

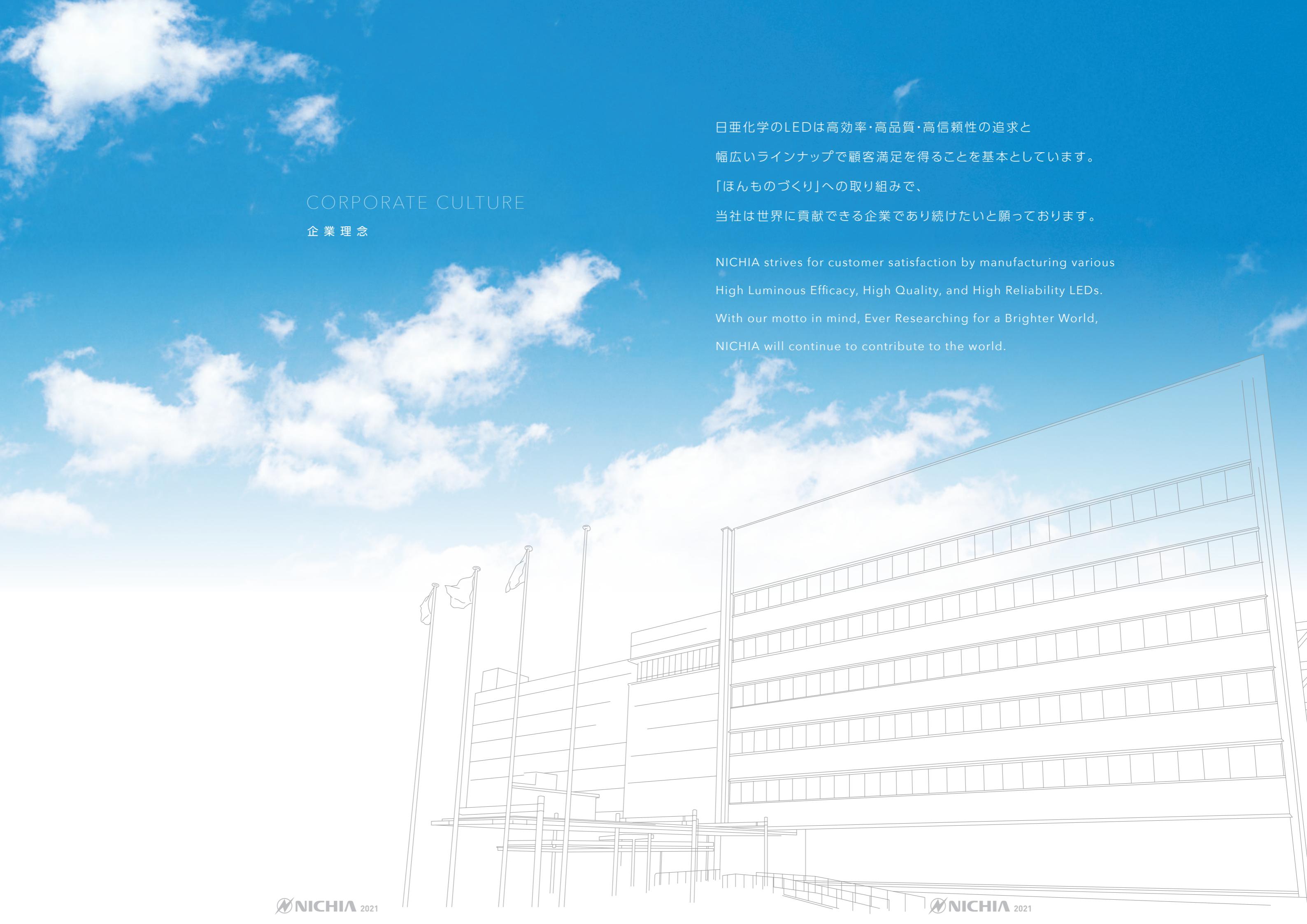
LED CATALOGUE 2021

EVER
RESEARCHING
FOR
A BRIGHTER
WORLD



<http://www.nichia.co.jp>





CORPORATE CULTURE

企業理念

日亜化学のLEDは高効率・高品質・高信頼性の追求と
幅広いラインナップで顧客満足を得ることを基本としています。
「ほんものづくり」への取り組みで、
当社は世界に貢献できる企業であり続けたいと願っております。

NICHIA strives for customer satisfaction by manufacturing various
High Luminous Efficacy, High Quality, and High Reliability LEDs.
With our motto in mind, Ever Researching for a Brighter World,
NICHIA will continue to contribute to the world.

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Caution

記載事項および製品のご使用にあたってのお願いと注意事項

■ 本カタログの掲載内容は2021年2月のものです。

■ 本カタログの全部又は一部を弊社の許可なく、転載・複写することを堅くお断りします。

■ 本カタログに関してご不明な点がございましたら弊社営業窓口までご連絡頂きますようお願い致します。

■ 本カタログに掲載している製品は、一般電子機器(事務・通信・計測機器、家電製品等)に使用されることを意図しております。特別な品質・信頼性が要求され、その故障や誤作動が直接人命を脅かしたり、人体に危害を及ぼす恐れのある用途(航空・宇宙用、海底中継機器、原子力制御システム、交通機器、燃焼機器、生命維持装置、安全装置等)にご使用をお考えの場合は事前に弊社営業窓口までご相談願います。

■ 弊社の許諾を得ることなく、本製品に対し解体や分析などのリバースエンジニアリングにあたる行為を行わないで下さい。万一一本製品に不具合が発見された場合は、本製品自体の解体をすることなく弊社まで直接ご連絡下さい。

■ LEDの出力を上げた状態で長時間直視しますと、目を痛めことがありますので、ご注意下さい。

■ 本カタログに掲載している製品の仕様及び外観は改良の為、予告なく変更することがありますので、予めご了承下さい。尚、本製品をご使用の際には必ず最新の仕様書をご請求の上、内容のご確認をお願い致します。

■ 量産に導入の際は、必ず事前に正式納入仕様書をご請求の上、取り交わしをお願い申し上げます。ご使用に際して、正式納入仕様書の記載内容条件を逸脱した使用状態で発生した事故／損傷に関しては、保証致しかねますのでご注意下さい。

■ 本カタログ記載のtyp.値は代表値を示すものであり、保証値ではございませんのでご注意下さい。

■ 本カタログに掲載している製品はRoHS指令に適合し、無鉛半田に対応しております。

■ The contents of this brochure are updated as of February, 2021.

■ No unauthorized transmission or reproduction of this, either in whole or in part, is permitted.

■ If you have any questions regarding this brochure, please contact our sales staff.

■ The LEDs described in this brochure are intended to be used for ordinary electronic equipments (such as office equipments, communications equipments, measurement instruments and household appliances). Consult Nichia's sales staff in advance for information on the applications in which exceptional quality and reliability are required, particularly when the failure or malfunction of the LEDs may directly jeopardize life or health (such as for airplanes, aerospace, submersible repeaters, nuclear reactor control systems, automobiles, traffic control equipments, life support systems and safety devices).

■ User shall not reverse engineer by disassembling or analysis of the LEDs without having prior written consent from Nichia. When defective LEDs are found, the User shall inform Nichia directly before disassembling or analysis.

■ The LED light output is strong enough to injure human eyes. Precautions must be taken to prevent looking directly at the LEDs with unaided eyes for more than a few seconds.

■ The appearance and specifications of the products may be modified for improvement without notice. Make sure to ask for and obtain the specifications and confirm the contents before using the product(s).

■ The formal specifications must be exchanged and signed by both parties before large volume purchase begins. Nichia will not take responsibility for any trouble that is caused by using the LEDs at conditions exceeding our formal specifications.

■ The "typ." in the brochure indicates typical value so that is not under guarantee.

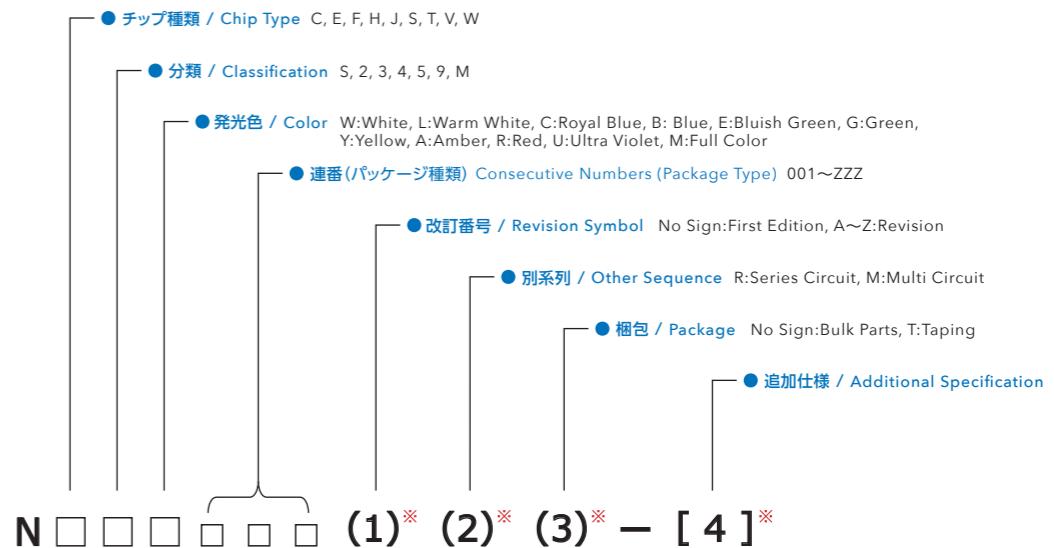
■ The LEDs described in this brochure comply with the RoHS Directive and are compatible with Pb-free solder.

Part No. Identification

型番表示方法

Surface Mount Type

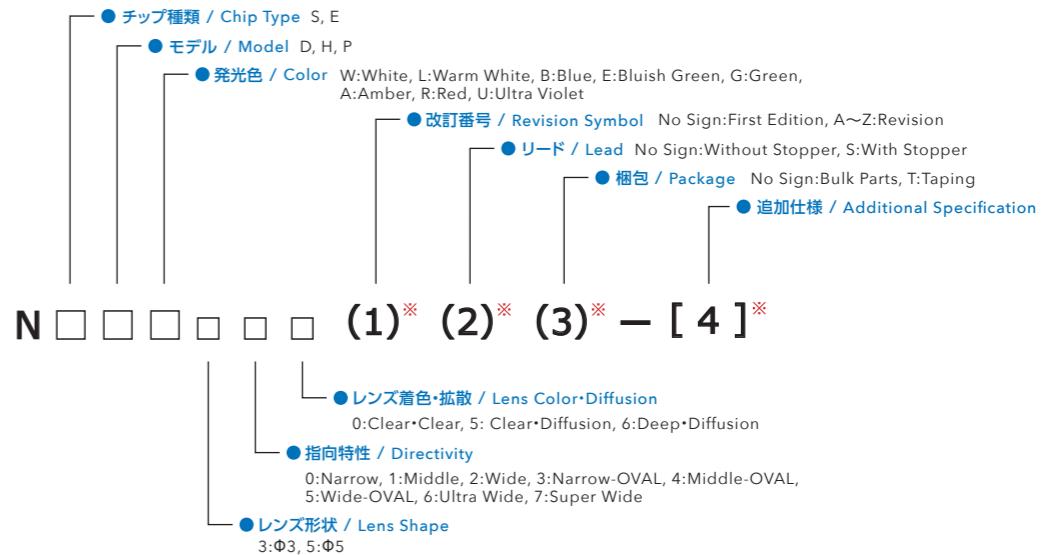
Surface Mount Type



Chip On Board (COB) Type



Lamp Type



* (1), (2), (3), [4], “-” の記号は必要な場合のみ型番に追加されます。
Symbols (1), (2), (3), [4], “-” are added to the Part No. only in necessary cases.

Light so Good

日亜化学工業は人間中心照明をサポートできるLEDで世界をリードしています。

ここで紹介する製品 (Vitasolis™, Optisolis™, 調色LED) は、

我々のモットー “光明一途”に向かって、日々技術の研鑽を続ける日亜化学工業のマイルストーンです。

NICHIA continues to be a leader of innovative LEDs that can help the world achieve Human-Centric Lighting (HCL).

NICHIA's Light so Good portfolio, consisting of Vitasolis™, Optisolis™, and the 2-in-1 Tunable LED, are milestones of NICHIA's long research history and NICHIA's motto "Ever Researching for a Brighter World."

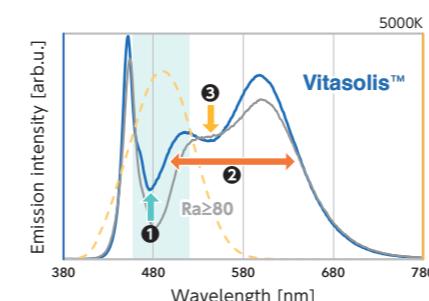
DETAIL ▶ 詳細はP024へ

Vitasolis™



学術的にも効果が確認された、世界初の心身疲労軽減と作業効率UPに寄与するスペクトルをもったLED。

The world's 1st LED which, as supported by academic research, can reduce physiological and psychological fatigue and improve work efficiency.



信州大学繊維学部 上條正義 教授

上記スペクトルと同様の光で照らされた部屋で作業する人の心身の快適／ストレスを計測したところ、

心理・生理面で疲労やストレスの軽減、および作業効率向上の傾向が見られています。

このような特徴からオフィスや学校、病院などの作業現場での照明におすすめです。

Upon measuring the level of physical and mental comfort and the level of stress, there has been a tendency that people working in a room lit with the above spectrum experienced reduced tiredness and stress, and an increase in work efficiency in terms of psychology and physiology.
Professor Masayoshi Kamijo at Shinshu University.

①人間の心身活性化に寄与するシアン領域の強度を増加

①The higher emission in the cyan region, contributes to human body and mind activation.

②眼精疲労を抑えるワイドな波長

②A broader wavelength emission reduces eyestrain.

③黄色領域の光の低減ですっきりとした白色

③Reduced yellow region emission to achieve a cleaner looking white.

メラノピック感度:睡眠サイクルを整えるメラトニンの分泌と抑制に関与

Melanopic sensitivity :

Controls suppression or secretion of Melatonin for sleep cycle

Optisolis™



基準光に限りなく近づけた光。

あらゆるものもありのまま照らす光とともに、紫外光を含まず、美術品などを傷つけることなく美しく魅せることができます。

Optisolis™ is an LED light source that directly compares to a standard illuminant.

The light illuminates the object's true colors without UV emission.



(左)導入前 (右)Optisolis™導入後

DETAIL ▶ 詳細はP022へ

NICHIA Tunable White

2-in-1 Tunable LED



製品紹介動画
Video clip

高色温度と低色温度の白色を1LED化。優れた混色性により調色照明デザインへ貢献。

Cool White and Warm White are combined into one single light emitting surface.



NICHIA Tunable White

2-in-1 Tunable LED

既存の調色方法
Conventional tuning



DETAIL ▶ 詳細はP024へ

For General Lighting Applications

NEW PRODUCTS

DETAIL ▶ 詳細はP028へ

照明機能と除菌機能をあわせ持つ 白色LED

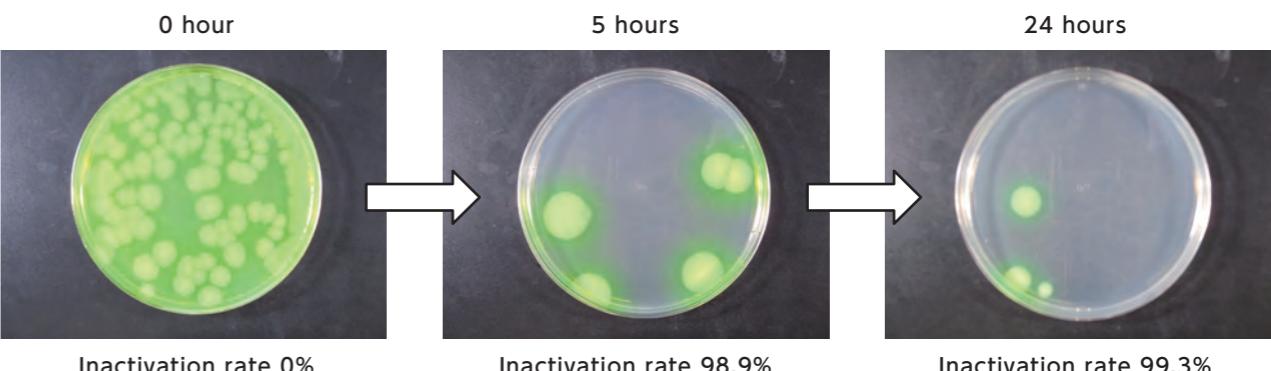
A dual function LED for general illumination and disinfection.



Part No. **NF2W585AR-P8** (0.5W) 14×3.6×2.05mm
405nmにピーク波長をもつことで、
“ものを照らす”+“除菌”的両立を実現した白色LED
Peak wavelength of 405nm.

不活性化試験 Inactivation Test

照射5時間で約98.9%を不活性化* Inactivation rate is 98.9%.



- 1000lxの照度で緑膿菌に光照射
- Irradiated Pseudomonas aeruginosa at 1000lx.
- 0.127mW/cm² at 25°C (LEDを9個使用)
- When using 9 pieces of this LED, the radiant intensity is 0.127W/cm² at 25°C.

*本結果は本試験環境および条件での効果であり、実使用空間、すべての菌への効果を確認しているわけではありません。
*These results are dependent on this specific test environment and conditions.
Nichia did not check the effectiveness for all bacteria species in real environments.

製品用途 Applications

- ベースライト
Base Light/Troffer
- ダウンライト、スポットライト
Down Light, Spot Light
- 庫内灯
Refrigerator Light



Direct Mountable Chip Series

幅広いサイズ・出力・カラー・ラインアップが充実
Complete high power LED portfolio for a wide variety.



製品特徴 Product Features

白色ラインアップ White Options

高輝度のチップサイズのパッケージ
高輝度によって灯具の小型化に貢献
Small packages with high luminance that can help reduce the size of the overall luminaire.

