	5.67	6.24	W	$t_p = 50^\circ\text{C}$

**Notes:**

- 1)  $t_p$ : temperature at which performance is specified; measured at "tc point".
- 2) Samsung maintains a measurement tolerance of: Luminous flux:  $\pm 5\%$ , CRI:  $\pm 2.0$ , Voltage:  $\pm 0.3\text{V}$ , Power Consumption:  $\pm 0.3\text{W}$

## (h) V282B

Item	Nom. CCT (K)	Rating			Unit	Remark
		Min	Typ.	Max		
Luminous Flux ( $\Phi_v$ )	3000	869	965	1062	lm	I <sub>f</sub> = 300 mA t <sub>p</sub> = 50 °C
	3500	896	995	1095		
	4000	923	1026	1129		
	5000	923	1026	1129		
Luminous Efficacy	3000	115	128	141	lm/W	
	3500	119	132	145		
	4000	122	136	149		
	5000	122	136	149		
CCT	3000	2980	3045	3110	K	
	3500	3360	3465	3570		
	4000	3830	3985	4130		
	5000	4810	5028	5240		
Color Consistency (initial)		-	-	3	Mac Adam step	
Color Rendering Index (Ra)		80	83	-	-	
Operating Current (I <sub>f</sub> )		-	300	360	mA	-
Operating Voltage (V <sub>f</sub> )		22.68	25.20	27.72	Vdc	I <sub>f</sub> = 300 mA
Power Consumption		6.80	7.56	8.32	W	t <sub>p</sub> = 50 °C

**Notes:**

- 1) t<sub>p</sub>: temperature at which performance is specified; measured at “tc point”.
- 2) Samsung maintains a measurement tolerance of: Luminous flux: ±5%, CRI: ±2.0, Voltage: ±0.3V, Power Consumption: ±0.3W

Item	Nominal*	Life	Max**	Unit
Temperature for V282A,	50 (t <sub>p</sub> )	70 (t <sub>p,50</sub> )	90 (t <sub>c</sub> )	°C
Temperature for V282B,	50 (t <sub>p</sub> )	70 (t <sub>p,50</sub> )	90 (t <sub>c</sub> )	°C
Temperature for V562A,	50 (t <sub>p</sub> )	70 (t <sub>p,50</sub> )	90 (t <sub>c</sub> )	°C
Temperature for V562B,	50 (t <sub>p</sub> )	70 (t <sub>p,50</sub> )	90 (t <sub>c</sub> )	°C
Temperature for V562C	50 (t <sub>p</sub> )	70 (t <sub>p,50</sub> )	90 (t <sub>c</sub> )	°C
Temperature for LT-VB22A,	50 (t <sub>p</sub> )	70 (t <sub>p,50</sub> )	90 (t <sub>c</sub> )	°C
Temperature for LT-VB22B,	50 (t <sub>p</sub> )	70 (t <sub>p,50</sub> )	90 (t <sub>c</sub> )	°C
Temperature for LT-VB22C,	50 (t <sub>p</sub> )	70 (t <sub>p,50</sub> )	90 (t <sub>c</sub> )	°C

**Notes:**

- \* Temperature used to specify performance of the module (t<sub>p</sub>).
  - \*\* Rated maximum temperature, highest permissible temperature to avoid safety risk (t<sub>c</sub>).
- All temperatures are measured at the designated “tc point” as indicated on the module.

### 3. Structure and Assembly

#### a) Appearance

VB22A



VB22B



VB22C



V562A



V562B



V562C



V282A



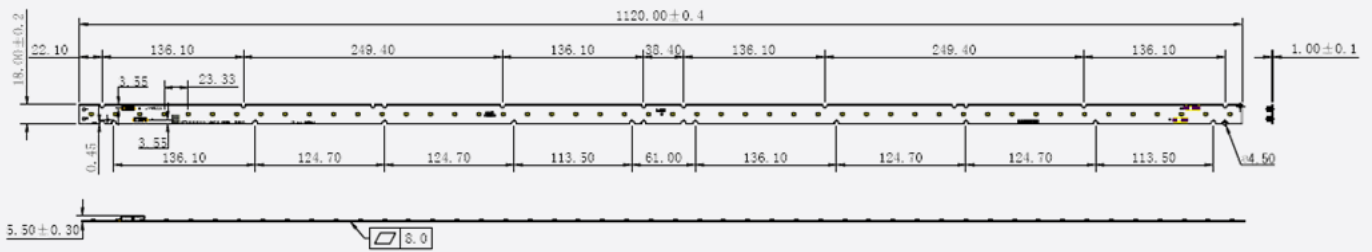
V282B



**b) Dimension**

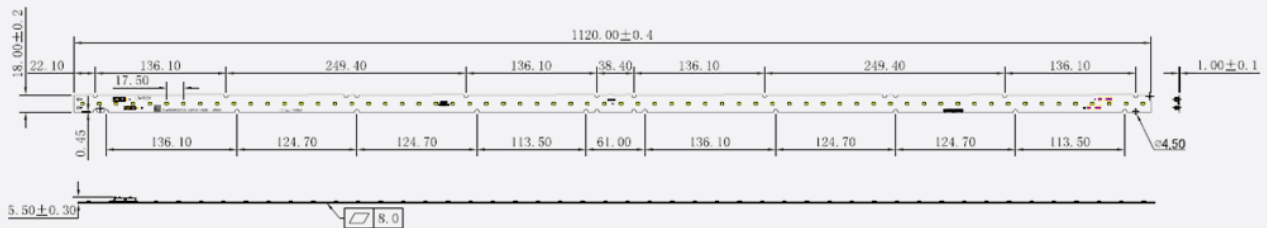
**VB22A**

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	45.15	±1.5	g



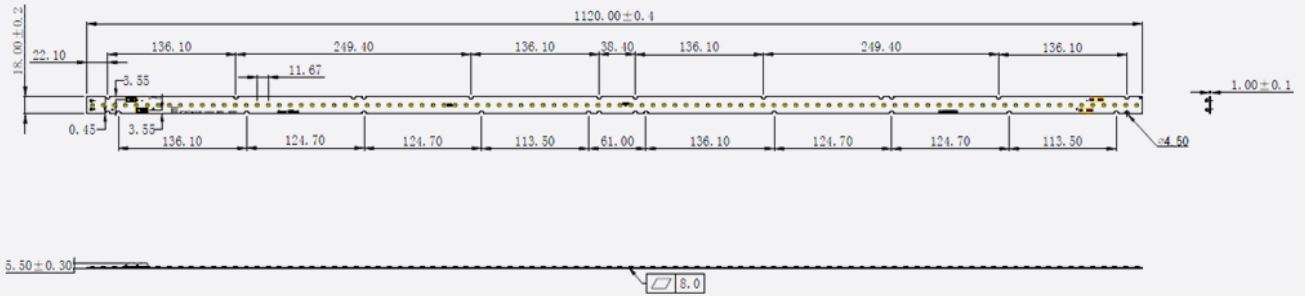
**VB22B**

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	45.25	±1.5	g



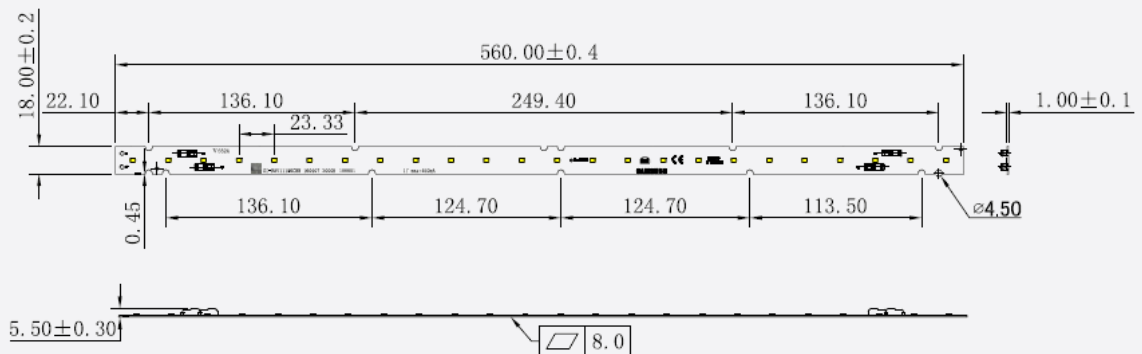
**VB22C**

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



**V562A**

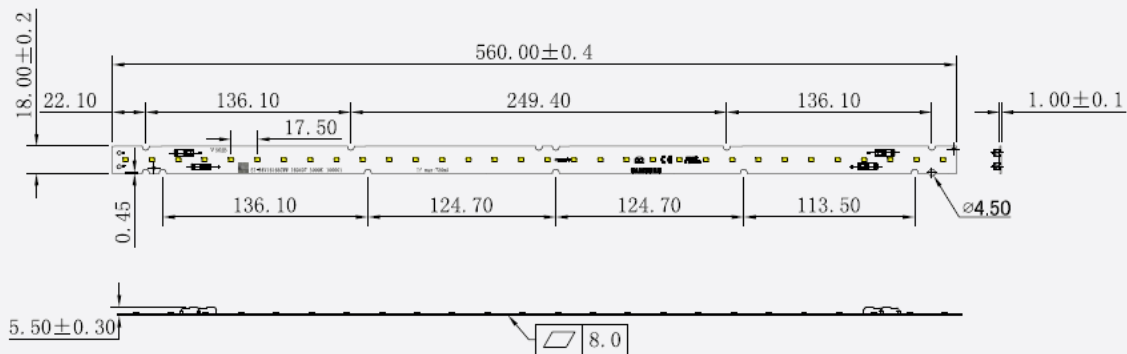
Dimension	Specification	Tolerance	Unit
Module Length	560	±0.4	mm
Module Width	18	±0.2	mm
Module Height	5.5	±0.3	mm
PCB Thickness	1.0	±0.1	mm
Module Weight	24.77	±1.5	g





