

# Data sheet

Part number : ARGB131DFSE-10-TM



|                  |  |
|------------------|--|
| Package          | SMD Side view package, multicolor LED<br>Outer dimension 1.1 x 4.5 x 1.5mm ( L x W x H )   |
| Product features | <ul style="list-style-type: none"> <li>•RGB triangle layout, tri-color emitting</li> <li>•Operating temperature -40 to +85°C</li> <li>•Storage temperature -40 to +100°C</li> <li>•Lead-free soldering compatible</li> <li>•RoHS2 compliant</li> </ul> |

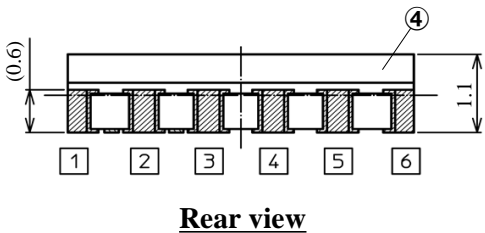
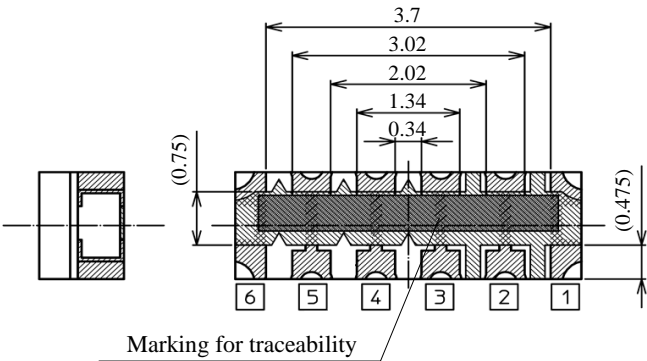
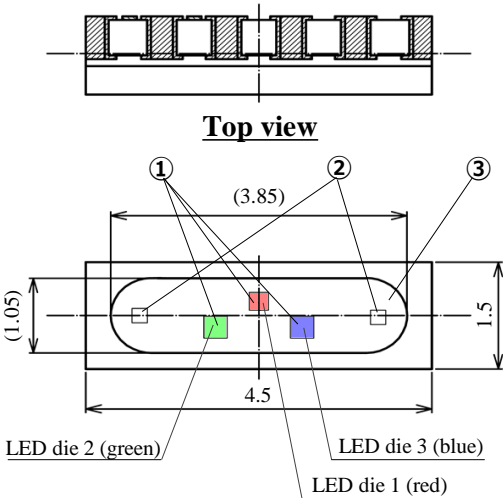
## Recommended applications

- Various control panels, decorative lighting
- Home appliances, office automation, factory automation, and other general-purpose indicators, etc.

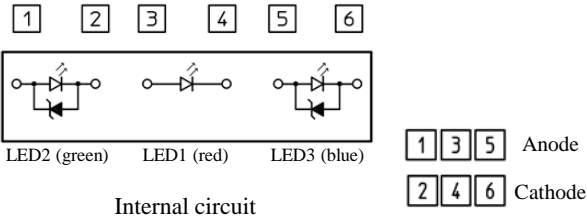
Outline dimensions

ARGB131DFSE-10-TM

Unit : mm  
Weight : 14mg  
Tolerance : ±0.1

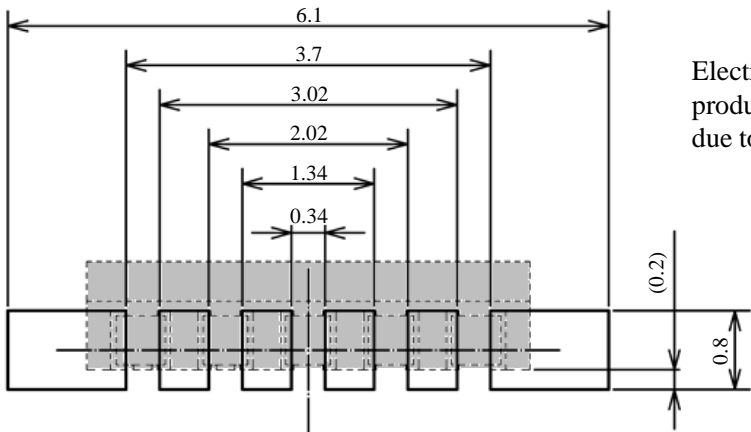


| No. | Part name        | Material       | Qty. |
|-----|------------------|----------------|------|
| ①   | LED die          | AlGaInP, InGaN | 3    |
| ②   | Protection diode | Si             | 2    |
| ③   | Encapsulant      | Silicone resin | 1    |
| ④   | Substrate        | Glass fabrics  | 1    |



Recommended soldering pattern

Unit : mm



Electrodes are present on the top surface of the product. Please take care to avoid short circuits due to contact with conductors.

## Specifications

## ARGB131DFSE-10-TM

## 【Product overview】

|               | LED die 1   | LED die 2 | LED die 3 |
|---------------|-------------|-----------|-----------|
| Die material  | AlGaInP     | InGaN     | InGaN     |
| Emitted color | Red         | Green     | Blue      |
| Resin color   | Milky white |           |           |

## 【Absolute maximum ratings】

Ta=25°C

| Item  |                      | Symbol           | LED die 1<br>Red | LED die 2<br>Green | LED die 3<br>Blue | Unit  |       |
|---|----------------------|------------------|------------------|--------------------|-------------------|-------|-------|
| Power Dissipation   |                      | $P_d$            | 90               | 126                | 126               | mW    |       |
| Total Value of Power Dissipation  |                      | $P_d$            | 255              |                    |                   | mW    | Note1 |
| Forward Current (1 LED lit)   |                      | $I_F$            | 30               | 30                 | 30                | mA    |       |
| Forward Current (2 or 3 LEDs lit)   |                      | $I_F$            | 30               | 25                 | 20                | mA    |       |
| Repetitive Peak Forward Current<br>(1 or 2 or 3 LEDs lit)                               |                      | $I_{FRM}$        | 100              | 100                | 100               | mA    |       |
| Forward current<br>reduction rate<br>【Ts=over 60°C】<br><br>Derate linearly<br>from 60°C | DC (1 LED lit)       | $\Delta I_F$     | 0.750            | 0.750              | 0.750             | mA/°C |       |
|   | DC (2 or 3 LEDs lit) |                  | 0.750            | 0.625              | 0.500             | mA/°C |       |
|   | Pulse (1 LED lit)    | $\Delta I_{FRM}$ | 2.50             | 2.50               | 2.50              | mA/°C | Note2 |
| Reverse Voltage   |                      | $V_R$            | 5                | -                  | -                 | V     |       |
| Reverse Current   |                      | $I_R$            | -                | 70                 | 70                | mA    |       |
| Operating Temperature   |                      | $T_{opr}$        | -40 to +85       |                    |                   | °C    |       |
| Storage Temperature   |                      | $T_{stg}$        | -40 to +100      |                    |                   | °C    |       |

Note1 This shall be the maximum permissible power dissipation when the lights are on at the same time in white (three colors at the same time).

Ta=Please refer to the technical data for the total permissible losses above 60°C.

Note2  $I_{FRM}$  conditions : Pulse width  $\leq 1\text{ms}$ , Duty  $\leq 1/20$

# Specifications

## ARGB131DFSE-10-TM

### 【Electro-optical characteristics】

LED die 1 **Red**

(Ta=25°C)

| Item                | Symbol      | Conditions          | MIN. | TYP. | MAX. | Unit          |
|---------------------|-------------|---------------------|------|------|------|---------------|
| Forward Voltage     | $V_F$       | $I_F = 26\text{mA}$ | 1.6  | 2.1  | 2.8  | V             |
| Reverse Current     | $I_R$       | $V_R = 5\text{V}$   | -    | -    | 50   | $\mu\text{A}$ |
| Luminous Intensity  | $I_V$       | $I_F = 26\text{mA}$ | -    | 900  | -    | mcd           |
| Dominant Wavelength | $\lambda_d$ | $I_F = 26\text{mA}$ | -    | 621  | -    | nm            |

LED die 2 **Green**

(Ta=25°C)

| Item                | Symbol      | Conditions          | MIN. | TYP.  | MAX. | Unit |
|---------------------|-------------|---------------------|------|-------|------|------|
| Forward Voltage     | $V_F$       | $I_F = 17\text{mA}$ | 2.1  | 2.7   | 3.5  | V    |
| Luminous Intensity  | $I_V$       | $I_F = 17\text{mA}$ | -    | 2,000 | -    | mcd  |
| Dominant Wavelength | $\lambda_d$ | $I_F = 17\text{mA}$ | -    | 527   | -    | nm   |

LED die 3 **Blue**

(Ta=25°C)

| Item                | Symbol      | Conditions          | MIN. | TYP. | MAX. | Unit |
|---------------------|-------------|---------------------|------|------|------|------|
| Forward Voltage     | $V_F$       | $I_F = 15\text{mA}$ | 2.4  | 3.0  | 3.8  | V    |
| Luminous Intensity  | $I_V$       | $I_F = 15\text{mA}$ | -    | 250  | -    | mcd  |
| Dominant Wavelength | $\lambda_d$ | $I_F = 15\text{mA}$ | -    | 467  | -    | nm   |

All LED lighted

(Ta=25°C)

| Item                     | Symbol | Conditions                  | MIN. | TYP.  | MAX. | Unit |
|--------------------------|--------|-----------------------------|------|-------|------|------|
| Total luminous intensity | $I_V$  | Red : $I_F = 26\text{mA}$   |      | 3,050 |      | mcd  |
| Chromaticity coordinates | x      | Green : $I_F = 17\text{mA}$ |      | 0.30  |      | -    |
|                          | y      | Blue : $I_F = 15\text{mA}$  |      | 0.32  |      | -    |

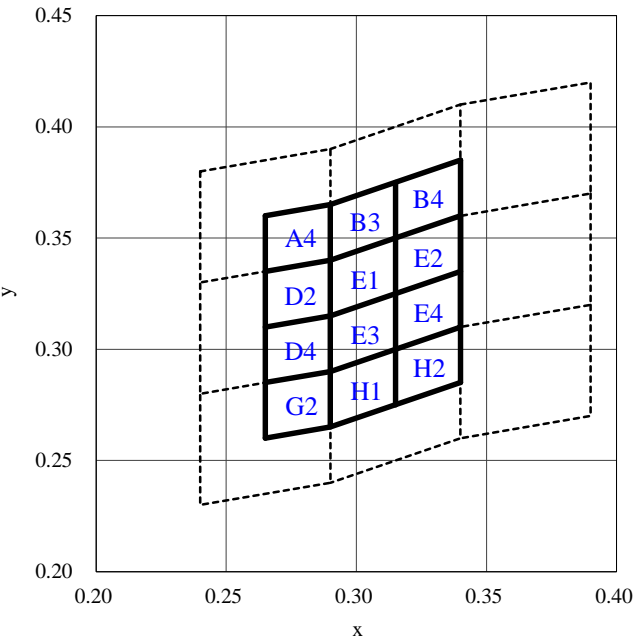
Please refer to page 5, the chromaticity coordinate sorting chart.