Part No. **NFSWE11A**
1.1×1.1×0.27mm



0.2W
28.7lm

Part No. **NCSWE17A**
1.7×1.7×0.27mm



1W
153lm

Part No. **NVSWE21A**
2.1×2.1×0.27mm



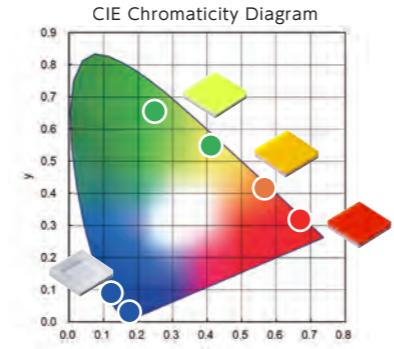
2W
303lm

T_J=25°C, 4000K, Ra>80, R9>0

カラーラインアップ Color Options

白色と基本仕様を統一
共通パッケージによる色選択が可能
Similar electrical / optical characteristics as white.
A variety of colors are offered in the same package size.

Part No. **NCS(C,B,G,A,R)E17A (1W)** NEW



2-4W級のスタンダードなハイパワーパッケージ
従来灯具の高光束化と高効率化に貢献

Standard 3535 package with 2-4W input rating which contributes to a higher luminous flux and efficacy at the luminaire level.

製品特徴 Product Features

Part no. **NVSW219F**

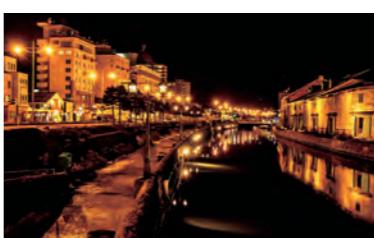
2W
341 lm

Part no. **NVSW519A** NEW

4W
667 lm



T_J=25°C
4000K
Ra>70



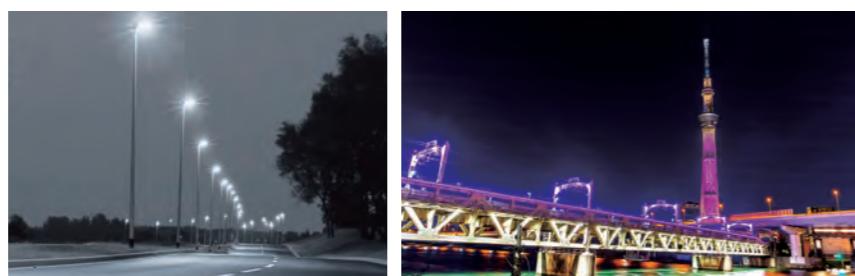
屋外照明の暖色化を高効率で実現
Realizes warmer CCT's with high efficiency for outdoor lighting.

被照射物の色の見え方を追求
医療照明や撮影環境の照明に最適
Ideal color appearance for irradiated objects in medical and film applications.



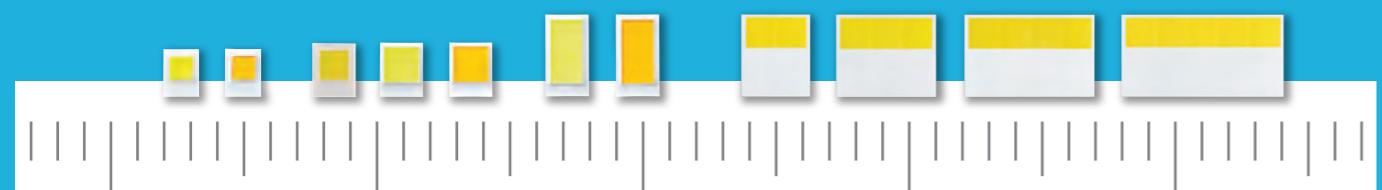
製品用途 Applications

- 道路灯・街路灯
Street Light
- 投光器
Flood Light
- スポットライト
Spot Light
- リニアーライト
Linear Light
- カラー照明
Color Lighting
- 携帯用照明
Portable Light
- 緊急車両
Emergency Vehicle Lighting



Point Light Source Series

Chip Scale Package NICHIA 170/131/121 Series



車載外装対応 極限までチップサイズに近づけた小型LED

アプリケーションや使い方に合わせて豊富なバリエーションから選択可能

Miniature LEDs that are extremely close to the chip size for Automotive Exterior LEDs.

Various options are offered according to the application.

NJSW170D 原寸大
full-scale drawing

製品特徴 Product Features

自在な配置が可能 Flexible Layouts

高密度実装が可能であり、灯具の小型化に貢献

全てのシリーズで発光部の高さが同一

High density mounting contributes to the miniaturization of lamps.
The height of the light emitting area is the same for all these series.



発光面サイズ Light Emitting Size

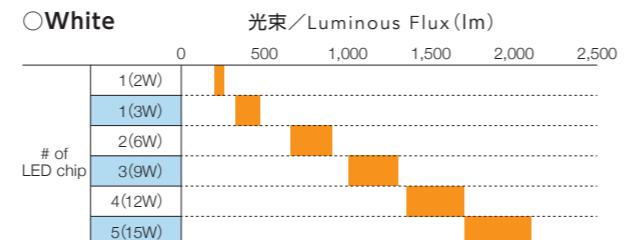
発光面サイズの小さい品種もラインアップ
照度の高い箇所に最適

Smaller light emitting sizes are also available.
Ideal for high illuminance areas.

- NCSW170,131F-SA
 - NCSW170,131D-PCB
 - NCxW121D-S1
- 対象型番
Applicable Part No.

光束レンジ Wide Range of Luminous Flux

○White



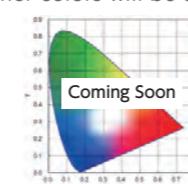
裏面のバリエーション LED Footprint Options

131,121シリーズはダイヒートシンク付き
放熱Padを持つPCBを使用することで高放熱を実現
The 131 and 121 series include a die heat sink.
High thermal dissipation is possible
when using a PCB with a heat dissipation pad.



色 Color

カラーラインアップを充実予定
Other colors will be added.



製品用途 Applications

- ヘッドライト Headlamp
- DRL
- ADB
- フォグランプ Fog Lamp
- 方向指示器 Turn Indicator
- ヘッドアップディスプレイ HUD



Multi-chip Package NICHIA 093/121/321 Series



車載外装対応 高光束LED ハロゲン・HIDに替わるLED光源

High Luminous Flux LEDs for Automotive Exterior - Replacing Halogen and HID.

製品特徴 Product Features

ラインアップ LED Options

多彩なラインアップから最適なLEDを選択可能

The optimal LED can be selected from options with various features.

Series	デザイン性 Design	光束 Luminous Flux	放熱特性 Thermal Dissipation	チップ数ラインアップ # of LED chip
093	★	★★★	★★★	2~5
121	★★★	★★	★★	2~5
321	★★	★★	★★★	1~5

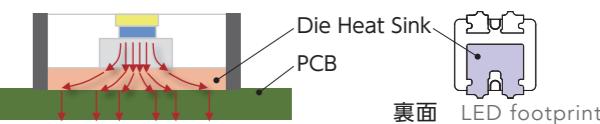
NCxW093B

・430lm/chip の高光束品 (If=1.2A)

High Luminous Flux: 430lm/chip (If=1.2A)

・高放熱 High Thermal Dissipation

ダイヒートシンクが熱を広げて放熱を促進
The die heat sink spreads the heat and promoted thermal dissipation.



・全てのチップラインアップで同一の裏面パターン
Same LED footprint pattern for all chip options.

NCxW121F

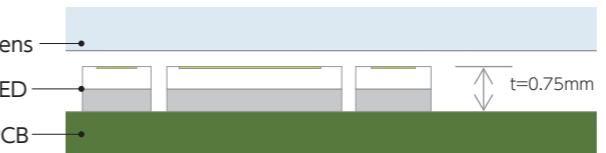
・灯具の小型化に貢献

発光部を密にレイアウト可能

Contributes to the miniaturization of lamps.
The light emitting area can be placed close together.

・170,131series と組み合せた光学設計が可能

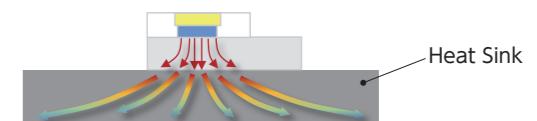
It is possible to have an optical design that combines the 170 and 131 series.



NCxW321F

・ヒートシンクへ直接実装できるため、最も優れた放熱性を実現
LED実装用のPCBは不要

The best thermal dissipation is possible since the LED can be mounted directly onto the heat sink.
No PCB is required to mount the LEDs.



・上面給電タイプ LED package with electrodes on the top surface
実装方法:接着剤 Mounting Method:Adhesive

製品用途 Applications

- ヘッドライト Headlamp
- DRL
- フォグランプ Fog Lamp



High Luminance Series



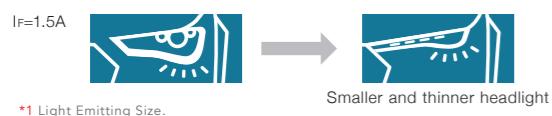
車載外装対応 高輝度LED 灯具の小型化に最適
High Luminance LEDs for Automotive Exterior-Ideal for miniaturizing lamps.

製品特徴 Product Features

ラインアップ LED Options

灯具の小型化・細幅化が可能
高輝度=光束を維持し、発光面サイズを小型化
Lamps can be made smaller and thinner.
High Luminance = Maintains luminous flux
and reduces light emitting size.

Part No.	光束 Luminous Flux (lm)	発光面サイズ L.E.S.*1 (mm²)	輝度 Luminance (cd/mm²)
NJ2W270B	800	1.08	200
NJ3W270B	1,200	1.62	200
NJ2W270B-PF	760	1.08	210
NJ3W270B-PF	1,140	1.62	210



DMD*2用専用設計 LED Specially designed for DMD

Part No. NV3W470A, NSW03A04A

DMD を用いたヘッドライトに最適
(発光エリア、光束、輝度を専用設計)

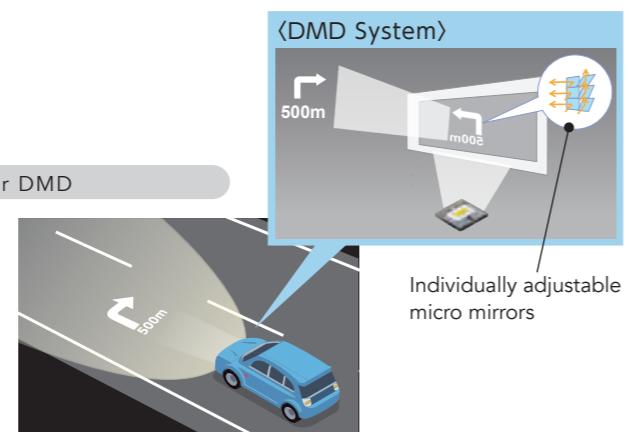
The best light sources for headlights using a DMD.
The emission area, luminous flux, and luminance have been
specifically designed for this application.

*2 デジタル・マイクロミラー・デバイス。Digital Micromirror Device.

遮光効果 Shade Effect

コントラストが明瞭なため、ロービームに最適
ロービームには明暗の差の規定あり
Optimal for low beam due to high contrast.
Low beam has regulations for light/dark differences.

Part No.	NJ2W270B-PF NJ3W270B-PF	NJ2W270B NJ3W270B
Light emission		
Low beam	Suitable	Applicable (Need a shield in the headlight)



製品用途 Applications

- ヘッドライト Headlamp
- フォグランプ Fog Lamp
- DRL
- ADB



NICHIA 146A Series



車載インテリア標準LED
各用途へ幅広く対応
Automotive Interior Standard LEDs - Various Options for Applications.

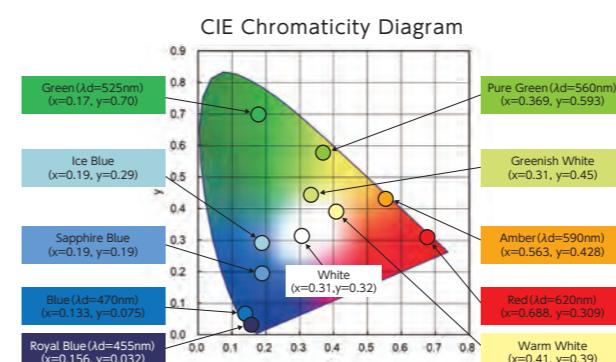
製品特徴 Product Features

色と明るさをプラットフォーム化

Various colors and intensity options with a small common package.

カラーラインアップ Color Options

ワイドカラーバリエーション
共通パッケージによる色選択が可能
Since the 146A series is available in a wide variety of
color options, the circuit board design can stay
the same regardless of the color requirement.



光度ラインアップ Luminous Intensity Options

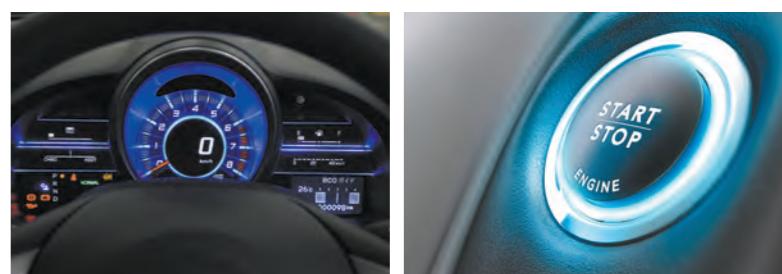
ワイドアウトプットバリエーション
共通パッケージによる明るさ選択が可能
Since the 146A series is available in a wide variety of
intensity options, the circuit board design can stay
the same regardless of the intensity requirement.

Ex) Example for White

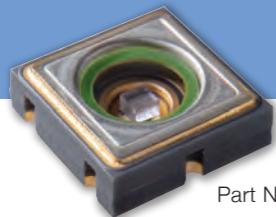
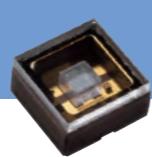


製品用途 Applications

- インstrumentパネル Instrument Panel
- スイッチ Switch



Deep UV Series

Part No. **NCSU334B**Part No. **NCSU434A**

殺菌や硬化用途に適した高出力280nm LED

High power 280nm LED suitable for sterilization and curing applications.

製品特徴 Product Features

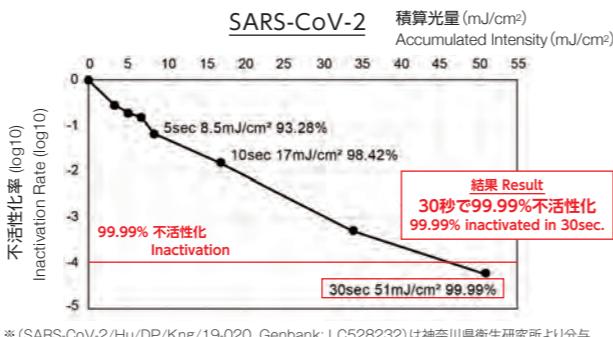
特性

Initial Electrical / Optical Characteristics

製品型番 Part No.	ピーカ波長 Peak Wavelength λ_p (nm)	放射束 Φ_E (mW)	順電圧 V_F (V)	指向特性 Directivity $2\theta_{1/2}$ (degree)	I_F (mA)
NCSU334B	280	70	5.5	115	350
	6.8×6.8×2.12mm				

試験条件 Part No.	NCSU334B
照射距離 Working Distance	50mm
ピーカ放射照度 Peak Irradiance	1.7mW/cm ²
※参考: 評価時の再現写真 ※Reference: This photo reproduces the image of the evaluation.	

新型コロナウイルス不活性化評価 Inactivation Evaluation of SARS-CoV-2



製品用途 Applications

- 水殺菌 Water Sterilization
- 空気殺菌 Air Sterilization
- 表面殺菌 Surface Sterilization
- 樹脂硬化・接着 Resin Curing Adhesive
- 蛍光体励起 等 Fluorescence Excitation



Full-Color LED Series for Outdoor Display



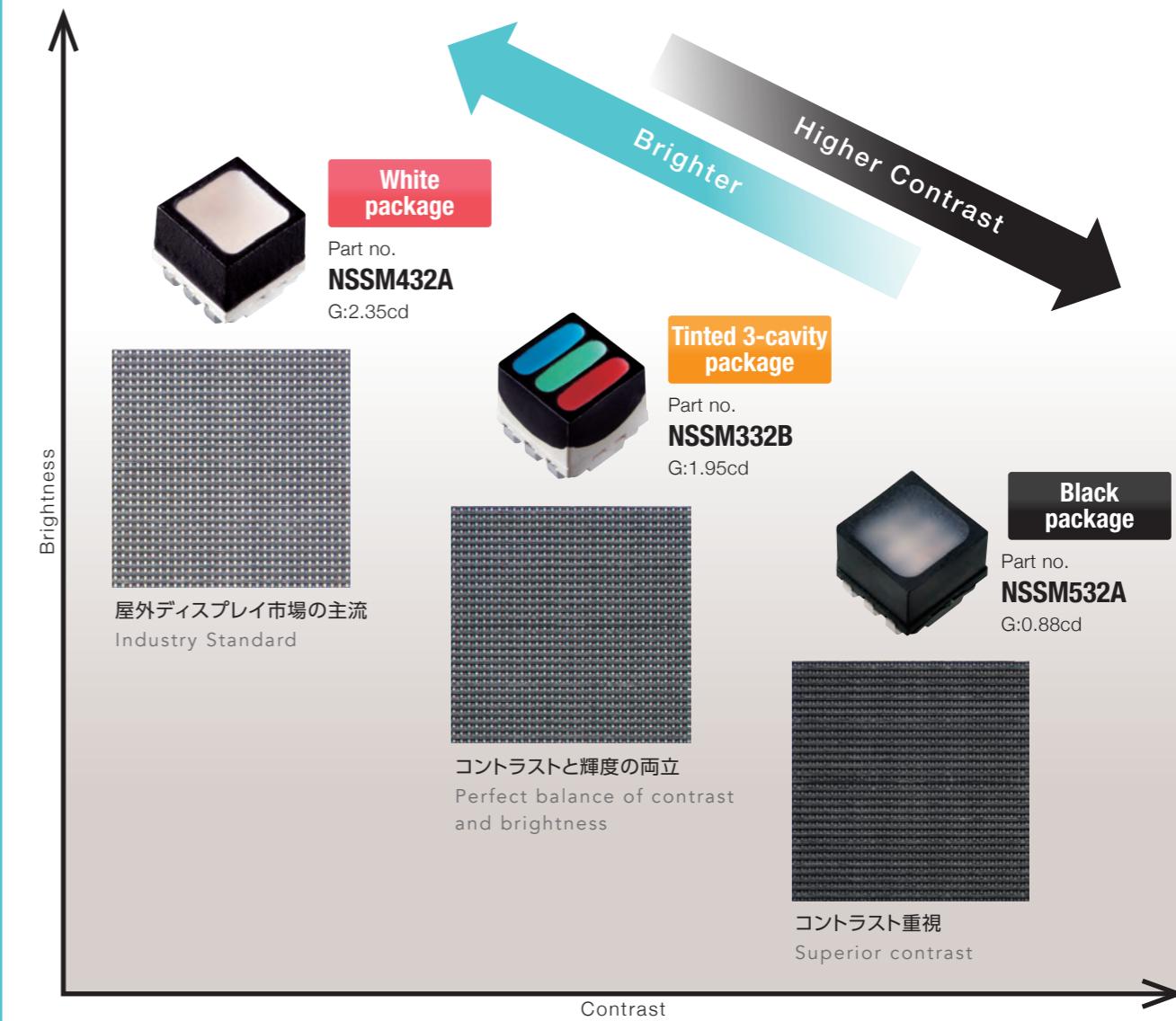
Universal 2828 Package

ハイコントラストかつ高輝度という新たな価値を創造する、日亜独自のラインナップ

Nichia's unique lineup that creates new value in high contrast and high brightness.

