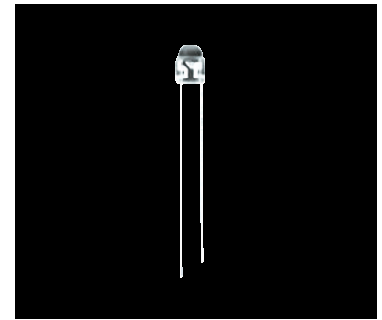


■ Features

- Viewing angle 2θ 1/2 : 40°
- High brightness
- Competent to direct mount

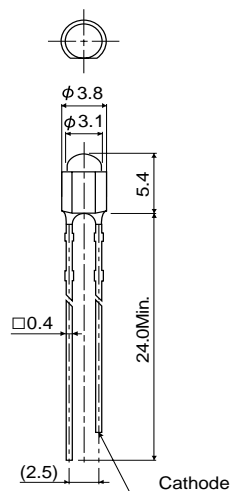
■ Outline



Color
Type

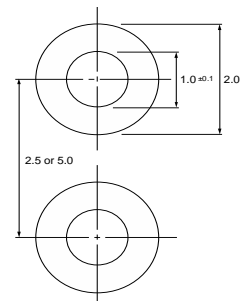


■ Dimensions











Tolerance : ± 0.2
(unit : mm)

■ Recommended Solder Pattern



(unit : mm)

■ Specifications

Part No.	Chip Structure	Emitting Color	Absolute Maximum Ratings (Ta=25°C)						Electrical and Optical Characteristics (Ta=25°C)										
			Power	Forward	Peak Forward	Reverse	Operating Temp.		Storage Temp.		Forward Voltage V _F		Reverse Current I _R		Peak Wavelength λ _p		Luminous Intensity I _v		
			Dissipation	Current	Current	Voltage					Typ.	I _F	Max.	V _R	Typ.	I _F	Min.	Typ.	I _F
			P _D (mW)	I _F (mA)	I _{FP} (mA)	V _R (V)	T _{opr} (°C)	T _{stg} (°C)	(V)	(mA)	(μA)	(V)	(nm)	(mA)	(mcd)	(mcd)	(mA)		
 SLI-343URC	AlGainP	Red	125	50	200*	9	-25~+85	-30~+100	1.9	20	100	9	630	20	90	450	20		
 SLI-343DC		Orange											611			500			
 SLI-343YC		Yellow											591			350			
 SLI-343MC		Yellowish Green	62	25	100*				2.1				572		56	200			
 SLI-343UR		Red	125	50	200*											630		90	350
 SLI-343DU		Orange														611			300
 SLI-343YY		Yellow														591			
 SLI-343MG		Yellowish Green														62			

* : Duty1/10, 1kHz

■ Electrical Characteristics Curves

Reference

Fig.1 Forward Current
- Forward Voltages

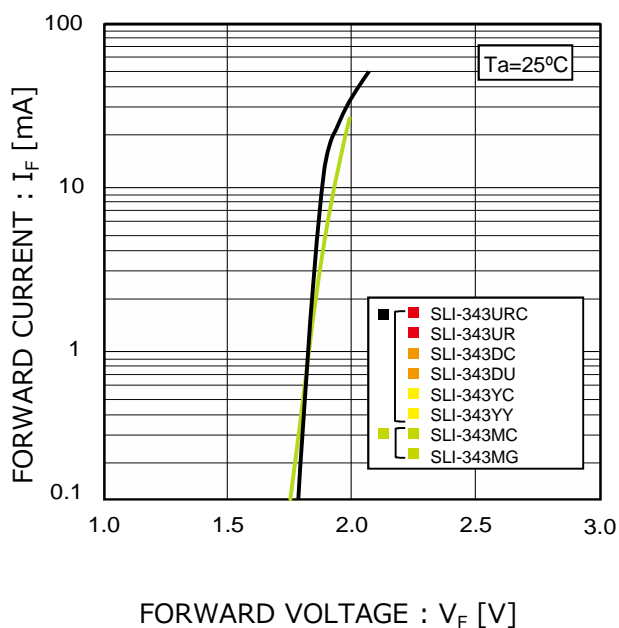


Fig.2 Luminous Intensity -
Atmosphere Temperature

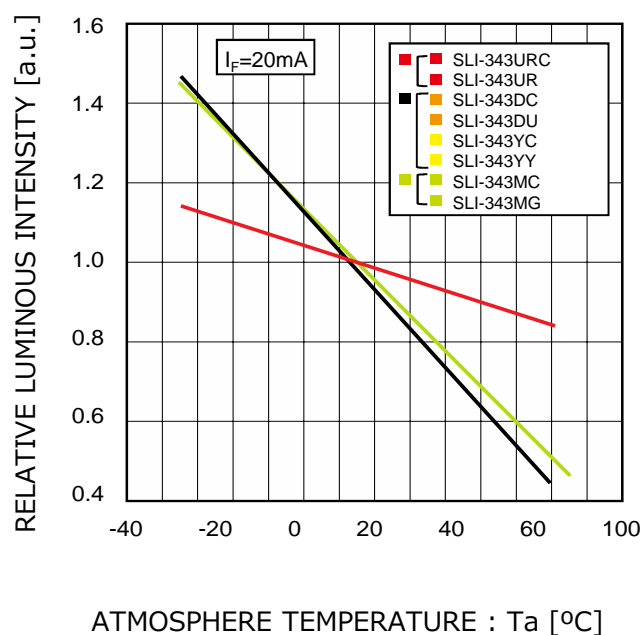


Fig.3 Luminous Intensity - Forward Current

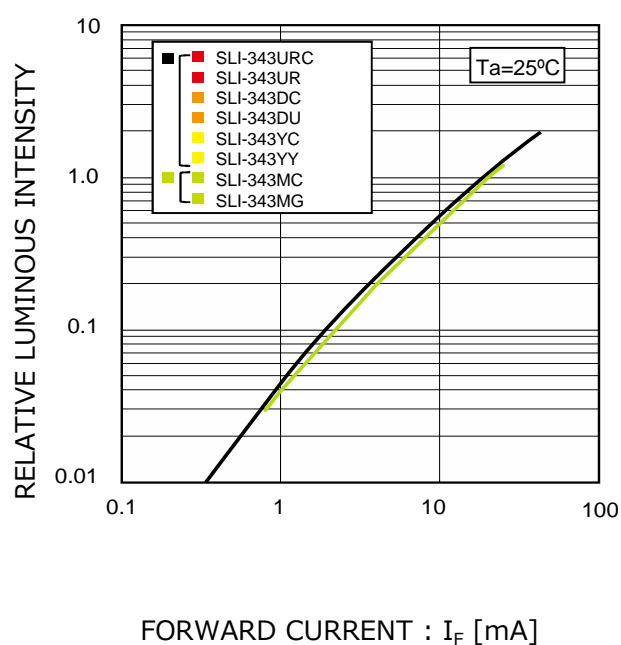
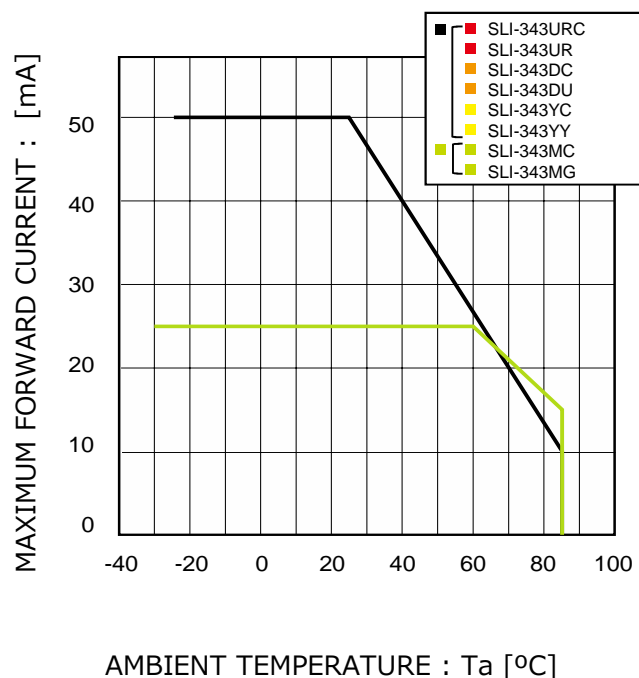
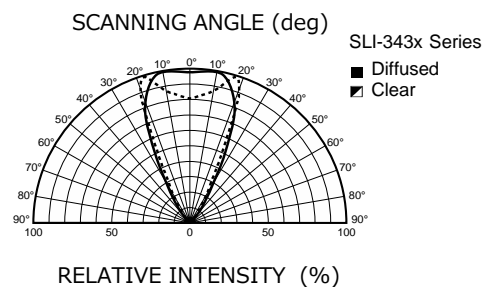


Fig.4 Derating



■ Viewing Angle

Reference



■ Rank Reference of Brightness*

*Measurement tolerance : ±10%

Red (V)

(Ta=25°C, I_F = 20mA)

Rank	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V
Iv (mcd)	0.40~0.63	0.63~1.0	1.0~1.6	1.6~2.5	2.5~4.0	4.0~6.3	6.3~10	10~16	16~25	25~40	40~63	63~100	100~160	160~250	250~400	400~630
SLI-343URC																
SLI-343UR																

Orange (D)

(Ta=25°C, I_F = 20mA)

Rank	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V
Iv (mcd)	0.40~0.63	0.63~1.0	1.0~1.6	1.6~2.5	2.5~4.0	4.0~6.3	6.3~10	10~16	16~25	25~40	40~63	63~100	100~160	160~250	250~400	400~630
SLI-343DC																
SLI-343DU																

Yellow (Y)

(Ta=25°C, I_F = 20mA)