Specifications

ARGB131DFSE-10-TM

【Sorting chart for chromaticity coordinates】

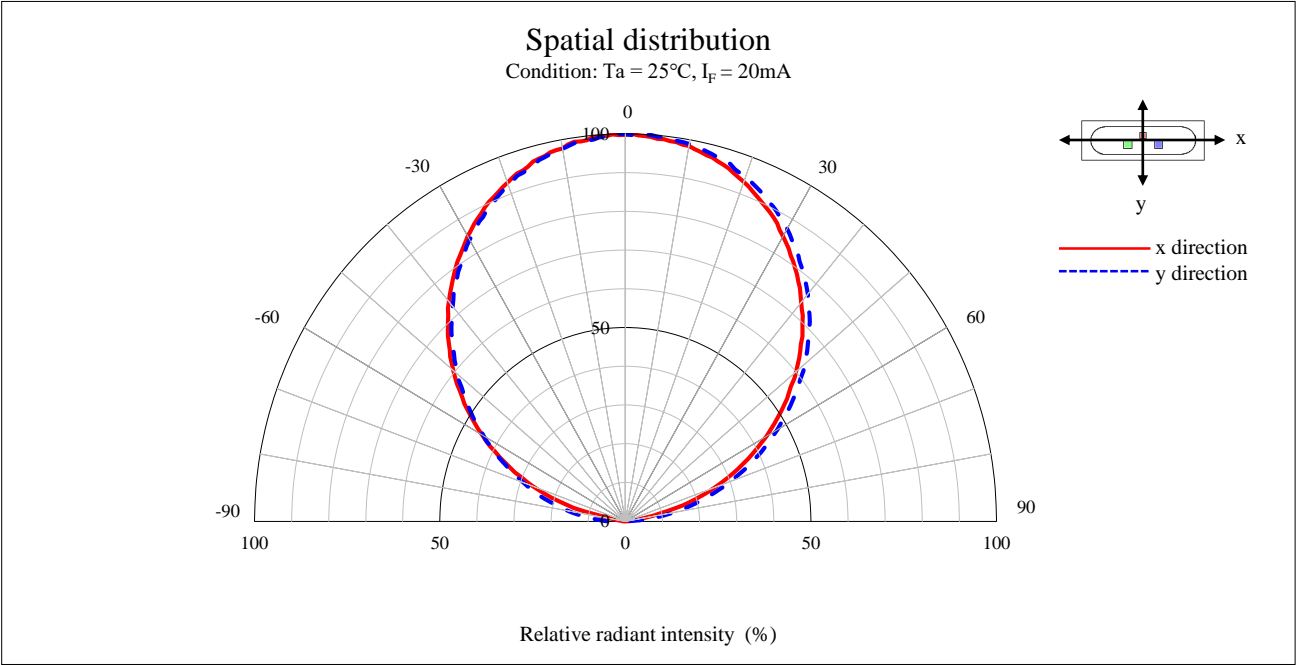
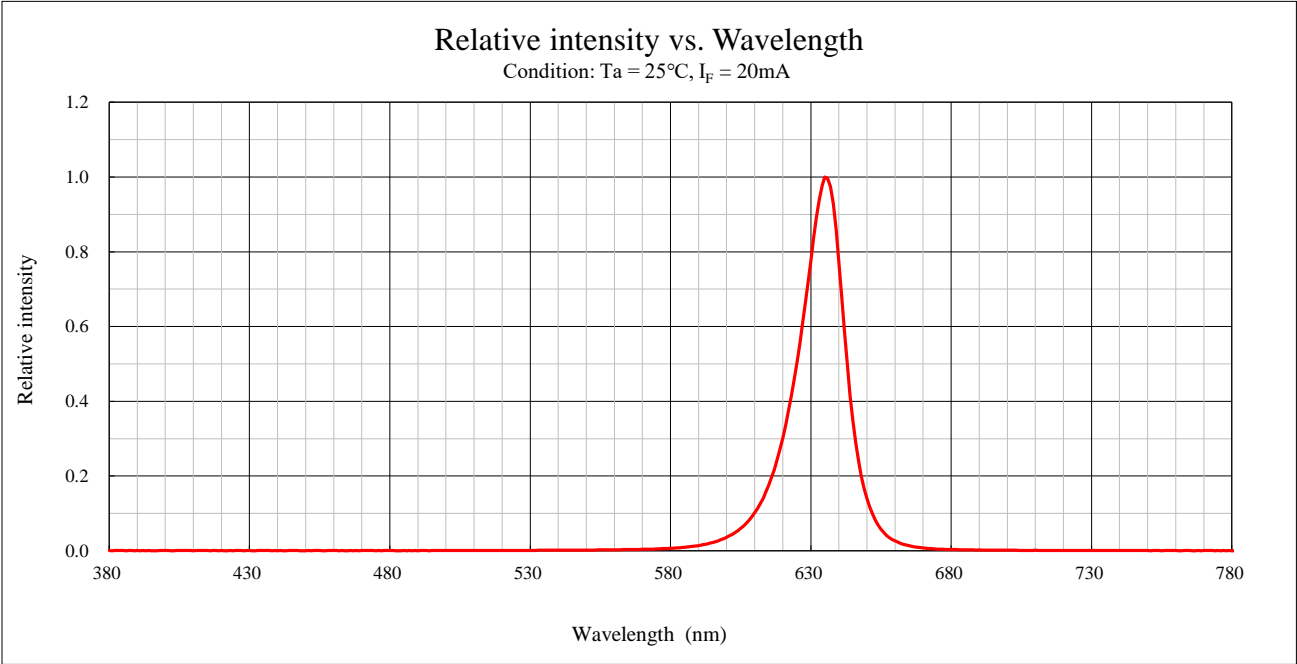
LEDs shall be sorted out into the following chart and each rank parts shall be packed separately when shipping.



Red :  $I_F=26\text{mA}$ , Green :  $I_F=17\text{mA}$ , Blue :  $I_F=15\text{mA}$

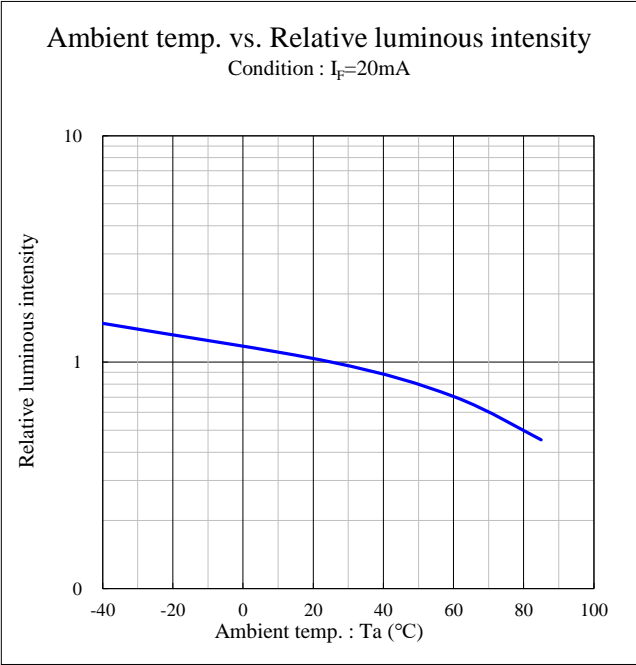
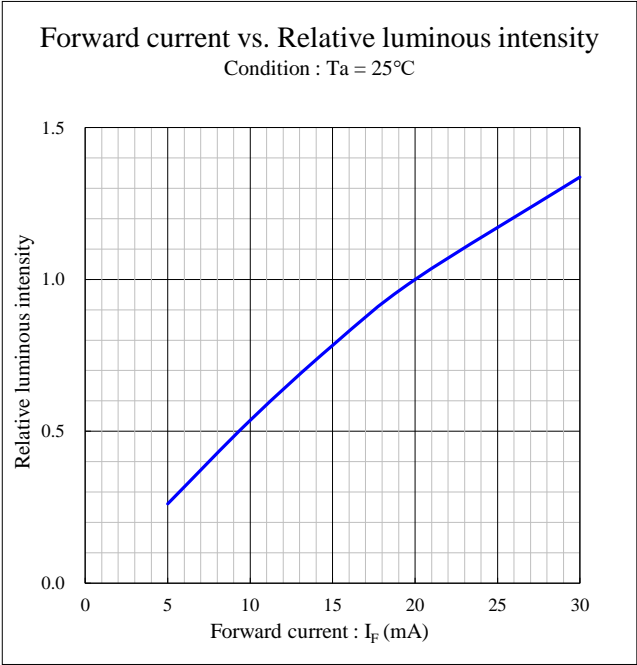
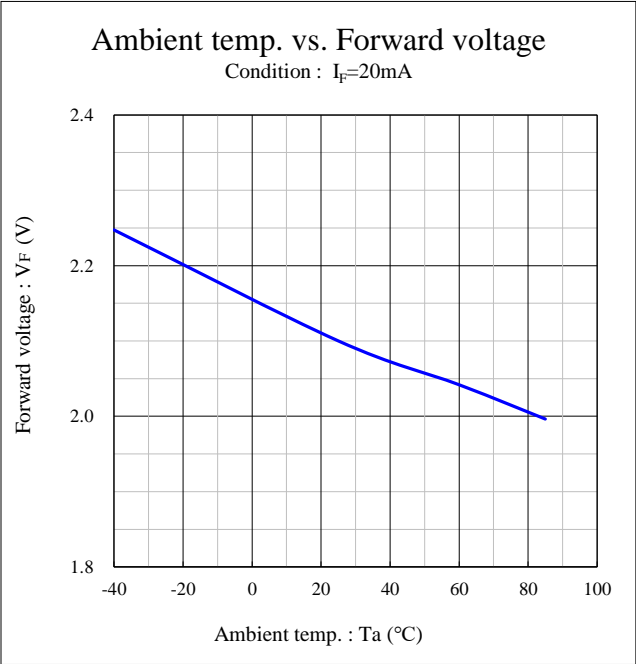
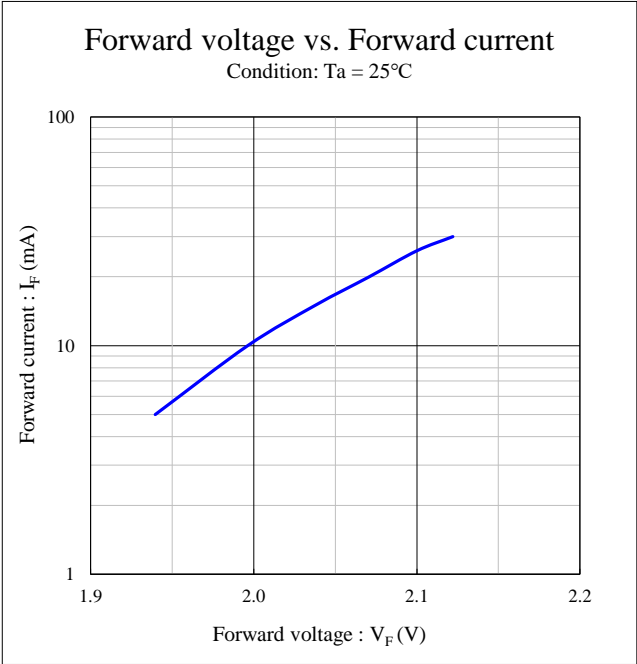
| Rank | Left down |       | Left upper |       | Right upper |       | Right down |       |
|------|-----------|-------|------------|-------|-------------|-------|------------|-------|
|      | x         | y     | x          | y     | x           | y     | x          | y     |
| A4   | 0.265     | 0.335 | 0.265      | 0.360 | 0.290       | 0.365 | 0.290      | 0.340 |
| B3   | 0.290     | 0.340 | 0.290      | 0.365 | 0.315       | 0.375 | 0.315      | 0.350 |
| B4   | 0.315     | 0.350 | 0.315      | 0.375 | 0.340       | 0.385 | 0.340      | 0.360 |
| D2   | 0.265     | 0.310 | 0.265      | 0.335 | 0.290       | 0.340 | 0.290      | 0.315 |
| D4   | 0.265     | 0.285 | 0.265      | 0.310 | 0.290       | 0.315 | 0.290      | 0.290 |
| E1   | 0.290     | 0.315 | 0.290      | 0.340 | 0.315       | 0.350 | 0.315      | 0.325 |
| E2   | 0.315     | 0.325 | 0.315      | 0.350 | 0.340       | 0.360 | 0.340      | 0.335 |
| E3   | 0.290     | 0.290 | 0.290      | 0.315 | 0.315       | 0.325 | 0.315      | 0.300 |
| E4   | 0.315     | 0.300 | 0.315      | 0.325 | 0.340       | 0.335 | 0.340      | 0.310 |
| G2   | 0.265     | 0.260 | 0.265      | 0.285 | 0.290       | 0.290 | 0.290      | 0.265 |
| H1   | 0.290     | 0.265 | 0.290      | 0.290 | 0.315       | 0.300 | 0.315      | 0.275 |
| G2   | 0.315     | 0.275 | 0.315      | 0.300 | 0.340       | 0.310 | 0.340      | 0.285 |

Note The above values are the settings of the sorting machine.  
Tolerance:  $\pm 0.02$



Technical Data    **Red**

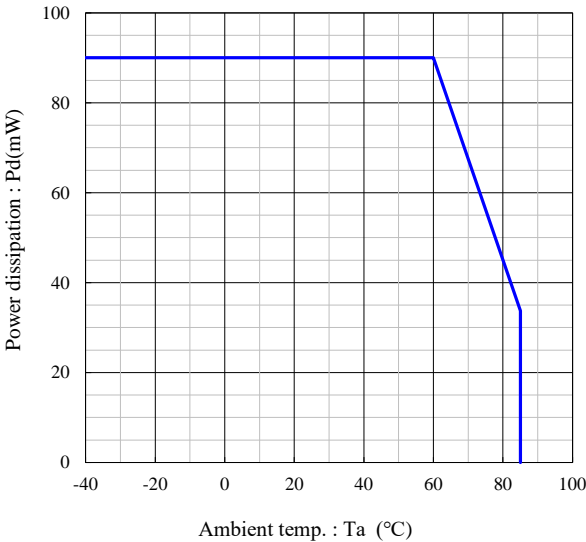
ARGB131DFSE-10-TM



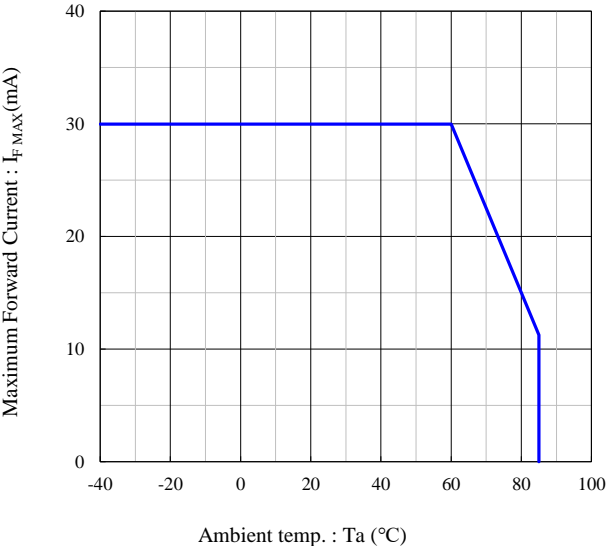
Technical Data    Red

ARGB131DFSE-10-TM

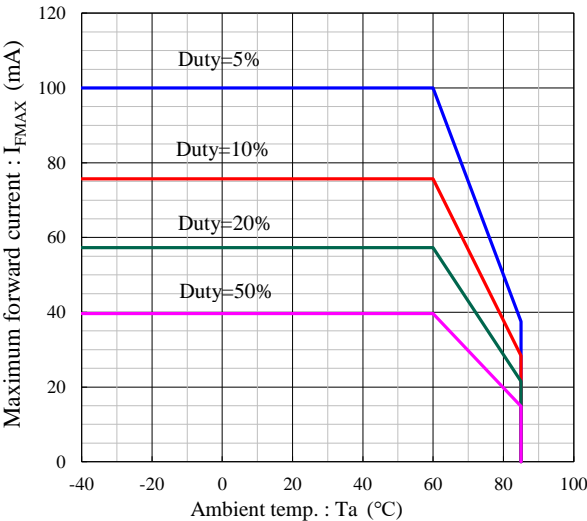
Power Dissipation vs. Ambient Temperature