製品特徴 Product Features

コントラスト vs 高輝度 Contrast vs Brightness





General Lighting

演色性・高効率・長寿命がもとめられる
一般用途の照明に適したLEDをラインナップ

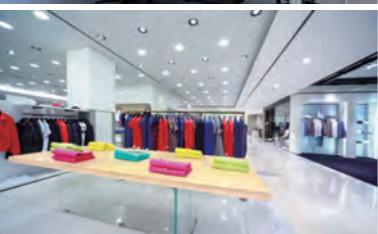
A wide selection suitable for general lighting applications
requiring good color rendering, high luminous efficacy and long lifetime



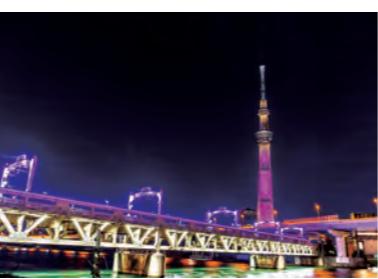
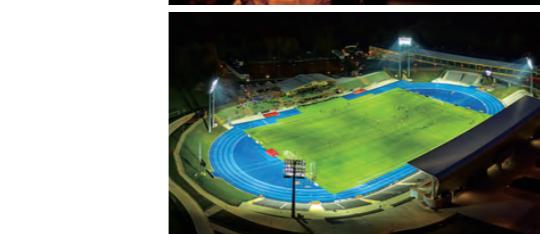
APPLICATIONS



室内照明
Indoor Lighting



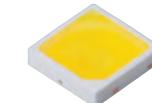
屋外照明
Outdoor Lighting



カラー照明
Color Lighting

PRODUCTS

757 Series



- Optisolis...p.022
- Vitasolis...p.024
- Tunable...p.024
- Standard...p.026-028
- Color...p.044

585 Series



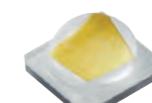
- Disinfection...p.028
- Standard...p.028

Direct Mountable Chip Series



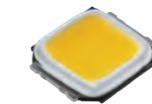
- Standard...p.030
- Color...p.044

Point Light Source Series



- Standard...p.032-034
- Color...p.044

48 Series



- Standard...p.036

T02 Series



- Standard...p.036

COB Series



- Optisolis...p.022
- Tunable...p.024
- Standard...p.038-042

Product List

製品一覧

Surface Mount Type LED



General Lighting

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 ϕV Typ. (lm)	順電圧 V_F		指向特性 Directivity $2\theta_{1/2}$ (degree)	I_F (mA)
				Typ. (V)	Max. (V)		

絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
I_F (mA)	I_{FP}^{*3} (mA)	I_R (mA)	P_D (W)	T_J (°C)	T_{opr} (°C)	T_{stg} (°C)			

Optisolis™

3×3×0.65		NF2W757G-F1	Rfc00		0.3447	0.3553	23	2.9	3.3	65
		NF2L757G-F1	Rfg00		0.4338	0.4030	24.1	2.76	3.3	
15×12×2		NFCWS024B-V3 *2	Rfc00		0.3447	0.3553	455 (369)	35.8 (34.7)	38.2	120
		NTCWS024B-V3 *2	Rfg00		0.4338	0.4030	515 (358)	34.9 (33.6)	37.0	
19×16×2		NFCWL036B-V3 *2	Rfc00		0.3447	0.3553	710 (553)	35.8 (34.7)	38.2	180
		Rfg00		0.4338	0.4030	1030 (706)	34.6 (33.3)	35.9		
19×16×2		NFCWL060B-V3 *2	Rfc00		0.3447	0.3553	1200 (921)	35.8 (34.7)	38.2	260
		Rfg00		0.4338	0.4030	1830 (1138)	34.8 (33.5)	36.0		
24×19×2		NFCWJ108B-V3 *2	Rfc00		0.3447	0.3553	2,150 (1658)	35.8 (34.7)	38.2	300
		Rfg00		0.4338	0.4030	3,380 (2,313)	34.9 (33.6)	36.1		
24×19×2		NFDWJ130B-V3 *2	Rfc00		0.3447	0.3553	2,560 (1,996)	37.4 (36.2)	40.0	460
		Rfg00		0.4338	0.4030	4,810 (3,065)	38.5 (37.4)	39.8		

*1. パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10

*2. ()の値は $T_J=85^{\circ}\text{C}$ 、定格DC駆動時の参考値。The value in () is a reference at $T_J=85^{\circ}\text{C}$ and rated direct current driven.

*3. NF2W757G-F1, NF2L757G-F1

*4. all except NF2W757G-F1, NF2L757G-F1

85	100	130	85	0.33	120	0 +100	-40 +100	5000/P	リフロー Reflow
	150	200	85	0.495	120	-40 +100	-40 +100	5000/P	
	180	270		6.87	120			80/P	
	300	450		11.1	140			54/P	
	270	405		10.3	120				
	600	900		21.5	140				
	450	675		17.1	120	-40 +105	-40 +100	42/P	
	1,000	1,500		36	140				
	810	1,215		30.9	120				
	1,800	2,700		64.9	140				
	900	1,350		36	120				
	2,000	3,000		79.6	140				

Product List

製品一覧

Surface Mount Type LED



General Lighting

(T_J=25°C)

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 φV Typ. (lm)	順電圧 V _F		指向特性 Directivity 2θ _{1/2} (degree)	I _F (mA)
				Typ. (V)	Max. (V)		

調色パッケージ Color Tunable Package

	NF2W757G-MT	R8000		0.3123 0.4578	0.3282 0.4101	32 31	2.84 2.84	3.1 3.1	120	65
	NJNWS012Z-V1MT <small>Under Development</small>	Rce00ce		0.3447 0.4540	0.3553 0.4000	600 460	17.9	19.2	120	280
	NJCWL024Z-V1MT	Rce00ce		0.3447 0.4540	0.3553 0.4000	1,120 850	35.8	38.5	120	250
	NVCWJ024Z-V1MT	Rce00ce		0.3447 0.4540	0.3553 0.4000	2,730 2,080	35.4	38.4	120	600

Vitasolis™

	NF2W757G-V3F1	Rvc0b		0.3447	0.3553	35.6	2.73	3.0	120	65
		Rvg0b		0.4338	0.4030	33.2				

*1. パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10

Ra		絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
Min.	Typ.	I _F (mA)	I _{FP} ^{*1} (mA)	I _R (mA)	P _{TOT} (W)	T _J (°C)	T _{opr} (°C)	T _{stg} (°C)			

80	—	180	240	85	0.558	120	-40 +100	-40 +100	4000/P	リフロー Reflow	
90	93	450 (500) * I _{FP TOT}	675 (1350) * I _{FP TOT}	85	17.3	150	-40 +105	-40 +100	80/P		
90	93	450 (500) * I _{FP TOT}	675 (1350) * I _{FP TOT}	34.6		150	-40 +105	-40 +100	54/P	ホルダ Holder	
90	93	1500 (1500) * I _{FP TOT}	2100 (2100) * I _{FP TOT}	85	115		-40 +105	-40 +100	42/P		
90	93										

80	—	180	240	85	0.54	120	-40 +100	-40 +100	5000/P	リフロー Reflow	
80	—										


 $(T_J=25^\circ\text{C})$

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 ϕV Typ. (lm)	順電圧 V_F		指向特性 Directivity $2\theta_{1/2}$ (degree)	I_F (mA)
				Typ. (V)	Max. (V)		

高効率パッケージ High Efficacy Package

 3x3x0.80	NFSW757H-V1	R70		0.3447 0.3553	39.5 37.9 32.6 37.7 35.6 29.8	2.84 3.1 120 65
		R8000				
		R9050				
		R70				
		R8000				
		R9050				
 3x3x0.80	NF2W757H-F1	R70		0.3447 0.3553	39.6 38.1 32.8 38.3 35.8 29.8	2.72 3.0 120 65
		R8000				
		R9050				
		R70				
		R8000				
		R9050				
 3x3x0.65	NF2W757GR-V4 NEW	R70		0.3447 0.3553	164 153 136 158 144 126	6.2 6.6 120 150
		R8000				
		R9050				
		R70				
		R8000				
		R9050				
 3x3x0.65	NFSW757G-P5V1	R8000		0.3447 0.3553	35.3 29.6 32.8 27.8	2.89 3.3 120 65
		R9050				
		R8000				
		R9050				
		R8000				
		R9050				

高電圧パッケージ High Voltage Package

 3x3x0.65	NF2W757GR-V1U4	R70		0.3447 0.3553	129 125 107	24.8 28 120 37.5
		R8000				
		R9050				
		R70				
		R8000				
		R9050				
 3x3x0.65	NF2L757GR-V1U4	R70		0.4338 0.4030	122 116 98	24.8 28 120 37.5
		R8000				
		R9050				
		R70				
		R8000				
		R9050				

*1. パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10

Ra		絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
Min.	Typ.	I_F (mA)	I_{FP}^{*1} (mA)	I_R (mA)	P_D (mW)	T_J (°C)	T_{opr} (°C)	T_{stg} (°C)			

70	—		180 240 85 558 120	-40 +100 -40 +100	4000/P		
80	—						
90	—						
70	—						
80	—						
90	—						
70	—		180 240 85 540 120	-40 +100 -40 +100	5000/P		
80	—						
90	—						
70	—						
80	—						
90	—						
80	—		180 240 85 594 120	-40 +100 -40 +100	5000/P		
90	—						
90	—						
70	—						
80	—						
90	—						

70	—		50 100 85 1400 120	-40 +100 -40 +100	5000/P		

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Surface Mount Type LED
General Lighting



パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 φV Typ. (lm)	順電圧 V _F		指向特性 Directivity 2θ _{1/2} (degree)	I _F (mA)
				Typ. (V)	Max. (V)		

高演色 / 特殊演色性パッケージ High CRI / Special CRI Package

 3×3×0.65	NF2W757G-F1	R95		0.3447	0.3553	26.8	2.76	3.3	 120	 65		
	NF2L757G-F1	R95		0.4338	0.4030	24.1	2.76	3.3				
	NFSW757G	R95		0.3447	0.3553	26.0	2.88	3.3				
	NFSL757G	R95		0.4338	0.4030	23.3	2.88	3.3				
		Rs075		0.4286	0.3919	27.4						
	NF2W757GR-V1	R95		0.3447	0.3553	110.0	6.3	6.6				
	NF2L757GR-V1	R95		0.4338	0.4030	100.0	6.3	6.6				
	NFSW757G-V3	Rs020		0.336	0.355	22.1	2.85	3.1				
		Rs030		0.3447	0.3553	22.3						
		Rs030		0.4338	0.4030	18.9						
		Rs060		0.336	0.301	14.5						

Ra		絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
Min.	Typ.	I _F (mA)	I _{FP} ^{※1} (mA)	I _R (mA)	P _D (mW)	T _J (°C)	T _{opr} (°C)	T _{stg} (°C)			
95	—	150	200	495	85	120	-40 +100	-40 +100	5000/P	リフロー Reflow	
95	—										
95	—										
95	—										
90	—	180	240	1320	180	240	558	558	3500/P	リフロー Reflow	
95	—	200	400								
95	—	200	400								
—	—	180	240	558	80	83	70 +100	70 +100	3500/P	リフロー Reflow	
—	—										
—	—										
—	—										

高効率パッケージ High Efficacy Package

 4×3.6×2.05	NF3W585AR-V1	R70		0.3447	0.3553	91.1	8.36	8.73	135/135	50
		R8000				84.9				
		R70		0.4338	0.4030	87.4				
		R8000				78.7				

Disinfection

 4×3.6×2.05	NF2W585AR-P8 <small>NEW</small>	R8000		0.3818	0.3797	53	6.21	6.7	120/130	75
		125	200							

※1. パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10

80	83	125	200	85	837	110	-40 +100	-40 +100	3500/P	リフロー Reflow	
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パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 φV Typ. (lm)	順電圧 V _F		指向特性 Directivity 2θ _{1/2} (degree)	I _F (mA)
				Typ. (V)	Max. (V)		

Direct Mountable Chip

1.1×1.1×0.27 ^{*2}	NFSWE11A NEW	R70	 0.3447	0.3553	32.1	2.8	3.1	120	65
		R8000			29.4				
		R9050			25.5				
		R9080			25.0				
		R70			30.6				
		R8000			27.7				
		R9050			23.6				
1.7×1.7×0.27 ^{*2}	NCSWE17A	R70	 0.3447	0.3553	165	350	120	700	
		R8000			158				
		R9050			133				
		R9080			123				
		NCSLE17A	 0.4338	0.4030	161				
		R70			143				
		R8000			120				
2.1×2.1×0.27 ^{*2}	NVSWE21A	R9050			107				
		R70	 0.3447	0.3553	327	700	120	700	
		R8000			307				
		R9050			265				
		R9080			245				
		NVSLE21A	 0.4338	0.4030	314				
		R70			284				
		R8000			229				
		R9050			214				

*1 パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10

*2 詳細は外形寸法図参照。For details, please refer to the outline dimensions.

Ra		絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application	
Min.	Typ.	I _F (mA)	I _{FP} ^{*1} (mA)	V _R (V)	P _D (W)	T _J (°C)	T _{opr} (°C)	T _{stg} (°C)				
70	72	250	400	5	0.775	135	-40 +105	-40 +105	14000/P		      	
80	82											
90	92											
90	92											
70	72											
80	82											
90	92											
70	72	700	1000	5	2.31	135	-40 +100	-40 +100	6000/P			
80	82											
90	92											
70	72											
80	82											
90	92											
70	72											
80	82											
90	92											
70	72	1400	2000	4.62	4.62	135	-40 +100	-40 +100				
80	82											
90	92											



(T_S=25°C)

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 φV Typ. (lm)	順電圧 V _F		指向特性 Directivity 2θ _{1/2} (degree)	I _F (mA)
				Typ. (V)	Max. (V)		

Ra		絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
Min.	Typ.	I _F (mA)	I _{FP^{※1}} (mA)	I _R (mA)	P _D (W)	T _J (°C)	T _{opr} (°C)	T _{stg} (°C)			

点光源 Point Light Source

3.5×3.5×2.3	NVSF119F NVSF219F	Rnn		0.3123	0.3282	333	2.96	3.3	120	700
		R70		0.3447	0.3553	346				
		Rnn		0.4806	0.4141	302				
		R70		0.3818	0.3797	341				
		R8000		0.3447	0.3553	312				
		R9050				255				
		R8000		0.4338	0.4030	295				
		R9050				239				
		R70		0.3447	0.3553	680	3.03	3.2	130	1400
		R8000				610				
		R70		0.3818	0.3797	667				
		R8000		0.4338	0.4030	576				

—	—	1800	2400	85	5.94	150	-40 S +100	-40 S +100	3000/P	リフロー Reflow
70	73									
—	—									
70	73									
80	83									
90	93									
80	83									
90	93									
70	73	2200	2400	85	7.04	150	-40 S +105	-40 S +105		
80	83									
70	73									
80	83									

*※1. パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10


 $(T_s=25^\circ\text{C})$

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 φV Typ. (lm)	順電圧 V _F		指向特性 Directivity $2\theta_{1/2}$ (degree)	I _F (mA)
				Typ. (V)	Max. (V)		

Ra		絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
Min.	Typ.	I _F (mA)	I _{FP^{※1}} (mA)	I _R (mA)	P _D (W)	T _J (°C)	T _{opr} (°C)	T _{stg} (°C)			

点光源 Point Light Source

 3.65×3.65×0.73	NV4WB35AM NEW	R70		0.3447	0.3553	1236		5.93 6.3 120 1400
		R8000		1150				
		R9080		0.3287	0.3417	930		
		R70		0.3818	0.3797	1210		
		R8000		1040				
		R9080		0.4338	0.4030	760		
 5×5×3.15	NV4W144AR	R70		1342				11.9 12.8 700
		R8000		1202				
		R9050		1030				
		R9080		970				
	NV4L144AR	R70		1321				12.0 1400
		R8000		1183				
		R9050		985				
	NV4W144AM	R70		1342				5.97 6.6 1400
		R8000		1202				
		R9050		1030				
		R9080		970				
	NV4L144AM	R70		1321				9.0 9.4 2100
		R8000		1183				
		R9050		985				
 7×7×3.1	NV9W149AM	R70		2900				9.0 9.4 140
		R8000		2720				
		R9050		2490				
		R8000		2600				
		R8000		0.4073	0.3917	2600		

70	73																																																																																																																																					<img alt="NV4WB35AM R

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General Lighting

(T_J=25°C)

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 ΦV Typ. (lm)	順電圧 V _F		指向特性 Directivity 2θ _{1/2} (degree)	I _F (mA)
				Typ. (V)	Max. (V)		

高出力マルチ光束 SMD High Power Multi Flux SMD

	NFMW488AR-V1	R70		0.3447	0.3553	1395	44.8	49.2	120	200
		R8000				1306				
		R70		0.4338	0.4030	1375				
		R8000				1251				
	NFMW481AR	R70		0.3447	0.3553	690	22.9	24.6	120	200
		R8000		0.3447	0.3553	640				
		R9050				560				
		R70		0.4338	0.4030	670				
		R8000				610				
		R9050				530				
	NFMW484AR	R70		0.3447	0.3553	970	32.8	35.2	120	200
		R8000		0.3447	0.3553	900				
		R9050				800				
		R70		0.4338	0.4030	950				
		R8000				870				
		R9050				750				
	NFMW486AR	R70		0.3447	0.3553	1130	39.3	42.2	120	200
		R8000		0.3447	0.3553	1060				
		R9050				960				
		R70		0.4338	0.4030	1100				
		R8000				1030				
		R9050				890				
	NFMW488AR	R70		0.3447	0.3553	1320	45.9	49.2	120	200
		R8000		0.3447	0.3553	1240				
		R9050				1110				
		R70		0.4338	0.4030	1280				
		R8000				1190				
		R9050				1030				