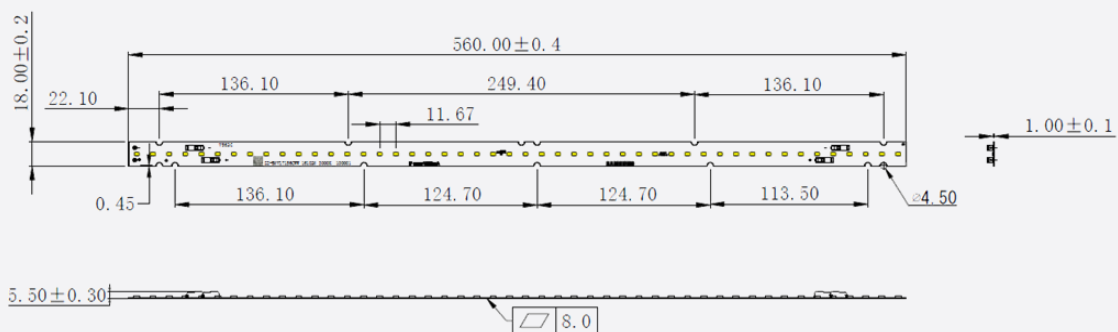
V562B

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	24.86	±1.5	g



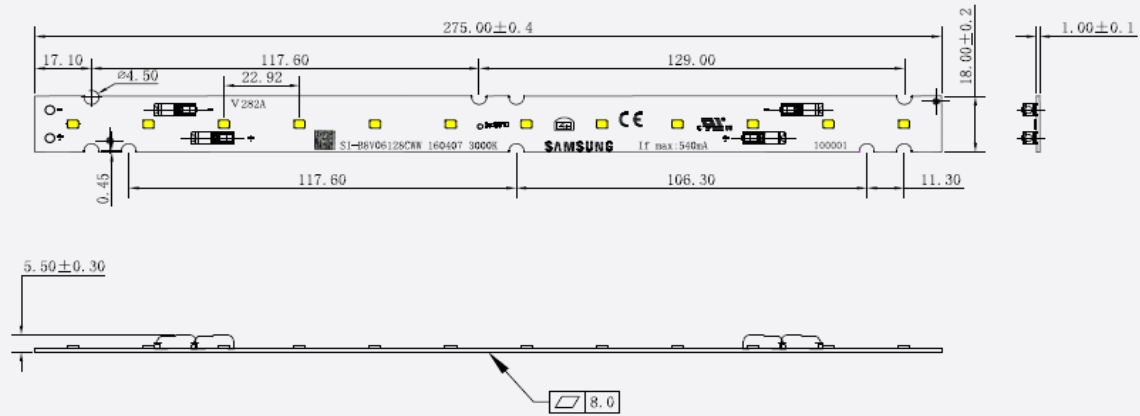
V562C

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



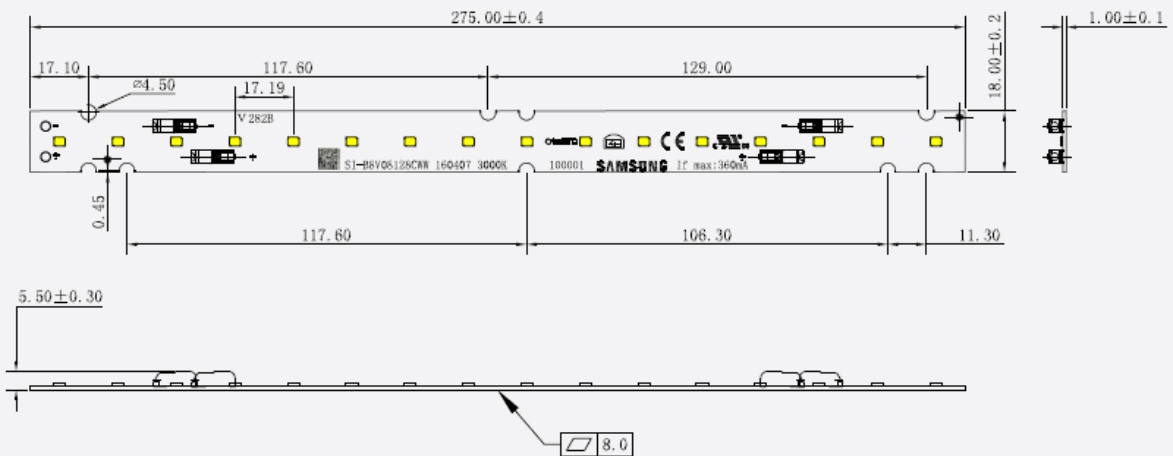
V282A

Dimension	Specification	Tolerance	Unit
Module Length	275	±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	12.54	±1.5	g



V282B

Dimension	Specification	Tolerance	Unit
Module Length	275	±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	12.60	±1.5	g



### c) Assembly

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

[Front connector]



VB22A



VB22B



VB22C



V562A



V562B



V562C



V282A



V282B





VB22A



VB22B



VB22C



V562A



V562B



V562C



V282A



V282B

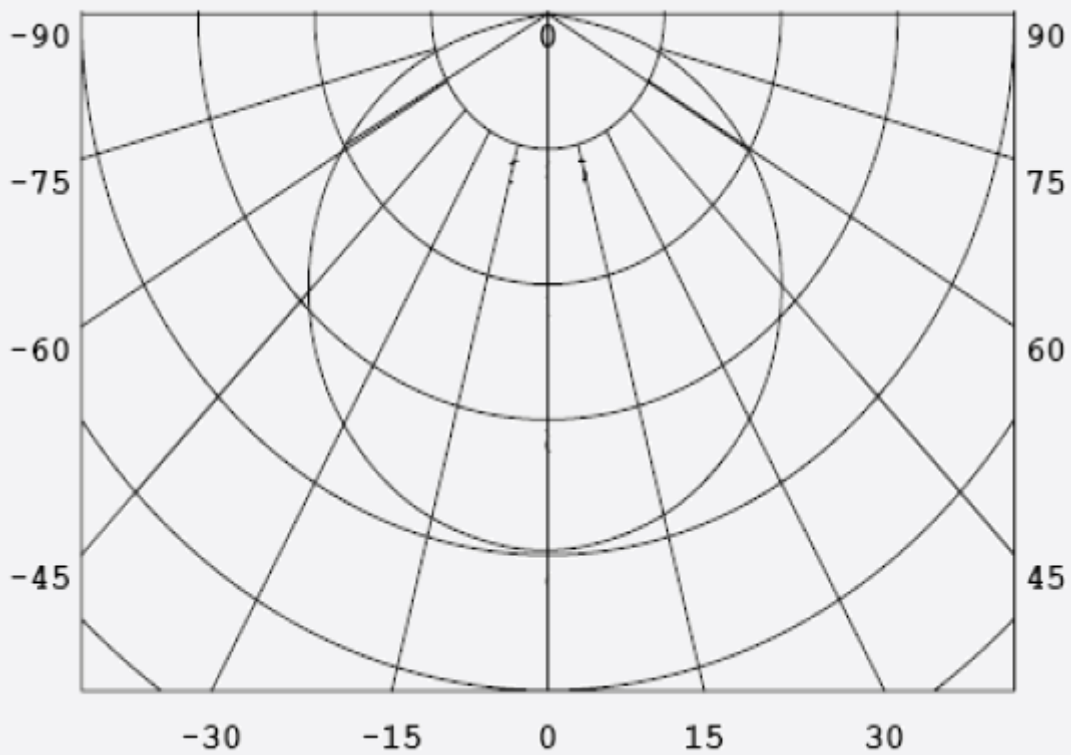


#### d) Structure

Item	Specification
LED	SMD2835 Middle power LED
PCB	Material: CEM-3,copperdouble layer
Connector	Reworkable poke-in connector type
Wire	18-22AWG; terminal strip length of 7.5-8.5mm