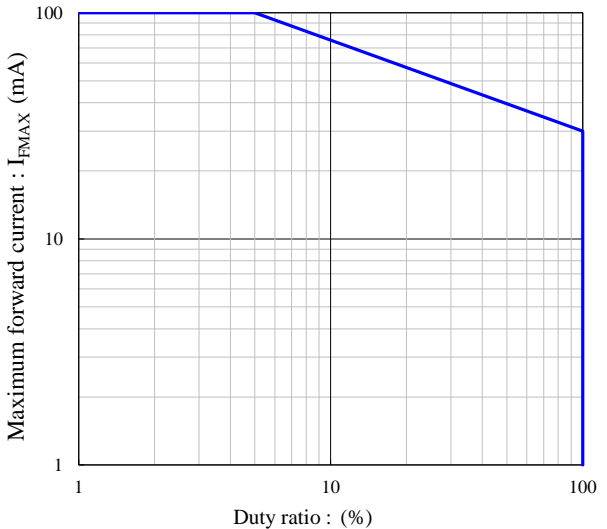
Ambient Temperature vs. Maximum Forward Current



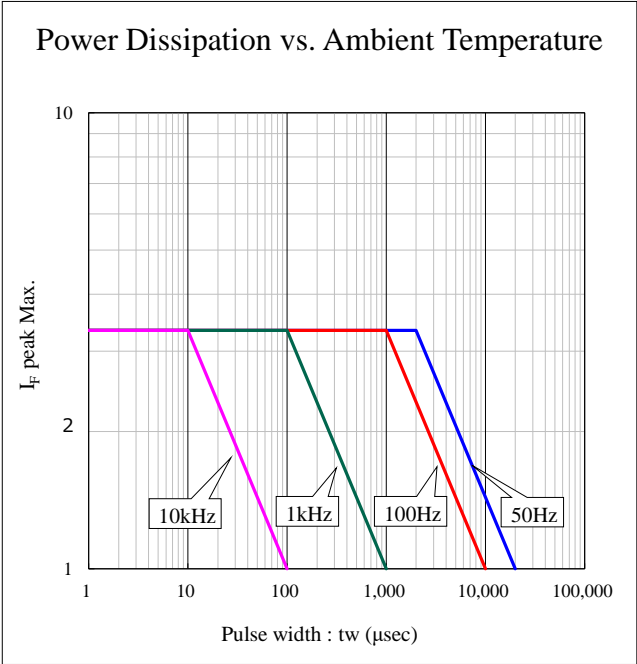
Ambient temperature vs. Max. Forward Current  
Condition : Repetition frequency  $\geq 50\text{Hz}$

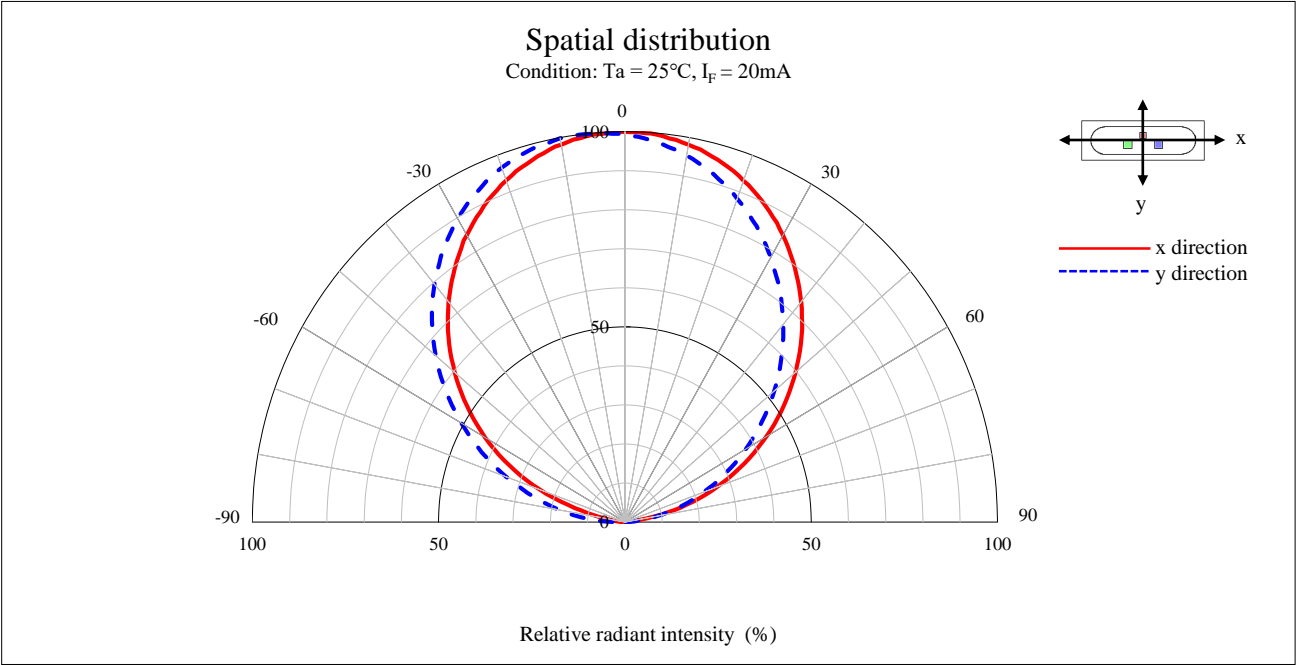
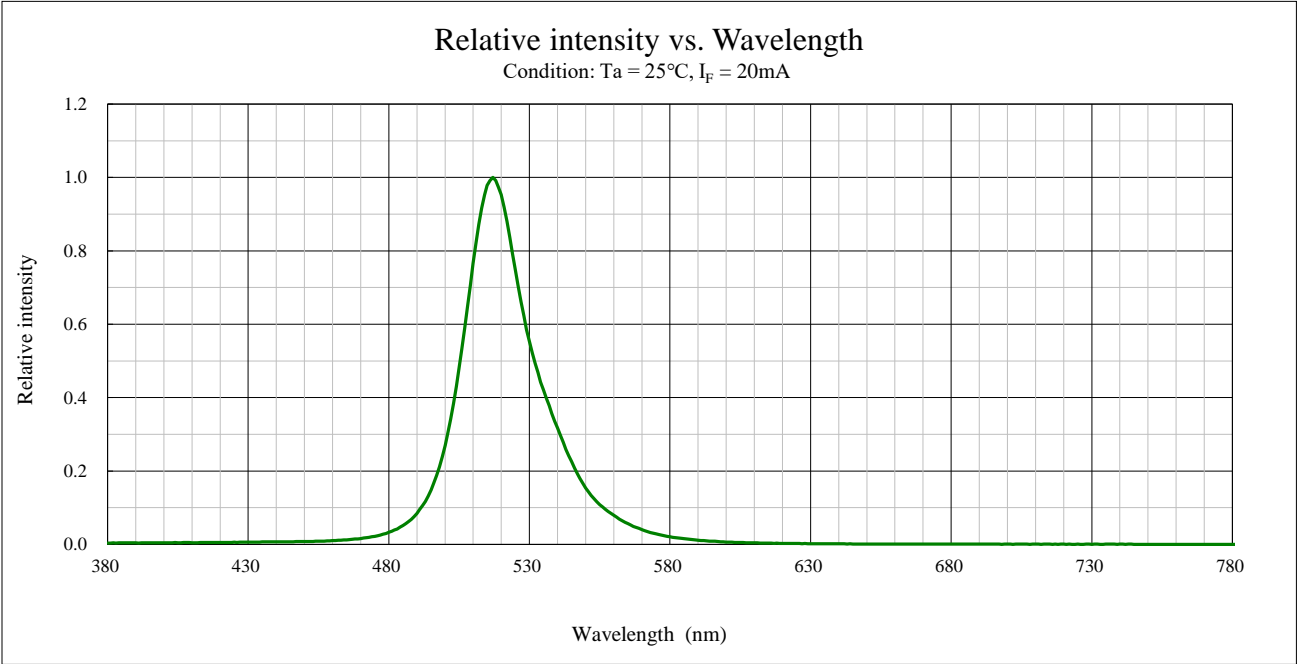


Duty cycle vs. Maximum Forward Current



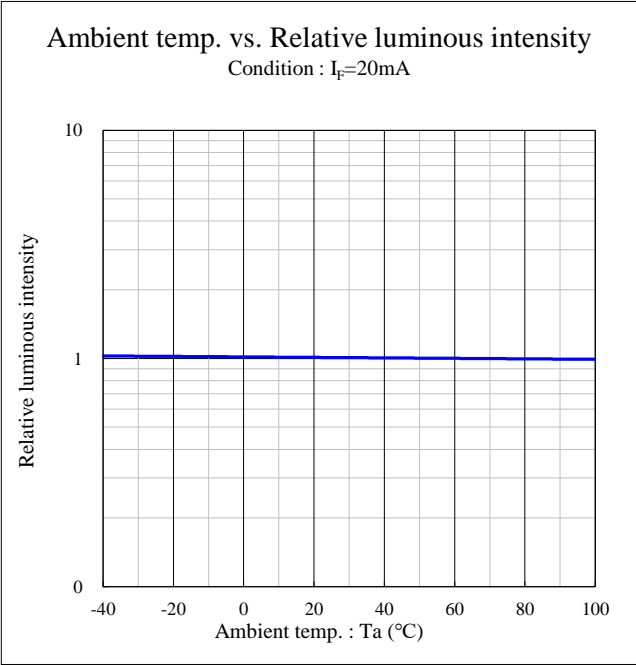
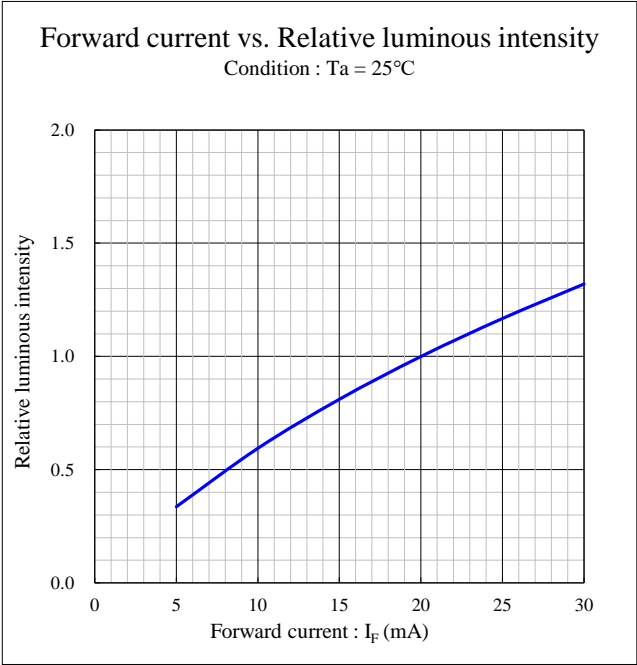
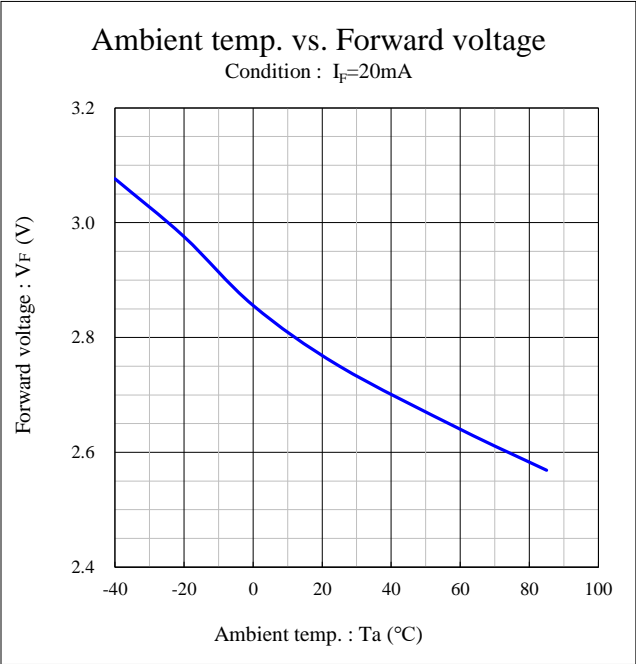
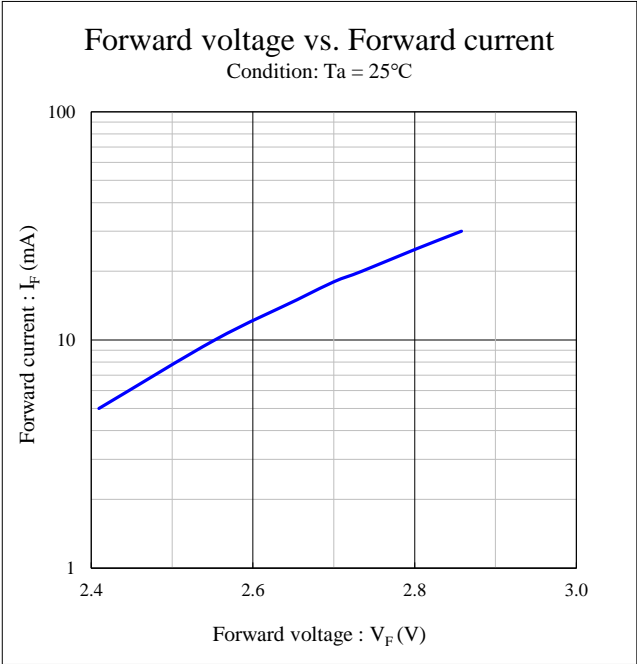