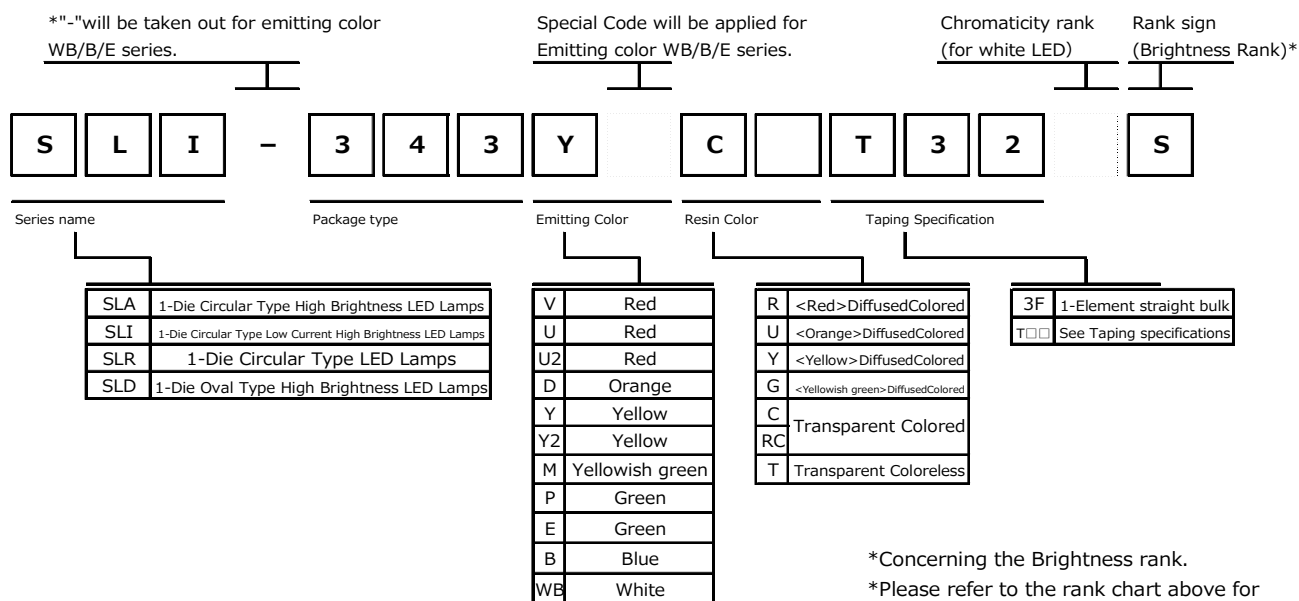
Rank	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V
Iv (mcd)	0.40~0.63	0.63~1.0	1.0~1.6	1.6~2.5	2.5~4.0	4.0~6.3	6.3~10	10~16	16~25	25~40	40~63	63~100	100~160	160~250	250~400	400~630
SLI-343YC																
SLI-343YY																

Yellowish Green (M)

(Ta=25°C, I_F = 20mA)

Rank	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V
Iv (mcd)	0.40~0.63	0.63~1.0	1.0~1.6	1.6~2.5	2.5~4.0	4.0~6.3	6.3~10	10~16	16~25	25~40	40~63	63~100	100~160	160~250	250~400	400~630
SLI-343MC																
SLI-343MG																

■ Part No. Construction



*Concerning the Brightness rank.

*Please refer to the rank chart above for luminous intensity classification.

*Part name is individual for each rank.

*When shipped as sample, the part name will be a representative part name.

General products are free of ranks.

Please contact sales if rank appointment is needed.

■ ATTENTION POINTS IN HANDLING

Visual light emitting diode does not contain reinforcement materials such as glass fillers. Therefore if sudden thermal and mechanical shock are given, destruction or inferiority of luminous intensity may occur. Please take care of the handling.

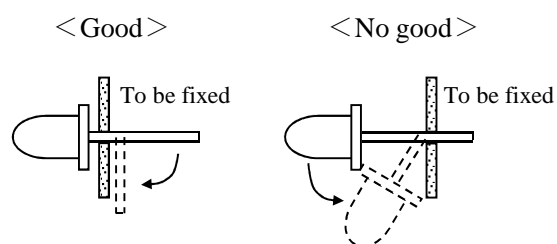
■ FIXATION METHOD

1. ATTENTION POINTS

- (1) Please do not give excessive heat over storage temperature to resin.
In case that the product has to be heated in oven for the glue fixing of surface mount parts, this LED should be mounted after the glue fixing.
- (2) Please avoid stress to resin at high temperature.

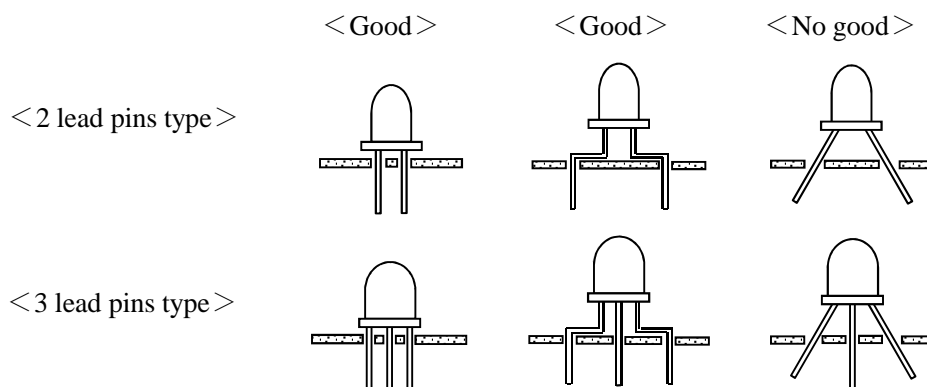
2. TERMINATION PROCESSING

- (1) In case of termination processing, please fix the termination
- (2) Processing position, and process the reverse side of LED body.
If stress is given during processing, It may cause non-lighting failure.
- (3) Please process before soldering.



3. ASSEMBLY ON PC BOARD

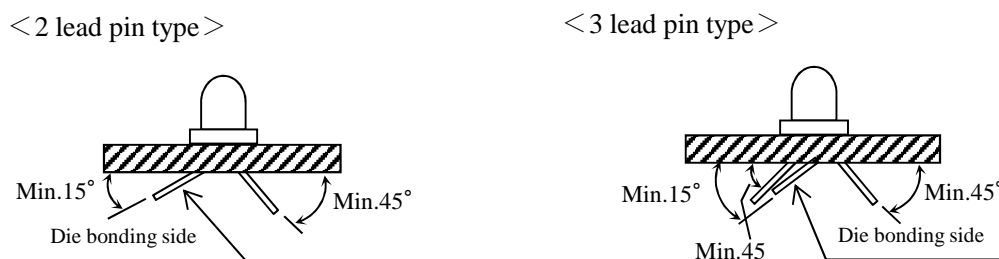
- (1) In case of soldering on PCB, If the operation is done with stress, it may cause non-lighting failure during soldering or using. Please design the through-holes of PCB suitable for lead pins space or lead pins space after forming to avoid the physical stress on resin.



- (2) Using spacer between LED's body and PCB is recommended.

In case of direct mount on PCB (SLR/SLI-343 series), please take care about clinch of LED pins to avoid the remained stress and solder heat stress.

Enough evaluation is requested before deciding assembly and soldering conditions.
Please consult with us if any problems in the evaluation stage.



4. SOLDERING (Sn-3Ag-0.5Cu)

- (1) Please make soldering rapidly under the following temperature and time conditions.
- (2) Please avoid stress to LED lamp during soldering.
- (3) In case of double peak flow soldering, the temperature gap during 1st and 2nd soldering to be less than 100 degree C.

<Recommendable soldering conditions>

ARTIICLE	SOLDERINGTEMP	OPERATION TIME	Remarks
Soldering Dip	Pre-heat	Max. 100°C	60sec Max.
	Soldering Bath	Max. 265°C	5sec Max.
Soldering Iron	Max. 400°C	3sec Max.	The iron should not touch the LED's body.

5. CLEANING

In case of cleaning, some solvents may cause damage of resin or cause non-lighting failure, so please check the solvent before actual use.

The recommendable cleaning solvent is alcoholic one such as isopropyl alcohol.

<RECOMMENDABLE CLEANING CONDITIONS>

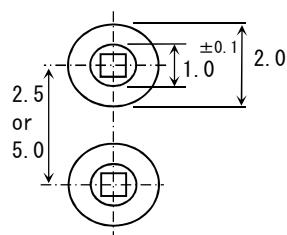
METHOD	CONDITIONS
Cleaning by solvent	Temperature of solvent : Max. 45°C Immersion time : Max. 3min
Cleaning by solvent	Ultrasonic out : Max. 15W/Liter Cleaning time : Max. 3min

6. RECOMMENDABLE ROUND PATTERN

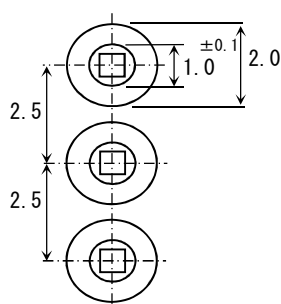
Round pattern depends on the material PCB, density and circuit arrangement.

Our recommendation is as follow :

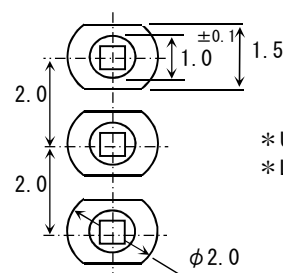
<2 lead pin type>



<3 lead pin type/2.5mm pitch>



<3 lead pin type/2.0mm pitch>



* Unit : mm
* Lead types : □ 0.4mm
 □ 0.5mm

■ ATTENTION ON STORAGING

Storage in dry box is most desirable, but if it is not possible, we recommend following conditions.

<RECOMMENDABLE STORAGE CONDITIONS>

ARTICLE	Temperature	Humidity	Expiration Date
CONDITIONS	5~30°C	Max.60%RH	Within 1 year

Poor storage conditions may cause some failure as bellow.

- (1) Lead pins may corrode if it is stored in the environment of high temperature and humidity and lead to defective soldering.
- (2) In case of soldering after LED's body absorb moisture highly, destruction or inferiority of luminous intensity may occur.

■ APPLICATION METHOD**1. Precaution for Drive System and Off Mode**

- Design the circuit without the electric load exceeding the ABSOLUTE MAXIMUM RATING that applies on the products.
- If drive by constant voltage, it may cause current deviation of the LED and result in deviation of luminous intensity, so we recommend to drive by constant current. (Deviation of VF Value will cause deviation of current in LED.)
- Furthermore, for off mode, please do not apply voltage neither forward nor reverse. Especially, for the products with the Ag-paste used in the die bonding, there's high possibility to cause electro migration and result in function failure.

2. Operation Life Span

There's possibility for intensity of light drop according to working conditions and environments (applied current, surrounding temperature and humidity, corrosive gases), please call our Sales staffs for inquiries about the concerned application below.