#### e) Light Distribution

Polar Intensity Diagram: Beam Angle  $120 \pm 5^\circ$



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## f) Thermal Management

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

VB22A



VB22B



VB22C



V562A



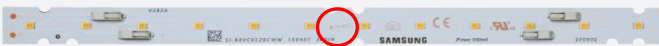
V562B



V562C



V282A

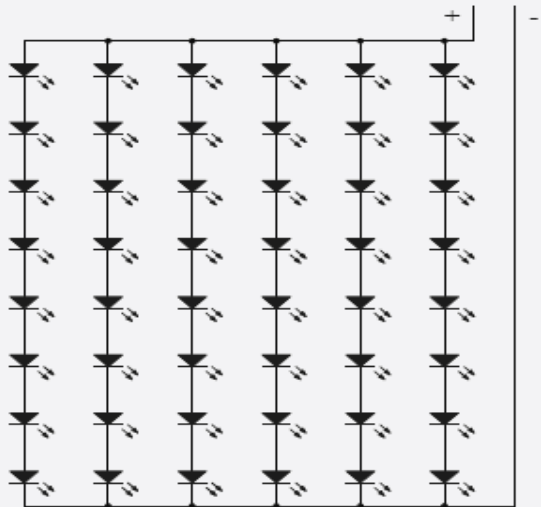


V282B

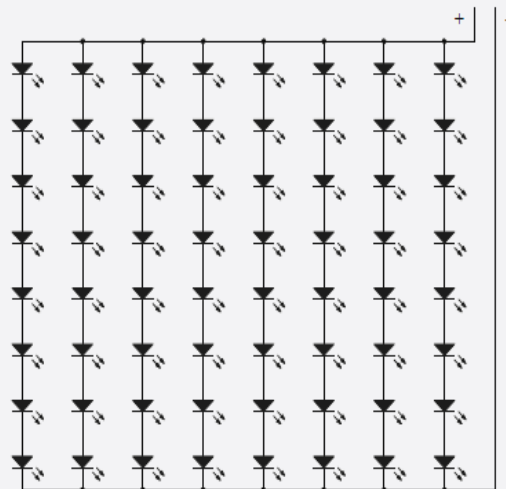


g) Schematic Circuit

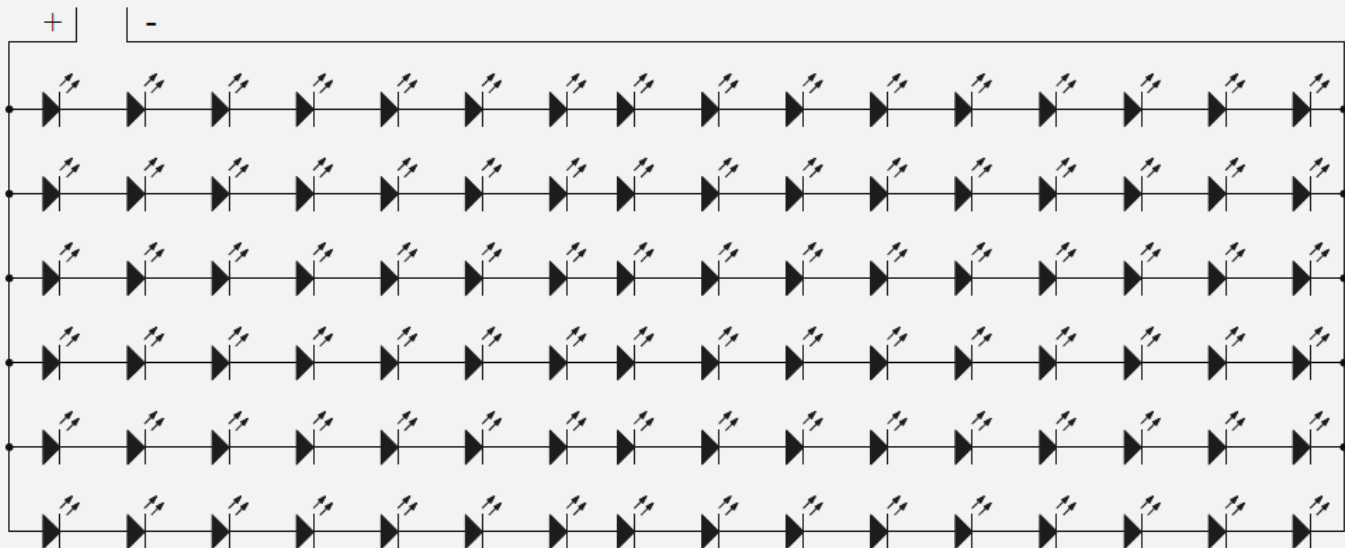
VB22A  
8Sx6P



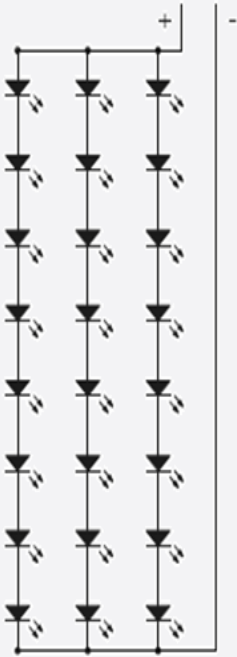
VB22B  
8Sx8P



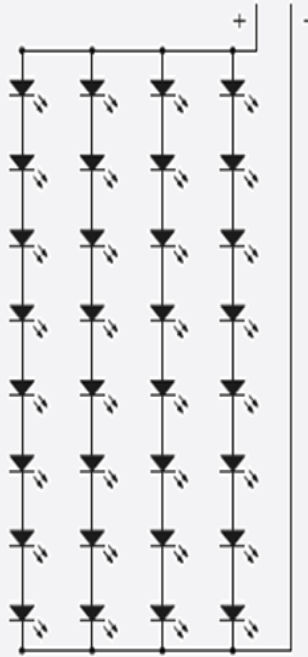
VB22C  
16Sx6P



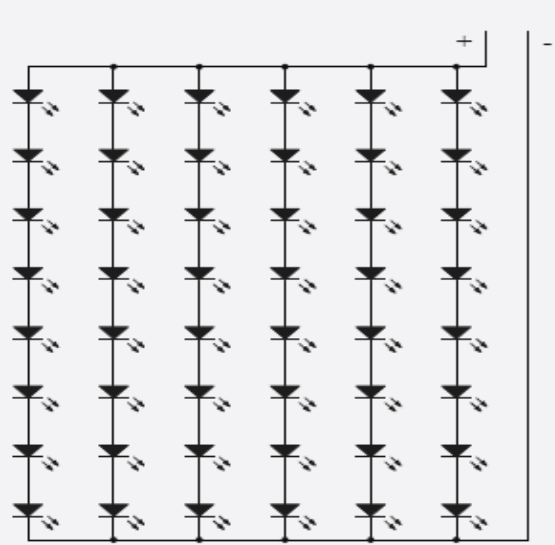
V562A  
8Sx3P



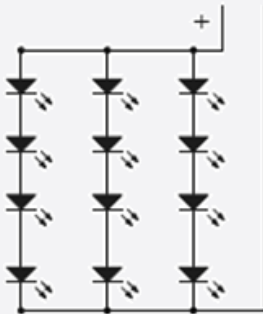
V562B  
8Sx4P



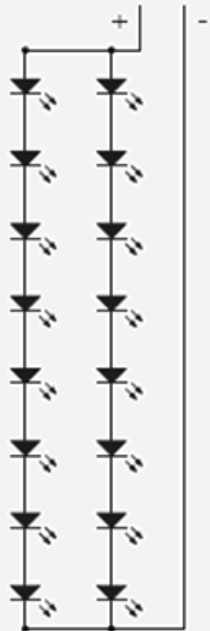
V562C  
8Sx6P



V282A  
4Sx3P



V282B  
8Sx2P



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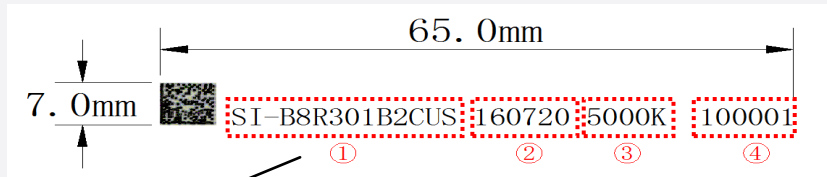
#### 4. Certification and Declaration

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

## 5. Label Structure

### a) Module Label LT-VB22A, LT-VB22B, LT-VB22C

[Printing Label]



[Information of Barcode]

- ① Model code: SI-B8R301B2CUS  
R: V(3000K), U(3500K), T(4000K), R(5000K)
- ② Date of manufacture:
- ③ Color temperature:
- ④ Series number:

[QR CODE Information]

- ① Example: SI-B8R301B2CUS YYMMDD 5000K 100001
- ② 34digits: Modelcode(14)+Space(1)+SMTdate(6)+Space(1)+Color temperature(5)+Space(1)+Series number(6)

Model CODE	SI-B8V221B2CUS
QR CODE Information	SI-B8V221B2CUS YYMMDD 5000K 100001

Model CODE	SI-B8V301B2CUS
QR CODE Information	SI-B8V301B2CUS YYMMDD 5000K 100001

Model CODE	SI-B8V341B2CUS
QR CODE Information	SI-B8V341B2CUS YYMMDD 5000K 100001

**b) Box Label LT-VB22A, LT-VB22B, LT-VB22C**

- 100mm x 50mm

Ex)

