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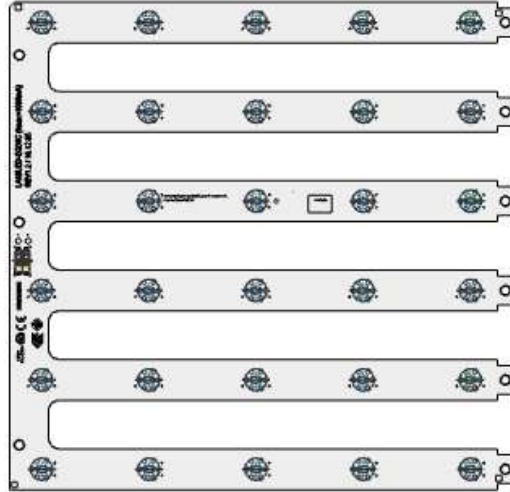
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LED Module

LAM-SQ30



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-B8V114250WW |
| 4000 | Front CNT | SI-B8T114250WW |
| 6500 | | SI-B8P114250WW |

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 (Φ_v) | 3000 | 1301 | 1445 | 1606 | lm | |
| | 4000 | 1364 | 1515 | 1683 | | |
| | 6500 | 1364 | 1515 | 1683 | | |
| Luminous Efficacy | 3000 | 123 | 137 | 152 | lm/W | |
| | 4000 | 129 | 143 | 159 | | |
| | 6500 | 129 | 143 | 159 | | |
| CCT | 3000 | 2862 | 3007 | 3163 | K | $I_f = 350 \text{ mA}$ $t_p = 50 \text{ }^\circ\text{C}$ |
| | 4000 | 3724 | 3914 | 4123 | | |
| | 6500 | 6002 | 6402 | 6866 | | |
| Color Consistency (initial) | | - | - | 5 | Mac Adam step | |
| | | - | - | 4 | | |
| | | - | - | 5 | | |
| Color Rendering Index (Ra) | | 80 | 83 | - | - | |
| Operating Current (I_f) | | - | 350 | 540 | mA | - |
| Operating Voltage (V_f) | | 27.8 | 30.2 | 32.8 | Vdc | $I_f = 350 \text{ mA}$ $t_p = 50 \text{ }^\circ\text{C}$ |
| Power Consumption | | 9.7 | 10.6 | 11.5 | W | |

Notes:

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

| Item | Nominal* | Life** | Max*** | Unit |
|-------------|--------------|------------------|-------------|------|
| Temperature | 50 (t_p) | 80($t_{p,50}$) | 85(t_c) | °C |

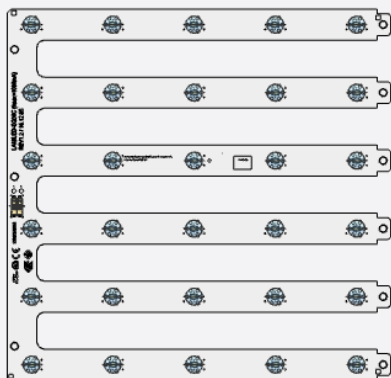
Notes:

- * 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.