- (1) Longtime intensity of light life
- (2) On mode all the time

3. Usage

The Product is LED. We are not responsible for the usage as the diode such as Protection Chip, Rectifier, Switching and so on.

■ OTHERS**1. Surrounding Gas**

Notice that if it is stored under the condition of acid gas (chlorine gas, sulfured gas) or alkali gas (ammonia), it may result in low soldering ability (caused by the change in quality of the plating surface) or optical characteristics changes (light intensity, chrominance) and change in quality of die bonding (Ag-paste) materials. All of the above will cause function failure of the products. Therefore, please pay attention to the storage environment for mounted product (concern the generated gas of the surrounding parts of the products and the atmospheric environment).

2. Electrostatic Damage

The product is part of semiconductor and electrostatic sensitive, there's high possibility to be damaged by the electrostatic discharge.

Please take appropriate measures to avoid the static electricity from human body and earthing setting of production equipment. The resistance values of electrostatic discharge (actual values) are different varies with products, therefore, please call our Sales staffs for inquiries.

3. Electromagnetic Wave

Applications with strong electromagnetic wave such as, IH cooker, will influence the reliability of LED, therefore please evaluate before using it.

Notes

- 1) The information contained herein is subject to change without notice.
- 2) Before you use our Products, please contact our sales representative and verify the latest specifications :
- 3) Although ROHM is continuously working to improve product reliability and quality, semiconductors can break down and malfunction due to various factors.
Therefore, in order to prevent personal injury or fire arising from failure, please take safety measures such as complying with the derating characteristics, implementing redundant and fire prevention designs, and utilizing backups and fail-safe procedures. ROHM shall have no responsibility for any damages arising out of the use of our Products beyond the rating specified by ROHM.
- 4) Examples of application circuits, circuit constants and any other information contained herein are provided only to illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.
- 5) The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. ROHM does not grant you, explicitly or implicitly, any license to use or exercise intellectual property or other rights held by ROHM or any other parties. ROHM shall have no responsibility whatsoever for any dispute arising out of the use of such technical information.
- 6) The Products are intended for use in general electronic equipment (i.e. AV/OA devices, communication, consumer systems, gaming/entertainment sets) as well as the applications indicated in this document.
- 7) The Products specified in this document are not designed to be radiation tolerant.
- 8) For use of our Products in applications requiring a high degree of reliability (as exemplified below), please contact and consult with a ROHM representative : transportation equipment (i.e. cars, ships, trains), primary communication equipment, traffic lights, fire/crime prevention, safety equipment, medical systems, servers, solar cells, and power transmission systems.
- 9) Do not use our Products in applications requiring extremely high reliability, such as aerospace equipment, nuclear power control systems, and submarine repeaters.
- 10) ROHM shall have no responsibility for any damages or injury arising from non-compliance with the recommended usage conditions and specifications contained herein.
- 11) ROHM has used reasonable care to ensure the accuracy of the information contained in this document. However, ROHM does not warrant that such information is error-free, and ROHM shall have no responsibility for any damages arising from any inaccuracy or misprint of such information.
- 12) Please use the Products in accordance with any applicable environmental laws and regulations, such as the RoHS Directive. For more details, including RoHS compatibility, please contact a ROHM sales office. ROHM shall have no responsibility for any damages or losses resulting from non-compliance with any applicable laws or regulations.
- 13) When providing our Products and technologies contained in this document to other countries, you must abide by the procedures and provisions stipulated in all applicable export laws and regulations, including without limitation the US Export Administration Regulations and the Foreign Exchange and Foreign Trade Act.
- 14) This document, in part or in whole, may not be reprinted or reproduced without prior consent of ROHM.



Thank you for your accessing to ROHM product informations.
More detail product informations and catalogs are available, please contact us.

ROHM Customer Support System

<http://www.rohm.com/contact/>

< Specifications (Precautions and Prohibitions) >

● Precaution on using ROHM Products

- 1) Our Products are designed and manufactured for application in ordinary electronic equipment (such as AV equipment, OA equipment, telecommunication equipment, home electronics appliances, amusement equipment, etc.). If you intend to use our Products in devices requiring extremely high reliability (such as medical equipment, transport equipment, traffic equipment, aircraft/spacecraft, nuclear power controllers, fuel controllers, car equipment including car accessories, safety devices, etc.) and whose malfunction or failure may cause loss of human life, bodily injury or serious damage to property ("Special Applications"), please consult with the ROHM sales representative in advance. Unless otherwise agreed in writing by ROHM in advance, ROHM shall not be in any way responsible or liable for any damages, expenses or losses incurred by you or third parties arising from the use of any ROHM's Products for Specific Applications.
- 2) ROHM designs and manufactures its Products subject to strict quality control system. However, semiconductor products can fail or malfunction at a certain rate. Please be sure to implement, at your own responsibilities, adequate safety measures including but not limited to fail-safe design against the physical injury, damage to any property, which a failure or malfunction of our Products may cause. The following are examples of safety measures.
 - [a] Installation of protection circuits or other protective devices to improve system safety
 - [b] Installation of redundant circuits to reduce the impact of single or multiple circuit failure
- 3) Our Products are designed and manufactured for use under standard conditions and not under any special or extraordinary environments or conditions, as exemplified below. Accordingly, ROHM shall not be in any way responsible or liable for any damages, expenses or losses arising from the use of any ROHM's Products under any special or extraordinary environments or conditions. If you intend to use our Products under any special or extraordinary environments or conditions (as exemplified below), your independent verification and confirmation of product performance, reliability, etc, prior to use, must be necessary:
 - [a] Use of our Products in any types of liquid, including water, oils, chemicals, and organic solvents
 - [b] Use of our Products outdoors or in places where the Products are exposed to direct sunlight or dust
 - [c] Use of our Products in places where the Products are exposed to sea winds or corrosive gases, including Cl₂, H₂S, NH₃, SO₂, and NO₂
 - [d] Use of our Products in places where the Products are exposed to static electricity or electromagnetic waves
 - [e] Use of our Products in proximity to heat-producing components, plastic cords, or other flammable items
 - [f] Sealing or coating our Products with resin or other coating materials
 - [g] Use of our Products without cleaning residue of flux (even if you use no-clean type fluxes, cleaning residue of flux is recommended); or Washing our Products by using water or water-soluble cleaning agents for cleaning residue after soldering
 - [h] Use of the Products in places subject to dew condensation
- 4) The Products are not subject to radiation-proof design.
- 5) Please verify and confirm characteristics of the final or mounted products in using the Products.

DESIGN	CHECK	APPROVAL	DATE:Jun./21/2018	SPECIFICATION No. : LED-N
<i>H. Mureba</i>		<i>Shunichi</i>	REV. D	ROHM Co.,Ltd.

< Specifications (Precautions and Prohibitions) >

- 6) In particular, if a transient load (a large amount of load applied in a short period of time, such as pulse) is applied, confirmation of performance characteristics after on-board mounting is strongly recommended. Avoid applying power exceeding normal rated power; exceeding the power rating under steady-state loading condition may negatively affect product performance and reliability.
- 7) De-rate Power Dissipation (Pd) depending on Ambient temperature (Ta). When used in sealed area, confirm the actual ambient temperature.
- 8) Confirm that operation temperature is within the specified range described in the product specification.
- 9) ROHM shall not be in any way responsible or liable for failure induced under deviant condition from what is defined in this document.

● Precaution for Mounting / Circuit board design

- 1) When a highly active halogenous (chlorine, bromine, etc.) flux is used, the residue of flux may negatively affect product performance and reliability.
- 2) In principle, the reflow soldering method must be used; if flow soldering method is preferred, please consult with the ROHM in advance. (For surface mount device.)

Regarding Precaution for Mounting / Circuit board design, please specially refer to ROHM Mounting specification. (Refer to precaution of the individual product.)

● Precautions Regarding Application Examples and External Circuits

- 1) If change is made to the constant of an external circuit, please allow a sufficient margin considering variations of the characteristics of the Products and external components, including transient characteristics, as well as static characteristics.
- 2) You agree that application notes, reference designs, and associated data and information contained in this document are presented only as guidance for Products use. Therefore, in case you use such information, you are solely responsible for it and you must exercise you own independent verification and judgment in the use of such information contained in this document. ROHM shall not be in any way responsible or liable for damages, expenses or losses incurred by you or third parties arising from the use of such information.

● Precaution for Electrostatic

This Product is electrostatic sensitive product, which may be damaged due to electrostatic discharge. Please take proper caution in your manufacturing process and storage so that voltage exceeding Products maximum rating will not be applied to Products. Please take special care under dry condition (e.g. Grounding of human body / equipment / solder iron, isolation from charged objects, setting of Ionizer, friction prevention and temperature / humidity control).

● Precaution for Storage / Transportation

- 1) Product performance and soldered connections may deteriorate if the Products are stored in the places where:
 - [a] the Products are exposed to sea winds or corrosive gases, including Cl₂, H₂S, NH₃, SO₂, and NO₂
 - [b] the temperature or humidity exceeds those recommended by ROHM
(Refer to precaution of the individual product.)
 - [c] the Products are exposed to direct sunshine or condensation
 - [d] the Products are exposed to high Electrostatic

< Specifications (Precautions and Prohibitions) >

- 2) Even under ROHM recommended storage condition, solderability of products out of recommended storage time period may be degraded.
It is strongly recommended to confirm solderability before using Products of which storage time is exceeding the recommended storage time period. (Refer to precaution of the individual product.)
- 3) Store / transport cartons in the correct direction, which is indicated on a carton as a symbol. Otherwise bent leads may occur due to excessive stress applied when dropping of a carton.
- 4) Use Products within the specified time after opening a humidity barrier bag. Baking is required before using Products of which storage time is exceeding the recommended storage time period.
(Refer to precaution of the individual product.)

● Precaution for product label

QR code printed on ROHM product label is for ROHM's internal use only, and please do not use at customer site.

● Precaution for disposition

When disposing Products please dispose them properly using an authorized industry waste company.

● Precaution for Foreign exchange and Foreign Trade act

Note: Since concerned goods have not been determined to be fallen under listed items of export control prescribed by Foreign Exchange and Foreign Trade act or not, please consult with ROHM in case of export.