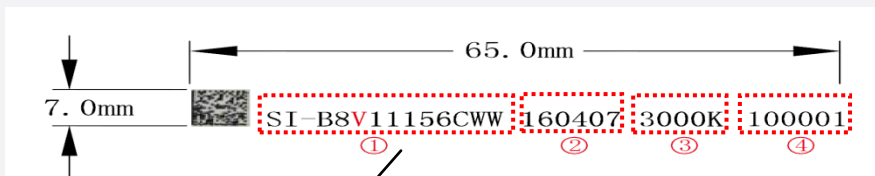


The lot number is composed of the following characters:

- ① Product code
- ② Lot ID
- ③ Place of origin
- ④ Quantity
- ⑤ Describe production week
- ⑥ Date of Issue

**c) Module Label V282A, V282B, V562A, V562B, V562C**

[Printing Label]



[Information of Barcode]

① Model code: SI-B8V11156CWW

V: V(3000K), U(3500K), T(4000K), R(5000K)

② Date of manufacture:

③ Color temperature:

④ Series number:

[QR CODE Information]

① Example: SI-B8V11156CWW YYMMDD 3000K 100001

② 34digits:Modelcode(14)+Space(1)+SMTdate(6)+Space(1)+Color temperature(5)+Space(1)+Series number(6)

ModelCODE	SI-B8V06128CWW
QRCODE Information	SI-B8V06128CWW YYMMDD 3000K 100001

ModelCODE	SI-B8V08128CWW
QRCODE Information	SI-B8V08128CWW YYMMDD 3000K 100001

ModelCODE	SI-B8V11156CWW
QRCODE Information	SI-B8V11156CWW YYMMDD 3000K 100001

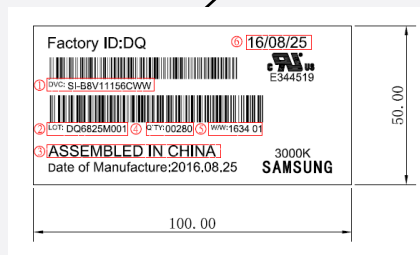
ModelCODE	SI-B8V15156CWW
QRCODE Information	SI-B8V15156CWW YYMMDD 3000K 100001

ModelCODE	SI-B8V17156CWW
QRCODE Information	SI-B8V17156CWW YYMMDD 3000K 100001

#### d) Box Label V282A, V282B, V562A, V562B, V562C

- 100mm x 50mm

Ex)



The lot number is composed of the following characters:

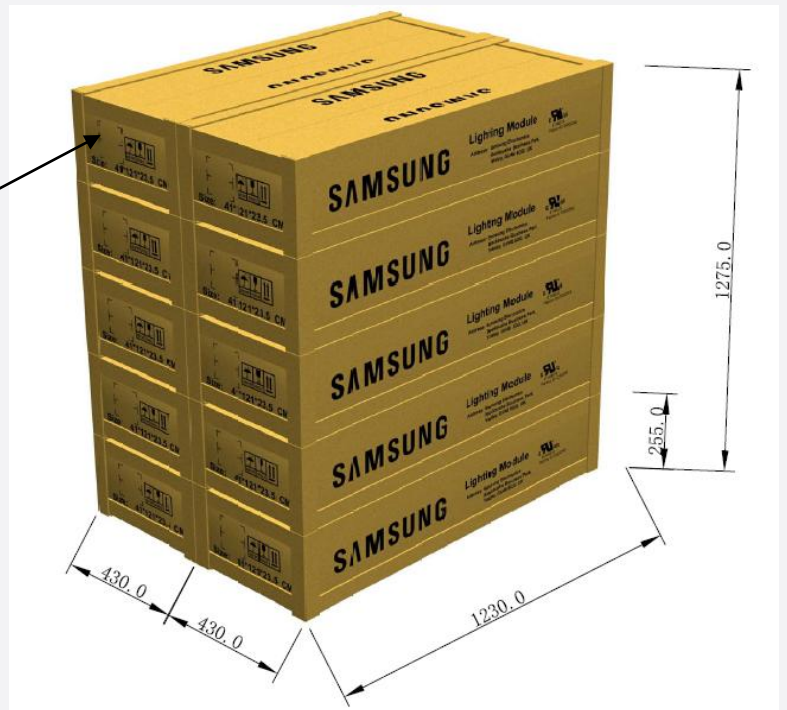
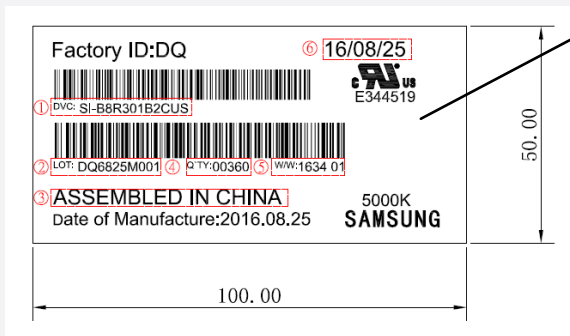
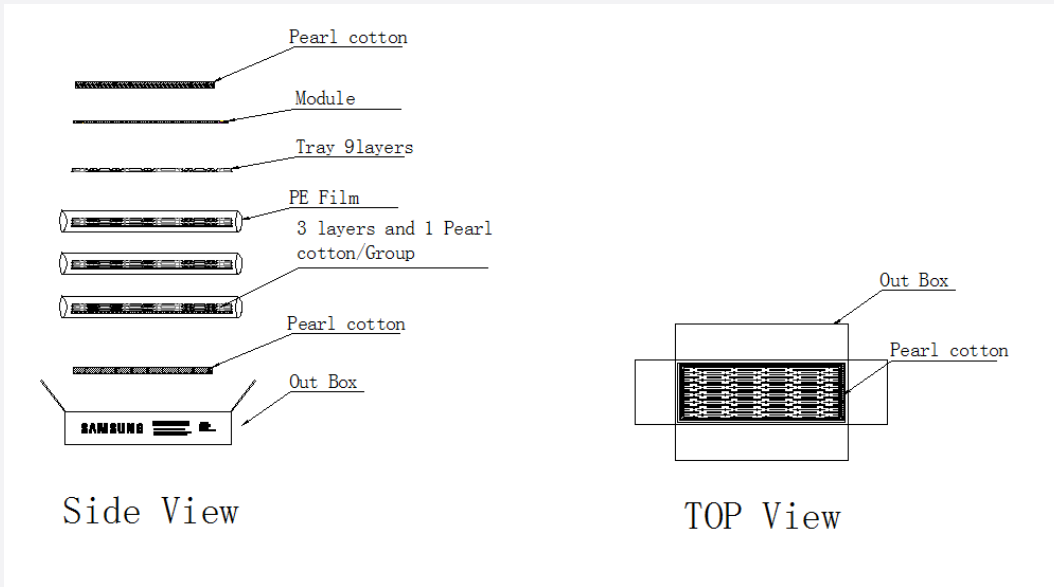
- ① Product code
- ② Lot ID
- ③ Place of origin
- ④ Quantity
- ⑤ Describe production week
- ⑥ Date of Issue

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## 6. Packing Structure

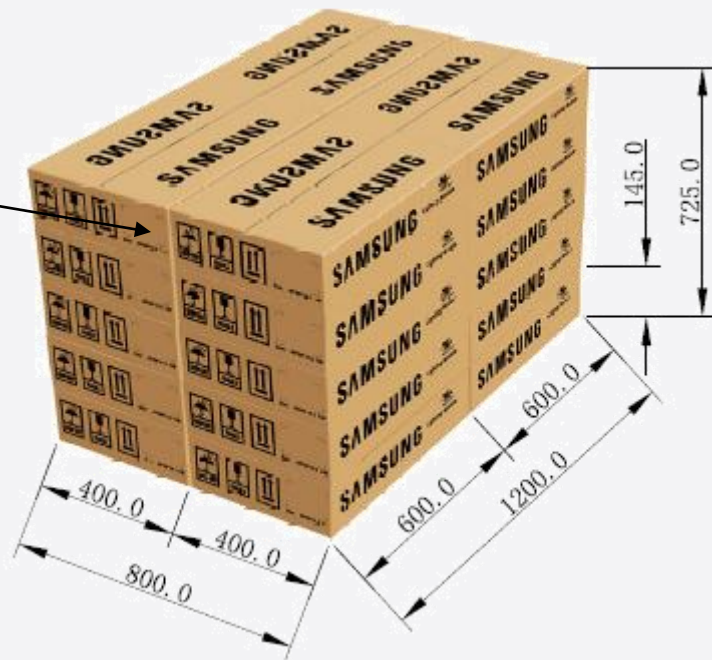
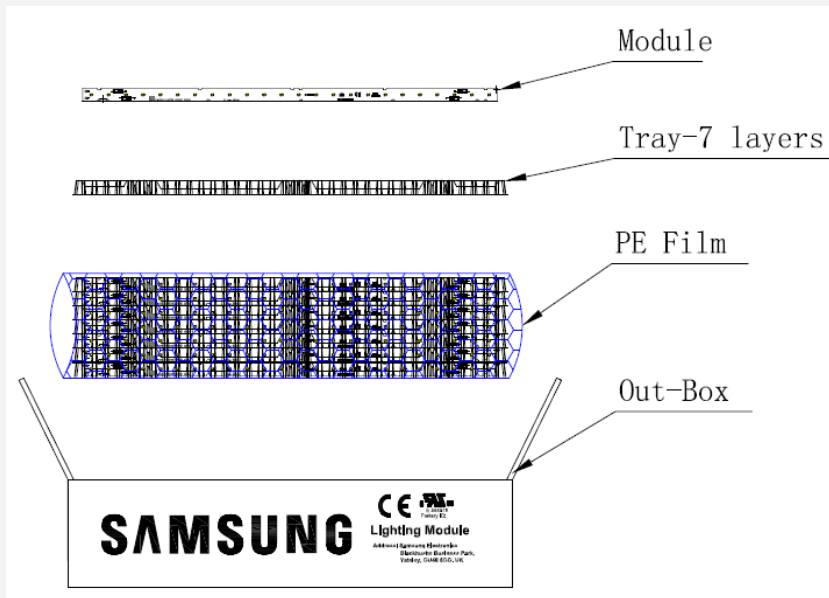
### a) Packing Structure For LT-VB22A, LT-VB22B, LT-VB22C