小型パッケージ Small package

	NSSWT02A-V2	R8000		0.349	0.361	30.5	2.94	3.20	>180	65
		R90				25.9				
		R8000		0.439	0.408	28.5				
		R90				25.0				
		R8000								
	NSSLT02A-V2	R70		0.3447	0.3553	30.5				
		R8000		0.3447	0.3553	25.9				
		R90				28.5				
		R8000				25.0				
		R90								

※1.パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10

Ra		絶対最大定格 Absolute Maximum Ratings						最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
Min.	Typ.	I _F (mA)	I _{FP} * ^① (mA)	I _R (mA)	P _D (W)	T _J (°C)	T _{opr} (°C)	T _{stg} (°C)		

70	73	250	350	85	12.3	135	1500/P	リフロー Reflow	
80	83								
70	73								
80	83								
70	73								
80	83								
90	92								
70	73								
80	83								
90	92								
70	73								
80	83								

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(T_J=25°C)

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 Φ _V Typ. (lm)	順電圧 V _F		指向特性 Directivity 2θ _{1/2} (degree)	I _F (mA)
				Typ. (V)	Max. (V)		

標準COB Standard Chip on Board

15×12×2	NTCWS024B-V4	R70	0.3447	0.3553	860	34.9	37	135
		R8000			815			
		R9050			720			
		R9580			615			
		R70			830			
19×16×2	NFCWL036B-V4	R8000	0.3447	0.3553	770	34.6	35.9	260
		R9050			675			
		R9580			560			
		R70			1,700			
		R8000			1,610			
19×16×2	NFCWL060B-V4	R9050			1,430			
		R9580			1,210			
		R70			1,640			
		R8000			1,520			
		R9050			1,340			
24×19×2	NFCWJ108B-V4	R9580			1,110			
		R70			3,020			
		R8000			2,840			
		R9050			2,520			
		R9580			2,160			
24×19×2	NFDWJ130B-V4	R70			2,920			
		R8000			2,690			
		R9050			2,370			
		R9580			1,980			
		R70			5,560			
38×38×2	NFEWH306B-V2	R8000			5,250			
		R9050			4,660			
		R9580			3,990			
		R70			5,390			
		R8000			4,960			
38×38×2	NFEWH306B-V2	R9050			4,370			
		R9580			3,660			
		R70			7,890			
		R8000			7,460			
		R9050			6,620			
38×38×2	NFEWH306B-V2	R9580			5,660			
		R70			7,660			
		R8000			7,050			
		R9050			6,210			
		R9580			5,200			
38×38×2	NFEWH306B-V2	R70			13,120			
		R8000			12,300			
		R9050			11,040			
		R95			9,430			
		Rs020			0.3360			
38×38×2	NFEWH306B-V2	Rs030			0.3335			
		R70			8,030			
		R8000			12,500			
		R9050			11,640			
		R95			10,240			
38×38×2	NFEWH306B-V2	Rs020			8,320			
		Rs030			0.3882			
		Rs075			0.3329			
		R70			5,740			
		R8000			6,640			
38×38×2	NFEWH306B-V2	R9050			4,286			
		R95			0.4338			
		Rs020			0.3919			
		Rs030			10,090			
		Rs075			51.9			
38×38×2	NFEWH306B-V2	R70			54.2			
		R8000			51.9			
		R9050			54.2			
		R95			51.9			
		Rs020			51.9			
38×38×2	NFEWH306B-V2	Rs030			51.9			
		Rs075			51.9			
		R70			1400			
		R8000			1400			
		R9050			1400			

*1.パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10

Ra		絶対最大定格 Absolute Maximum Ratings		
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(T_J=25°C)

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 ϕV Typ. (lm)	順電圧 V_F		指向特性 Directivity $2\theta_{1/2}$ (degree)	I_F (mA)
				Typ. (V)	Max. (V)		

標準 COB Standard Chip on Board

 15×12×2	NTCWS024B-V3	Rs020		0.3360	0.3335	450	34.9	37	135	
		Rs030		0.3447	0.3553	520				
		Rs020		0.3882	0.3329	370				
		Rs030		0.4338	0.4030	430				
		Rs075		0.4286	0.3919	655				
 19×16×2	NFCWL036B-V3	Rs020		0.3360	0.3335	900	34.6	35.9	260	
		Rs030		0.3447	0.3553	1,030				
		Rs020		0.3882	0.3329	740				
		Rs030		0.4338	0.4030	850				
		Rs075		0.4286	0.3919	1,300				
 19×16×2	NFCWL060B-V3	Rs020		0.3360	0.3335	1,600	34.8	36.0	120	460
		Rs030		0.3447	0.3553	1,840				
		Rs020		0.3882	0.3329	1,320				
		Rs030		0.4338	0.4030	1,530				
		Rs075		0.4286	0.3919	2,320				
 24×19×2	NFCWJ108B-V3	Rs020		0.3360	0.3335	2,960	34.9	36.1	860	1150
		Rs030		0.3447	0.3553	3,410				
		Rs020		0.3882	0.3329	2,440				
		Rs030		0.4338	0.4030	2,820				
		Rs075		0.4286	0.3919	4,290				
 24×19×2	NFDWJ130B-V3	Rs020		0.3360	0.3335	4,200	38.5	39.8	1150	1150
		Rs030		0.3447	0.3553	4,850				
		Rs020		0.3882	0.3329	3,470				
		Rs030		0.4338	0.4030	4,010				
		Rs075		0.4286	0.3919	6,090				

※1.パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10



ホル
Holder

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General Lighting

5°C)

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 ϕV Typ. (lm)	順電圧 V_F		指向特性 Directivity $2\theta_{1/2}$ (degree)	I_F (mA)
				Typ. (V)	Max. (V)		

Ra		絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
Min.	Typ.	I _F (mA)	I _{FP^{※1}} (mA)	I _R (mA)	P _D (W)	T _J (°C)	T _{opr} (°C)	T _{stg} (°C)			

高光束密度 COB High Luminous Density COB

※1.パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10

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General Lighting

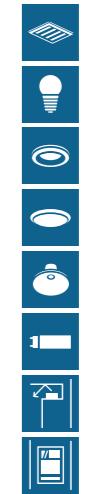


パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 ϕV Typ. (lm)	順電圧 V_F		指向特性 Directivity $2\theta_{1/2}$ (degree)	I_F (mA)
				Typ. (V)	Max. (V)		

Top Emitting Type

3.0×3.0×0.65	NE2B757G		0.133	0.075	8.7	2.9	3.3	120	100
	NF2E757GR		0.095	0.565	83	6.96	7.3		
	NE2G757G		0.17	0.70	33	3.5	3.9		
3.0×3.0×0.65	NFSY757G		0.4987	0.4946	30.2	2.88	3.3	3.0	65
	NE2R757G-P6		0.695	0.305	16	2.13	2.4		
	NCSCE17A		0.157	0.021	18				
1.7×1.7×0.35	NCSBE17A	NEW	0.126	0.078	42			3.3	130
	NCSGE17A	NEW	0.252	0.651	208				
			0.414	0.543	212				
1.7×1.7×0.35	NCSAE17A		0.567	0.419	124			3.0	130
	NCSRE17A		0.669	0.328	58				
			0.683	0.313	31				
3.5×3.5×2	NCSC119B-V1 NCSC219B-V1		0.161	0.026	—	2.93	3.3	120	350
	NCSB119B-V1 NCSB219B-V1		0.133	0.070	40	3.0	3.3	125	350
	NCSE119B-V1 NCSE219B-V1		0.095	0.565	108	3.32	3.7	135	350
	NCSG119B-V1 NCSG219B-V1		0.168	0.729	139	3.38	3.8	145	350
3.5×3.5×2	NCSA119B-V1 NCSA219B-V1		0.568	0.422	118	2.93	3.3	120	350
	NCSR119B-V1 NCSR219B-V1		0.695	0.305	75	2.2	2.6	130	350
3.5×3.5×2	NVSA119B-V1 NVSA219B-V1		0.568	0.422	240	2.98	3.3	125	700

絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
I_F (mA)	$I_{FP}^{(1)}$ (mA)	V_R (V)	I_R (mA)	P_D (mW)	T_{opf} (°C)	T_{stg} (°C)			
140	180	—	85	462					
200	400	—	85	1460	-40 +100	-40 +100	5000/P		
140	180	—	85	546					
150	200	—	85	495					
140	180	—	336	—	-40 +85	-40 +85			
700	1000	—	2310						
700	1000	—	2310						
550	700	—	1810	-40 +100	-40 +100	-40 +100	6000/P	リフロー Reflow	
700	1000	—	2310						
700	1000	—	2310						
1500	2000	—	85	4950					
1500	2000	—	85	4950					
1200	1600	—	85	4440					
1200	1600	—	85	4560	-40 +100	-40 +100	3500/P		
1500	2000	—	85	4950					
700	1000	5	—	1820					
1500	2000	—	85	4950					



Color Rendering

演色性

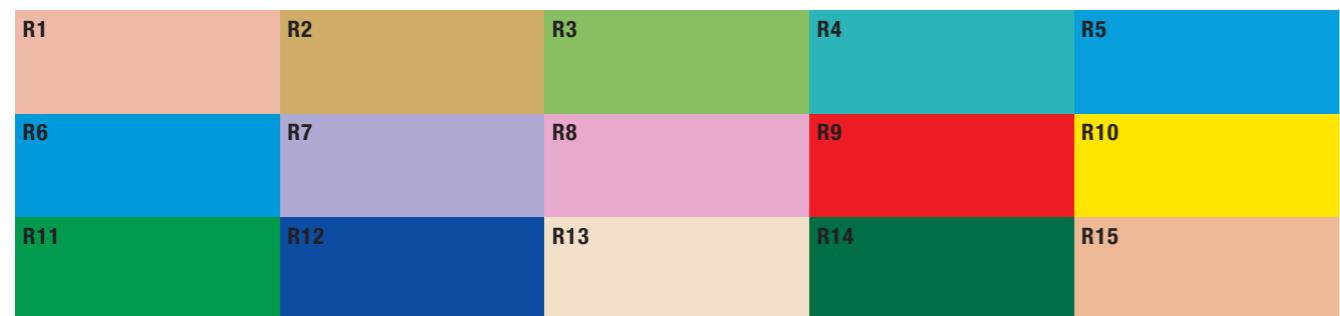


General Lighting

Ra Rank 演色性 (Ra) ランク

		Rank						
		Rnn	R70	R8000	R9050	R95	R9580	
Color Rendering Index	Min.	Ra	—	70	80	90	95	95
	R9	—	—	>0	>50	—	>80	

Color Sample for CRI *1 演色評価用色見本



Chromaticity Coordinate

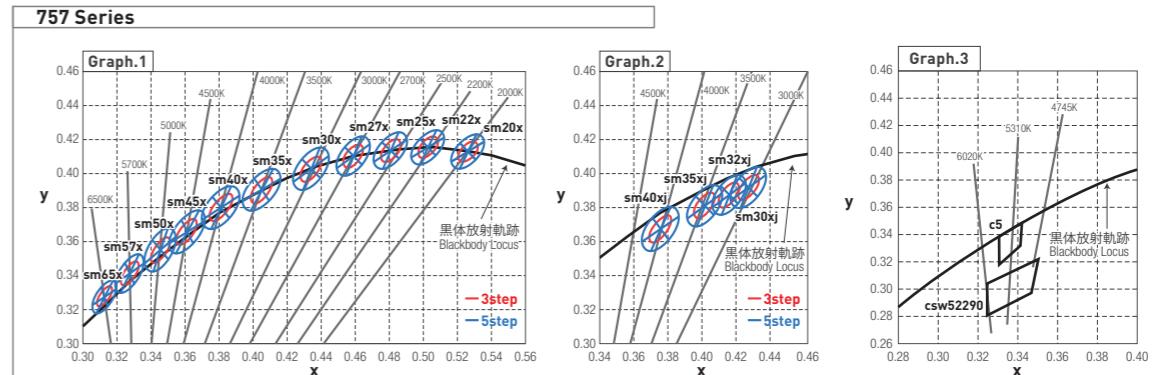
色調



General Lighting

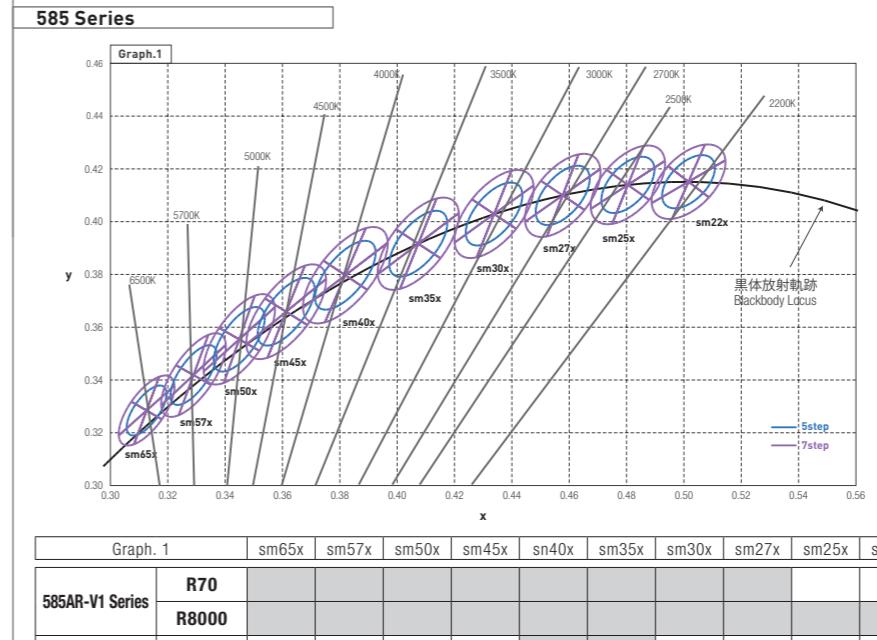
これらの図における色及び色度点は近似されたものです。The colors and color coordinates on these diagrams are approximations.

Color Rank 色調ランク



Graph. 1		sm65x	sm57x	sm50x	sm45x	sm40x	sm35x	sm30x	sm27x	sm25x	sm22x	sm20x
757H series	R70											
	R8000											
	R9050											
	R95											
757G Series	Rv rank											
	Rf rank											
	757G-MT	Rdf00df										

Graph. 1,2,3		c5	csw52290	sm50x	sm40x	sm40xj	sm35x	sm35xj	sm32xj	sm30x	sm30xj	sm27x
757G Series	Rs020											
	Rs030											
	Rs060											
	Rs075											



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ランク選定につきましては弊社営業窓口とご相談願います。Please contact Nichia subsidiary or sales office about rank selection.

Chromaticity Coordinate

色調

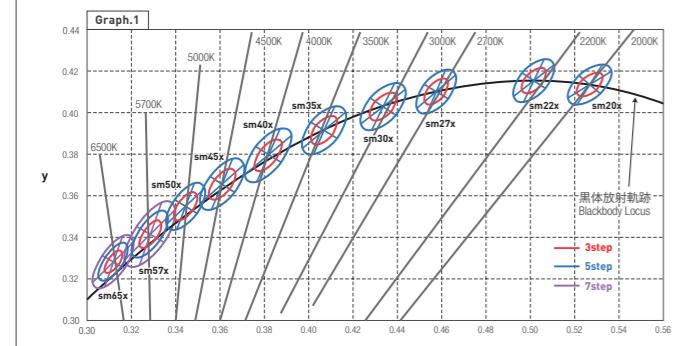


General Lighting

これらの図における色及び色度点は近似されたものです。The colors and color coordinates on these diagrams are approximations.