● Precaution Regarding Intellectual Property Rights

- 1) All information and data including but not limited to application example contained in this document is for reference only. ROHM does not warrant that foregoing information or data will not infringe any intellectual property rights or any other rights of any third party regarding such information or data.
- 2) ROHM shall not have any obligations where the claims, actions or demands arising from the combination of the Products with other articles such as components, circuits, systems or external equipment (including software)
- 3) No license, expressly or implied, is granted hereby under any intellectual property rights or other rights of ROHM or any third parties with respect to the Products or the information contained in this document. Provided, however, that ROHM will not assert its intellectual property rights or other rights against you or your customers to the extent necessary to manufacture or sell products containing the Products, subject to the terms and conditions herein.

● Other Matters

- 1) This document may not be reprinted or reproduced, in whole or in part, without prior written consent of ROHM.
- 2) The Products may not be disassembled, converted, modified, reproduced or otherwise changed without prior written consent of ROHM.
- 3) In no event shall you use in any way whatsoever the Products and the related technical information contained in the Products or this document for any military purposes, including but not limited to, the development of mass-destruction weapons.
- 4) The proper names of companies or products described in this document are trademarks of registered trademarks of ROHM, its affiliated companies or third parties

1. CONSTRUCTION Yellow visual light emitting diodes featuring AlGaInP packed with transparent yellow-colored resin.
2. USAGE *¹ Power source for display unit.
3. DIMENSIONS See Figure.1
4. ABSOLUTE MAXIMUM RATINGS *²

Power Dissipation	PD (Ta=25°C)	• • • • •	125mW
Forward Current	IF (Ta=25°C)	• • • • •	50mA
Peak Forward Current	IFP (Ta=25°C)	• • • • •	200mA ¹⁾
Reverse Voltage	VR (Ta=25°C)	• • • • •	9V
Operating Temperature	Topr	• • • • •	-25°C~+85°C
Storage Temperature	Tstg	• • • • •	-30°C~+100°C

¹⁾ Duty 1/10 1kHz

5. ELECTRO—OPTICAL CHARACTERISTICS (Ta=25°C)

DISCRIPTION	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	VF	IF=20mA ²⁾	(1.45)	1.9	2.4	V
Reverse Current	IR	VR=9V	—	—	100	μ A
Luminous Intensity	Iv	IF=20mA ³⁾	90	350	(710)	mcd
Peak Wave Length	λ P	IF=20mA ³⁾	—	591	—	nm
Spectral Line Half Width	Δ λ	IF=20mA ³⁾	—	15	—	nm

²⁾ Lighting time : 1msec ³⁾ Lighting time : 10msec () : Reference

6. LUMINOUS CLASSIFICATION *³ (Ta=25°C, IF=20mA)

SYMBOL	LUMINOUS CLASSIFICATION RANGE			
“S”	90	~	180	mcd
“T”	140	~	280	mcd
“U”	220	~	450	mcd
“V”	360	~	(710)	mcd

() : Reference

7. PRODUCT WEIGHT Product weight per piece, approx 0.12gram.

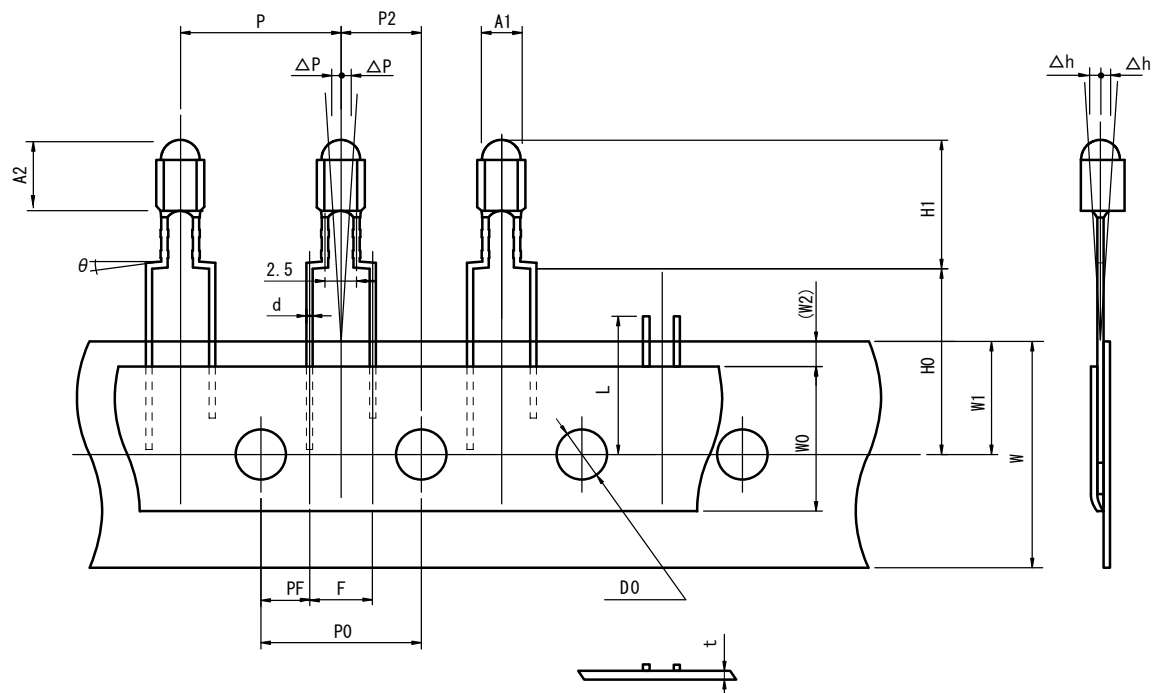
*¹ : This product cannot be used for Automotive & Industrial (base station, smart meters, signal, etc. and social infrastructure) usage.

*² : Absolute maximum rating is the limit which must not be exceeded even for an instant, once exceeded, LED device destruction might occur.

This is not the value that guarantees intensity of light life and other reliabilities.

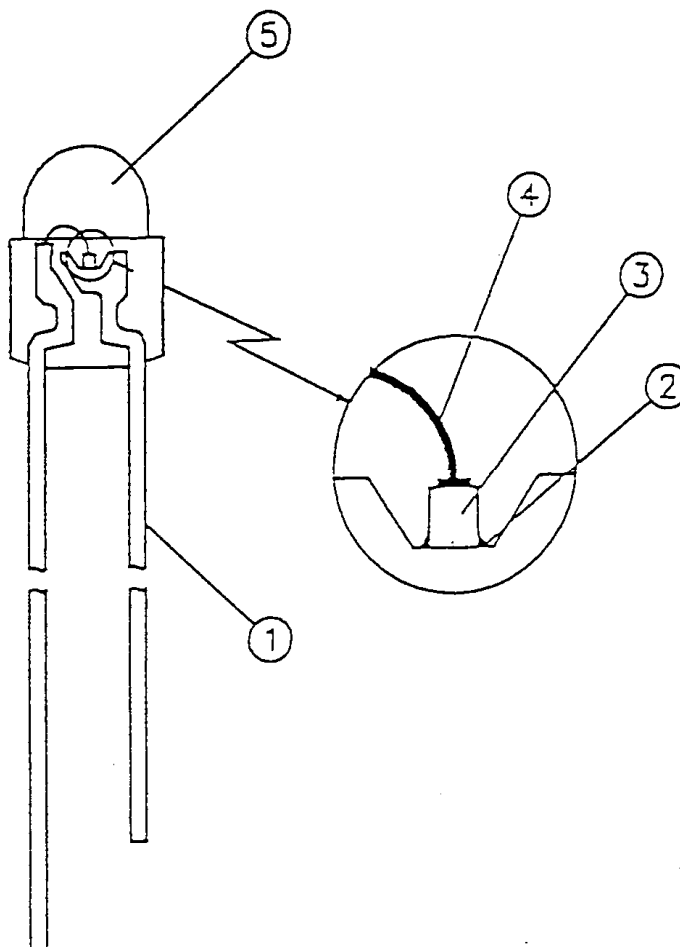
Please refer to the derating data & conducting test data, and make sure to keep the value within absolute maximum rating while using.

*³ : If rank shift occur, we may ask for re-approval of new rank when necessary.

【Taping : TB7】


ITEM	SYMBOL	SPECIFICATION (Unit : mm)
Body diameter	A1	φ3.1 ± 0.2
Body height	A2	5.4 ± 0.3
Pitch of component	P	12.7 ± 1.0
Feed hole pitch	P0	12.7 ± 0.3
Hole center to component center	P2	6.35 ± 0.4
Hole pitch tolerance accumulation	P20	For 20 pitches 1.0MAX
Lead wire thickness	d	□0.4 ± 0.1 ※
Lead to lead distance	F	5.0 ± 0.8
Clinch height	H0	16.0 ± 0.5
Clinch angle	θ	(0° ~ 10°) Target value
Height	H1	9.1 ± 0.8
Tape width	W	18.0 ^{+1.0} _{-0.5}
Hold down tape width	W0	13.0±0.3, 10.0±0.3
Hole position	W1	9.0 ± 0.5
Hole down tape position	W2	3.0MAX
Tape thickness	t	0.7 ± 0.2
Component alignment (1)	Δh	0 ± 2.0
Component alignment (2)	ΔP	0 ± 1.0
Length of snapped lead	L	11.0MAX
Feed hole center to lead center	PF	3.85 ± 0.8
Feed hole diameter	D0	φ4.0 ± 0.2

※Except flush

【STRUCTURE・MATERIAL】


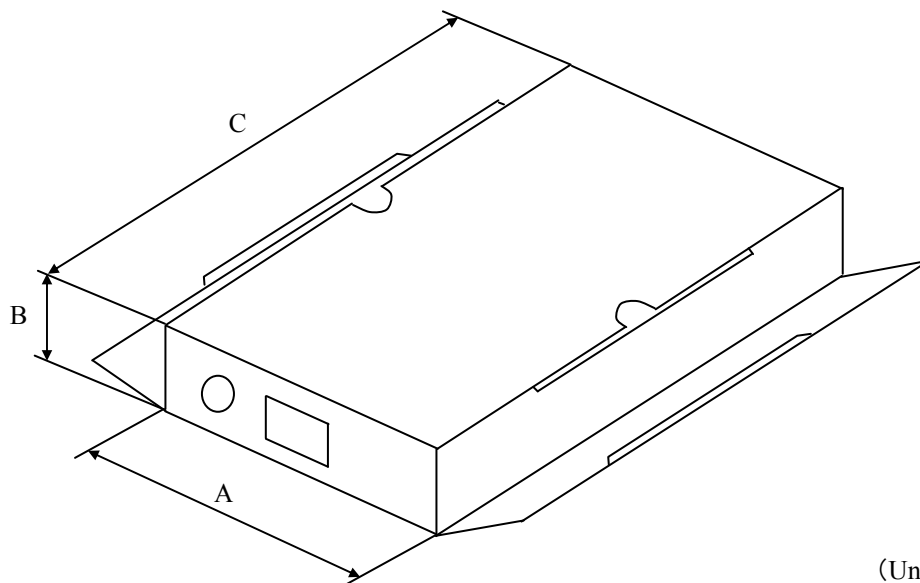
No.	APPELLATION	MATERIAL
①	Lead Frame Lead	Iron Copper + Silver Plating Solder Dip or Tin plating
②	Die Bond	Ag Paste
③	LED Chip	AlGaInP
④	Bonding Wire	Gold
⑤	Resin	Epoxy Resin

【PACKAGING REQUIREMENTS】

1.PACKAGING

- 1.1 The tape is folded over across a pitch of 25 pieces or 26 pieces.
- 1.2 Tape leader and tape end leave 10 blank part positions.
- 1.3 Any reject units are clipped or cut off in the permissible location specified in the drawing.
- 1.4 No more than three consecutive blank and 10 pieces out of consecutive 1,000 pieces are permitted. However.