ARTICLE	TRAY	BOX	PALLET	REMARKS
Quantity	40ea	360ea	3600ea	LT-VB22A LT-VB22B LT-VB22C



**b) Packing Structure For V282A, V282B, V562A, V562B, V562C**

ARTICLE	TRAY	BOX	PALLET	REMARKS
Quantity	80ea	560ea	11200ea	V282A,V282B
Quantity	40ea	280ea	5600ea	V562A,V562B , V562C



## 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.

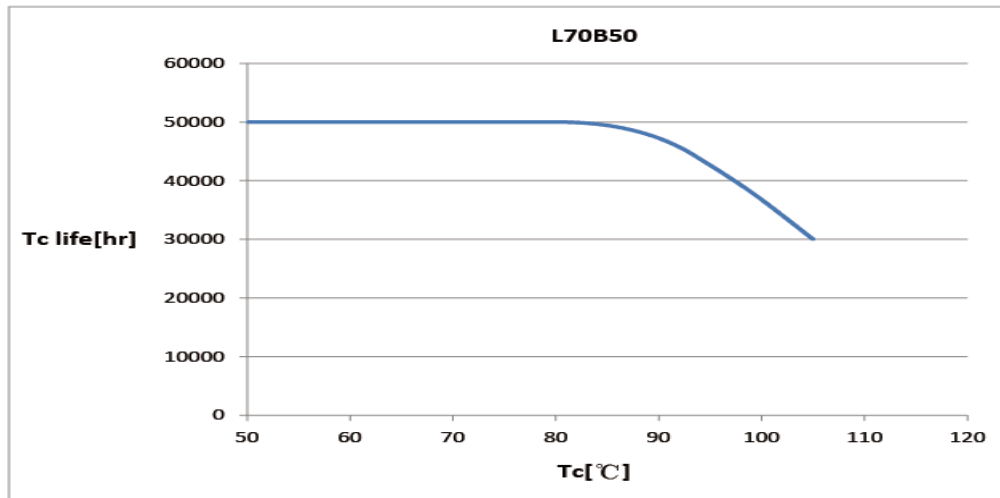
Do not directly look into lighted LED with naked eyes.

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. Tcvs Lifetime

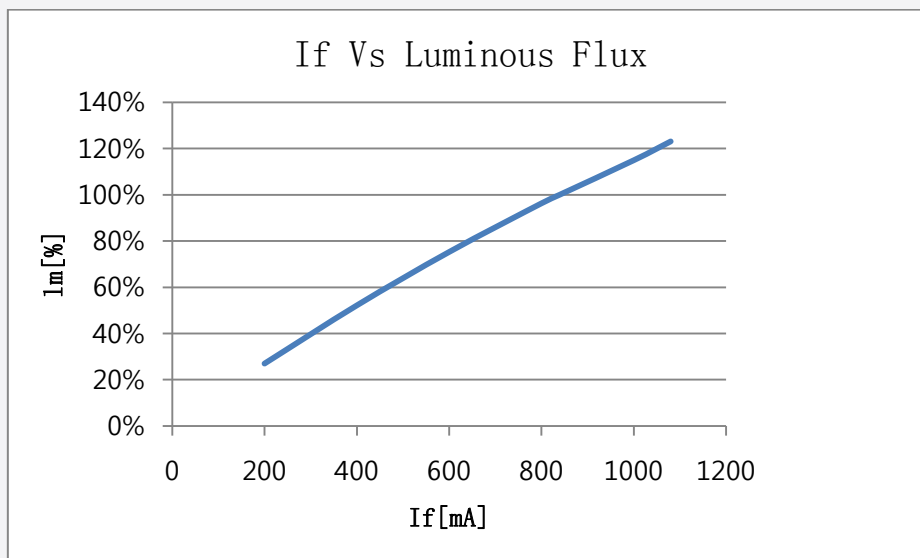
V282A, V282B, V562A, V562B, V562C, LT-VB22A, LT-VB22B, LT-VB22C



@150mA/LED

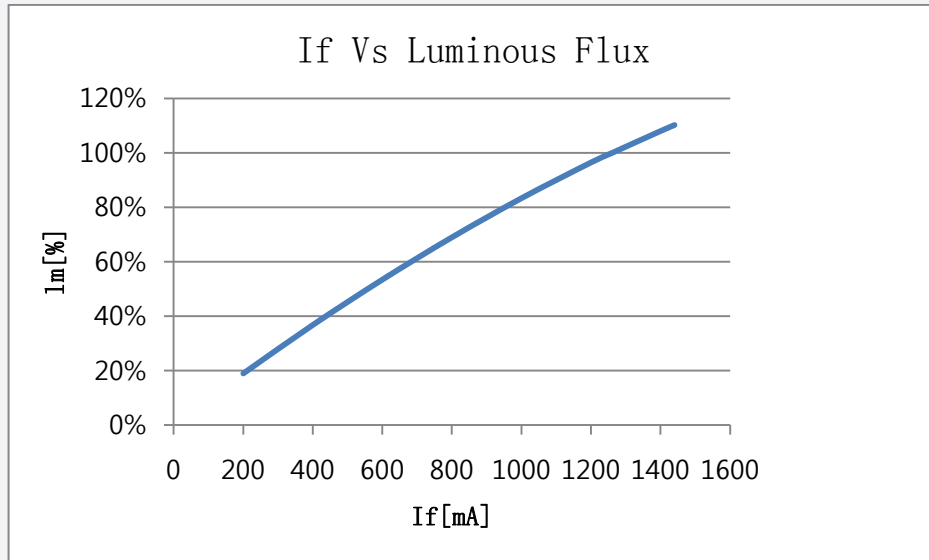
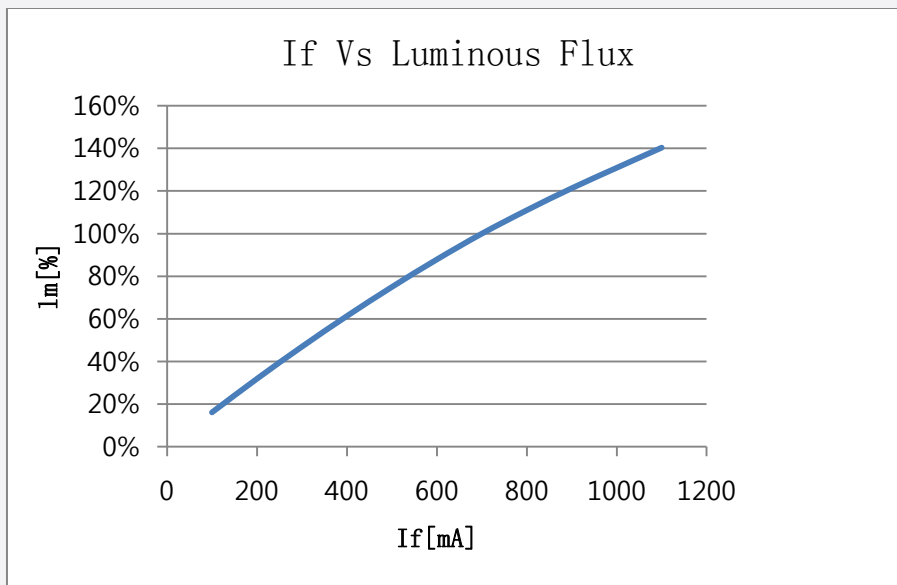
## APPENDIX 2. Ifvs Luminous Flux