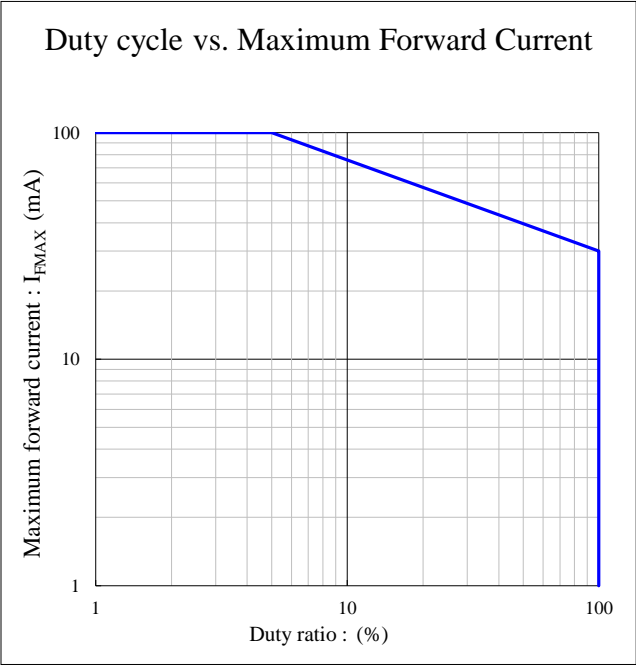
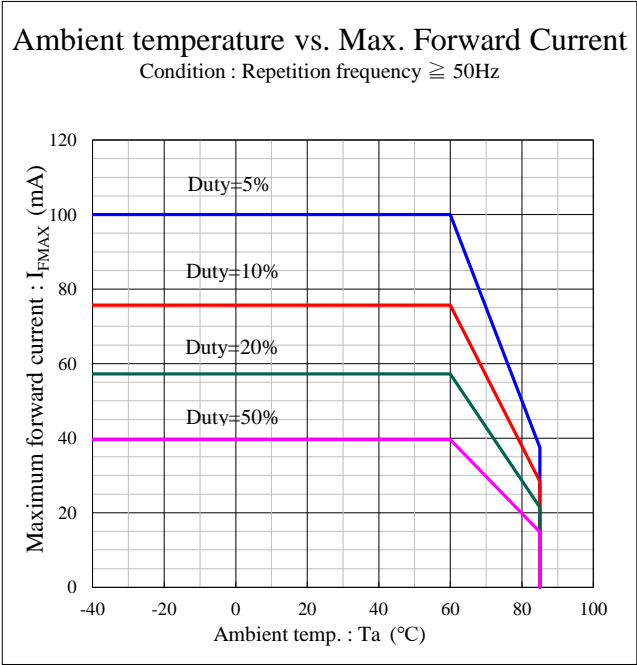
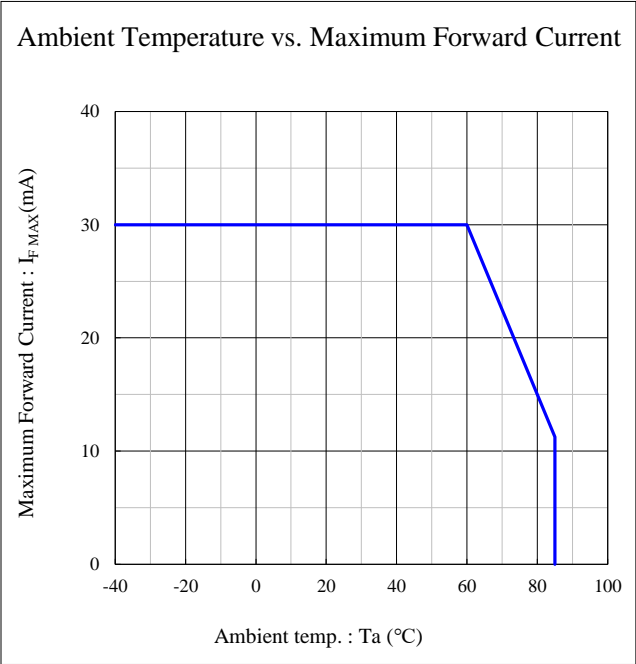
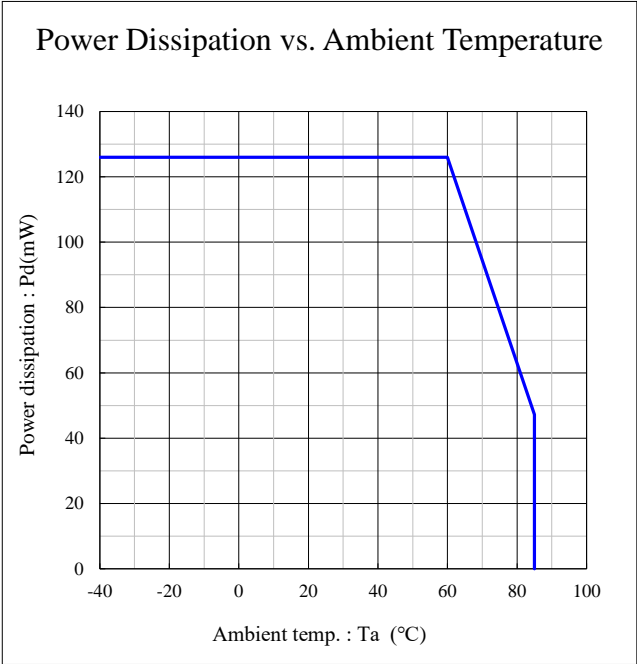
Technical Data    Green

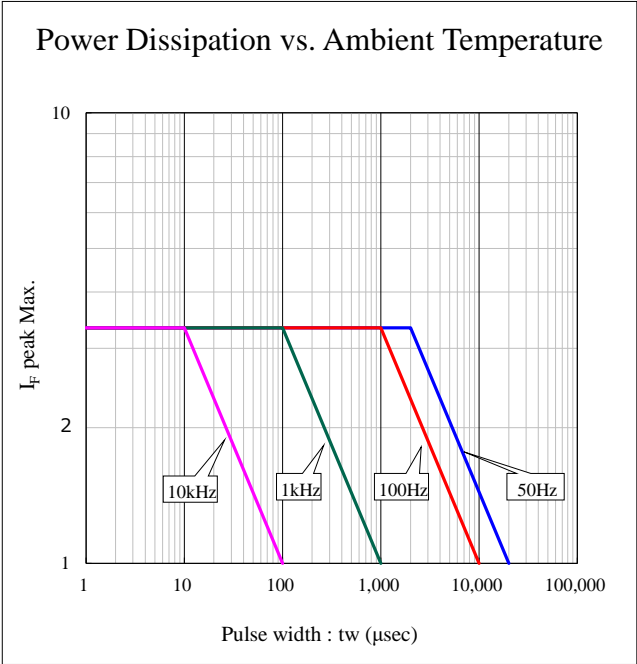
ARGB131DFSE-10-TM

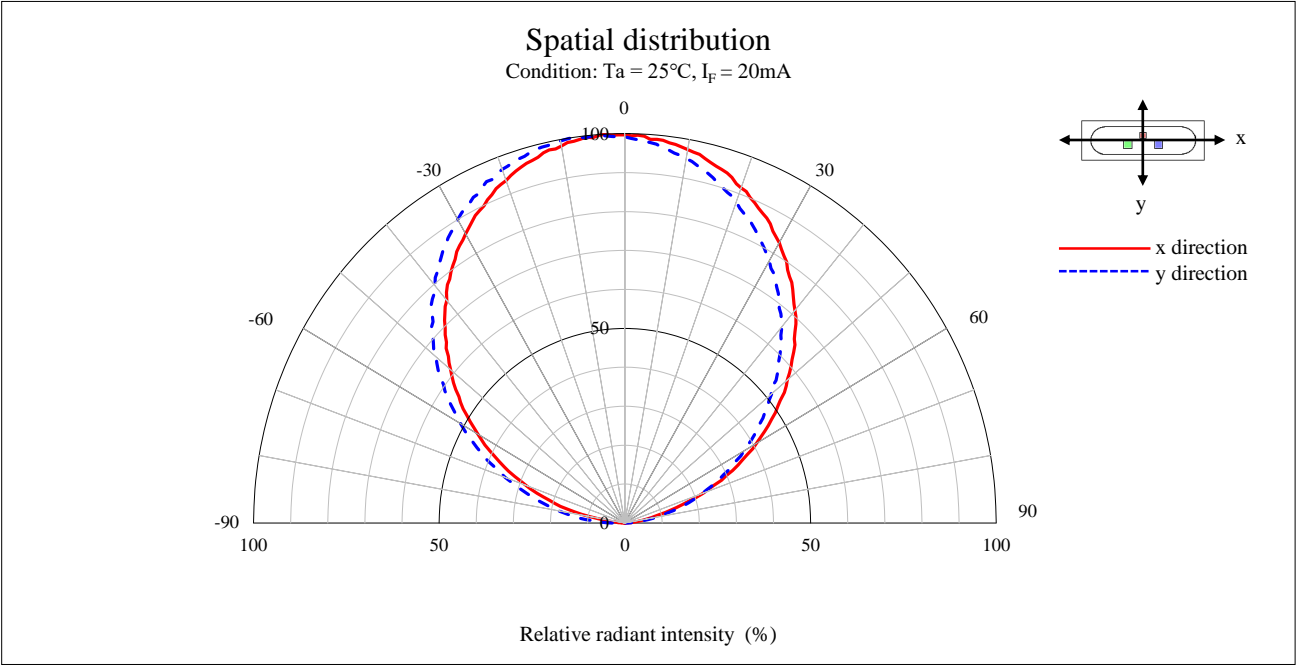
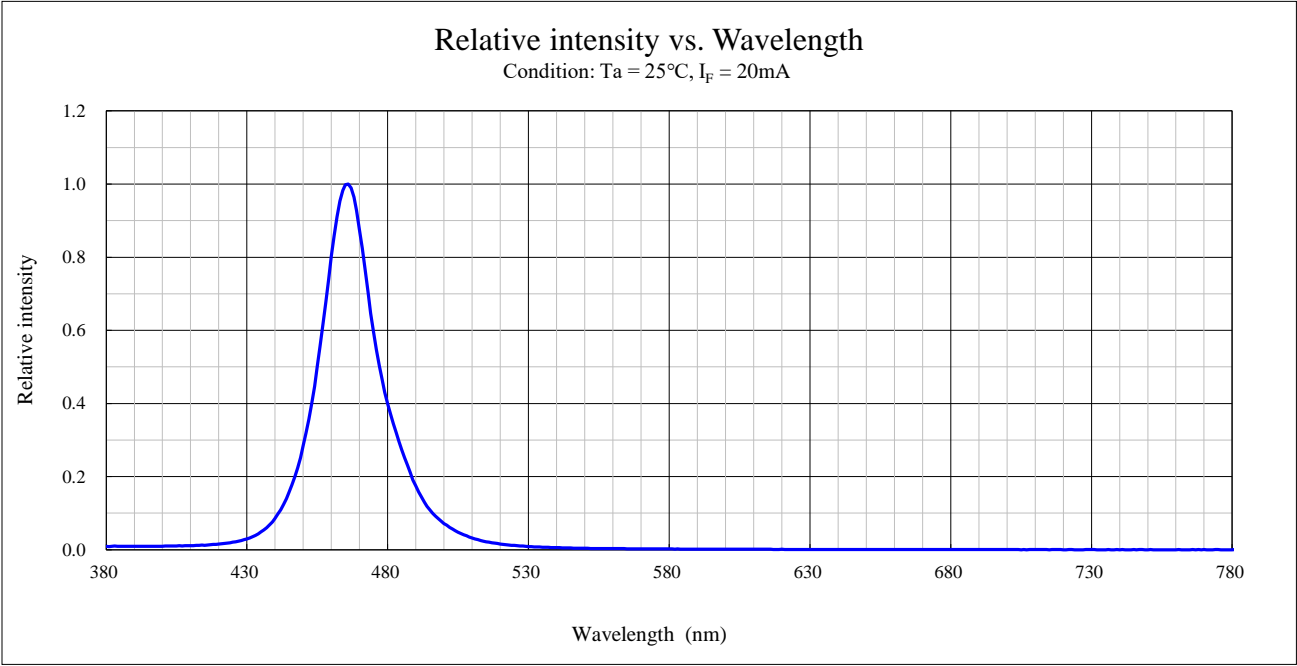