2.CARTON



(Unit : mm)

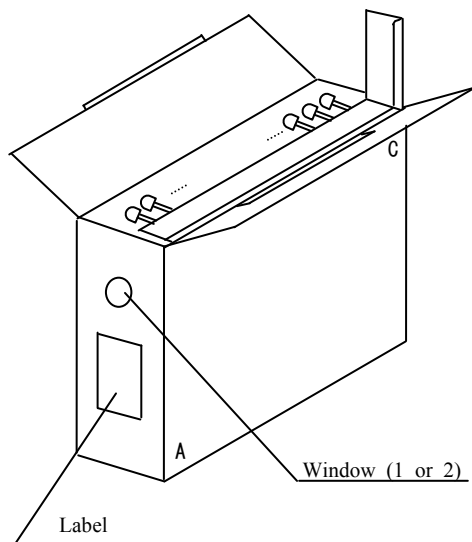
Lens size	3φ	5φ
A	158±7	240±7
B	48±7	52±7
C	340±7	

3.QUANTITY

2,000pcs/Box

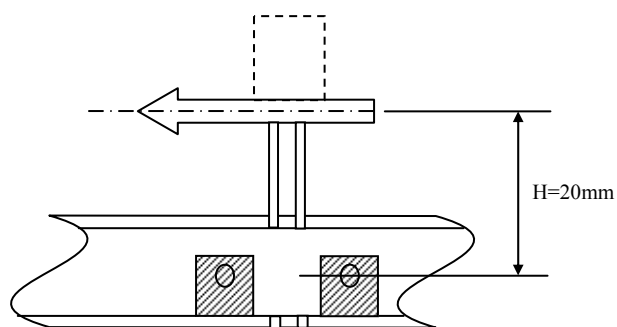
4. TAPE TRAVEL INDICATION

Indication "C" on the four points where cathode lead leaves tape first,
 and indication "A" on the four points where anode lead leaves tape first.



5. TAPE DEVICE RETENTION PARAMETERS

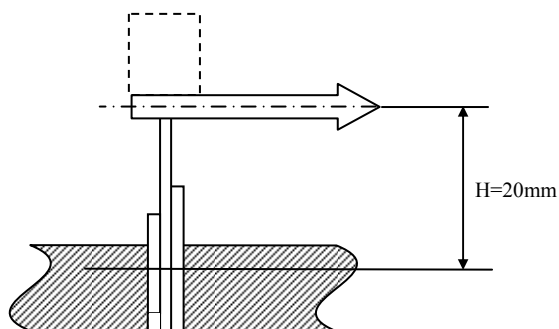
5.1 Horizontal direction



Stable

$F=1N$ {round 102gf} Applied for $3\pm 1\text{sec}$

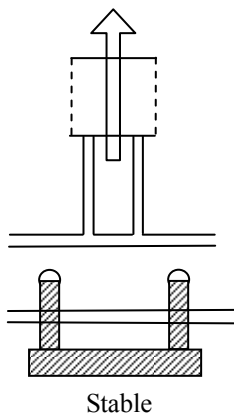
5.2 Vertical direction



Stable

$F=0.7N$ {round 71.4gf} Applied for $3\pm 1\text{sec}$

5.3 Adhesiveness

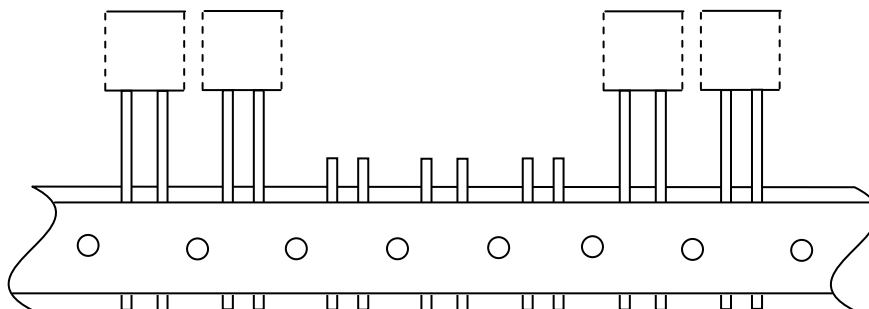


• More than 5N {round 510gf}
 Lead should not come off or
 be misaligned.

Force on to arrow direction.

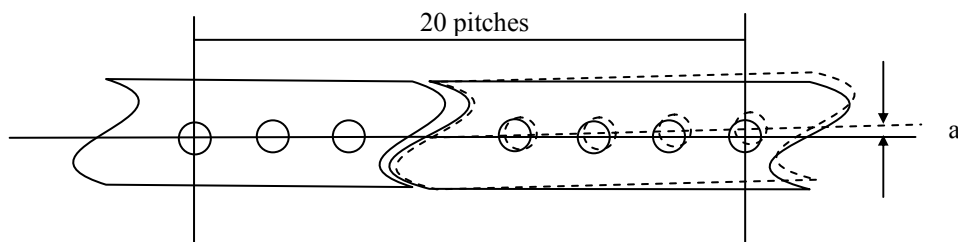
6. ANNEX

6.1 No more three consecutive blank space permitted.



6.2 Tape jointing, in case of tape end or cutting, is done with jointing tape or sticky tape.
 The jointing area's thickness is 1.5mm max and strength is more than 10N {round 1.02kgf}.

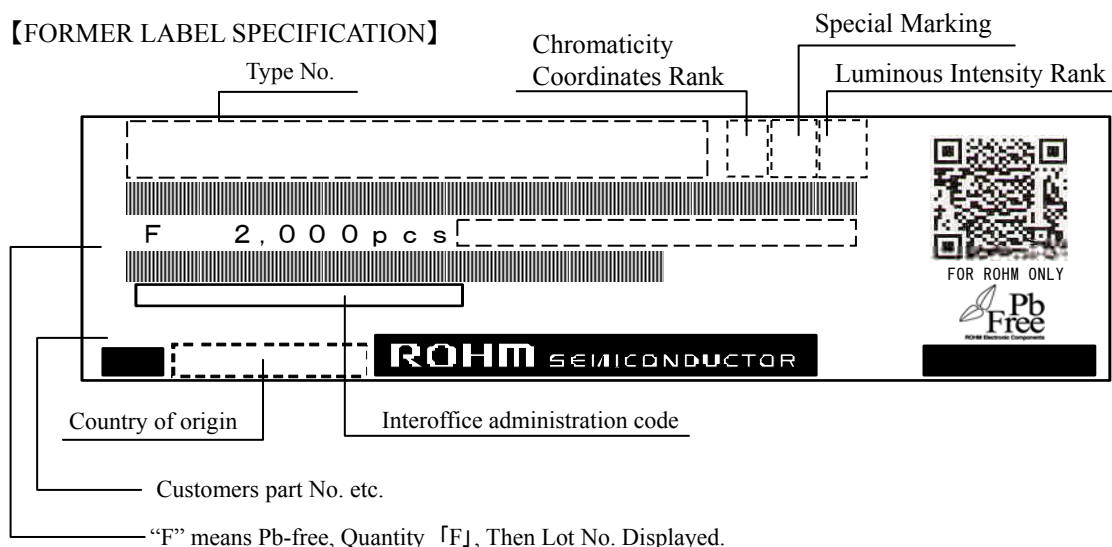
6.3 Permissible misalignment is 1.0mm max across a pitch of 20 holes.




7. MARKING

The following information shall be described on a box label:
ROHM type number, packaging quantity, luminous intensity rank, lot number etc.

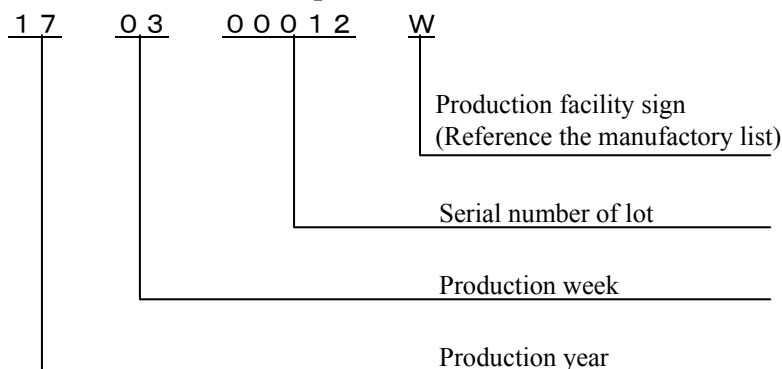
【FORMER LABEL SPECIFICATION】



Note)  Indicates bar code expressed by code 39.

 indicates Pb-free Products.

【EXAMPLE OF LOT NO. MARKING】



【ATTENTION POINTS IN HANDLING】

Visual light emitting diode does not contain reinforcement materials such as glass fillers.

Therefore if sudden thermal and mechanical shock are given, destruction or inferiority of luminous intensity may occur. Please take care of the handling.

■ FIXATION METHOD

1. ATTENTION POINTS

- (1) Please do not give excessive heat over storage temperature to resin.

In case that the product has to be heated in oven for the glue fixing of surface mount pads, this LED should be mounted after the glue fixing.

- (2) Please avoid stress to resin at high temperature.