Color Rank 色調ランク

Direct Mountable Chip



Graph. 2 sm65x sm57x sm50x sm45x sm40x sm35x sm30x sm27x sm22x sm20x sm18x

	R70	R8000	R9050	R9080
E11A Series				

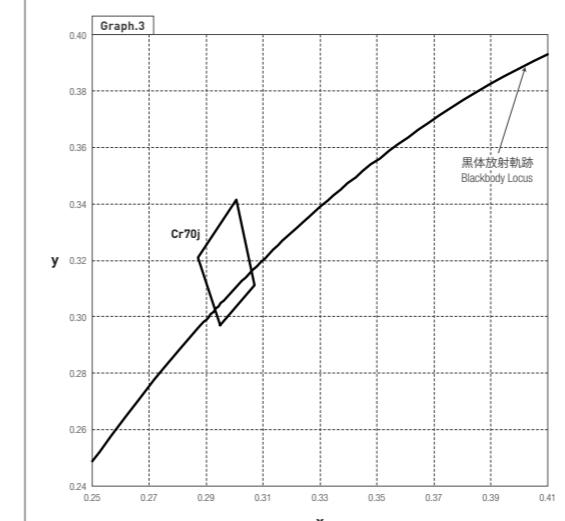
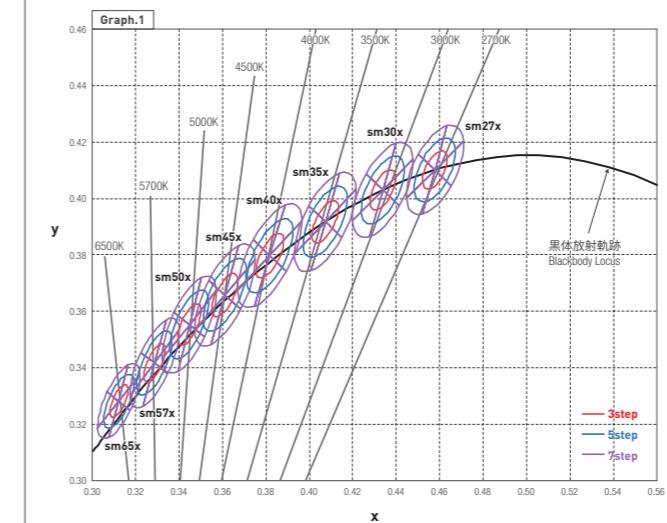
Graph. 1 sm65x sm57x sm50x sm45x sm40x sm35x sm30x sm27x sm22x sm20x sm18x

	R70	R8000	R9050	R9080
E17A Series				

	R70	R8000	R9050	R9080
E21A Series				

Color Rank 色調ランク

Point Source Lighting Series



Graph. 2,3 Cr70j sm65x sm57x sm50x sm45x sm40x sm35x sm30x sm27x sm25x sm22x

	Rnn	R70	R8000	R9050
19F Series				
19F-V1 Series				
519A Series				
B35A Series				

Graph. 1 sm65x sm57x sm56x sm50x sm45x sm40x sm35x sm30x sm27x

	R70	R8000	R9050	R9080
144A Series				
149A Series				

	R70	R8000	R9050
144A Series			
149A Series			

Chromaticity Coordinate

色調

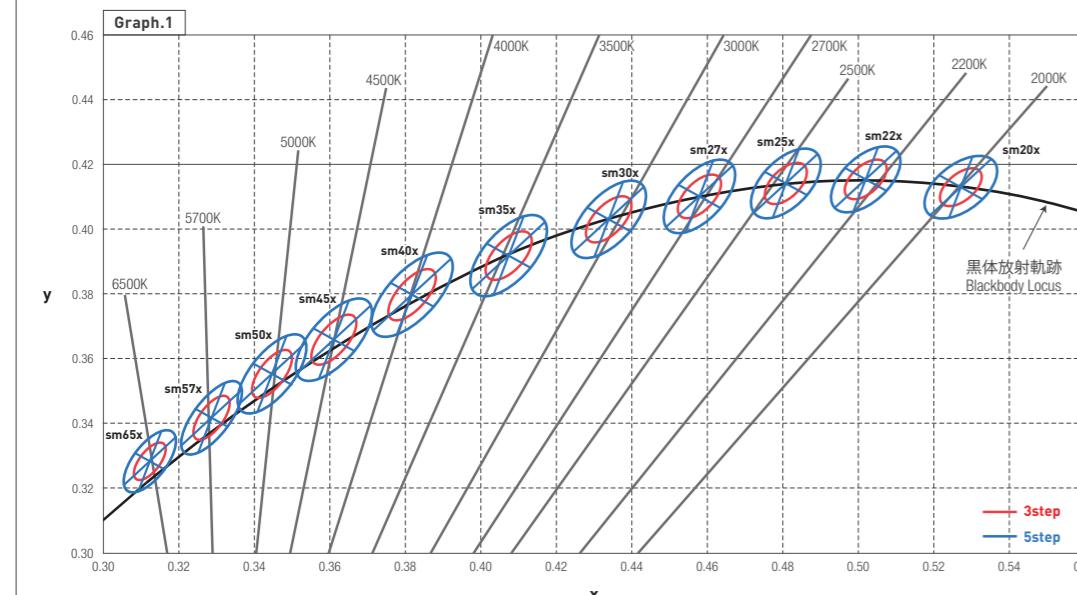


General Lighting

これらの図における色及び色度点は近似されたものです。The colors and color coordinates on these diagrams are approximations.

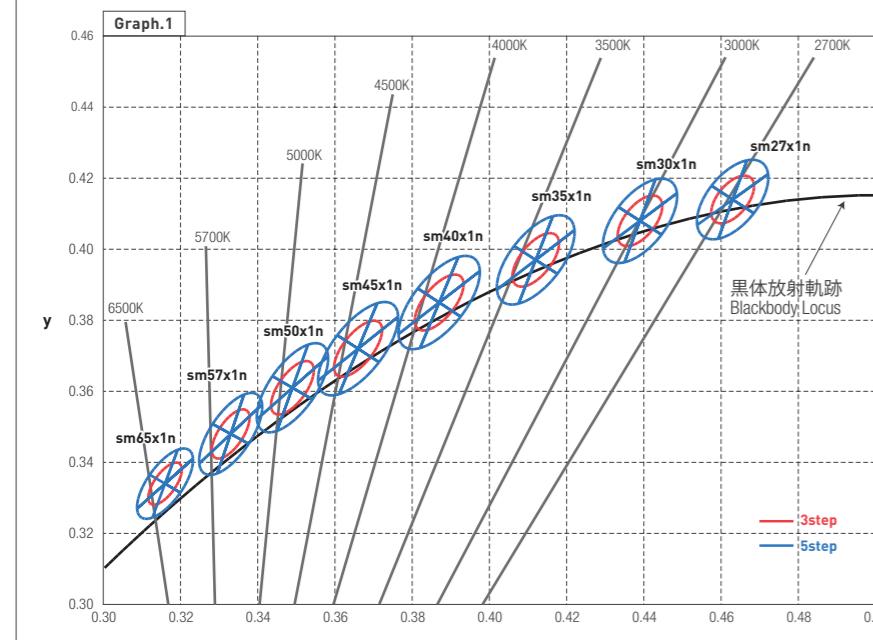
Color Rank 色調ランク

48 Series



Graph. 1											
	sm65x	sm57x	sm50x	sm45x	sm40x	sm35x	sm30x	sm27x	sm25x	sm22x	sm20x
481AR	R70										
484AR											
486AR	R8000										
488AR											
488AR-V1	R9050										
	R70										
	R8000										

T02A-V2

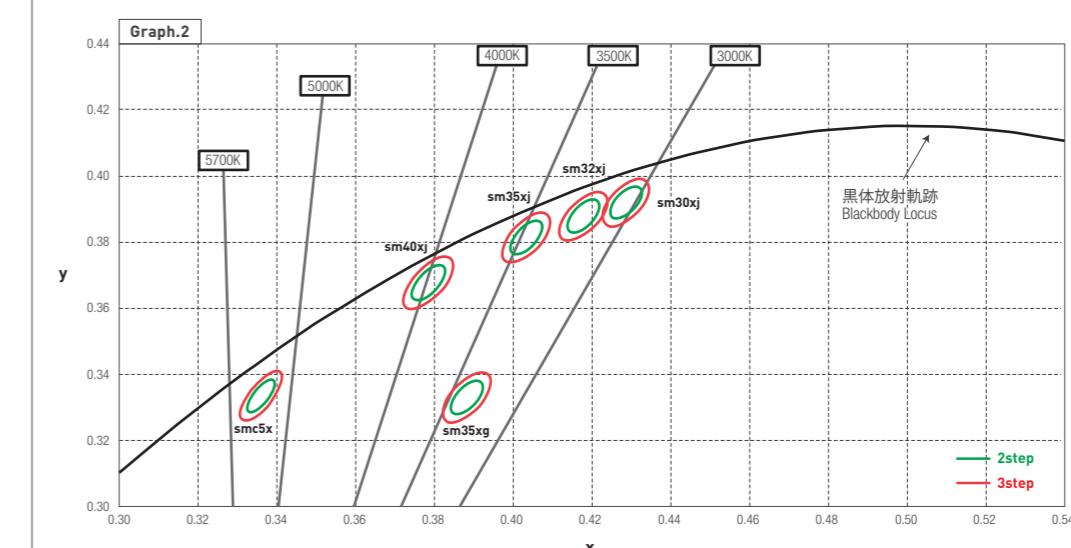
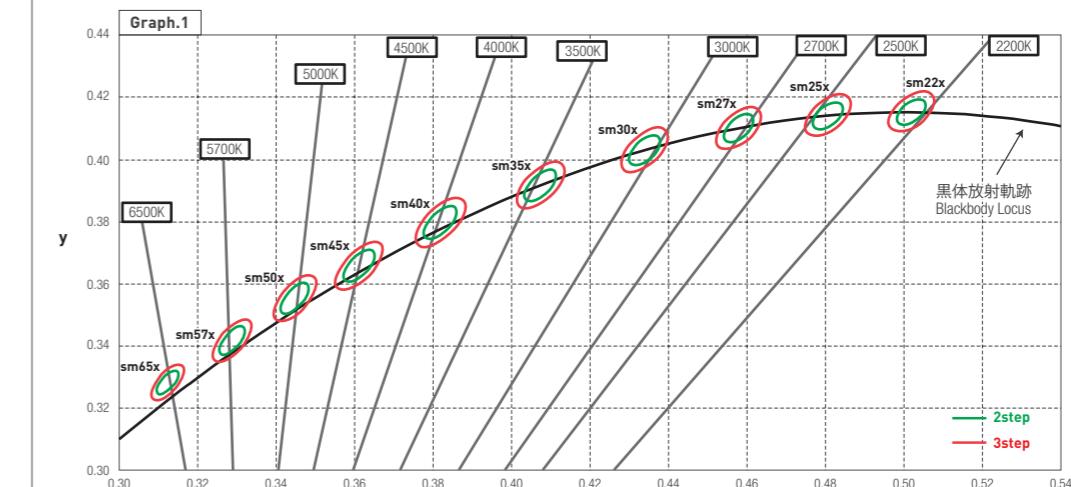


Graph. 1								
	sm65x1n	sm57x1n	sm50x1n	sm45x1n	sm40x1n	sm35x1n	sm30x1n	sm27x1n
T02A-V2	R8000							
Series	R90							

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Color Rank 色調ランク

COB Series



Graph. 1									
COB-B-V3 Series	Rfxx0								
COB-B-V4 Series	R70								
	R8000								
	R9050								
	R9580								
COB-Z-V1 Series	R70								
	R8000								
	R9050								
	R9580								
COB-Z-V1MT Series	Rce00ce								

Graph.1,2									
COB-B-V3 Series	Rs020	Rs030	Rs075	Rs020	Rs030	Rs075	Rs020	Rs030	Rs075



Chromaticity Coordinate

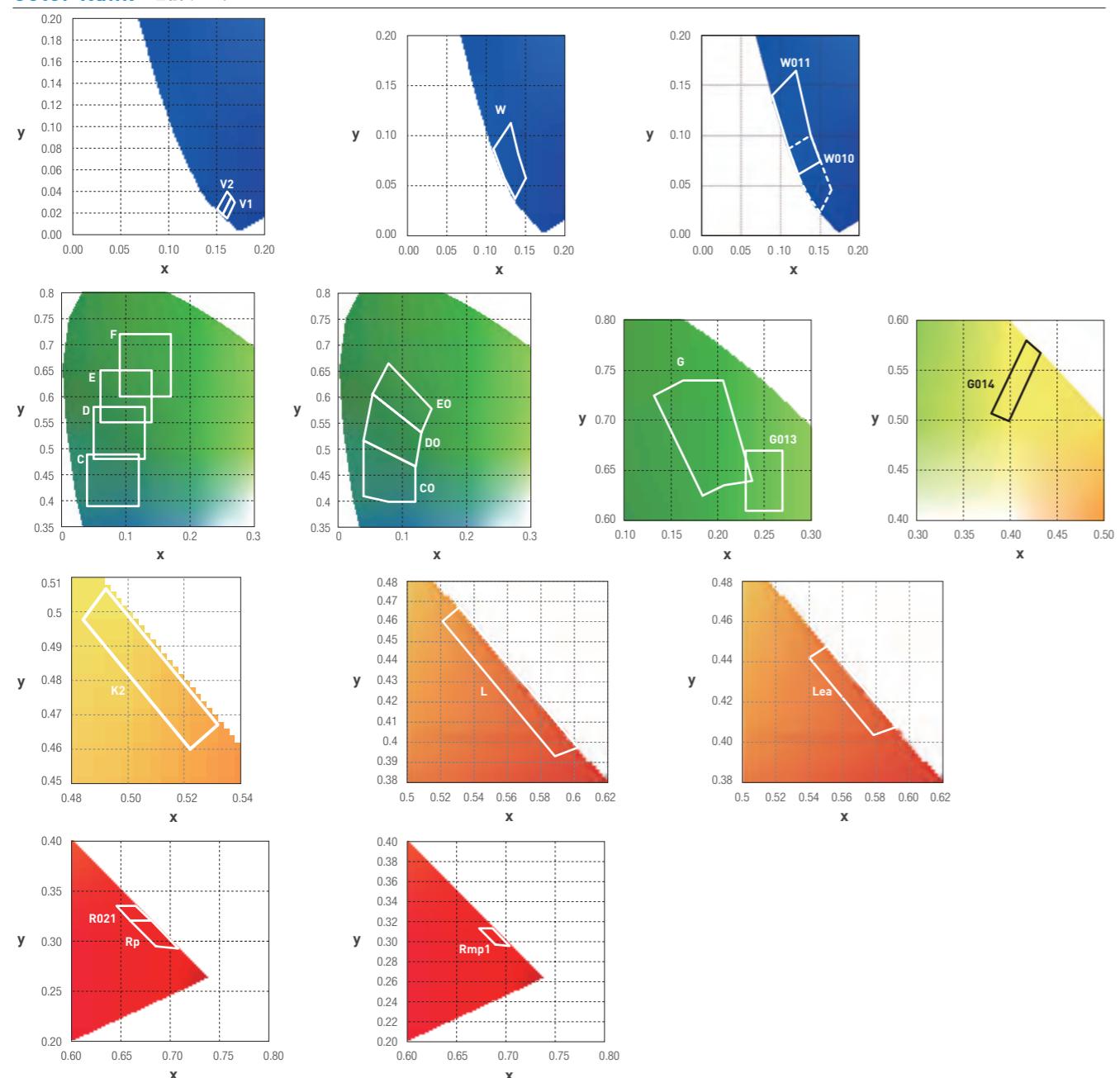
色調

General Lighting

General Lighting

これらの図における色及び色度点は近似されたものです。The colors and color coordinates on these diagrams are approximations.

Color Rank 色調ランク



	W	C	D	E	F	G	K2	Rmp1
757 Color Series	Blue							
	Blueish Green							
	Green							
	Yellow							
	Red							

	V1	V2	W	CO	D0	E0	G	L	Rp
19B-V1 Color Series	Royal Blue								
	Blue								
	Blueish Green								
	Green								
	Amber								
	Red								

	V2	W010	W011	G013	G014	Lea	Rp	R021
E17A Series	Royal Blue							
	Blue							
	Green							
	Amber							
	Red							

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Chromaticity Coordinate

色調



General Lighting

これらの図における色及び色度点は近似されたものです。The colors and color coordinates on these diagrams are approximations.

ランク座標一覧

	sm652	sm653	sm655	sm656	sm657	sm572	sm573	sm575	sm577	sm502	sm503	sm505	sm506	sm507						
x	0.3123	0.3123	0.3123	0.3123	0.3123	0.3287	0.3287	0.3287	0.3447	0.3447	0.3447	0.3447	0.3447	0.3447						
y	0.3282	0.3282	0.3282	0.3282	0.3282	0.3417	0.3417	0.3417	0.3553	0.3553	0.3553	0.3553	0.3553	0.3553						
a	0.001806	0.002709	0.004515	0.005418	0.006321	0.002058	0.003087	0.005145	0.007203	0.002370	0.003555	0.005925	0.007111	0.008295						
b	0.004374	0.006561	0.010935	0.013122	0.015309	0.005206	0.007809	0.013015	0.018221	0.005612	0.008418	0.014030	0.016840	0.019642						
Φ	-32.35	-32.35	-32.35	-32.35	-31.56	-31.56	-31.56	-31.56	-31.78	-31.78	-31.78	-31.78	-31.78	-31.78						
	sm452	sm453	sm455	sm457	sm402	sm403	sm405	sm406	sm407	sm352	sm353	sm355	sm356	sm357	sm302	sm303				
x	0.3611	0.3611	0.3611	0.3611	0.3818	0.3818	0.3818	0.3818	0.4073	0.4073	0.4073	0.4073	0.4338	0.4338						
y	0.3658	0.3658	0.3658	0.3658	0.3797	0.3797	0.3797	0.3797	0.3917	0.3917	0.3917	0.3917	0.4030	0.4030						
a	0.002568	0.003852	0.006420	0.008988	0.002714	0.004071	0.006785	0.008142	0.009499	0.002732	0.004098	0.006830	0.008196	0.009562	0.002738	0.004107				
b	0.006006	0.009009	0.015015	0.021021	0.006188	0.009282	0.015470	0.018564	0.021658	0.005864	0.008796	0.014660	0.017592	0.020524	0.005594	0.008391				
Φ	-34.33	-34.33	-34.33	-34.33	-35.95	-35.95	-35.95	-35.95	-35.47	-35.47	-35.47	-35.47	-35.47	-36.00	-36.00					
	sm305	sm306	sm307																	
x	0.4338	0.4338	0.4338																	
y	0.4030	0.4030	0.4030																	
a	0.006845	0.008214	0.009583																	
b	0.013985	0.016782	0.019579																	
Φ	-36.00	-36.00	-36.00																	
	sm272	sm273	sm275	sm276	sm277	sm252	sm253	sm255	sm226	sm257	sm222	sm223	sm225	sm227	sm203	sm205	sm206	sm183	sm185	sm186
x	0.4578	0.4578	0.4578	0.4578	0.4578	0.4806	0.4806	0.5018	0.4806	0.5018	0.5018	0.5018	0.5018	0.5270	0.5270	0.5270	0.5433	0.5433	0.5433	
y	0.4101	0.4101	0.4101	0.4101	0.4101	0.4141	0.4141	0.4141	0.4153	0.4141	0.4153	0.4153	0.4153	0.4130	0.4130	0.4130	0.4087	0.4087	0.4087	
a	0.002704	0.004056	0.006760	0.008112	0.009464	0.002686	0.004029	0.006715	0.008004	0.009401	0.002668	0.004002	0.006670	0.009338	0.006630	0.007956	0.003963	0.006605	0.007926	
b	0.005248	0.007872	0.013120	0.015744	0.018368	0.005010	0.007515	0.012525	0.014406	0.017535	0.004804	0.007206	0.012010	0.016814	0.007062	0.011770	0.014124	0.007047	0.011745	0.014094
Φ	-36.05	-36.05	-36.05	-36.05	-37.58	-37.58	-37.58	-37.58	-39.89	-37.58	-39.89	-39.89	-39.89	-43.56	-43.56	-43.56	-46.48	-46.48	-46.48	

smc52 smc53

x	0.3360	0.3360																	
y	0.3335	0.3335																	
a	0.002014	0.003021																	
b	0.005742	0.008613																	
Φ	-33.05																		
	sm402j	sm403j	sm405j	sm352g	sm353g	sm352j	sm353j	sm355j											
x	0.3785	0.3785	0.3785	0.3882	0.3882	0.4033	0.4033	0.4033											
y	0.3677	0.3677	0.3677	0.3329	0.3329	0.3813	0.3813	0.3813											
a	0.002714	0.004071	0.006785	0.002732	0.004098	0.002732	0.004098	0.006830											
b	0.006188	0.009282	0.015470	0.005864	0.008796	0.005864	0.008796	0.014660											
Φ	-35.95	-35.94	-35.95	-35.47	-35.47	-35.47	-35.47	-35.47											
	sm402j	sm403j	sm405j	sm352g	sm353g	sm352j	sm353j	sm355j											
x	0.3785	0.3785	0.3785	0.3882	0.3882	0.4033	0.4033	0.4033											
y	0.3677	0.3677	0.3677	0.3329	0.3329	0.3813	0.3813	0.3813											
a	0.002714	0.004071	0.006785	0.002732	0.004098	0.002732	0.004098	0.006830											
b	0.006188	0.009282	0.015470	0.005864	0.008796	0.005864	0.008796	0.014660											
Φ	-35.95	-35.94	-35.95	-35.47	-35.47	-35.47	-35.47	-35.47											

sm6531n sm551n sm731n sm5751n sm5031n sm5051n sm4531n sm4551n sm4031n sm4051n sm3531n sm3551n sm3031n

x	0.316	0.31
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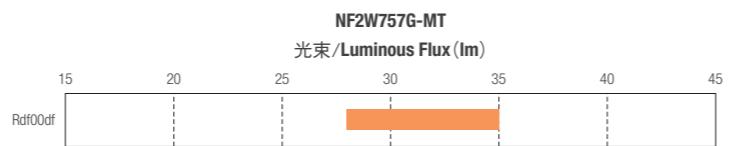
Luminous Flux