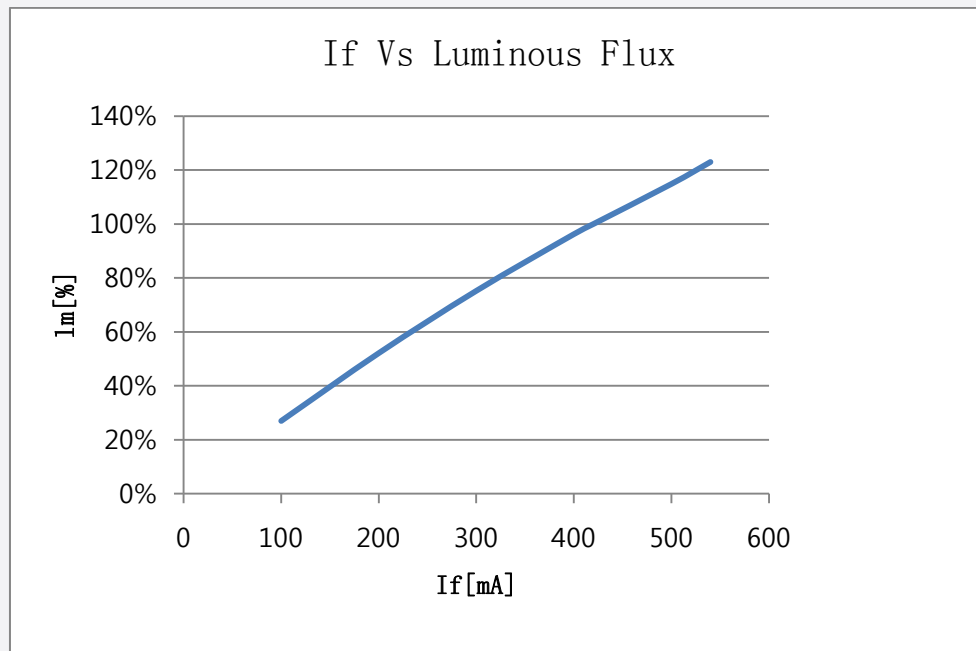
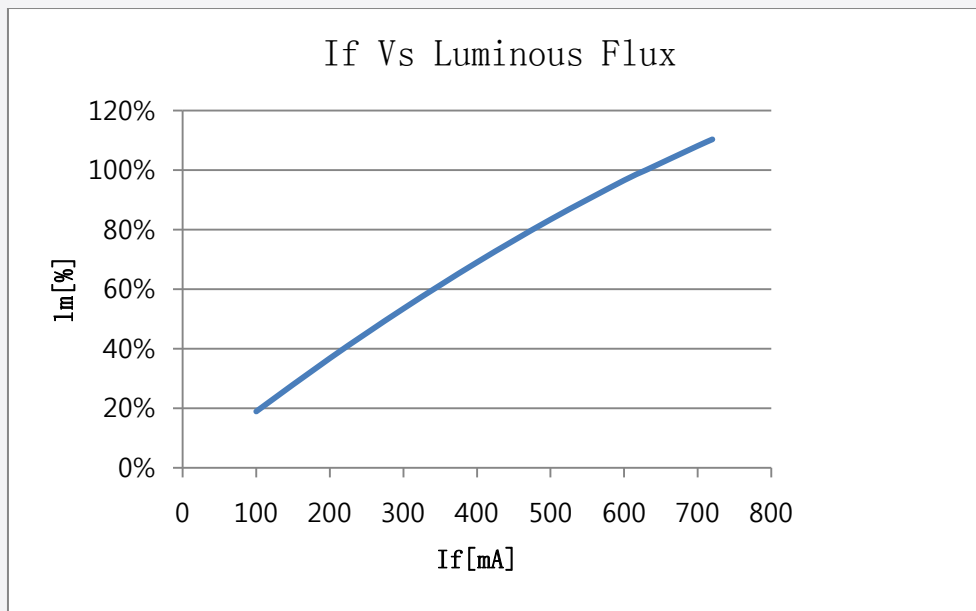
(a) LT-VB22A

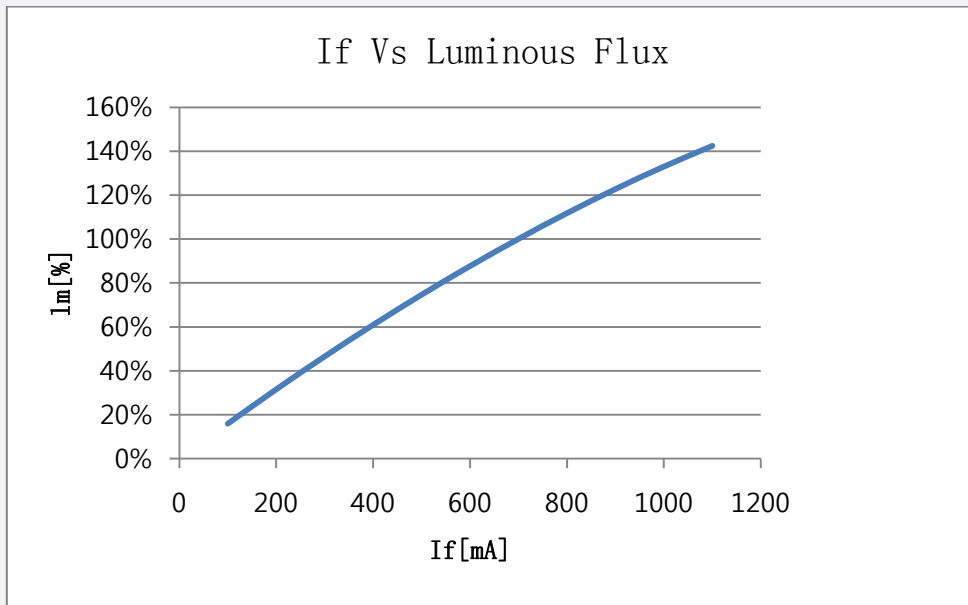
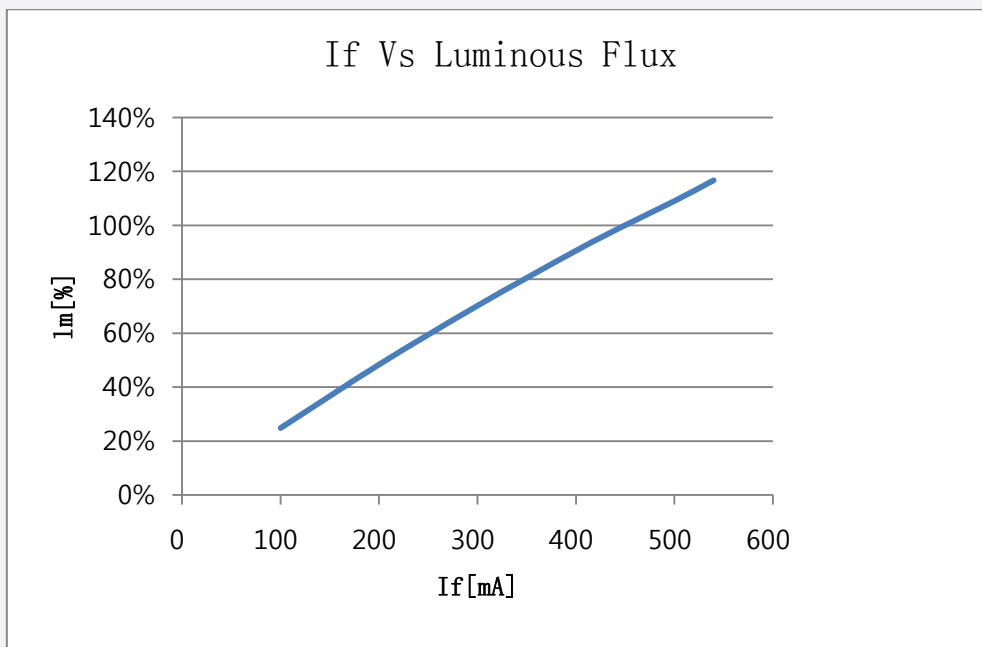