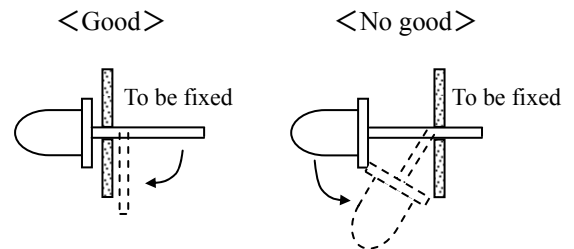
2. TERMINATION PROCESSING

- (1) In case of termination processing, please fix the termination

- (2) Processing position, and process the reverse side of LED body.

If stress is given during processing, It may cause non-lighting failure.

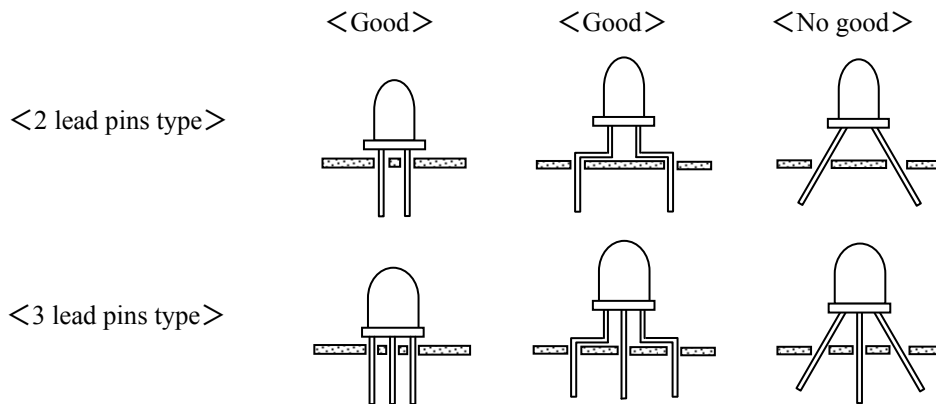
- (3) Please process before soldering.



3. ASSEMBLY ON PC BOARD

- (1) In case of soldering on PCB, If the operation is done with stress, it may cause non-lighting failure during soldering or using.

Please design the through-holes of PCB suitable for lead pins space or lead pins space after forming to avoid the physical stress on resin.

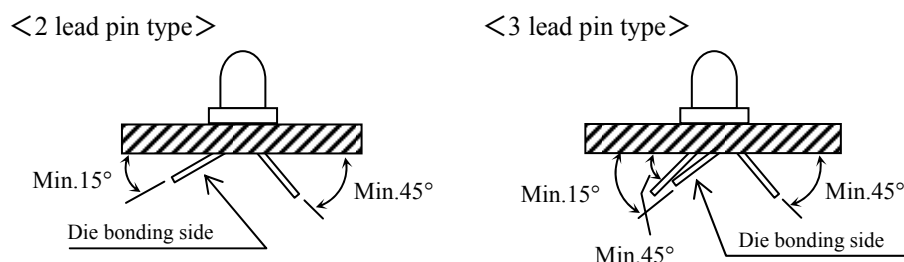


- (2) Using spacer between LED's body and PCB is recommended.

In case of direct mount on PCB(SLR/SLI-343 series), please take care about clinch of led pins to avoid the remained stress and solder heat stress.

Enough evaluation is requested before deciding assembly and soldering conditions.

Please consult with us if any problems in the evaluation stage.



4. SOLDERING (Sn-3Ag-0.5Cu)

- (1) Please make soldering rapidly under the following temperature and time conditions.
- (2) Please avoid stress to LED lamp during soldering.
- (3) In case of double peak flow soldering, the temperature gap during 1st and 2nd soldering to be less than 100 degree C.

<Recommendable soldering conditions>

ARTICLE		SOLDERING TEMP	OPERATION TIME	Remarks
Soldering Dip	Pre-heat	Max. 100°C	60sec Max.	-
	Soldering Bath	Max. 265°C	5sec Max.	In case of double peak flow soldering, the operation time is counted from the beginning of 1 st peak to the end of 2 nd peak.
Soldering Iron		Max. 400°C	3sec Max.	The iron should not touch the LED's body.

5. CLEANING

In case of cleaning, some solvents may cause damage of resin or cause non-lighting failure, so please check the solvent before actual use.

The recommendable cleaning solvent is alcoholic one such as isopropyl alcohol.

<RECOMMENDABLE CLEANING CONDITIONS>

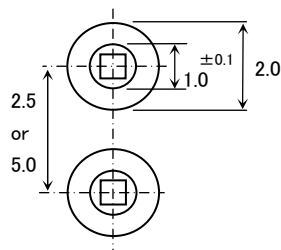
METHOD	CONDITIONS
Cleaning by solvent	Temperature of solvent : Max. 45°C
	Immersion time : Max. 3min
Cleaning by solvent	Ultrasonic out : Max. 15W/Liter
	Cleaning time : Max. 3min

6. RECOMMENDABLE ROUND PATTERN

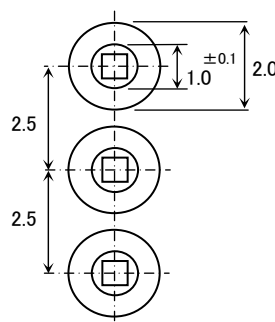
Round pattern depends on the material PCB, density and circuit arrangement.

Our recommendation is as follow :

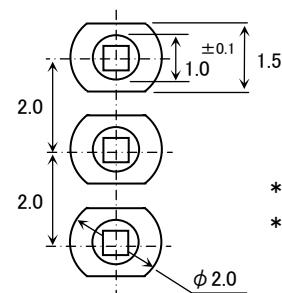
<2 lead pin type>



<3 lead pin type/2.5mm pitch>



<3 lead pin type/2.0mm pitch>



* Unit : mm

* Lead types : □0.4mm
□0.5mm

■ ATTENTION ON STORAGING

Storage in dry box is most desirable, but if it is not possible, we recommend following conditions.

<RECOMMENDABLE STORAGE CONDITIONS>

ARTICLE	Temperature	Humidity	Expiration Date
CONDITIONS	5~30°C	Max.60%RH	Within 1 year

Poor storage conditions may cause some failure as bellow.

- (1) Lead pins may corrode if it is stored in the environment of high temperature and humidity and lead to defective soldering.
- (2) In case of soldering after LED's body absorb moisture highly, destruction or inferiority of luminous intensity may occur.

■ APPLICATION METHOD

1. Precaution for Drive System and Off Mode

- Design the circuit without the electric load exceeding the ABSOLUTE MAXIMUM RATING that applies on the products.
- If drive by constant voltage, it may cause current deviation of the LED and result in deviation of luminous intensity, so we recommend to drive by constant current. (Deviation of VF Value will cause deviation of current in LED.)
- Furthermore, for off mode, please do not apply voltage neither forward nor reverse. Especially, for the products with the Ag-paste used in the die bonding, there's high possibility to cause electro migration and result in function failure.

2. Operation Life Span

There's possibility for intensity of light drop according to working conditions and environments (applied current, surrounding temperature and humidity, corrosive gases), please call our Sales staffs for inquiries about the concerned application below.

- (1) Longtime intensity of light life
- (2) On mode all the time

3. Usage

The Product is LED. We are not responsible for the usage as the diode such as Protection Chip, Rectifier, Switching and so on.

■ OTHERS

1. Surrounding Gas

Notice that if it is stored under the condition of acid gas (chlorine gas, sulfured gas) or alkali gas (ammonia), it may result in low soldering ability (caused by the change in quality of the plating surface) or optical characteristics changes (light intensity, chrominance) and change in quality of die bonding (Ag-paste) materials. All of the above will cause function failure of the products.

Therefore, please pay attention to the storage environment for mounted product (concern the generated gas of the surrounding parts of the products and the atmospheric environment).

2. Electrostatic Damage

The product is part of semiconductor and electrostatic sensitive, there's high possibility to be damaged by the electrostatic discharge.

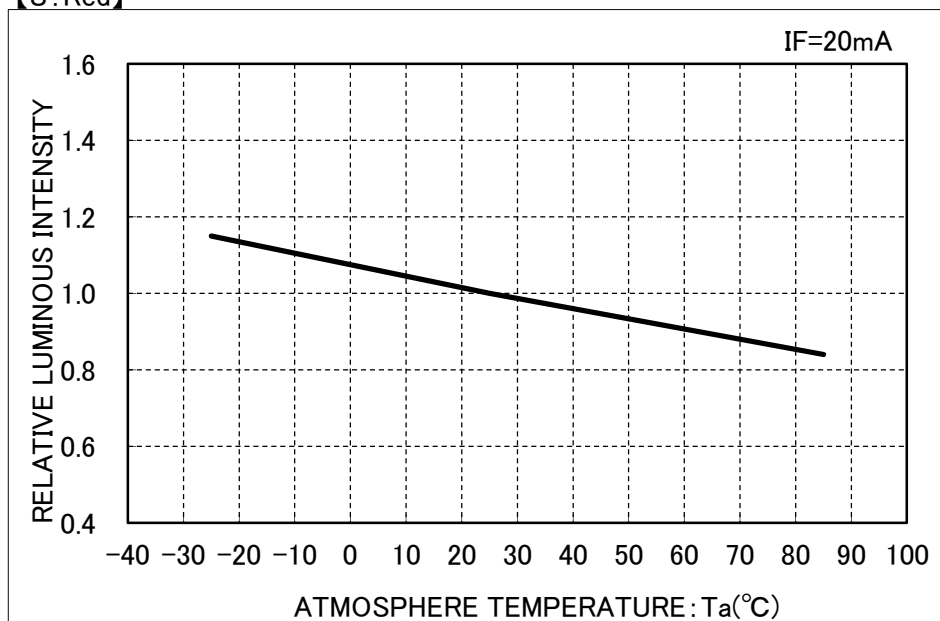
Please take appropriate measures to avoid the static electricity from human body and earthing setting of production equipment. The resistance values of electrostatic discharge (actual values) are different varies with products, therefore, please call our Sales staffs for inquiries.