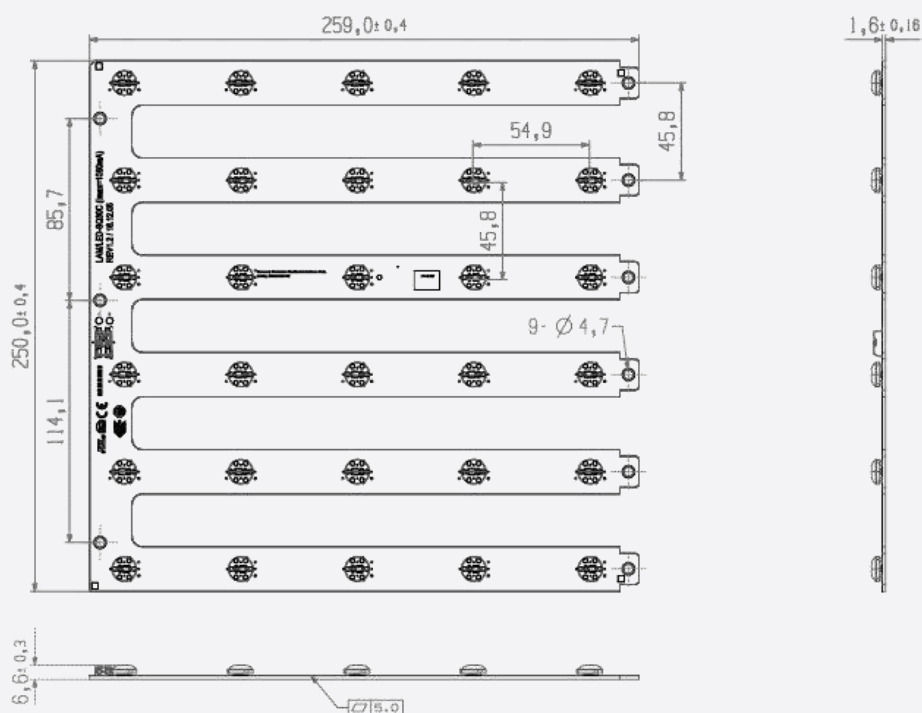
3. Structure and Assembly

a) Appearance



b) Dimension

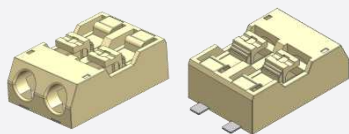
| Dimension | Specification | Tolerance | Unit |
|---------------|---------------|-----------|------|
| Module Length | 259.0 | ±0.4 | mm |
| Module Width | 250.0 | ±0.4 | mm |
| Module Height | 6.6 | ±0.3 | mm |
| PCB Thickness | 1.6 | ±0.16 | mm |
| Module Weight | 93 | ±4.7 | g |



c) Assembly

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

[Front connector]

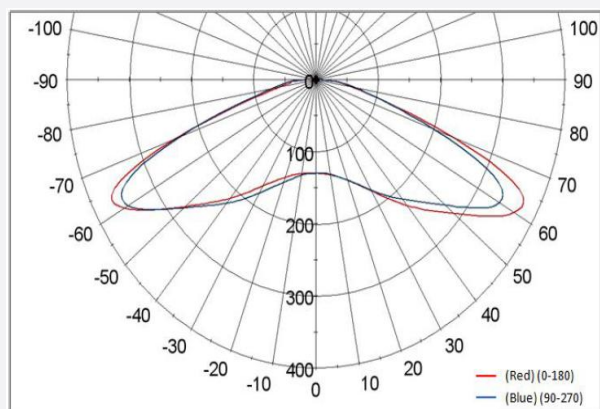


d) Structure

| Item | Specification |
|-----------|--|
| LED | LM561B+ Middle Power LED |
| PCB | Material: copper, solder mask, epoxy |
| LENS | Dimension : $\varnothing 11.56 \times 4.99$ [mm] |
| Connector | Reworkable poke-in connector type |
| Wire | 24~18 AWG; terminal strip length of 7.5~8.5 mm |