Technical Data    Green

ARGB131DFSE-10-TM

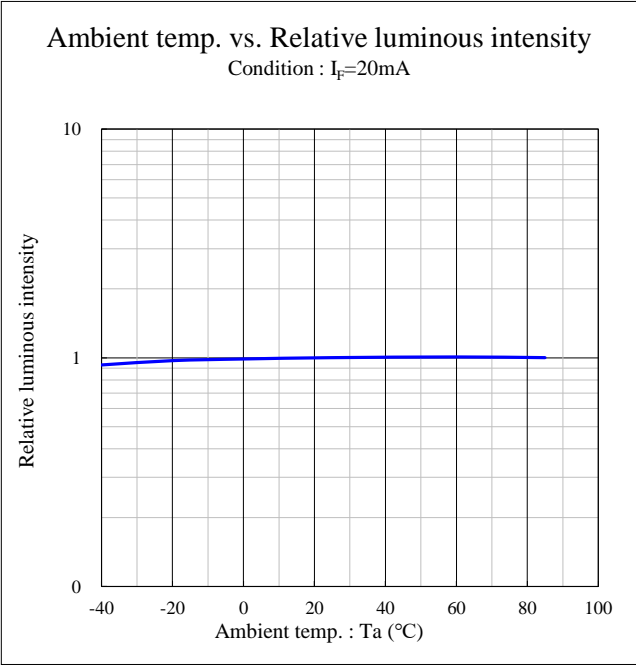
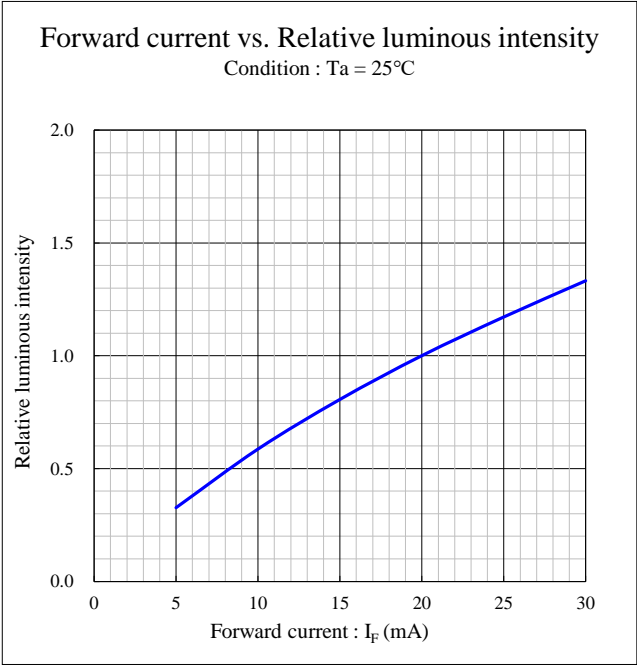
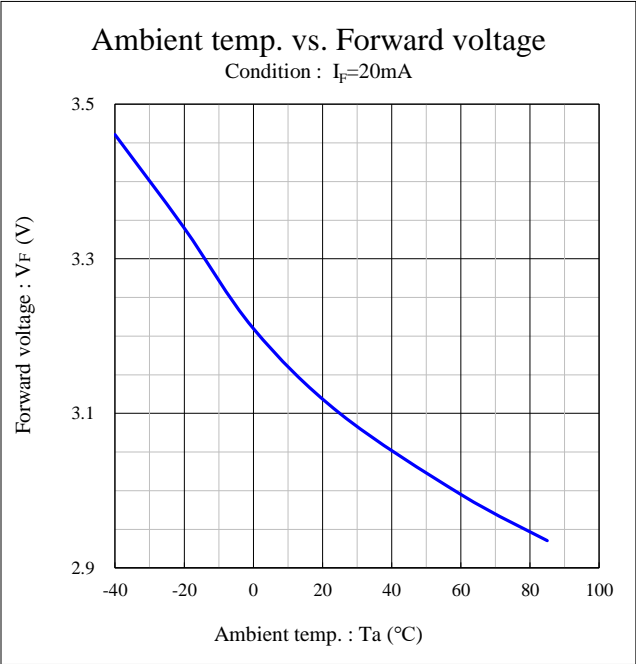
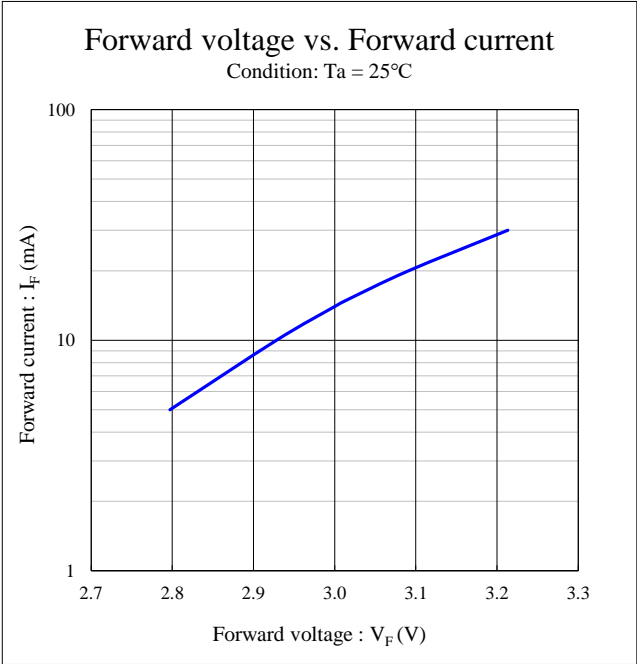






Technical Data    Blue

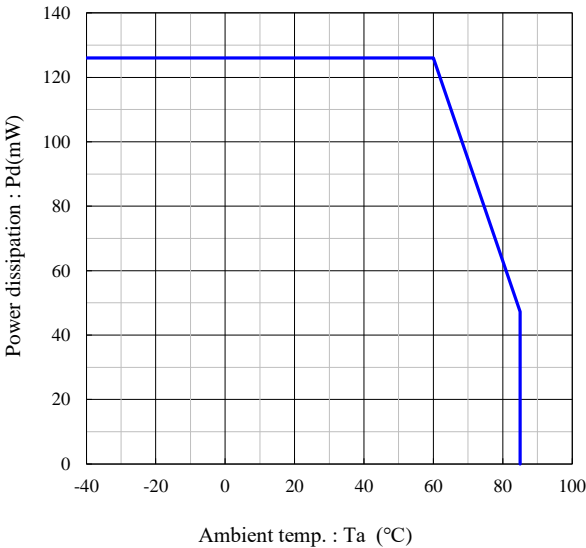
ARGB131DFSE-10-TM



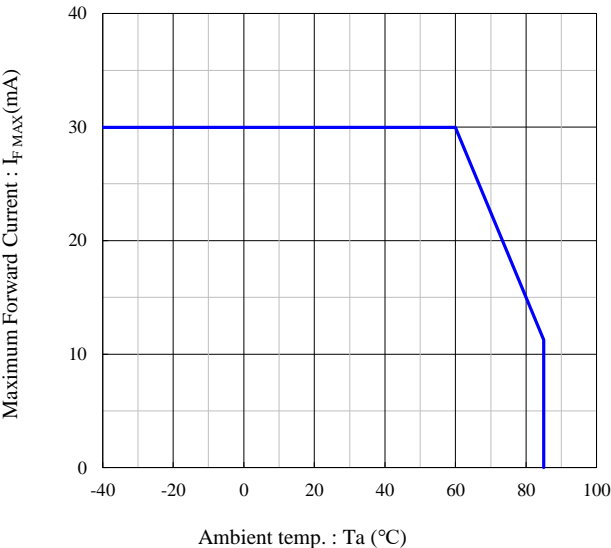
Technical Data    Blue

ARGB131DFSE-10-TM

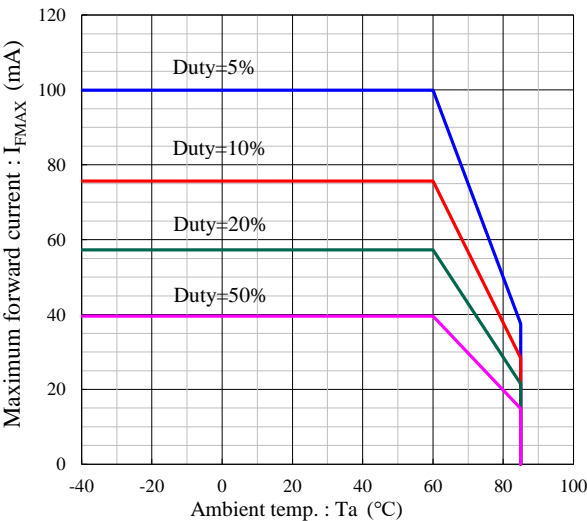
Power Dissipation vs. Ambient Temperature



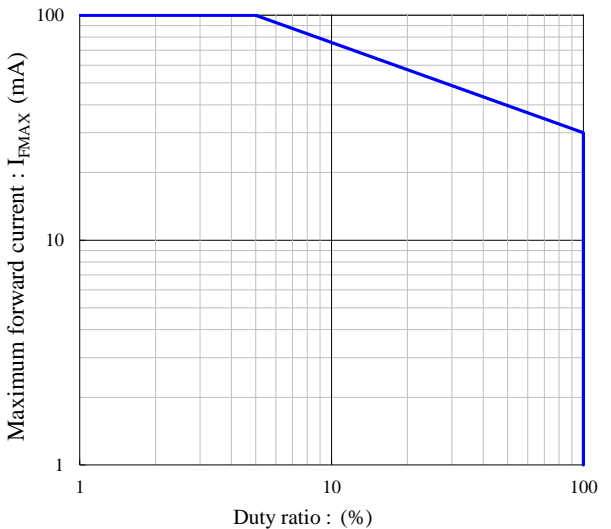
Ambient Temperature vs. Maximum Forward Current



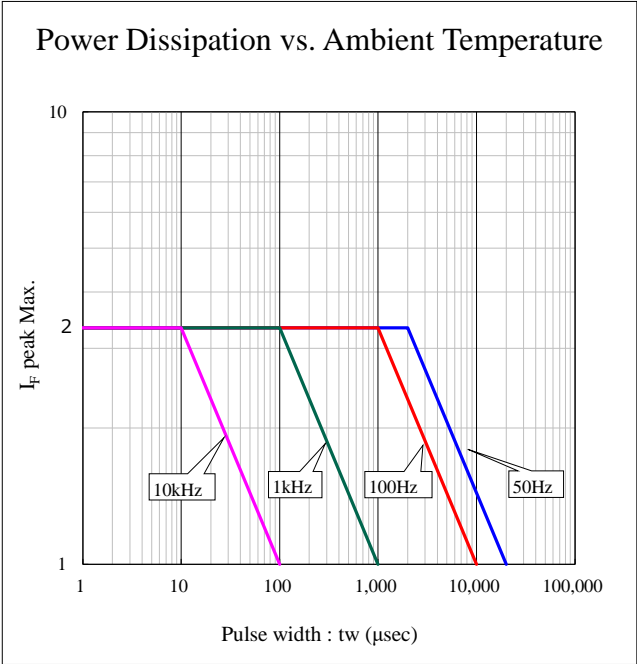
Ambient temperature vs. Max. Forward Current  
Condition : Repetition frequency  $\geq 50\text{Hz}$