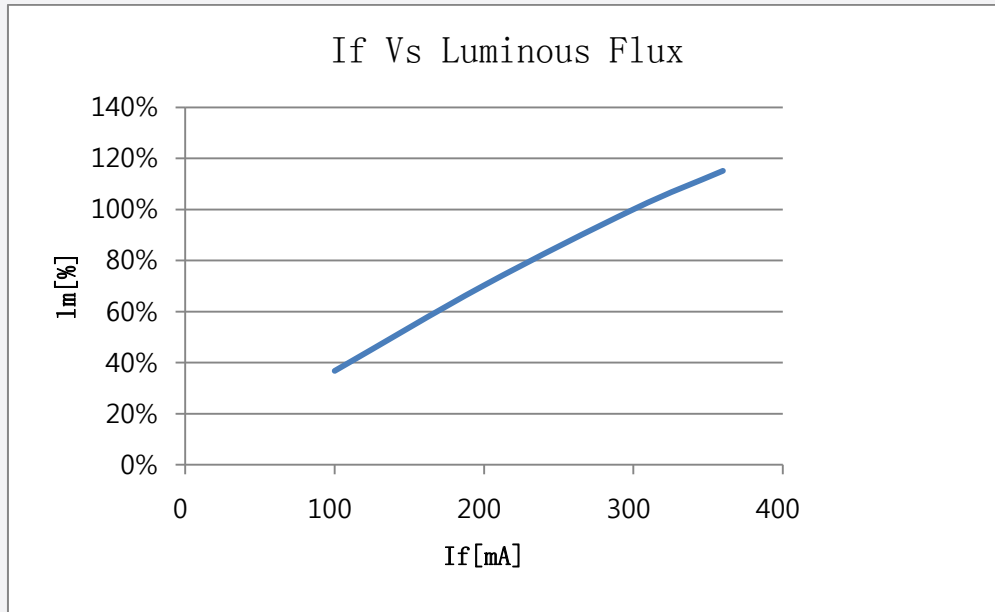
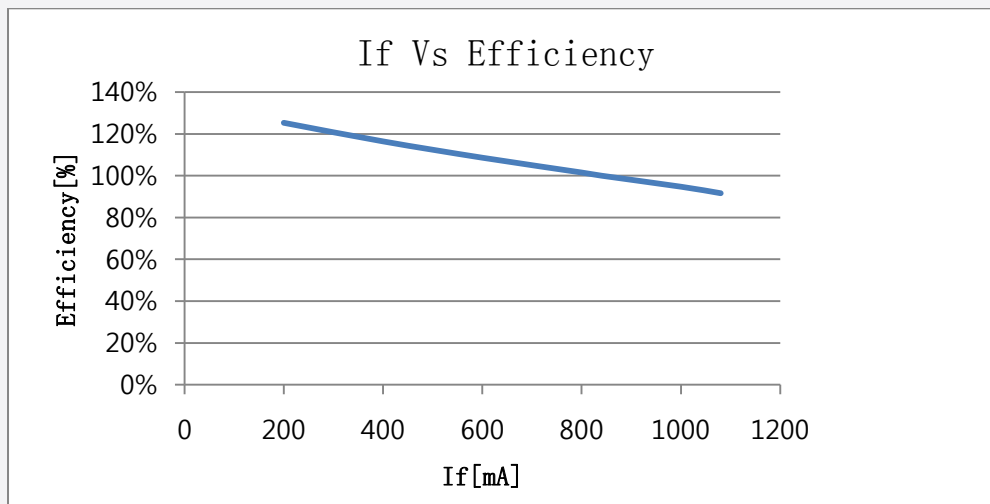
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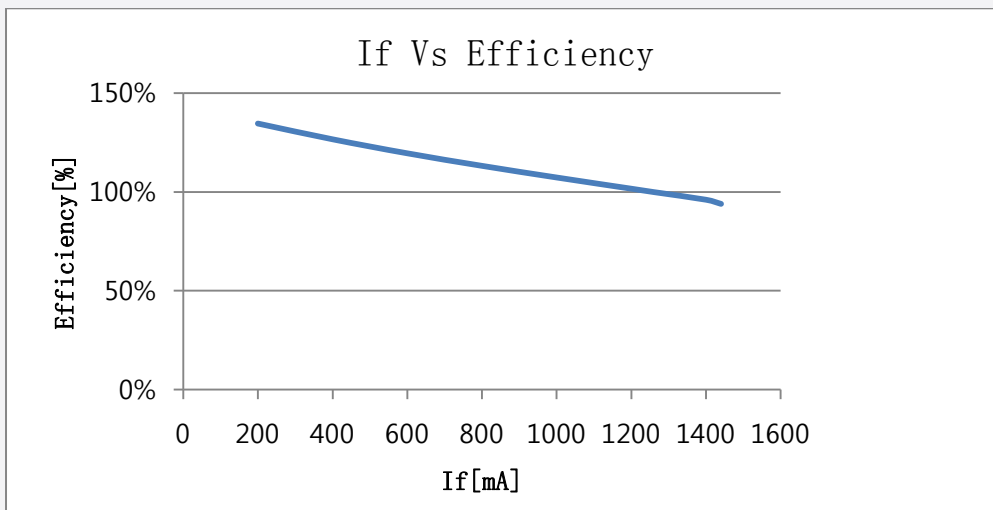
**(b) LT-VB22B****(c) LT-VB22C**

**(d) LT-V562A****(e) LT-V562B**

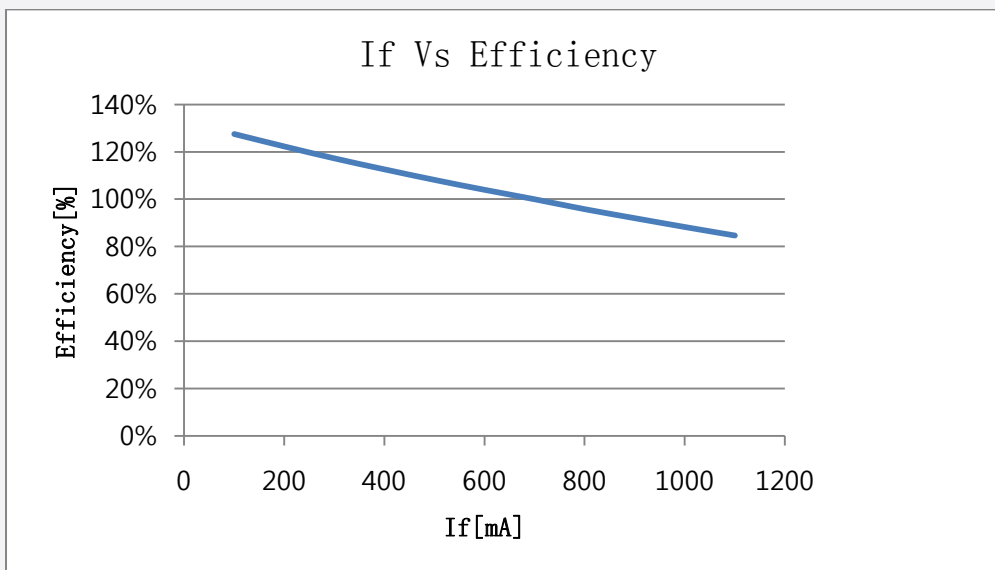
**(f) LT-V562C****(g) LT-V282A**

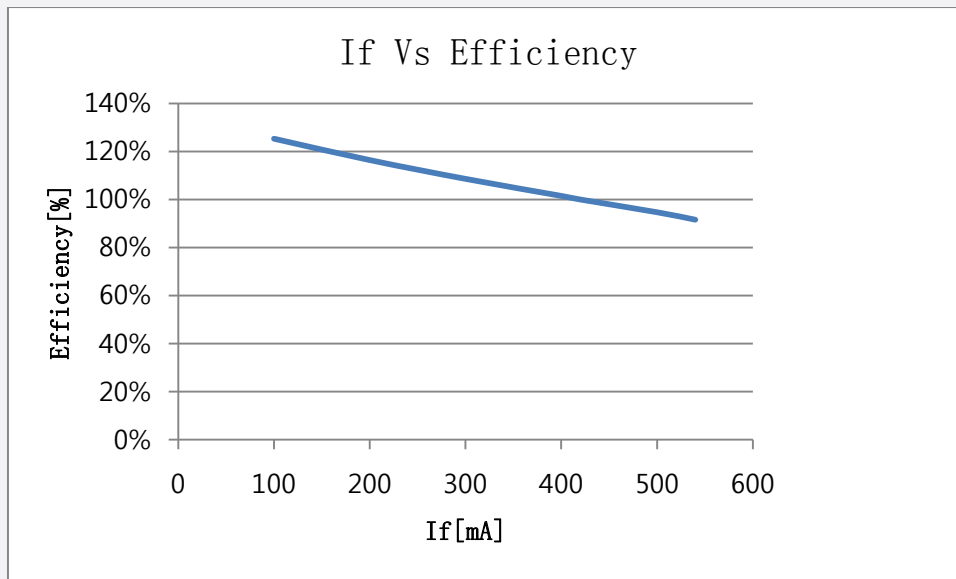
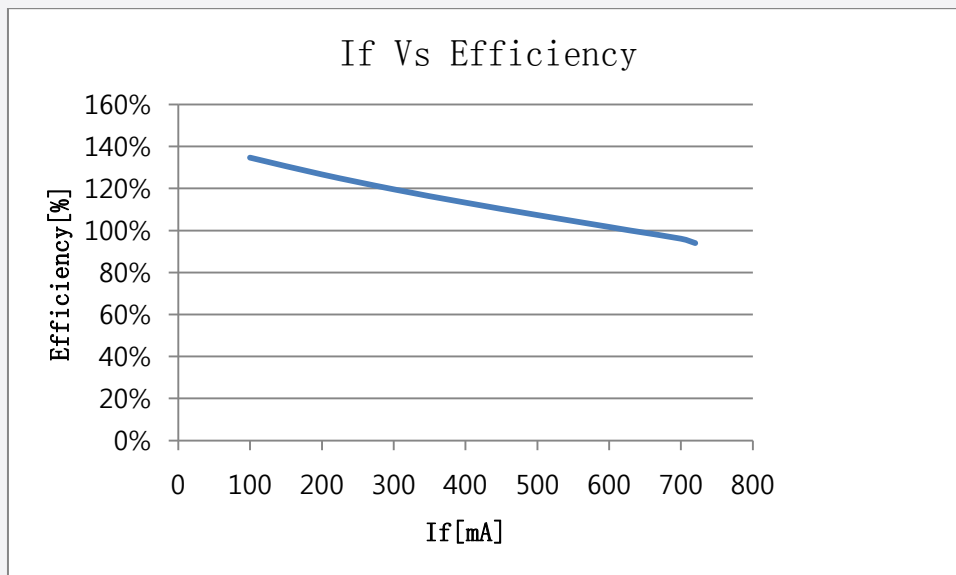
**(h) LT-V282B****APPENDIX 3. If vs Efficiency****(a) LT-VB22A**