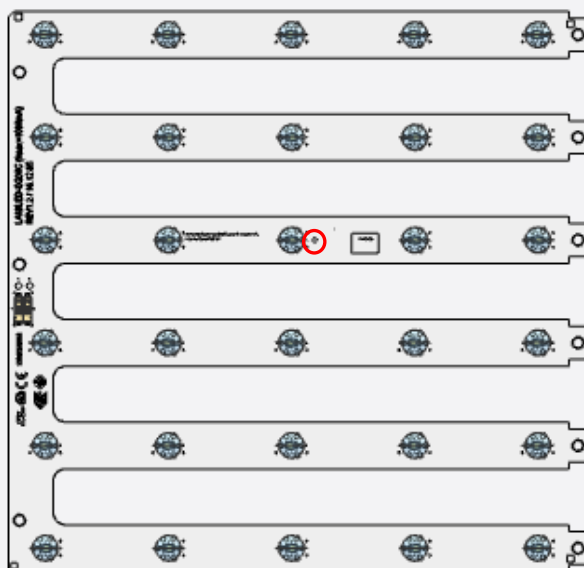
e) Light Distribution

Polar Intensity Diagram: Beam Angle $145 \pm 5^\circ$

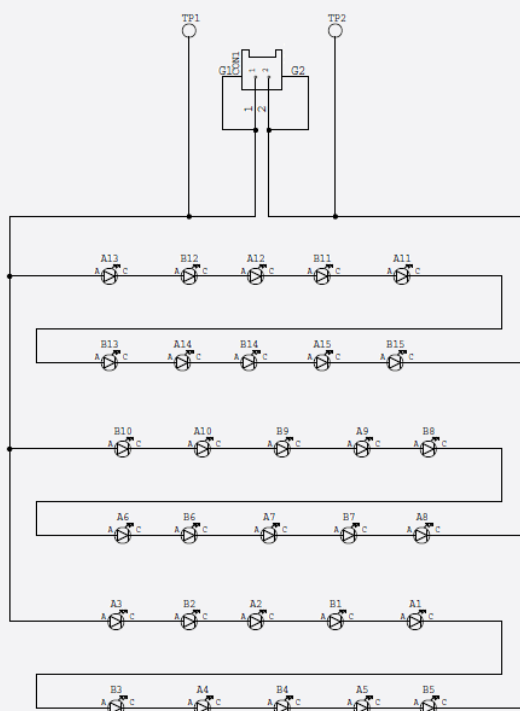


f) Thermal Management

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



g) Schematic Circuit



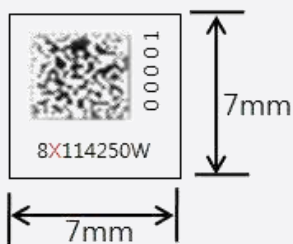
4. Certification and Declaration

| Item | Compliant to | Remark |
|----------------------|--------------------------------------|--------------------------------|
| Test & Certification | CE | IEC / EN 62031, IEC / EN 62471 |
| | ENEC | IEC / EN 62031, IEC / EN 62471 |
| | VDE | - |
| | UL | - |
| | cUL | - |
| | 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]



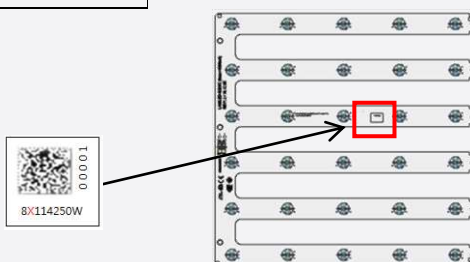
[Information of Barcode]

- ① Model code : SI-B8X114250WW
X : V(3000K), T(4000K), 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, 40, 65
- ⑦ LED Maker : -S (Samsung)
- ⑧ Group No. : 01 (Binning group)

[QR CODE Information]

- ① Example : SI-B8X114250WW_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-B8X114250WW |
| QR CODE Information | SI-B8X114250WW_N321100001YZ00K-S01 |