Duty cycle vs. Maximum Forward Current

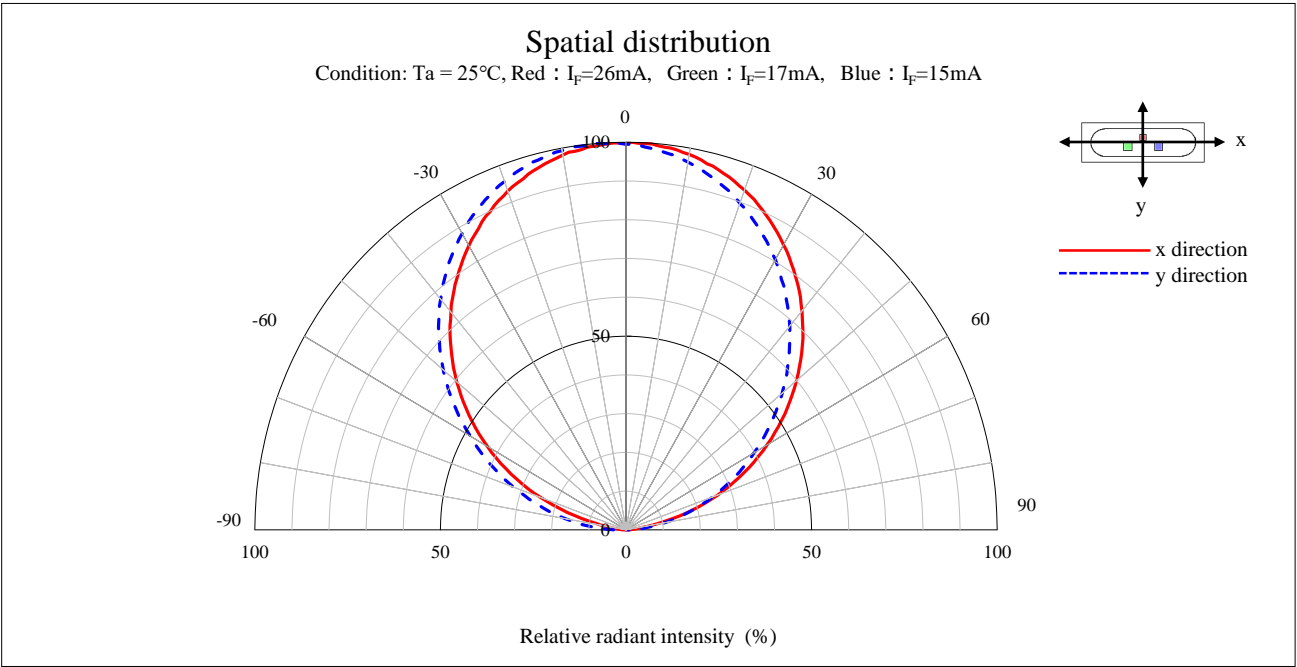
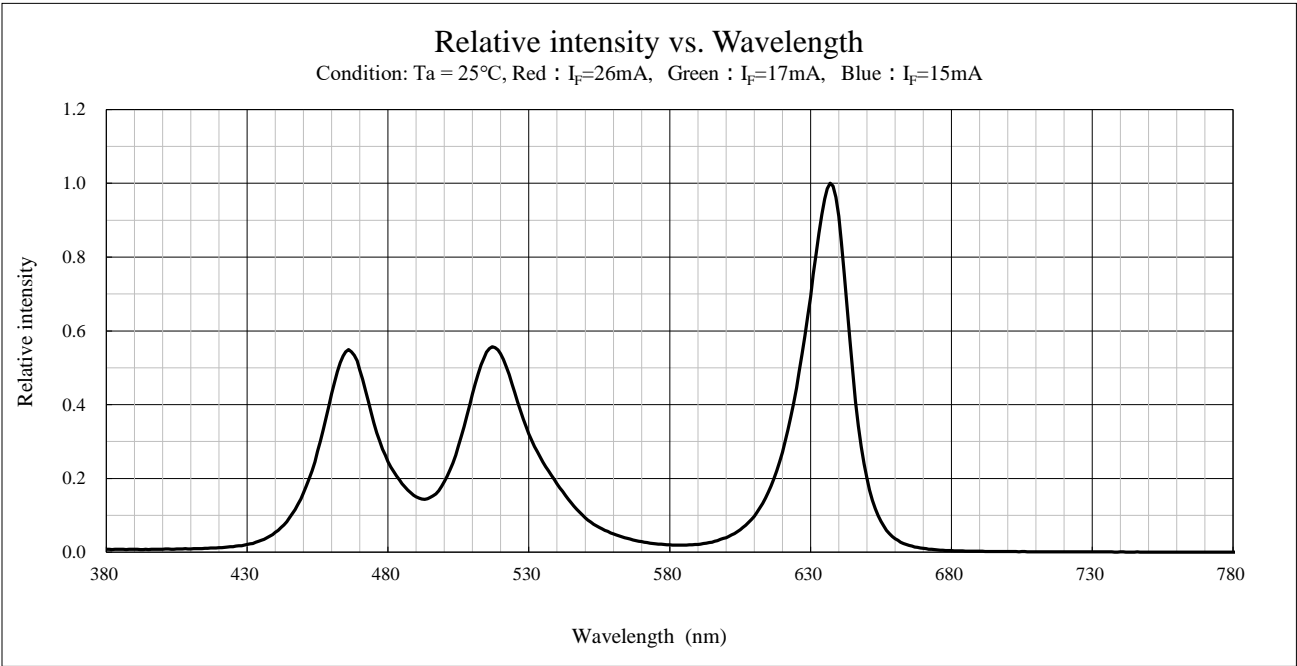






Technical Data    White (all LED lighted)

ARGB131DFSE-10-TM



## Soldering condition

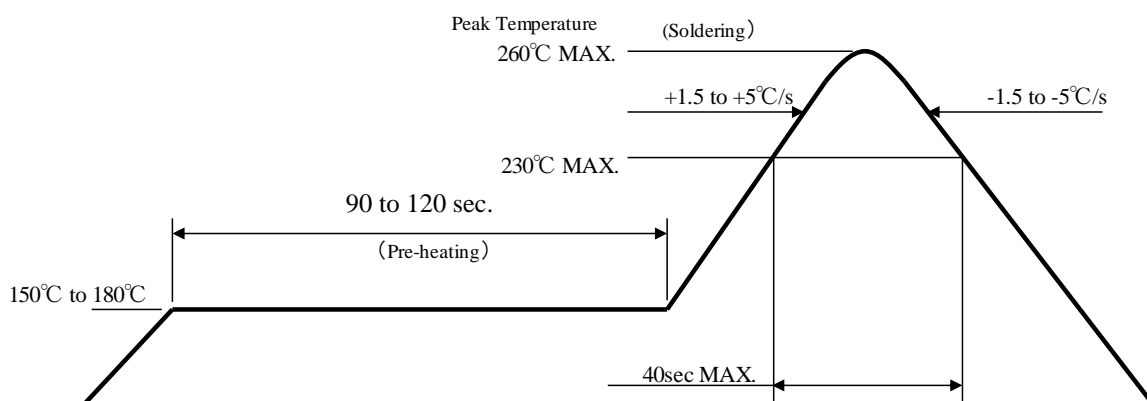
## ARGB131DFSE-10-TM

### 【Soldering Precaution】

(acc.to EIAJ-4701/300)

1. Heat stress during soldering will influence the reliability of LEDs, however that effect will vary on heating method. Also, if components of varying shape are soldered together, it is recommended to set the soldering pad temperature according to the component most vulnerable to heat (e.g., surface mount LED).
2. LED parts including the resin are not stable immediately after soldering ( when they are not at room temperature), any mechanical stress may cause damage to the product. Please avoid such stress after soldering, especially stacking of the boards which may cause the boards to warp and any other types of friction with hard materials.
3. Recommended temperature profile for the reflow soldering is listed as the temperature of the resin surface. Temperature distribution varies on heating method, PCB material, other components in the assembly, and mounting density .  
Please do not repeat the heating process in reflow process more than 2 times.

### 【Recommended Reflow Soldering Condition】



Note 1 Temperature profile for the reflow should be set to the surface temperature of resin which is on the top of LED. This should be the maximum temperature for soldering. Lowering the heating temperature and decreasing heating time is very effective in achieving higher reliability.

Note 2 The reflow soldering process should be done up to 2 times Max. When second process is performed, interval between first and second process should be as short as possible to prevent absorption of moisture to resin of LED. The second soldering process should not be done until LEDs have returned to room temperature (by nature-cooling) after first soldering process.

## Soldering condition

## ARGB131DFSE-10-TM

4. If soldering manually, the peak temperature changes according to the size of land and the shape of soldering iron tip. Therefore please confirm there is no problem before usage. Also, Stanley recommends using a soldering iron equipped with temperature control and the peak temperature to be lowered.  
During the actual soldering process, make sure that the soldering iron never touches the LED itself, and avoid the LED's electrode temperature reaching above the temperature of the solder pad.  
All repairs must be performed only once in the same spot, and please avoid reusing components.
5. In soldering process, immediately after iron tip is cleaned, please make sure that the soldering iron reaches the appropriate temperature, then use it. Also, please avoid applying any types of pressure to the soldered components before the solder is cooling and hardening, as it may deteriorate solder performance and solder quality.

### 【Recommended manual soldering condition】

|                          |                    |
|--------------------------|--------------------|
| Temperature of iron tip  | 350°C max.         |
| Soldering duration, time | 3sec. max., 1 time |

6. When using adhesive material for tentative fixatives, thermosetting resin or Ultraviolet radiation(UV) setting resin with heat shall be recommended.  
《Curing condition, Temperature:150°C max. / Time:120sec.max.》
7. Please confirm in advance there is no problem by assessment on your side if cleaning process is necessary.  
We can not accept any quality issues caused by the cleaning process.  
As this product uses the low hardness silicone resin for the lens, please avoid cleaning to give pressure on the surface of the resin.  
Please make sure ultrasonic cleaning is not recommended for this product as well.  
We will recommend isopropyl alcohol as a solvent used for cleaning.  
Some chemicals, including Freon substitute detergent could corrode the lens or the casing surface, which cause discoloration, cloud, crack and so on.  
Please review the reference chart below for cleaning. If water is used to clean (including the final cleaning process), please use pure water (not tap water), and completely dry the component before using.

| Cleaning agents   | Recommended / Not recommended |
|-------------------|-------------------------------|
| Isopropyl Alcohol | ✓ Recommended                 |
| Trichloroethylene | x Not recommended             |
| Chloroethene      | x Not recommended             |
| Acetone           | x Not recommended             |
| Thinner           | x Not recommended             |

8. Flow soldering (dip soldering) is not guaranteed for this product.

## Handling precautions

## ARGB131DFSE-10-TM

### 【For electrostatic discharge (ESD)】

LED with an InGaN die is sensitive to voltage surges generated by On/Off status change and friction with synthetic materials, which may cause severe damage to the die or undermine its reliability. Damaged products may experience conditions such as extremely high reverse voltage, decrease of forward rise voltage, deterioration in optical characteristics.

Stanley InGaN products are packed with anti-static components. However, following precautions must be taken into account upon product shipment.

### 1. Electrification/static electricity protection

In order to avoid product (die) damage from static electricity caused by unprotected handling by operator and other charged materials coming in contact with the product, Stanley recommends taking the following precautions.

- ① Do not place electrified non-conductive materials near the LED product.  
Avoid LED products from coming into contact with metallic materials.( Should the metallic material be electrified , the sudden surge voltage will most likely damage the product.)
- ② Avoid a working process which may cause the LED product to rub against other materials.
- ③ Install ground wires for any equipment, where they can be installed, with measures to avoid static electricity surges.
- ④ Prepare a ESD protective area by placing a Conductive Mattress (1MΩ MAX.) and Ionizer to remove any static electricity.
- ⑤ Operators should wear a protective wrist-strap.
- ⑥ Operators should wear conductive work-clothes and shoes.
- ⑦ To handle the products directly, Stanley recommends the use of ceramic, and not metallic, tweezers.

### 2. Working environment

- ① A dry environment is more likely to cause static electricity. Although a dry environment is ideal for storage state of LED products, Stanley recommends an environment with approximately 50% humidity after the soldering process.
- ② Recommended static electricity level in the working environment is less than 150V, which is the same value as Integrated Circuits (which are sensitive to static electricity).

## Handling precautions

ARGB131DFSE-10-TM

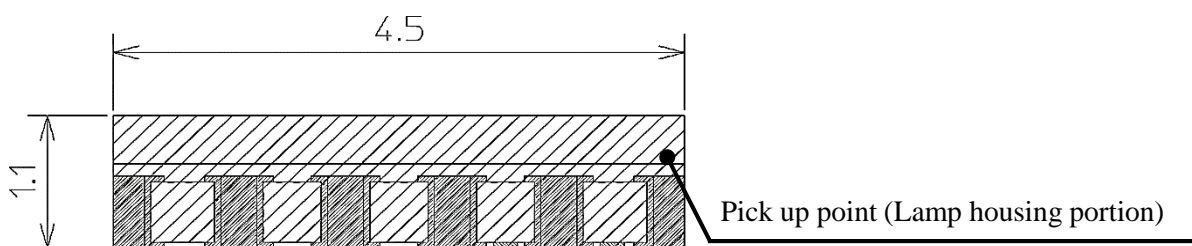
### 【Handling precautions for product mounting】

<Recommendation>

Picking up point with nozzle : Lamp housing of the product

The load applied to the product should be kept **below 5N**.

- ※ Please note that the housing may be destroyed by the load of the mounter nozzle during mounting. Please adjust the load, nozzle pick-up position, nozzle diameter, etc. before use.



Top view

## Handling precautions

## ARGB131DFSE-10-TM

### 【Other precautions】

1. The products are designed to achieve higher performance reliability, however, they can be influenced by usage conditions.
2. Absolute maximum ratings are set to prevent LED products from breaking due to extreme stress (temperature, current, voltage, etc.). These ratings must never be overrun even for a moment.
3. To achieve the highest performance reliability, it is necessary to take into account, factors such as forward voltage adjusted to the usage temperature condition, derating of the power consumption, and other variable factors.
4. Please insert straight protective resistors into the circuit in order to stabilize LED operation and to prevent the device from overheating.
5. Please avoid to stick foreign materials because molding resin in the products has adhesiveness.  
And please don't touch lens portion, so it cause the wire open circuit etc. when the stress hangs to the lens portion.
6. Please check the actual performance in the assembly because the Specification Sheets are described for LED device only.
7. Please refrain from looking directly at the light source of LED at high output, as it may harm your vision.
8. The products are designed to perform without failure in the recommended usage conditions.  
However, please take the necessary precautions to prevent fire, injury, and other damages from these unexpected failures.
9. The products are manufactured to be used for ordinary electronic equipment. Please contact our sales staff in advance when exceptional quality and reliability are required, when the failure or malfunction of the products might directly jeopardize life or health (such as for airplanes, aerospace, transport equipment, medical applications, nuclear reactor control systems and so on).
10. Stanley does not recommend supersonic wave welding as it cause resonance with sealing resin and may cause breaking of conductive wire.  
Please use after affirming beforehand there is no problem.
11. The formal specification sheets should be exchanged and signed by both parties.

## Packaging specifications

## ARGB131DFSE-10-TM

This product is baked (moisture removal) before packaging, and is shipped in moisture-proof packaging (as shown below) to minimize moisture absorption during transportation and storage. However, with regard to storing the products, Stanley recommends the use of dry-box under the following conditions is recommended. Moisture-proof bag as the packaging is made of anti-static material but packaging box is not.

### 【Recommended storage condition / products warranty period】

|             |            |
|-------------|------------|
| Temperature | +5 to 30°C |
| Humidity    | Under 70%  |

In the case of the package unopened , please use within **6 months** **【Recommended storage condition】**. Please avoid rapid transition from low temp. condition to high temp. condition and storage in corroding and dusty environment.