光束

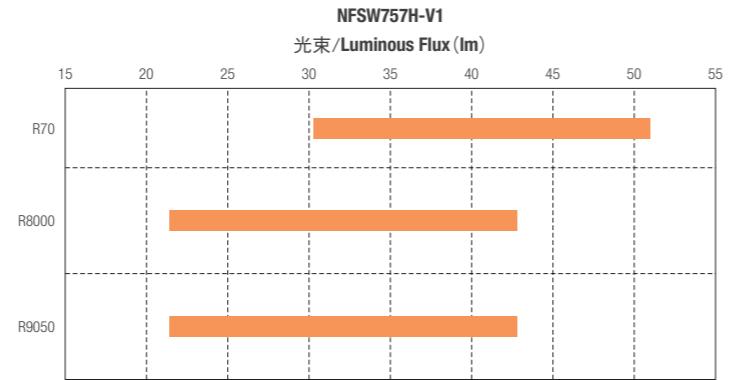
Surface Mount Type LED
General Lighting



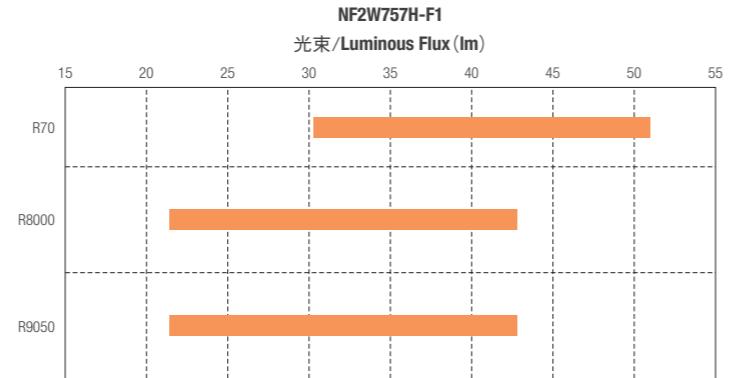
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NF2W757G-MT	Rdf00df	Tdj00ch	28	35



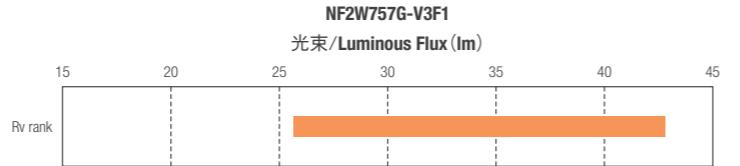
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NFSW757H-V1	R70	P11	30.3	36.0
		P12	36.0	42.8
		P13	42.8	51.0
	R8000	P9	21.4	25.5
		P10	25.5	30.3
		P11	30.3	36.0
		P12	36.0	42.8
	R9050	P9	21.4	25.5
		P10	25.5	30.3
		P11	30.3	36.0
		P12	36.0	42.8



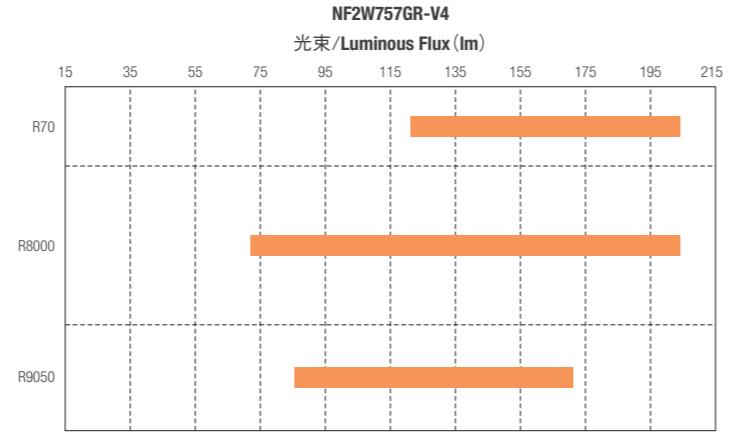
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NF2W757H-F1	R70	P11	30.3	36.0
		P12	36.0	42.8
		P13	42.8	51.0
	R8000	P9	21.4	25.5
		P10	25.5	30.3
		P11	30.3	36.0
		P12	36.0	42.8
	R9050	P9	21.4	25.5
		P10	25.5	30.3
		P11	30.3	36.0
		P12	36.0	42.8



型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NF2W757G-V3F1	Rv rank	P10	25.5	30.3
		P11	30.3	36.0



型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NF2W757GR-V4	R70	P19	121.1	144.0
		P20	144.0	171.2
		P21	171.2	204.0
	R8000	P16	72.0	85.6
		P17	85.6	101.8
		P18	101.8	121.1
		P19	121.1	144.0
	R9050	P20	144.0	171.2
		P21	171.2	204.0
		P17	85.6	101.8
		P18	101.8	121.1
	Rf rank	P19	121.1	144.0
		P20	144.0	171.2
		P21	171.2	204.0



型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NFSW757G-P5V1	R8000	P8	18.0	21.4
		P9	21.4	25.5
		P10	25.5	30.3
	R9050	P11	30.3	36.0
		P12	36.0	42.8
		P10	25.5	30.3

型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NF2W757GR-V1U4	R70	P18	101.8	121.1
		P19	121.1	144.0
		P20	144.0	171.2
	R8000	P18	101.8	121.1
		P19	121.1	144.0
		P20	144.0	171.2
		P17	85.6	101.8
	R9050	P18	101.8	121.1
		P19	121.1	144.0
		P18	101.8	121.1
		P19	121.1	144.0

型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NF2L757GR-V1U4	R70	P17	85.6	101.8
		P18	101.8	121.1
		P19	121.1	144.0
	R8000	P20	144.0	171.2
		P16	72.0	85.6

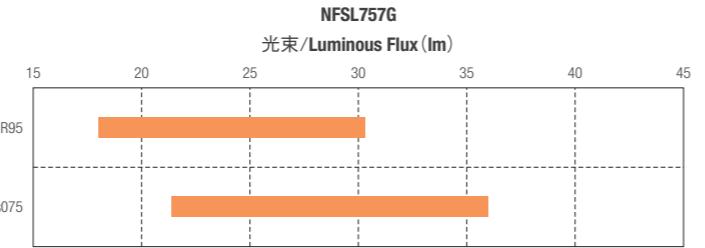
Luminous Flux

光束

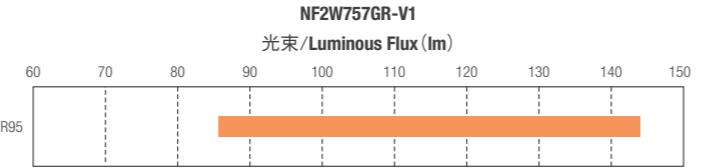
Surface Mount Type LED
General Lighting



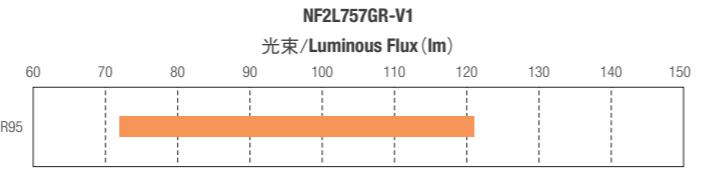
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NFSL757G	R95	P8	18.0	21.4
		P9	21.4	25.5
		P10	25.5	30.3
	Rs075	P9	21.4	25.5
		P10	25.5	30.3
		P11	30.3	36.0



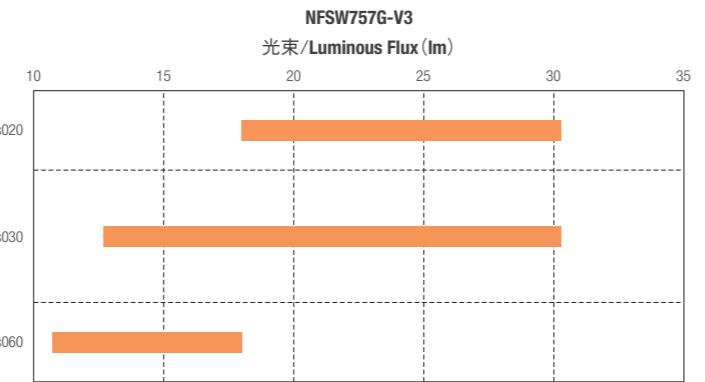
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NF2W757GR-V1	R95	P17	85.6	101.8
		P18	101.8	121.1
		P19	121.1	144.0



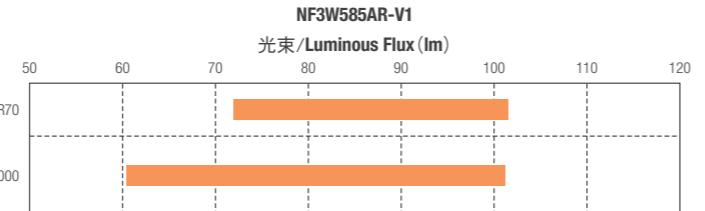
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NF2L757GR-V1	R95	P16	72.0	85.6
		P17	85.6	101.8
		P18	101.8	121.1



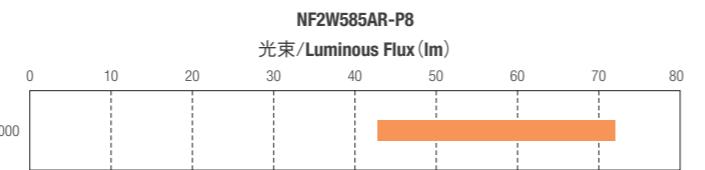
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NFSW757G-V3	Rs020	P8	18.0	21.4
		P9	21.4	25.5
		P10	25.5	30.3
	Rs030	P6	12.7	15.1
		P7	15.1	18.0
		P8	18.0	21.4



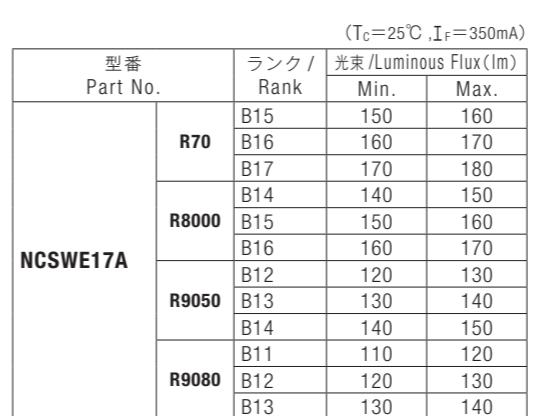
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NF3W585AR-V1	R70	P16	72	85.6
		P17	85.6	101.8
	R8000	P15	60.5	72
		P16	72	85.6



型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NF2W585AR-P8 NEW	R8000	42.8	42.8	72



型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NFSWE11A	R70	P9	21.4	25.5
		P10	25.5	30.3
		P11	30.3	36
	R8000	P12	36	42.8
		P9	21.4	25.5
		P10	25.5	30.3



型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NCSWE17A	R70	B15	150	160
		B16	160	170
		B17	170	180
	R8000	B14	140	150
		B15	150	160
		B16	160	170



型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NCSLE17A	R70	B14	140	150

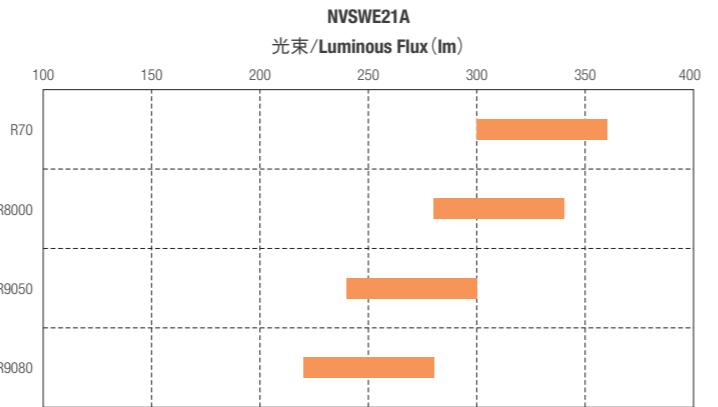
Luminous Flux

光束

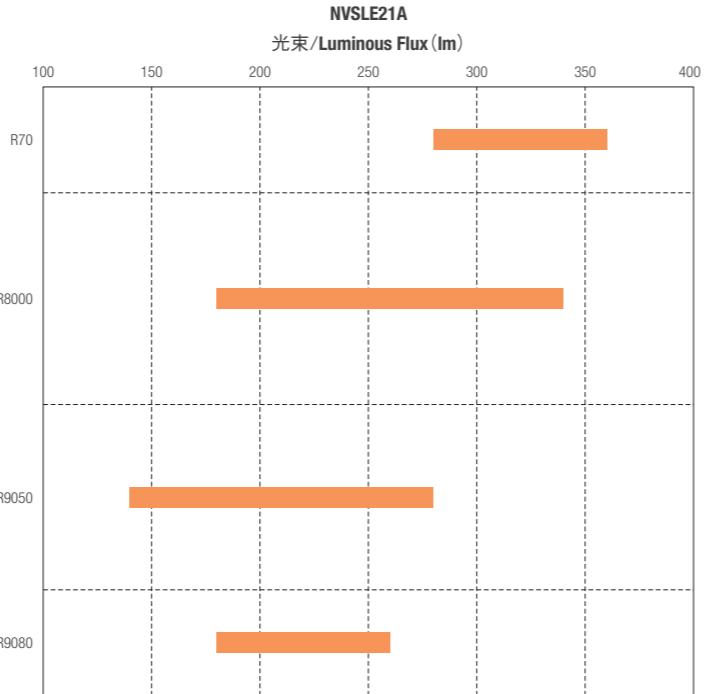
Surface Mount Type LED
General Lighting



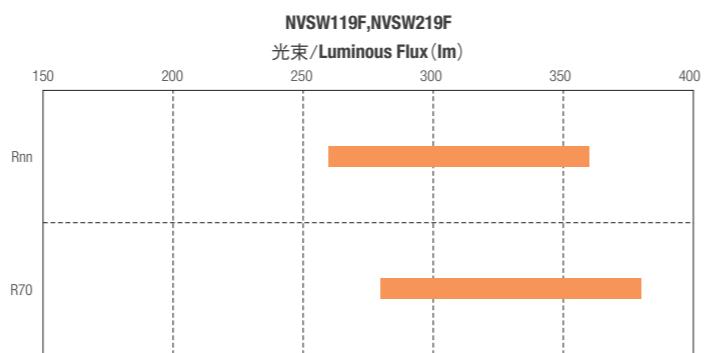
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NVSWE21A	R70	D300	300	320
		D320	320	340
		D340	340	360
	R8000	D280	280	300
		D300	300	320
		D320	320	340
	R9050	D240	240	260
		D260	260	280
		D280	280	300
	R9080	D220	220	240
		D240	240	260
		D260	260	280



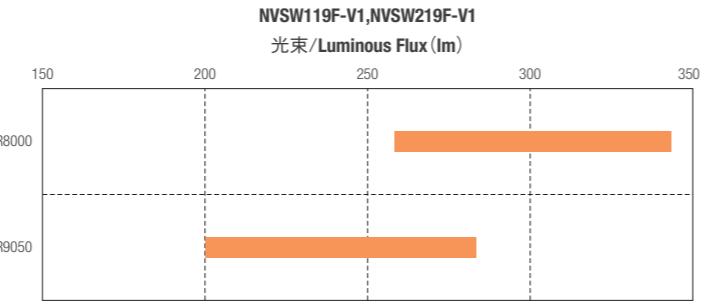
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NVSLE21A	R70	D280	280	300
		D300	300	320
		D320	320	340
	R8000	D340	340	360
		D180	180	200
		D200	200	220
		D220	220	240
		D240	240	260
		D260	260	280
		D280	280	300
	R9050	D300	300	320
		D320	320	340
		D140	140	160
	R9080	D160	160	180
		D180	180	200
		D200	200	220
		D220	220	240
		D240	240	260
		D260	260	280
		D180	180	200
		D200	200	220
		D220	220	240
		D240	240	260



型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NVS119F NVS119F	Rnn	D260	260	280
		D280	280	300
		D300	300	320
	R70	D320	320	340
		D340	340	360
		D280	280	300
		D300	300	320
		D320	320	340
		D340	340	360
		D360	360	380



型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NVS119F-V1 NVS119F-V1	R8000	D260	260	280
		D280	280	300
		D300	300	320
	R9050	D320	320	340
		D200	200	220
		D220	220	240
		D240	240	260
		D260	260	280
	R9050	D200	200	220
		D220	220	240



型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NVSW19A	R70	M600	600	650
		M650	650	700
		M700	700	750
	R8000	M500	500	550
		M550	550	600
		M600	600	650
	NEW	E1000	1000	1100
		E1100	1100	1200
		E1200	1200	1300
		E1300	1300	1400

型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NV4WB35AMT	R70	E900	900	1000
		E1000	1000	1100
		E1100	1100	1200
	R8000	E1200	1200	1300
		E1300	1300	1400
		E600	600	700
	R9080	E700	700	800
		E800	800	900
		E900	900	1000
		E1000	1000	1100