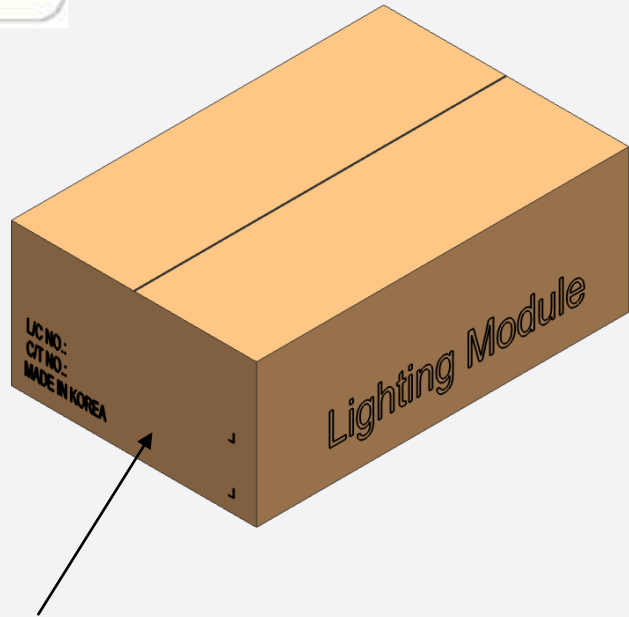
b) Box Label

- 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

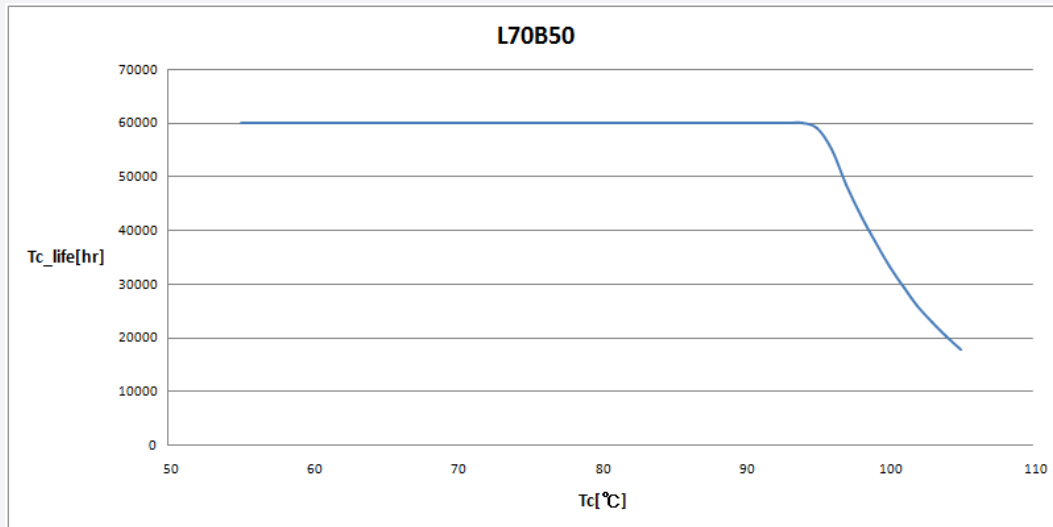
If over voltage which exceeds the absolute maximum rating is applied to LED Lighting Modules.

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

Do not directly look into lighted LED with naked eyes.

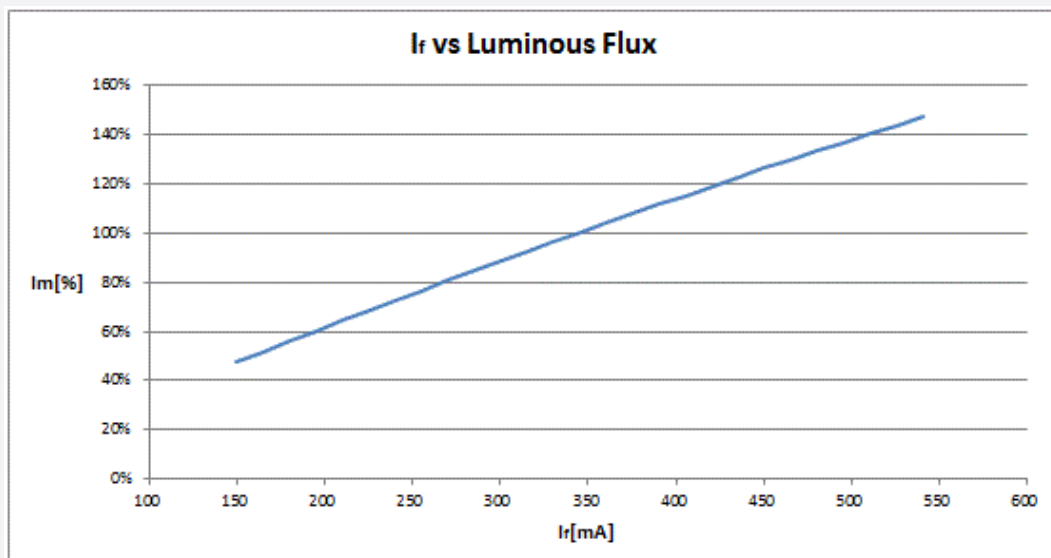
Please use this product within 5 months, which is kept in its original packaging unopened when stocked