3. Electromagnetic Wave

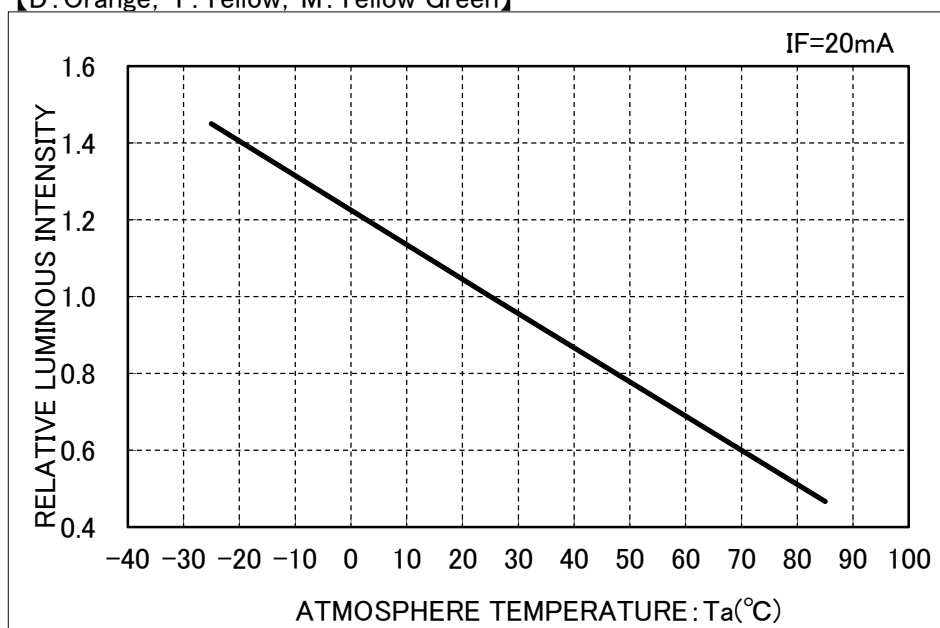
Applications with strong electromagnetic wave such as, IH cooker, will influence the reliability of LED, therefore please evaluate before using it.

RELATIVE LUMINOUS INTENSITY – ATMOSPHERE TEMPERATURE
光度 – 周囲温度特性

【U: Red】



【D: Orange, Y: Yellow, M: Yellow Green】



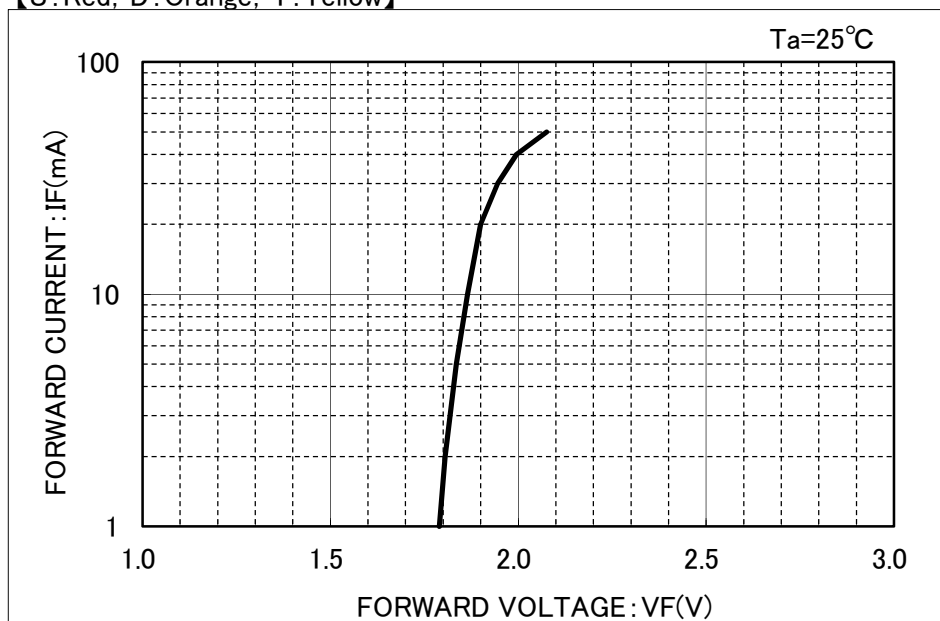
※当データは、特定Lotの実力データであり保証値ではありません。
※This data is actual value from specific lot and is not guaranteed.

Reference

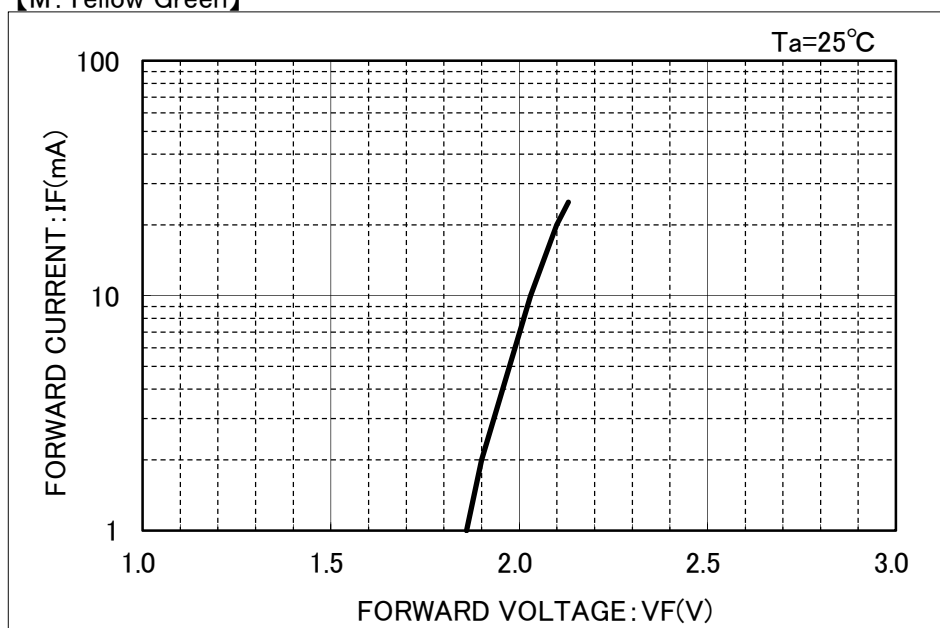
FORWARD CURRENT – FORWARD VOLTAGE

順方向電流 – 順方向電圧特性

【U: Red, D: Orange, Y: Yellow】



【M: Yellow Green】

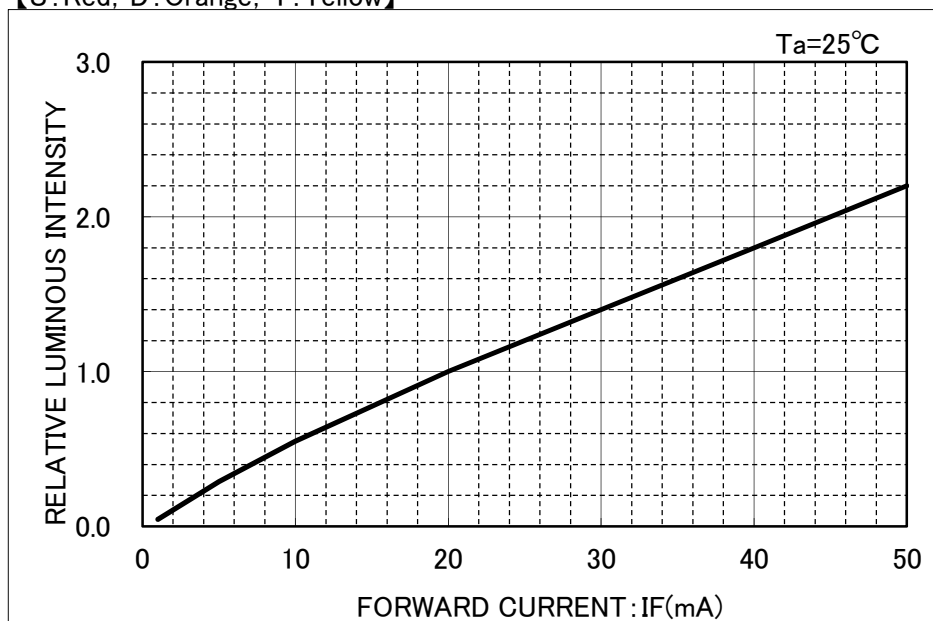


※当データは、特定Lotの実力データであり保証値ではありません。
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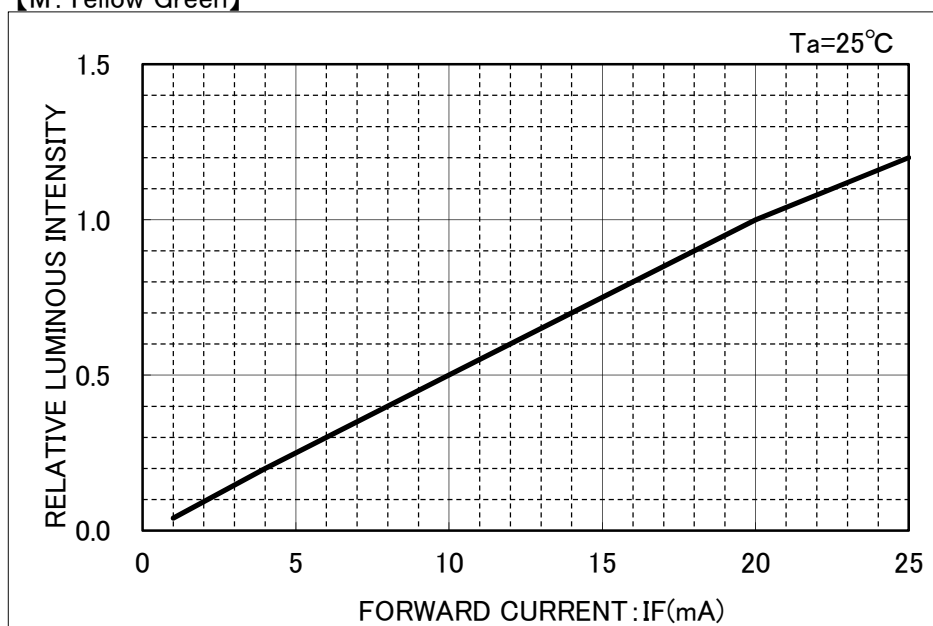
Reference