### 【Time elapsed after package opening】

The package should not be opened until immediately prior to its use, and please keep the time frame between package opening and soldering which is **【maximum 168h】**.

If the device needs to be soldered twice, both soldering operations must be completed within the 168h.

If any components should remain unused, please reseal the package and store them under the conditions described in the **【 Recommended Storage Condition 】** above.

This product must be required to perform baking process (moisture removal) for **at 48h (min.) to 72h (max.) at 60±5 degrees Celsius** if following conditions apply.

1. In the case of silica gel (blue) which indicates the moisture level within the package, changes or loses its blue color.
2. In the case of time passes for 168h after the package is opened once.

Baking process should be performed after LED having been taken out of the package.

Baking may be performed in the tape-reel form , however if it is performed with the reel stacked over one another, it may cause deformation of the reels and taping materials and later obstruct mounting. Please handle only once it has returned to room temperature. Provided that, baking process shall be 2 times max.

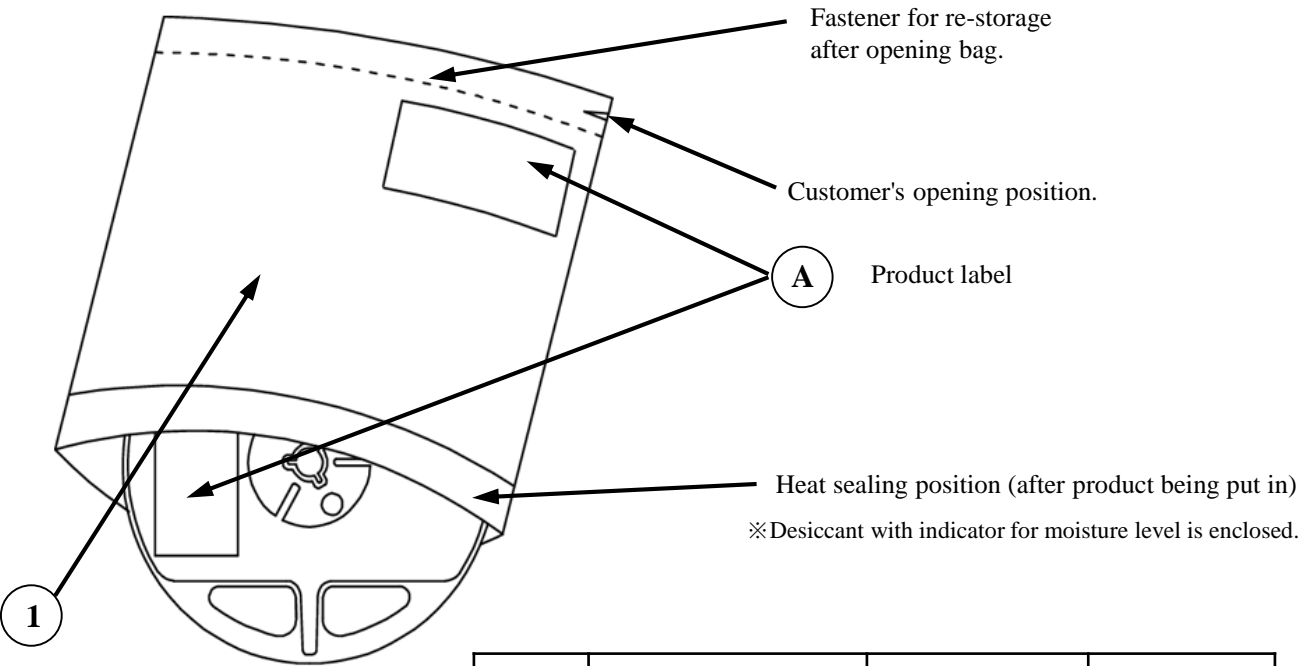
**The metal parts of this product are plated with Ag.** If exposed to an atmosphere containing corrosive gases, etc., the plated surface may deteriorate and affect solderability and optical properties. When storing, please keep in an airtight container.



Packaging specifications

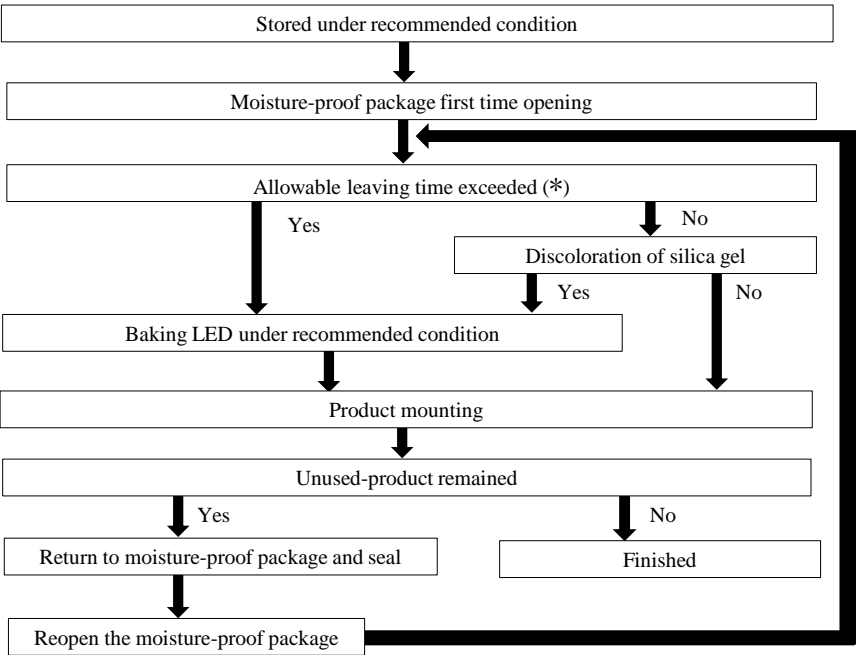
ARGB131DFSE-10-TM

【Moisture-proof packaging specification】



| No. | Part name                              | Material  | Remarks             |
|-----|--|-----------|---------------------|
| ①   | Moisture-proof bag with Aluminum layer | PET+Al+PE | with ESD protection |

【Flow chart-package opening to mounting】



Allowable leaving time means the maximum allowable leaving time after opening package, which depends on each LED type. The allowable leaving time should be calculated from the first opening of package to the time when soldering process is finished. When judging if the allowable leaving time has exceeded or not, please subtract the soldering time. The allowable leaving time after reopening should be calculated from the first opening of package, or from the time when baking process is finished.

Packaging specifications

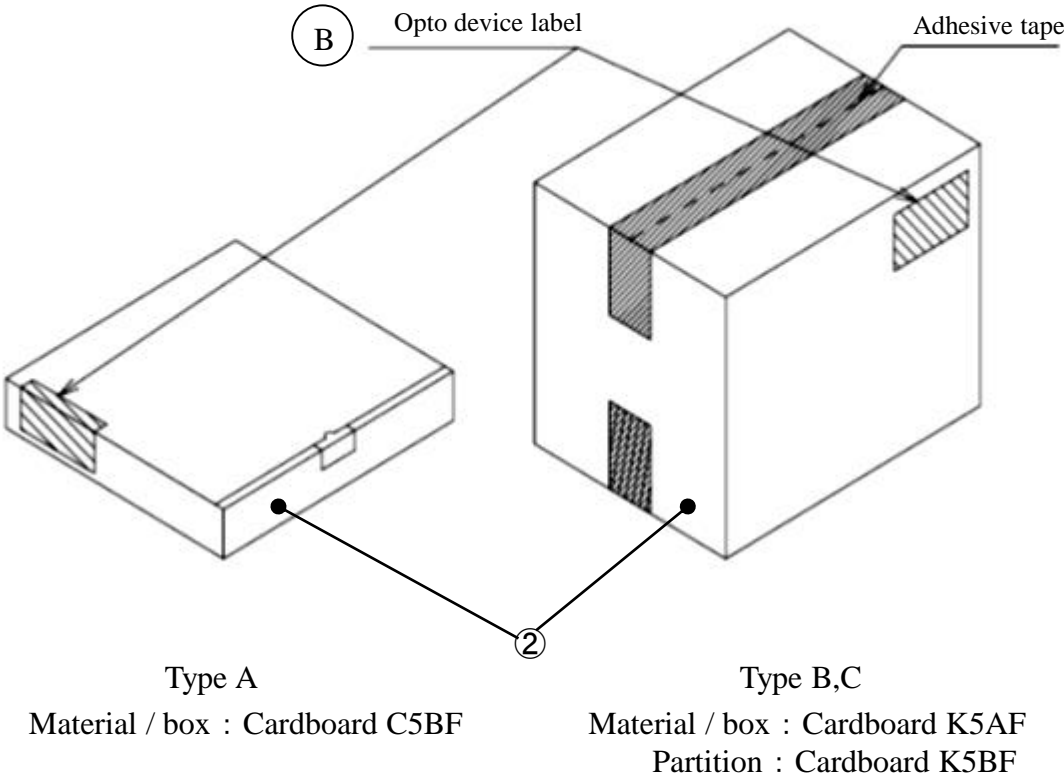
ARGB131DFSE-10-TM

【Packing box】

( RoHS2 / ELV Compliant )

| Box type | Outline dimension<br>L × W × H (mm) | Capacity of the box |
|----------|-------------------------------------|---------------------|
| Type A   | 280 x 265 x 45                      | 2 reels             |
| Type B   | 310 x 235 x 265                     | 10 reels            |
| Type C   | 440 x 310 x 265                     | 20 reels            |

The above measure is all the reference value.  
The box is selected out of the above table by shipping quantity.



| No. | Part name   | Material             | Remarks                |
|-----|-------------|----------------------|------------------------|
| ②   | Packing box | Corrugated cardboard | without ESD protection |

# Packaging specifications

ARGB131DFSE-10-TM

(acc.to JIS-X0503(Code-39))

## 【Label specification】

### A Product label

STANLEY -STANLEY ELECTRIC CO.,LTD.-

A [ ] B [ ] C [ ] D PCS E [ ] F [ ] G [ ]

Lot No. [ ]

- A. Parts number
- B. Bar-code for parts number
- C. Parts code (In-house identification code for each parts number)
- D. Packed parts quantity
- E. Bar-Code for packed parts quantity
- F. Lot number & rank
- (Please refer to lot number notational system for details )
- G. Bar-code for lot number & rank

### B Opto device label

STANLEY OPTO DEVICES

A [ ] 御中

B [ ] D [ ]

( [ ] C [ ] )

Q'TY [ ] E [ ] PCS [ ] G [ ]

C/NO [ ] F [ ]

H [ ]

STANLEY ELECTRIC CO.,LTD.

- A. Customer name
- B. Parts type
- C. Parts code
- D. Parts number
- E. Packed parts quantity
- F. Carton number
- G. Shipping date
- H. Bar-code for In-house identification number

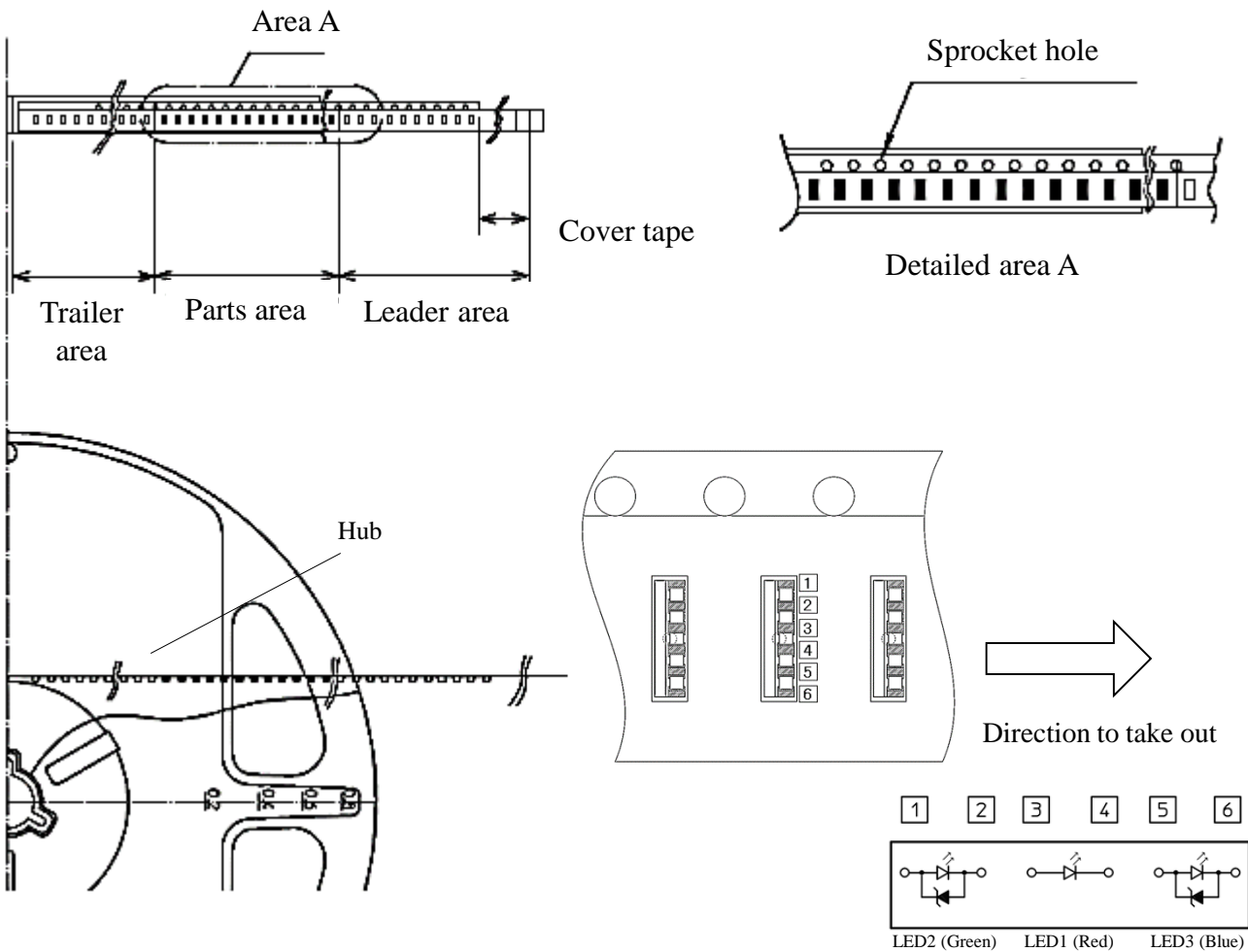
<Remarks> Bar-code font : acc.to Code-39(JIS-X0503)

Taping and reel specifications

ARGB131DFSE-10-TM

(acc.to JIS-C0806-03)

【Appearance】



| Items        |              | Specifications  | Remarks  |
|--------------|--------------|---|--|
| Leader area  | Cover-tape   | Cover-tape shall be longer than <b>300mm</b> without carrier-tape | The end of cover-tape shall be held with adhesive tape.          |
|              | Carrier-tape | Empty pocket shall be more than <b>25 pieces</b> .                | Please refer to the above figure for Taping & reel orientation . |
| Trailer area |              | Empty pocket shall be more than <b>40 pieces</b> .                | The end of taping shall be inserted into a slit of the hub.      |

## Taping and reel specifications

ARGB131DFSE-10-TM

(acc.to JIS-C0806-03)

### 【 Qty. per reel】

2,500parts/reel

Minimum Qty. per reel might be 500 parts when getting less than 3,000 parts.