型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NV4W144AR NV4W144AM	R70	E1100	1100	1200
		E1200	1200	1300

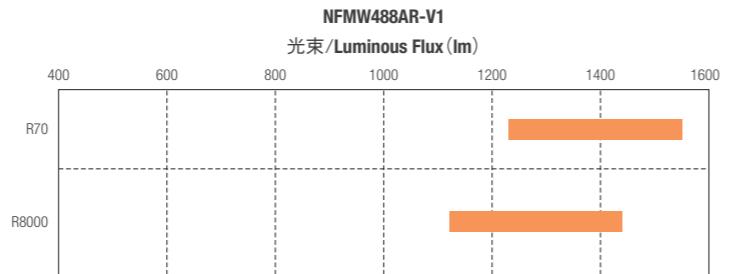
Luminous Flux

光束

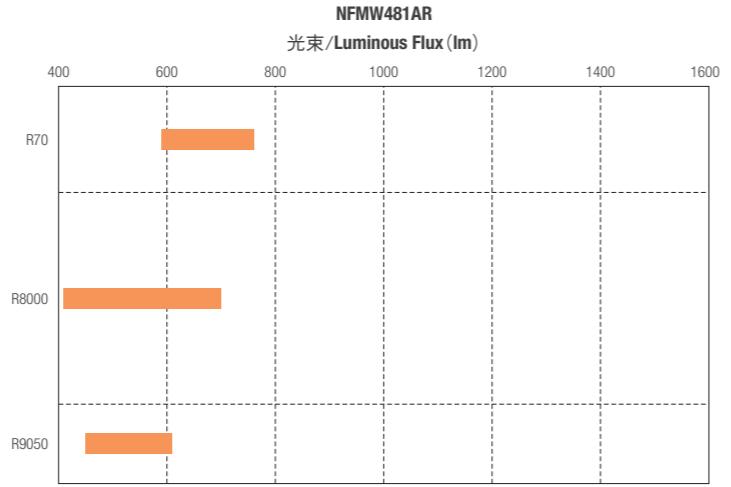
Surface Mount Type LED
General Lighting



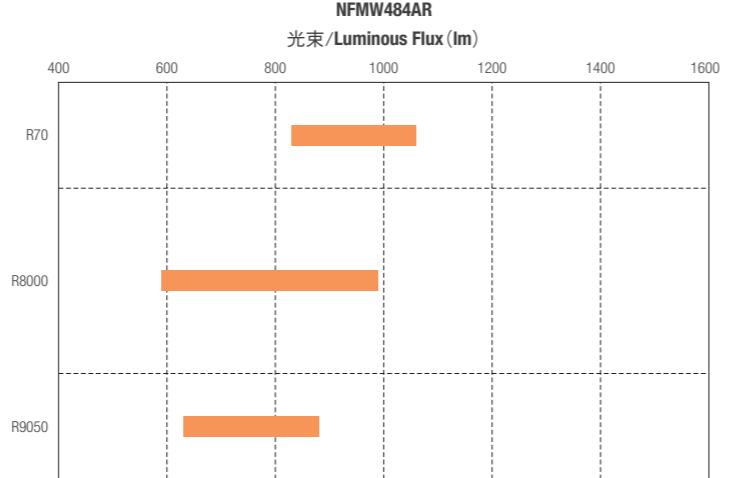
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NFMW488AR-V1	R70	Pf0123	1230	1520
		Pf0125	1250	1540
	R8000	Pf0126	1260	1550
		Pf0112	1120	1360
		Pf0114	1140	1400
		Pf0116	1160	1430
		Pf0117	1170	1440



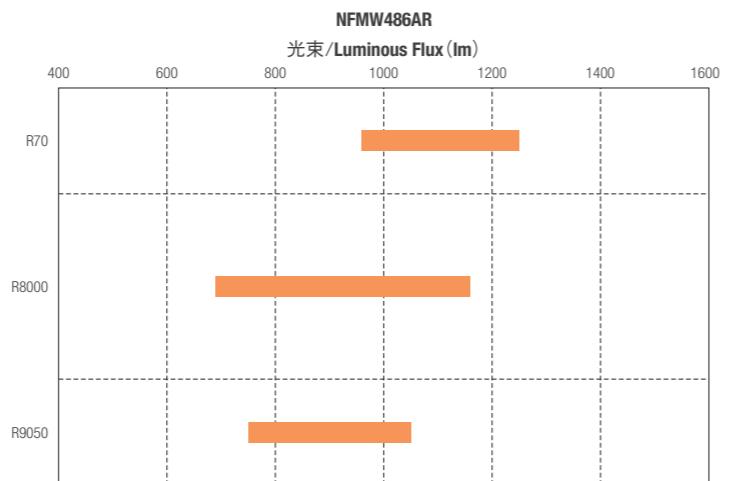
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NFMW481AR	R70	Pf0059	590	730
		Pf0060	600	740
	R8000	Pf0061	610	750
		Pf0062	620	760
		Pf0041	410	510
		Pf0047	470	570
		Pf0050	500	610
		Pf0052	520	640
	R9050	Pf0055	550	680
		Pf0056	560	680
		Pf0057	570	700
		Pf0058	580	700
		Pf0045	450	550
	R9050	Pf0048	480	590
		Pf0050	500	610



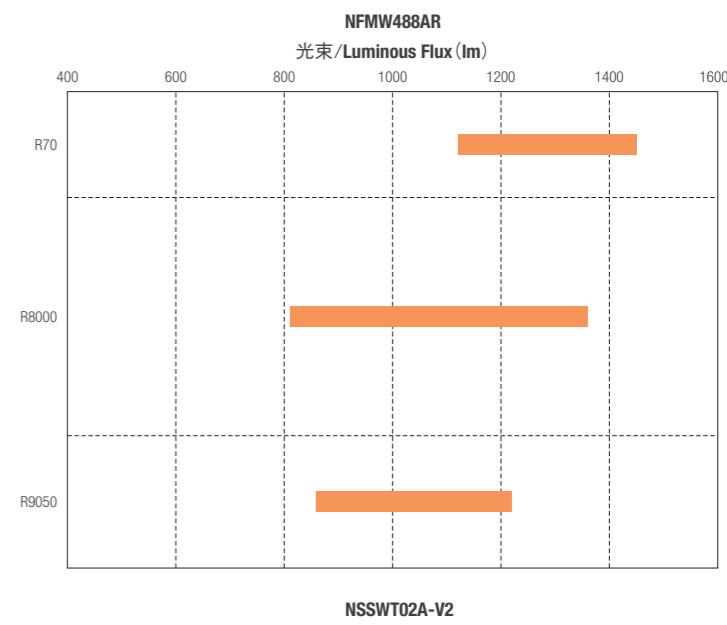
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NFMW484AR	R70	Pf0083	830	1010
		Pf0084	840	1020
	R8000	Pf0086	860	1050
		Pf0087	870	1060
		Pf0059	590	730
		Pf0066	660	800
		Pf0069	690	850
		Pf0074	740	900
	R9050	Pf0078	780	960
		Pf0079	790	960
		Pf0081	810	990
		Pf0063	630	770
		Pf0068	680	840
	R9050	Pf0071	710	870
		Pf0072	720	880



型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NFMW486AR	R70	Pf0096	960	1180
		Pf0099	990	1210
	R8000	Pf0101	1010	1230
		Pf0102	1020	1250
		Pf0069	690	850
		Pf0079	790	960
		Pf0084	840	1020
		Pf0088	880	1080
	R9050	Pf0093	930	1140
		Pf0094	940	1140
		Pf0095	950	1160
		Pf0075	750	920
		Pf0080	800	980
	R9050	Pf0082	820	1010
		Pf0086	860	1050



型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NFMW488AR	R70	Pf0112	1120	1360
		Pf0115	1150	1410
	R8000	Pf0118	1180	1440
		Pf0119	1190	1450
		Pf0081	810	990
		Pf0091	910	1120
		Pf0097	970	1190
		Pf0103	1030	1250
	R9050	Pf0107	1070	1310
		Pf0108	1080	1320
		Pf0109	1090	1330
		Pf0111	1110	1350
		Pf0112	1120	1360



型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NSSWT02A				

Luminous Flux

光束

Surface Mount Type LED
General Lighting



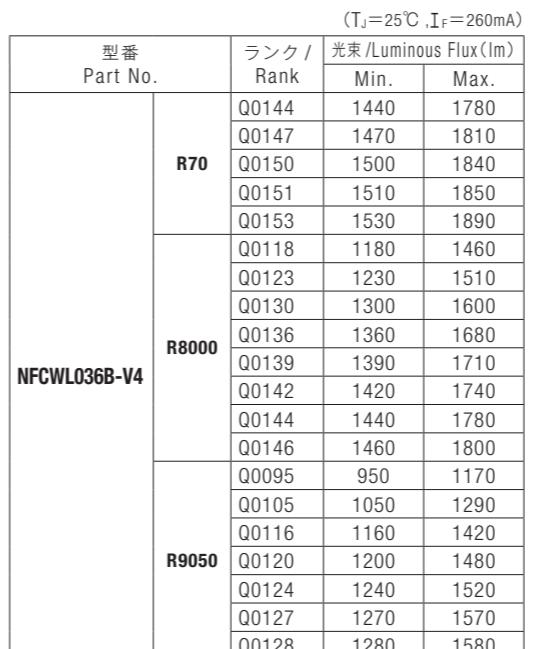
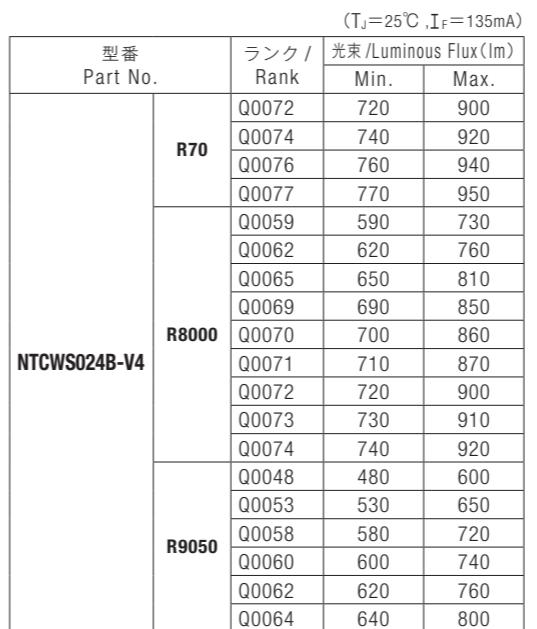
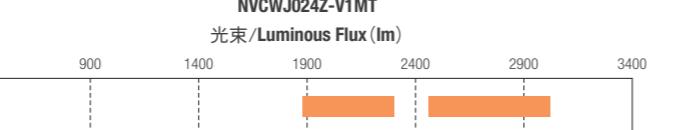
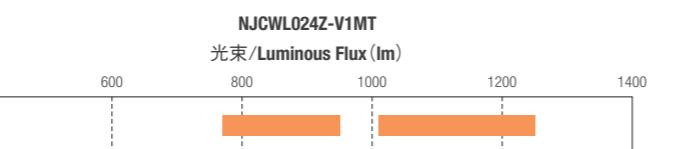
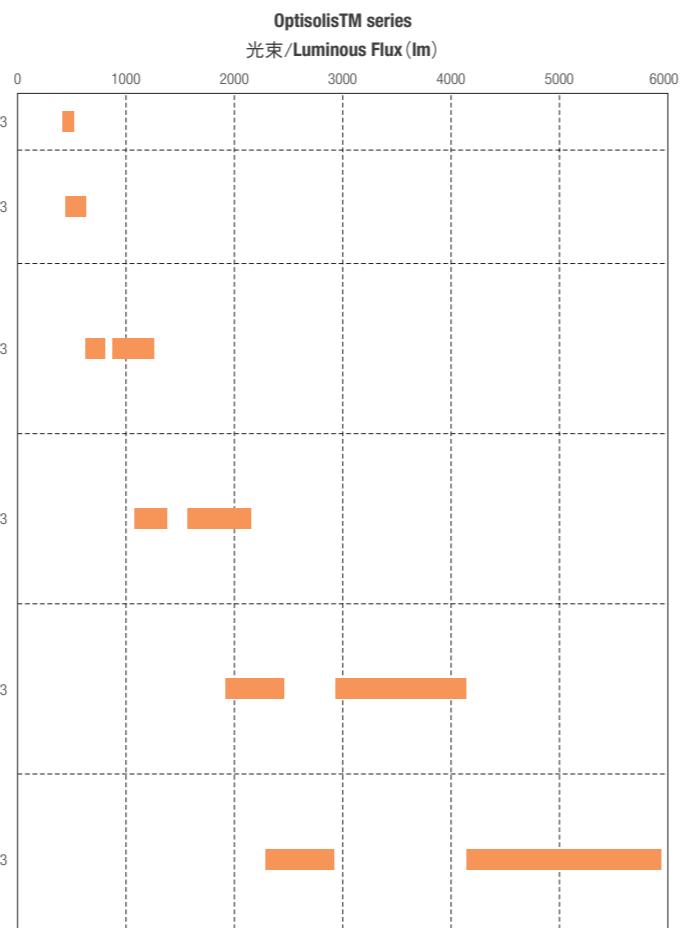
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)		I_F Typ. (mA)
			Min.	Max.	
NFCWS024B-V3	Rf rank	Q0041	410	510	120
		Q0042	420	520	135
NTCWS024B-V3	Rf rank	Q0044	440	540	180
		Q0046	460	580	260
NFCWL036B-V3	Rf rank	Q0049	490	610	300
		Q0051	510	630	460
NFCWL060B-V3	Rf rank	Q0063	630	790	540
		Q0065	650	810	860
NFCWL060B-V3	Rf rank	Q0088	880	1080	1150
		Q0092	920	1140	1150
NFCWL060B-V3	Rf rank	Q0099	990	1230	1150
		Q0102	1020	1260	1150
NFCWL060B-V3	Rf rank	Q0108	1080	1320	1150
		Q0112	1120	1380	1150
NFCWL060B-V3	Rf rank	Q0157	1570	1930	1150
		Q0164	1640	2020	1150
NFCWL060B-V3	Rf rank	Q0176	1760	2160	1150
		Q0183	1830	1750	1150
NFCWJ108B-V3	Rf rank	Q0192	1920	2360	1150
		Q0200	2000	2460	1150
NFCWJ108B-V3	Rf rank	Q0291	2910	3570	1150
		Q0304	3040	3720	1150
NFCWJ108B-V3	Rf rank	Q0326	3260	4000	1150
		Q0338	3380	4140	1150
NFDWJ130B-V3	Rf rank	Q0229	2290	2810	1150
		Q0238	2380	2920	1150
NFDWJ130B-V3	Rf rank	Q0414	4140	5080	1150
		Q0432	4320	5280	1150
NFDWJ130B-V3	Rf rank	Q0463	4630	5670	1150
		Q0480	4800	5880	1150

($T_J=25^\circ\text{C}$, $I_F=250\text{mA}$)

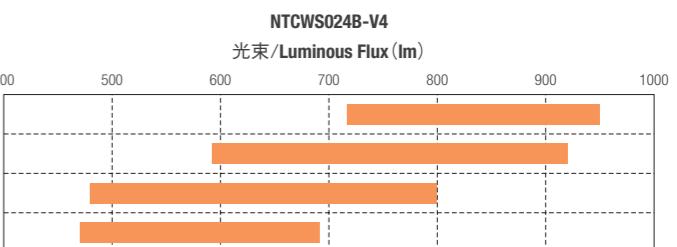
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)			
			5000K	2700K		
			Min.	Max.	Min.	Max.
NJCWL024Z-V1MT	Rce00ce	Qa01010077	1010	1250	770	950

($T_J=25^\circ\text{C}$, $I_F=600\text{mA}$)

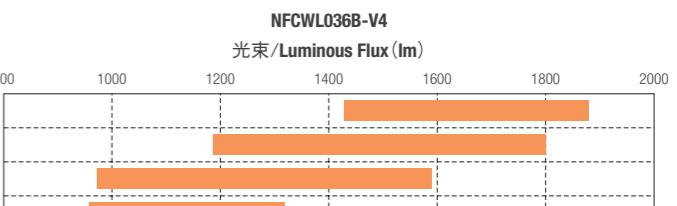
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)			
			5000K	2700K		
			Min.	Max.	Min.	Max.
NVCWL024Z-V1MT	Rce00ce	Qa02460188	2460	3020	1880	2300



ランク分けの公差については製品毎に標準仕様書をご確認ください。
Measurement Uncertainty of the Rank:Please confirm specification sheet.