RELATIVE LUMINOUS INTENSITY – FORWARD CURRENT
光度 – 順方向電流特性

【U: Red, D: Orange, Y: Yellow】



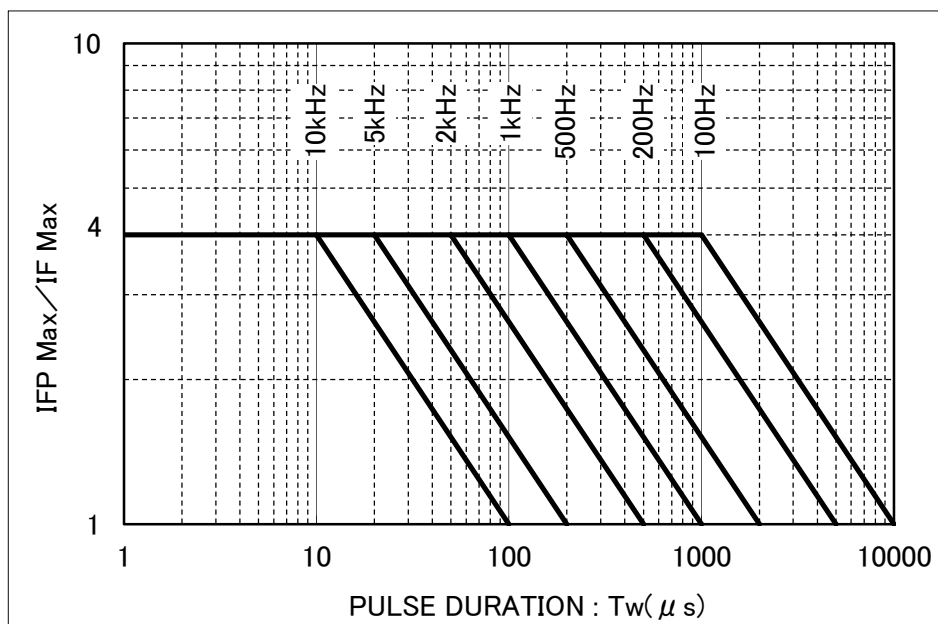
【M: Yellow Green】



※当データは、特定Lotの実力データであり保証値ではありません。
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Reference

RATIO OF MAXIMUM TOLERABLE PEAK CURRENT – PULSE DURATION
最大許容ピーク電流 – パルス幅特性

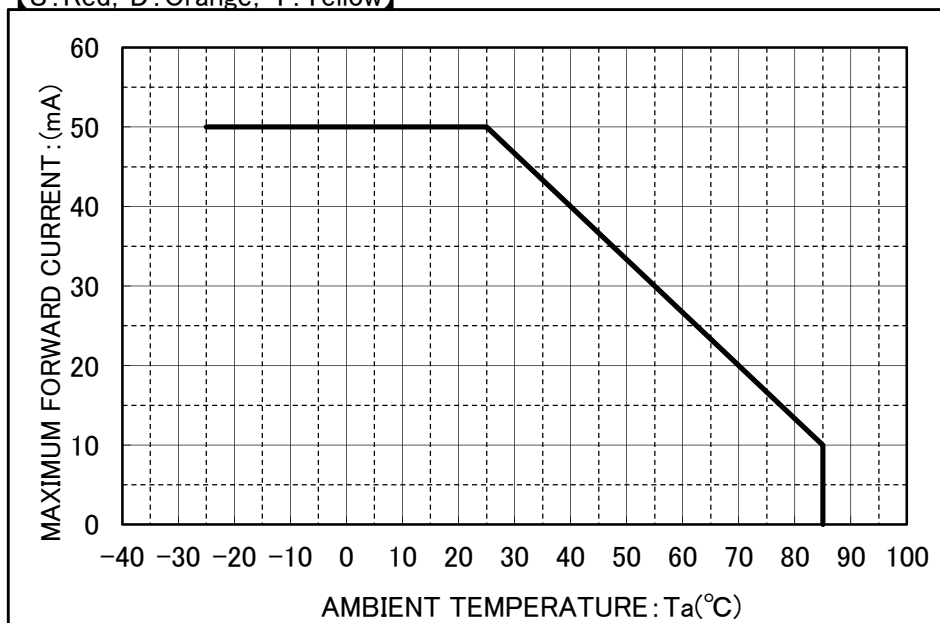


※当データは、特定Lotの実力データであり保証値ではありません。
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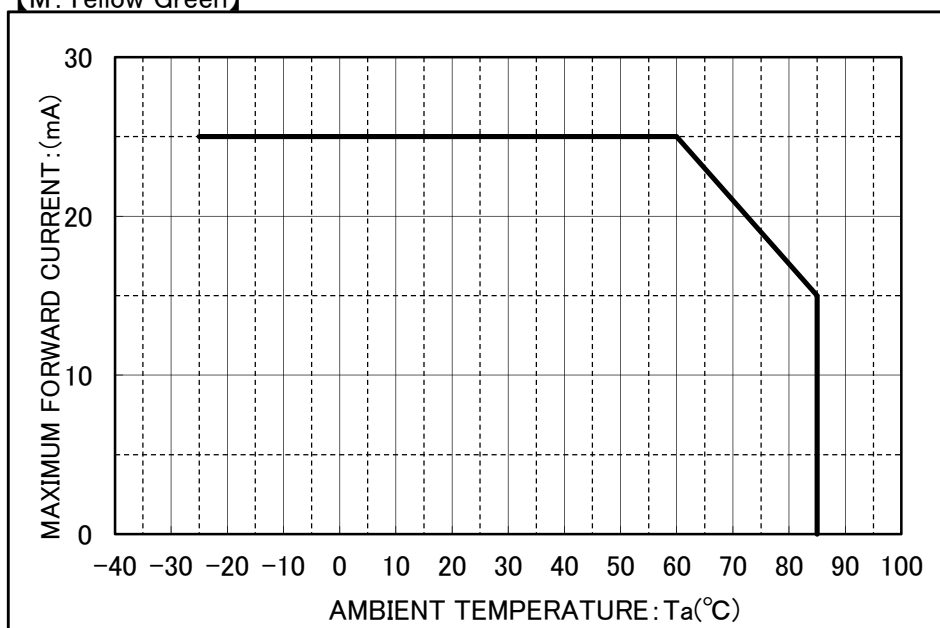
Reference

DERATING
ディレイティング特性

【U: Red, D: Orange, Y: Yellow】



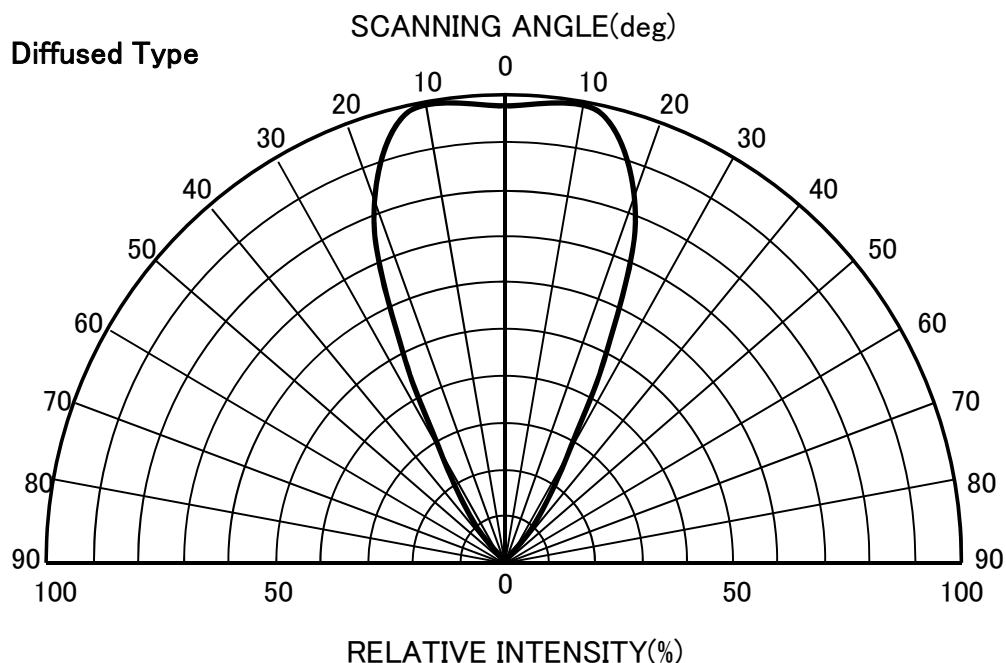
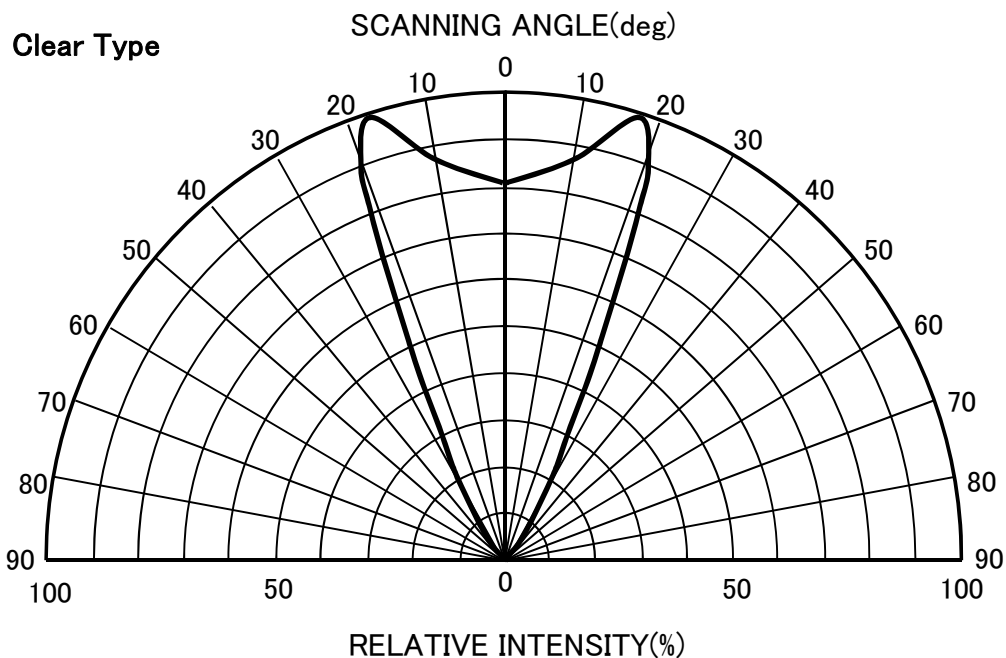
【M: Yellow Green】



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※This data is actual value from specific lot and is not guaranteed.

Reference

RELATIVE LUMINOUS INTENSITY - VIEWING ANGLE
指向特性



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※This data is actual value from specific lot and is not guaranteed.

Reference