APPENDIX 1. Tc vs Lifetime

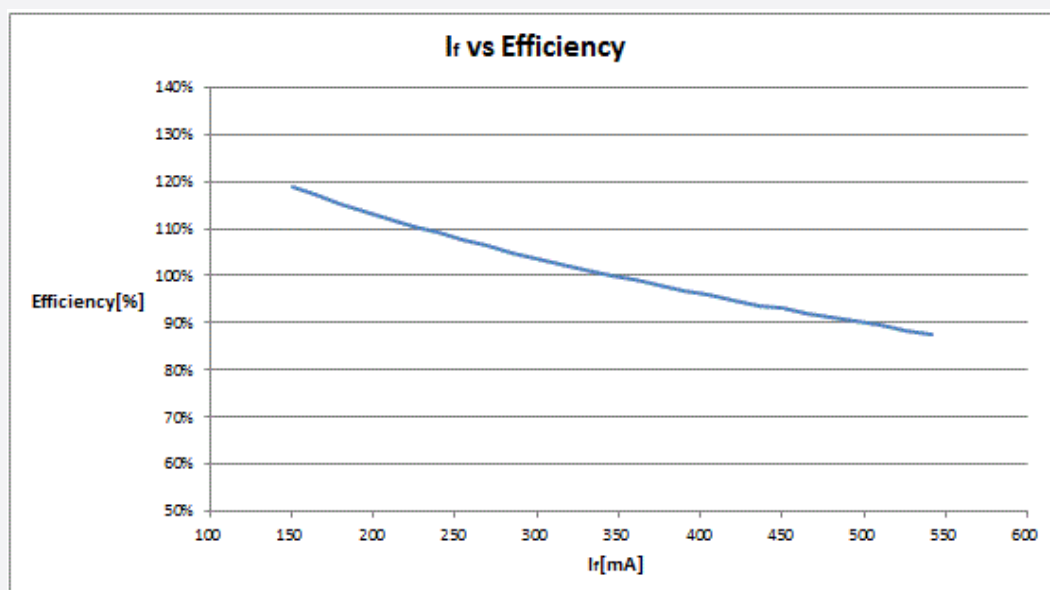


@150mA/LED

APPENDIX 2. I_f vs Luminous Flux



APPENDIX 3. I_f vs Efficiency



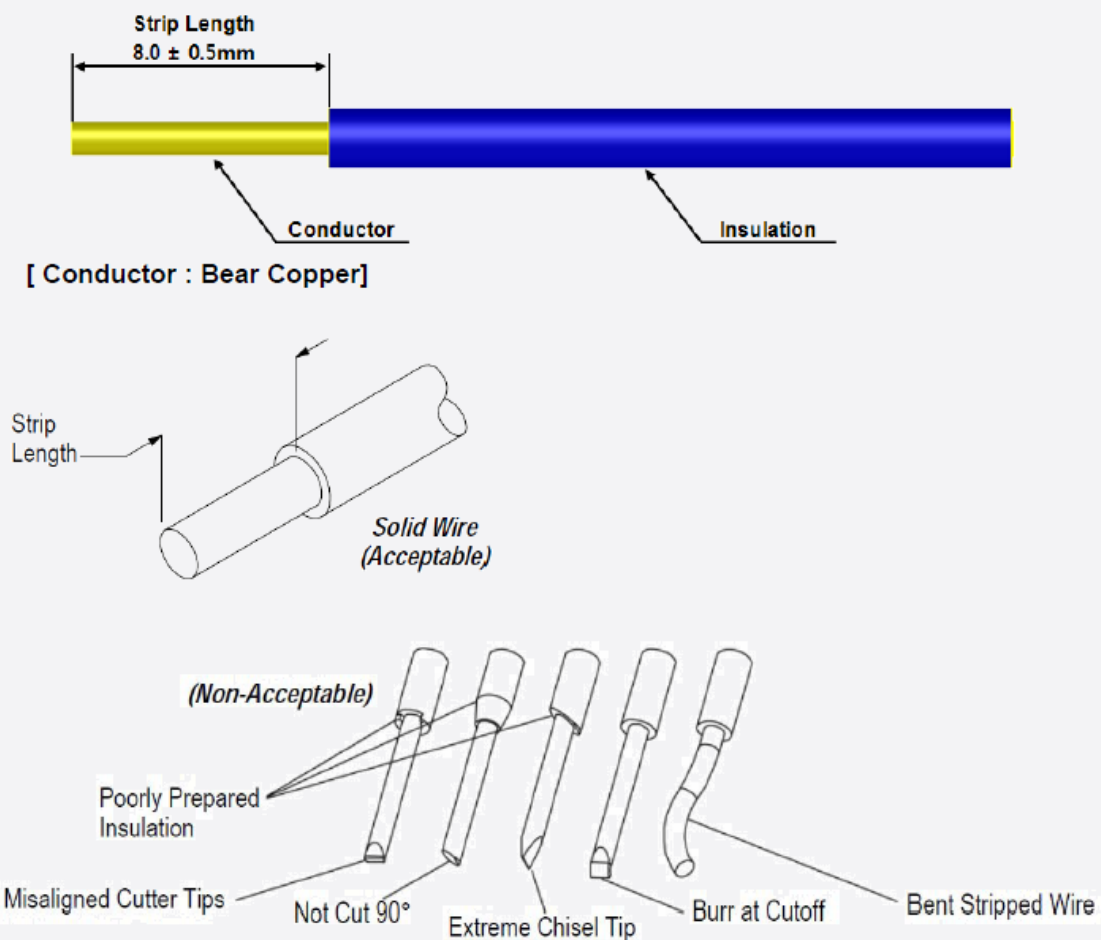
APPENDIX 4. Applicable Solid Wires

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 Φ 2.1mm Max.

B. Wire strip length



Legal and additional information.

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