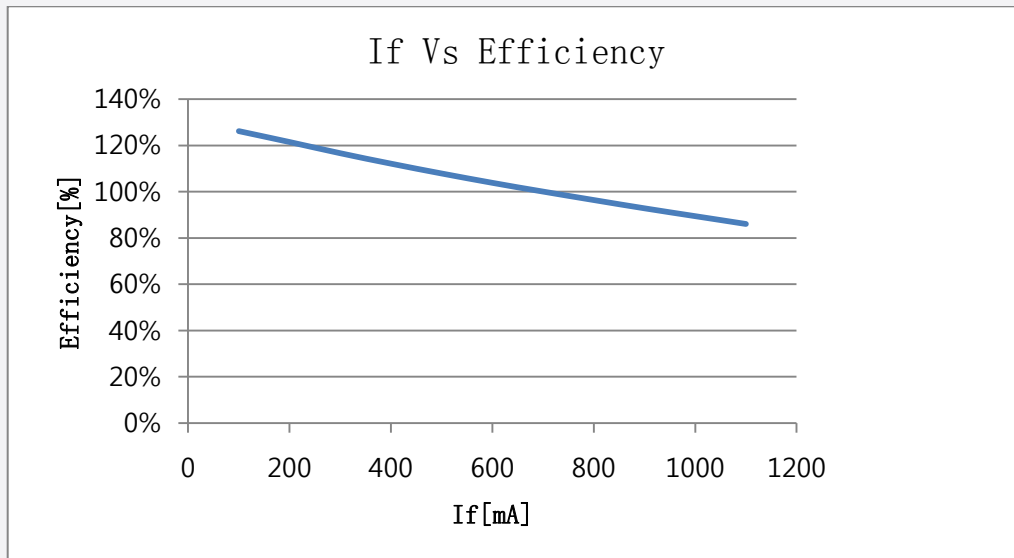
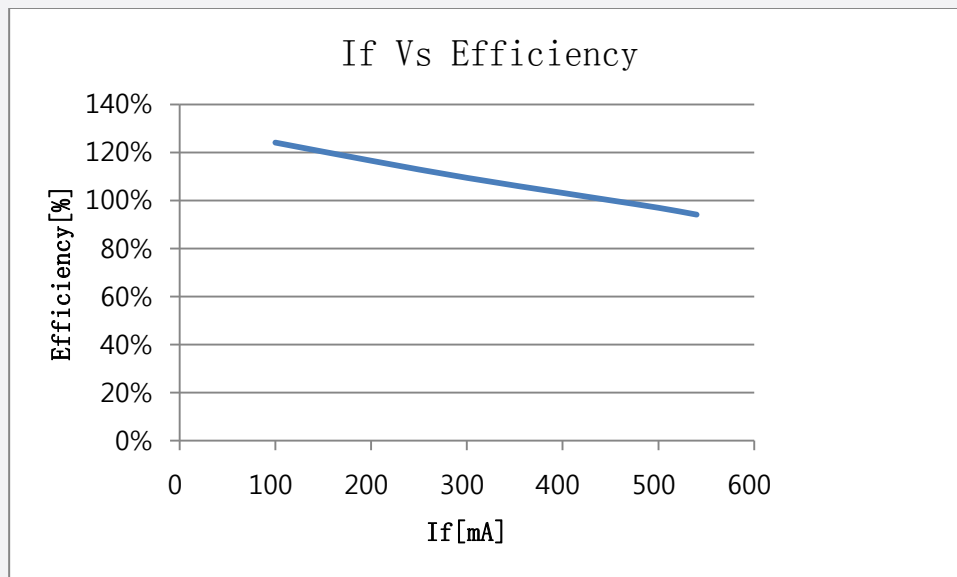
(b) LT-VB22B

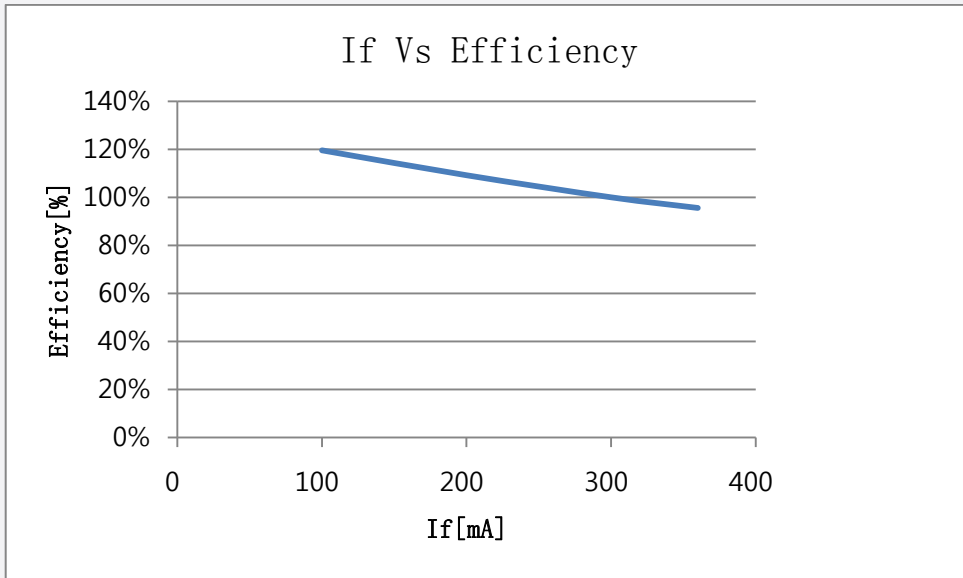


(c) LT-VB22C



**(d) LT-V562A****(e) LT-V562B**

**(f) LT-V562C****(g) LT-V282A**

**(h) LT-V282B**



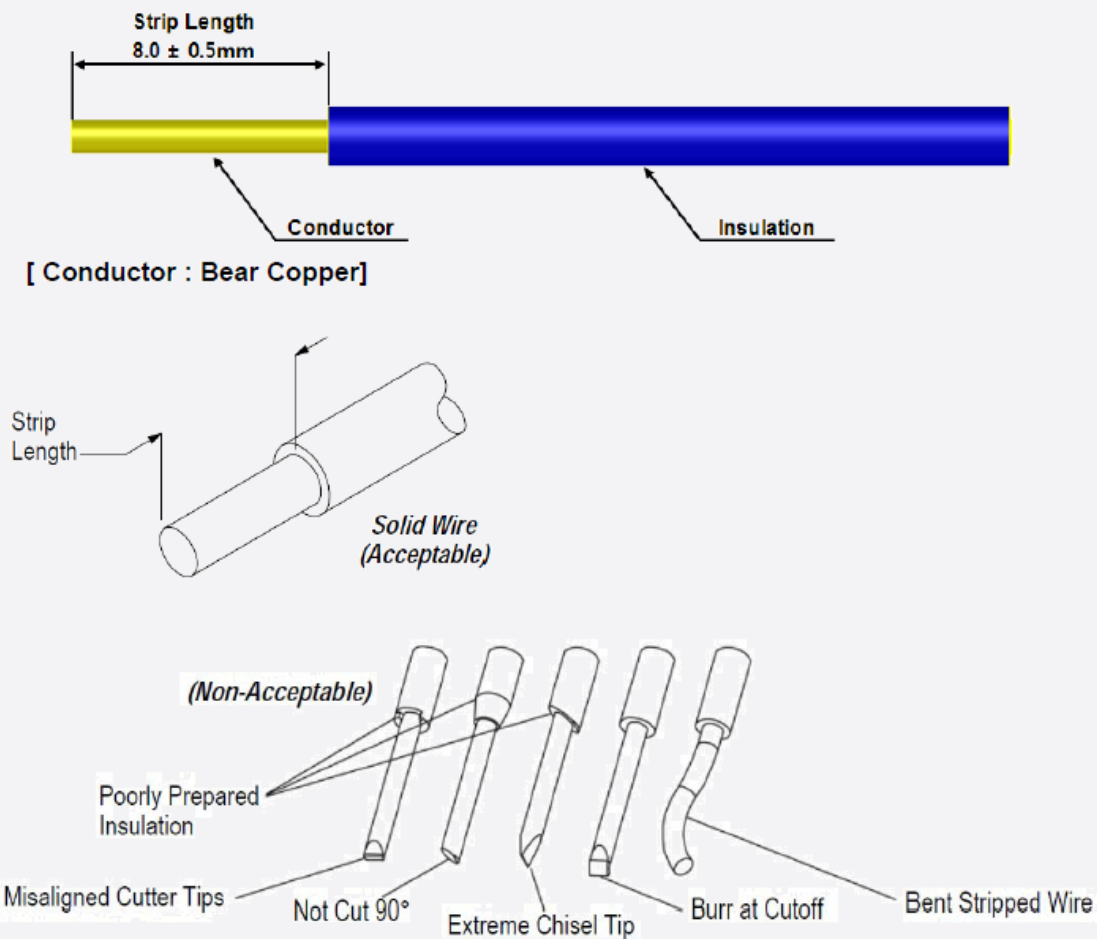
## APPENDIX 4. APPLICABLE SOLID WIRES

### 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  $\Phi 2.1\text{mm}$  Max

### B. Wire strip length



# Legal and additional information.

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