In such case, parts of 500-unit-qty. shall be packed in a reel and the qty. shall be identified on the label

### 【Mechanical strength】

Cover-tape adhesive strength shall be 0.1 ~ 1.0N ( An angle between carrier-tape and cover-tape shall be 170 deg. ).

Both tapes shall be so sealed that the contained parts will not come out from the tape when it is bent at a radius of 15mm.

### 【 Others】

Reversed-orientation, Up-side down placing, side placing and out of spec. parts mix shall not be held.

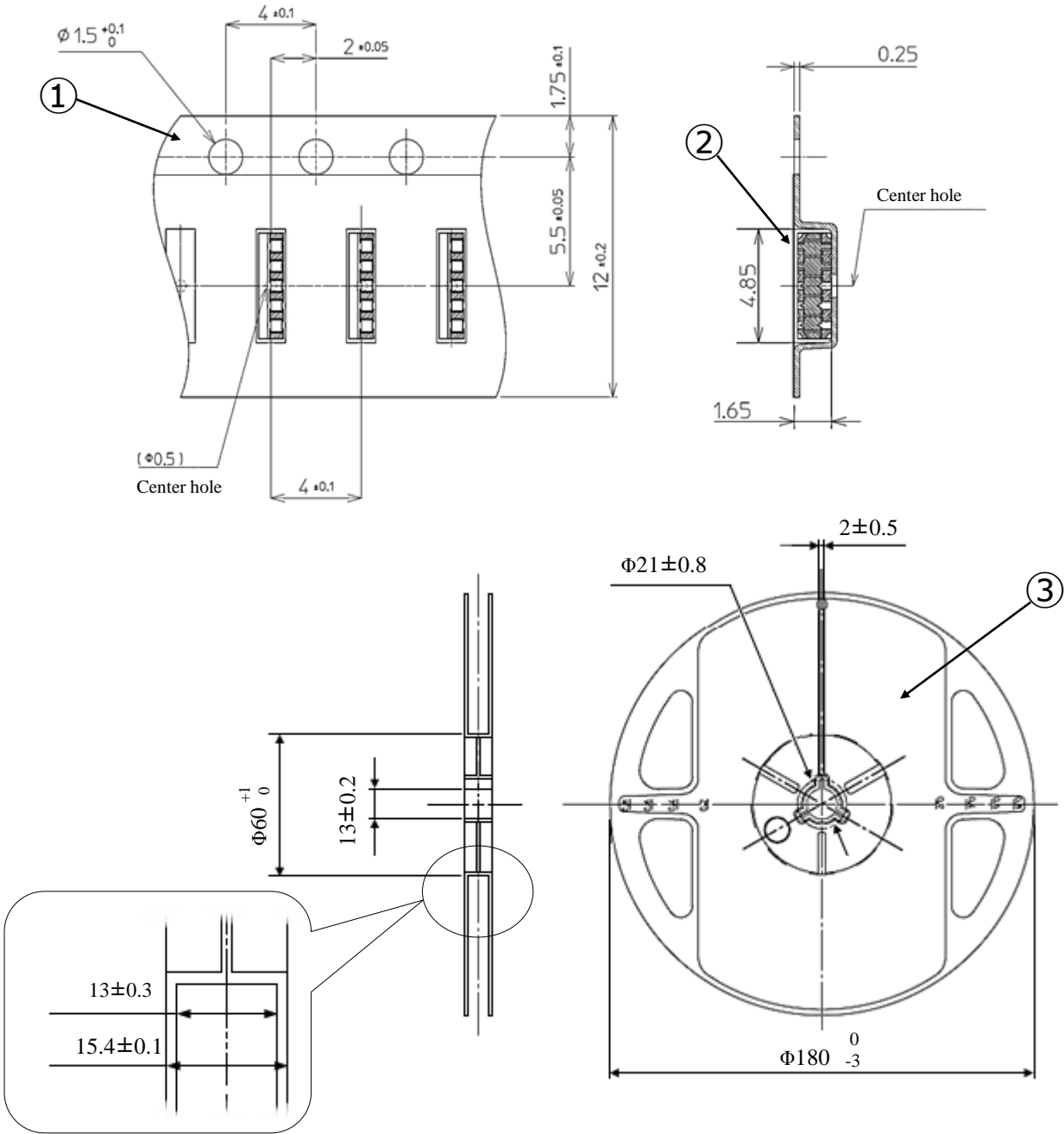
Empty pocket per reel shall be defined as follows.

| Qty./reel | Max. qty. of empty pocket | Remarks        |
|-----------|---------------------------|----------------|
| 500       | 1                         | -              |
| 1,000     | 1                         | -              |
| 1,500     | 1                         | -              |
| 2,000     | 2                         | No continuance |
| 2,500     | 2                         | No continuance |

Taping and reel specifications  
(acc.to JIS-C0806-03)

ARGB131DFSE-10-TM

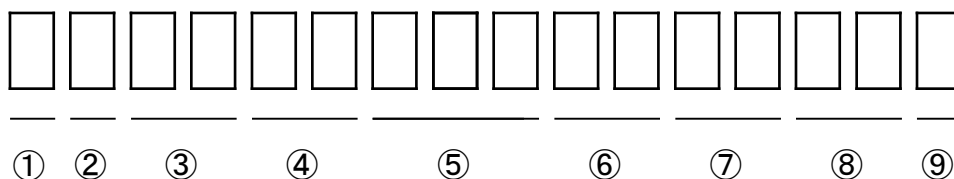
Unit: mm



| No. | Part name    | Remarks                |
|-----|--------------|------------------------|
| ①   | Carrier-tape | without ESD protection |
| ②   | Cover-tape   | with ESD protection    |
| ③   | Carrier-reel | without ESD protection |

## Lot number notational system

ARGB131DFSE-10-TM



① - 1digit : Production location (mark identify alphabet)

② - 1digit : Production year (The last digit of production year 2025→5, 2026→6, 2027→7, 2028→8 ...)

③ - 2digits : Production month (Jan. to Sep. , should be 01,02,03 ...)

④ - 2digits : Production date

⑤ - 3digits : Serial number

⑥ - 2digits : Tape and reel following number

⑦ - 2digits : Luminous intensity rank.

(If luminous flux rank is 1 digit, "-" shall be dashed on the place for the second digit.

If there is no identified rank, "- -" is used to indicate.)

⑧ - 2digits : Chromaticity coordinates rank

(If chromaticity coordinates rank is 1 digit, "-" shall be dashed on the place for the second digit.

If there is no identified rank, "- -" is used to indicate.)

⑨ - 1digit : Option Rank (If rank is not defined, "-" is described.)

## Compliance with RoHS2/ELV

## ARGB131DFSE-10-TM

This product is in compliance with RoHS2 / ELV.

Prohibition substance and it's criteria value of RoHS2 / ELV are as follows.

- RoHS2 instruction ... Refer to following 1 to 10.
- ELV instruction ... Refer to following 1 to 4.

| No. | Substances                            | Threshold       |
|-----|---------------------------------------|-----------------|
| 1   | Lead and its compounds                | 0.1% (1,000ppm) |
| 2   | Mercury and its compounds             | 0.1% (1,000ppm) |
| 3   | Cadmium and its compounds             | 0.01% (100ppm)  |
| 4   | Hexavalent chromium compounds         | 0.1% (1,000ppm) |
| 5   | PBB : Polybrominated Biphenyls        | 0.1% (1,000ppm) |
| 6   | PBDE : Polybrominated Biphenyl Ethers | 0.1% (1,000ppm) |
| 7   | DEHP : Bis (2-ethylhexyl) phthalate   | 0.1% (1,000ppm) |
| 8   | BBP : Butyl benzyl phthalate          | 0.1% (1,000ppm) |
| 9   | DBP : Dibutyl phthalate               | 0.1% (1,000ppm) |
| 10  | DIBP : Diisobutyl phthalate           | 0.1% (1,000ppm) |



# Reliability Testing Result

## ARGB131DFSE-10-TM

### 1. Reliability testing result

| Test item                           | Compliant standards    | Test condition  | Duration           | Failure |
|-------------------------------------|------------------------|---|--------------------|---------|
| Operating life                      | EIAJ ED-4701 /100(101) | Ta=25°C / Maximum rated current   | 1,000h             | 0 /20   |
| High Temperature operating life     | EIAJ ED-4701 /100(101) | Ta=85°C / Maximum rated current (※1)  | 1,000h             | 0 /20   |
| Low Temperature operating life      | EIAJ ED-4701 /100(101) | Ta=-40°C / Maximum rated current  | 1,000h             | 0 /20   |
| Wet High Temperature operating life | EIAJ ED-4701 /100(102) | Ta=60°C Rh=90% / Maximum rated current  | 1,000h             | 0 /20   |
| Thermal shock                       | EIAJ ED-4701 /100(105) | Ta= Tstg max. to Tstg min.<br>(each 15min)  | 200 cycles         | 0 /20   |
| Resistance to reflow soldering      | EIAJ ED-4701 /300(301) | Moisture Soak : 30°C 70% 168h<br>Preheating : 150 to 180°C 90 to 120sec.<br>Soldering : 260°C MAX | 2times             | 0 /20   |
| Electric Static Discharge(ESD) ※2   | EIAJ ED-4701 /300(304) | C=100pF R2=1.5KΩ ± 1,000V   | once each polarity | 0 / 10  |

※1 Maximum rated current at maximum rated operating temperature

※2 Reference test

### 2. Failure criteria

| Item               | Symbol         | Condition  | Failure criteria                               |
|--------------------|----------------|--|--|
| Luminous intensity | I <sub>V</sub> | I <sub>F</sub> value of each product<br>luminous intensity | Testing Min. value < Standard Min. value × 0.5 |
| Forward voltage    | V <sub>F</sub> | I <sub>F</sub> value of each product<br>forward voltage    | Testing Max. value ≥ Standard Max. value × 1.2 |
| Reverse current    | I <sub>R</sub> | V <sub>R</sub> =5V   | Testing Max. value ≥ Standard Max. value × 2.5 |

## ARGB131DFSE-10-TM

## Special notice to customers using the products and technical information shown in this data sheet

- 1) The technical information shown in the data sheets are limited to the typical characteristics and circuit examples of the referenced products. It does not constitute the warranting of industrial property nor the granting of any license.
- 2) For the purpose of product improvement, the specifications, characteristics and technical data described in the data sheets are subject to change without prior notice. Therefore it is recommended that the most updated specifications be used in your design.
- 3) When using the products described in the data sheets, please adhere to the maximum ratings for operating voltage, heat dissipation characteristics, and other precautions for use. We are not responsible for any damage which may occur if these specifications are exceeded.
- 4) The products that have been described to this catalog are manufactured so that they will be used for the electrical instrument of the benchmark (OA equipment, telecommunications equipment, AV machine, home appliance and measuring instrument).  
The application of aircrafts, space borne application, transportation equipment, medical equipment and nuclear power control equipment, etc. needs a high reliability and safety, and the breakdown and the wrong operation might influence the life or the human body. Please consult us beforehand if you plan to use our product for the usages of aircrafts, space borne application, transportation equipment, medical equipment and nuclear power control equipment, etc. except OA equipment, telecommunications equipment, AV machine, home appliance and measuring instrument.
- 5) In order to export the products or technologies described in this data sheet which are under the “Foreign Exchange and Foreign Trade Control Law,” it is necessary to first obtain an export permit from the Japanese government.
- 6) No part of this data sheet may be reprinted or reproduced without prior written permission from Stanley Electric Co., Ltd.
- 7) The most updated edition of this data sheet can be obtained from the address below:  
<http://www.stanley-components.com/en/>