型番 Part No.	ランク / Rank	光束/Luminous Flux(lm)
		Min. Max.
NTCWS024B-V4	R9580	Q0047 470 590
		Q0050 500 620
		Q0053 530 650
		Q0054 540 660
		Q0055 550 690



型番 Part No.	ランク / Rank	光束/Luminous Flux(lm)
		Min. Max.
NFCWL036B-V4	R9580	Q0093 930 1150
		Q0099 990 1230
		Q0105 1050 1290
		Q0107 1070 1310
		Q0108 1080 1320

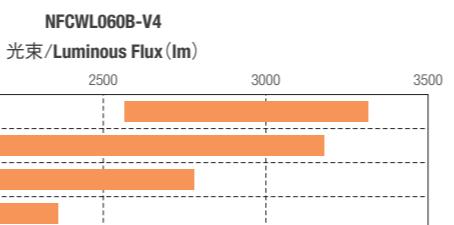
Luminous Flux

光束

Surface Mount Type LED
General Lighting

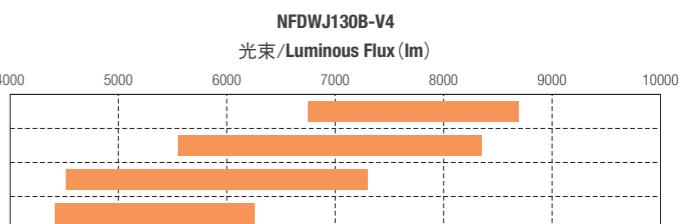


型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NFCWL060B-V4	R70	Q0257	2570	3150
		Q0262	2620	3220
		Q0267	2670	3270
		Q0268	2680	3280
		Q0270	2700	3320
		Q0271	2710	3330
	R8000	Q0209	2090	2570
		Q0220	2200	2700
		Q0233	2330	2850
		Q0242	2420	2960
		Q0248	2480	3040
		Q0253	2530	3110
		Q0254	2540	3120
		Q0255	2550	3130
		Q0258	2580	3160
		Q0260	2600	3180
	R9050	Q0170	1700	2080
		Q0188	1880	2300
		Q0206	2060	2520
		Q0213	2130	2610
		Q0220	2200	2700
		Q0226	2260	2780
		Q0227	2270	2790



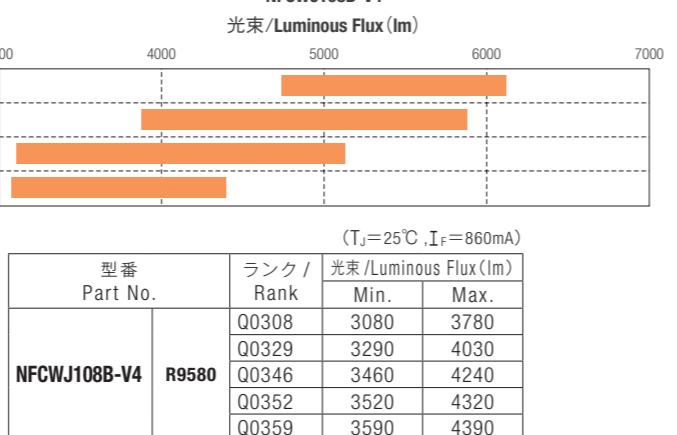
型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NFCWL060B-V4	R9580	Q0166	1660	2040
		Q0178	1780	2180
		Q0187	1870	2290
		Q0190	1900	2340
		Q0194	1940	2380

型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NFDWJ130B-V4	R70	Q0675	6750	8270
		Q0689	6890	8430
		Q0700	7000	8560
		Q0704	7040	8620
		Q0710a	7100	8680
		Q0711	7110	8710
	R8000	Q0550	5500	6740
		Q0579	5790	7090
		Q0612	6120	7480
		Q0634	6340	7760
		Q0652	6520	7980
		Q0666	6660	8160
		Q0668	6680	8180
		Q0671	6710	8210
		Q0679	6790	8310
		Q0683	6830	8350
	R9050	Q0447	4470	5470
		Q0494	4940	6040
		Q0540	5400	6600
		Q0558	5580	6840
		Q0577	5770	7070
		Q0595	5950	7290
		Q0596	5960	7300



型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NFDWJ130B-V4	R9580	Q0438	4380	5360
		Q0468	4680	5740
		Q0492	4920	6020
		Q0501	5010	6130
		Q0509	5090	6230

型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.
NFCWJ108B-V4	R70	Q0476	4760	5820
		Q0485	4850	5930
		Q0493	4930	6030
		Q0495	4950	6050
		Q0500	5000	6120
	R8000	Q0387	3870	4750
		Q0408	4080	5000
		Q0431	4310	5270
		Q0446	4460	5460
		Q0459	4590	5630
		Q0468	4680	5740
		Q0469	4690	5750
		Q0472	4720	5780
	R9050	Q0478	4780	5860
		Q0480	4800	5880
		Q0315	3150	3870
		Q0348	3480	4260
		Q0380	3800	4660
		Q0393	3930	4810
		Q0405	4050	4970
		Q0419	4190	5130
		Q0420	4200	5140



型番 Part No.		ランク / Rank	光束/Luminous Flux(lm)	
			Min.	Max.

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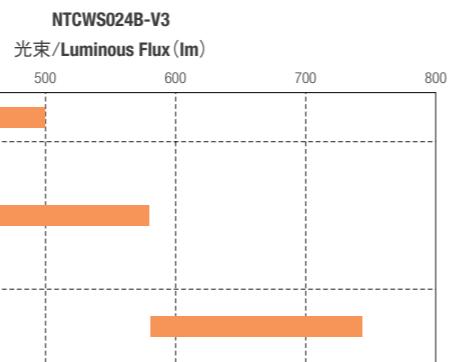
Luminous Flux

光束

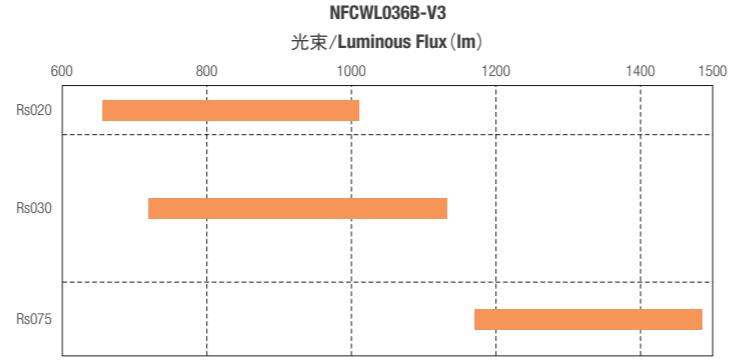
Surface Mount Type LED
General Lighting



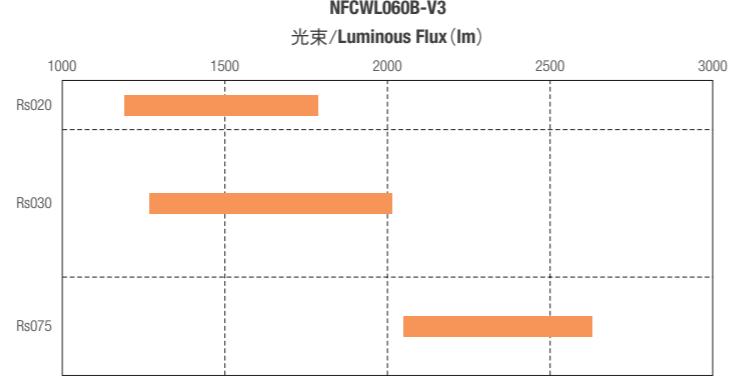
型番 Part No.		ランク / Rank	光束 /Luminous Flux (lm)	
			Min.	Max.
NTCWS024B-V3	Rs020	Q0033	330	410
		Q0040	400	500
	Rs030	Q0036	360	440
		Q0038	380	480
		Q0041	410	510
		Q0044	440	540
		Q0045	450	570
	Rs075	Q0046	460	580
		Q0058	580	720
		Q0059	590	730
		Q0060	600	740



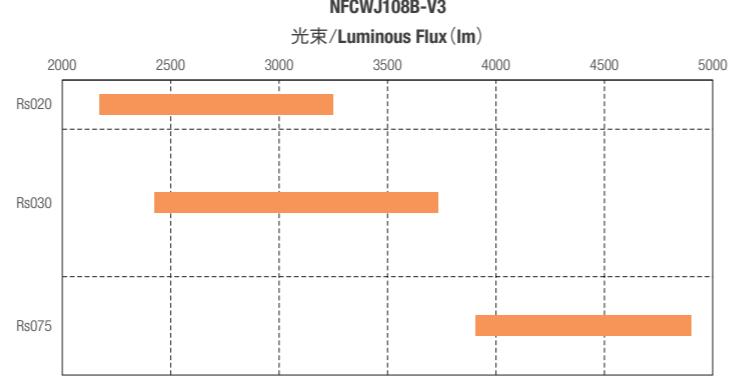
型番 Part No.		ランク / Rank	光束 /Luminous Flux (lm)	
			Min.	Max.
NFCWL036B-V3	Rs020	Q0066	660	820
		Q0081	810	1010
	Rs030	Q0072	720	900
		Q0076	760	940
		Q0082	820	1020
		Q0087	870	1070
		Q0090	900	1100
	Rs075	Q0092	920	1140
		Q0117	1170	1430
		Q0118	1180	1460
		Q0120	1200	1480



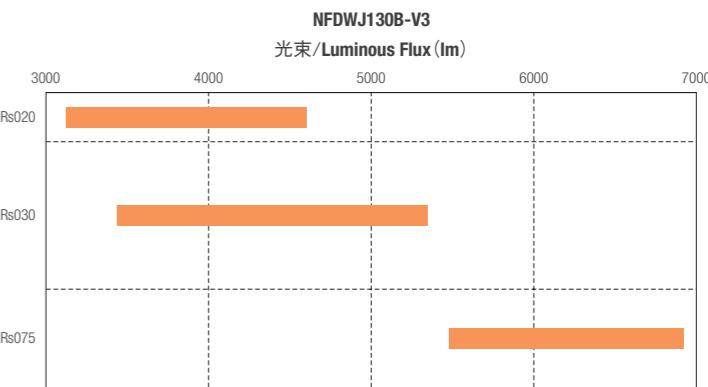
型番 Part No.		ランク / Rank	光束 /Luminous Flux (lm)	
			Min.	Max.
NFCWL060B-V3	Rs020	Q0118	1180	1460
		Q0144	1440	1780
	Rs030	Q0129	1290	1590
		Q0137	1370	1690
		Q0147	1470	1810
		Q0156	1560	1920
		Q0161	1610	1970
	Rs075	Q0165	1650	2030
		Q0208	2080	2560
		Q0211	2110	2590
		Q0214	2140	2620
		Q0215	2150	2630



型番 Part No.		ランク / Rank	光束 /Luminous Flux (lm)	
			Min.	Max.
NFCWJ108B-V3	Rs020	Q0219	2190	2690
		Q0266	2660	3260
	Rs030	Q0240	2400	2940
		Q0253	2530	3110
		Q0272	2720	3340
		Q0288	2880	3520
		Q0298	2980	3660
	Rs075	Q0306	3060	3740
		Q0386	3860	4720
		Q0390	3900	4780
		Q0396	3960	4840
		Q0398	3980	4880



型番 Part No.		ランク / Rank	光束 /Luminous Flux (lm)	
			Min.	Max.
NFDWJ130B-V3	Rs020	Q0312	3120	3820
		Q0378	3780	4640
	Rs030	Q0342	3420	4200
		Q0360	3600	4420
		Q0387	3870	4750
		Q0411	4110	5030
		Q0423	4230	5190
	Rs075	Q0436	4360	5340
		Q0548	5480	6700
		Q0555	5550	6790
		Q0563	5630	6890
		Q0566	5660	6920



型番 Part No.		ランク / Rank	光束 /Luminous Flux (lm)	
			Min.	Max.
NVNWS007Z-V1	R70	Q0154	1540	1900
		Q0156	1560	1920
		Q0162	1620	1980
		Q0164	1640	2020
		Q0165	1650	2030
		Q0166	1660	2040
	R8000	Q0168	1680	2060
		Q0122	1220	1500
		Q0127	1270	1570
		Q0143	1430	1750

Luminous Flux

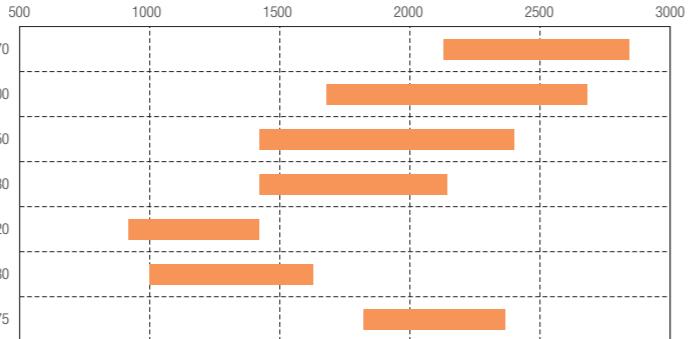
光束

Surface Mount Type LED
General Lighting



型番 Part No.		ランク / Rank	光束 / Luminous Flux (lm)	
			Min.	Max.
NJCWS024Z-V1	R70	Q0213	2130	2610
		Q0216	2160	2660
		Q0224	2240	2740
		Q0227	2270	2790
		Q0228	2280	2800
	R8000	Q0230	2300	2820
		Q0232	2320	2840
		Q0168	1680	2060
		Q0176	1760	2160
		Q0198	1980	2420
	R9050	Q0209	2090	2570
		Q0213	2130	2610
		Q0216	2160	2660
		Q0218	2180	2680
		Q0144	1440	1780
	R9580	Q0157	1570	1930
		Q0171	1710	2090
		Q0174	1740	2140
		Q0185	1850	2270
		Q0189	1890	2310
	R9580	Q0194	1940	2380
		Q0196	1960	2400
		Q0144	1440	1780
		Q0153	1530	1890
		Q0162	1620	1980
	R9580	Q0164	1640	2020
		Q0169	1690	2070
		Q0173	1730	2130

NJCWS024Z-V1
光束/Luminous Flux (lm)



(T_j=25°C, I_f=500mA)

型番 Part No.		ランク / Rank	光束 / Luminous Flux (lm)	
			Min.	Max.
NJCWS024Z-V1	Rs020	Q0092	920	1140
		Q0116	1160	1420
		Q0100	1000	1240
		Q0107	1070	1310
		Q0115	1150	1410
	Rs030	Q0121	1210	1490
		Q0129	1290	1590
		Q0133	1330	1630
		Q0182	1820	2240
		Q0187	1870	2290
	Rs075	Q0193	1930	2370

NVCWL024Z-V1
光束/Luminous Flux (lm)

(T_j=25°C, I_f=1200mA)

型番 Part No.		ランク / Rank	光束 / Luminous Flux (lm)	
			Min.	Max.
NVCWL024Z-V1	R70	Q0549	5490	6710
		Q0558	5580	6840
		Q0577	5770	7070
		Q0587	5870	7190
		Q0588	5880	7200
	R8000	Q0594	5940	7260
		Q0599	5990	7330
		Q0435	4350	5330
		Q0456	4560	5580
		Q0510	5100	6240
	R9050	Q0514	5140	6300
		Q0541	5410	6630
		Q0551	5510	6750
		Q0558	5580	6840
		Q0559	5590	6850
	R9580	Q0564	5640	6900
		Q0374	3740	4580
		Q0408	4080	5000
		Q0441	4410	5410
		Q0450	4500	5520
	Rs030	Q0477	4770	5830
		Q0489	4890	5990
		Q0499	4990	6110
		Q0501	5010	6130
		Q0505	5050	6190
	Rs075	Q0374	3740	4580
		Q0397	3970	4870
		Q0408	4080	5000
		Q0425	4250	5210
		Q0436	4360	5340
	Rs075	Q0448	4480	5480

(T_j=25°C, I_f=1200mA)

型番 Part No.		ランク / Rank	光束 / Luminous Flux (lm)	
			Min.	Max.
NVCWL024Z-V1	Rs020	Q0241	2410	2950
		Q0299	2990	3670
		Q0261	2610	3190
		Q0277	2770	3390
		Q0297	2970	3650
	Rs030	Q0313	3130	3830
		Q0333	3330	4070
		Q0345	3450	4230
		Q0471	4710	5770
		Q0476	4760	5820
	Rs075	Q0493	4930	6030

(T_j=25°C, I_f=1200mA)

型番 Part No.		ランク / Rank	光束 / Luminous Flux (lm)	
			Min.	Max.
NVEWL016Z-V1	R70	Q0361	3610	4430
		Q0367	3670	4490
		Q0379	3790	



Automotive

車の高い安全性を支える高信頼性LED

IATF16949対応品

Highly reliable LEDs to support automotive applications
with IATF16949 Certification

Exterior



ヘッドライト
Headlamp



ADB



DRL



フォグランプ
Fog Lamp



方向指示器
Turn Indicator



リアランプ
Rear Lamp



カーボディーライティング
Car Body Lighting



コミュニケーション
Communication

Interior



インストルメントパネル
Instrument Panel



スイッチ
Switch



照明
Lighting



ヘッドアップ
ディスプレイ
HUD



アンビエントライト
Ambient Lighting

AEC適合品 (Q101またはQ102) もしくはAEC Q102試験を予定しております。

AEC Q101 or Q102 Qualified*

*some new LEDs and under development LEDs will perform AEC Q102.

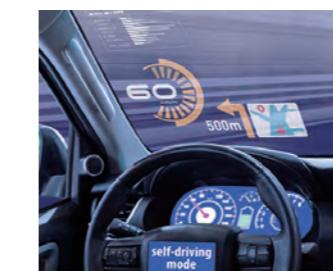
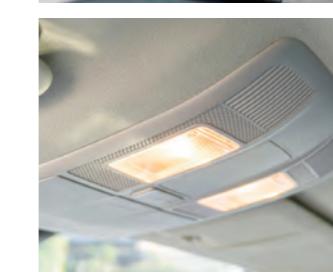
APPLICATIONS



車載外装
Exterior



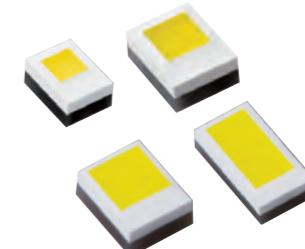
車載内装
Interior



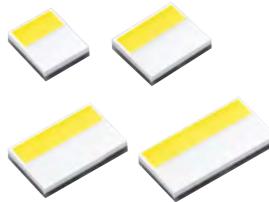
PRODUCTS

チップスケールLED Chip Scale Package

170/131 series



121 series



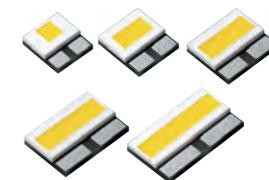
高光束・高放熱LED Multi-chip package with die heat sink

093 series



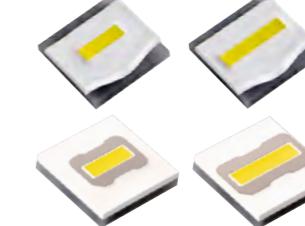
上面給電タイプLED LED package with electrodes on the top surface

321 series



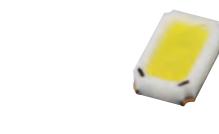
高輝度LED High Luminance Package

270B series

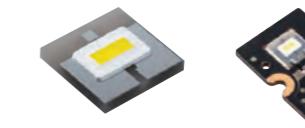


0.5-1.0W LED 0.5-1.0 Wattage Package

123 series



NV3W470A NLSW03A04A

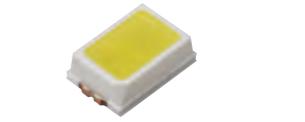


172 series



PLCC LED PLCC Package

146 series



064 series



3 in 1 LED 3-in-1 Package

NSSM313A



NSSM438A



Product List

製品一覧

Surface Mount Type LED



Automotive

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 ϕ_v Typ. (lm)	輝度 L_v Typ. (cd/mm ²)	順電圧 V_F		指向特性 Directivity $2\theta_{1/2}$ (degree)	I_F (mA)
					Typ. (V)	Max. (V)		

熱抵抗 $R_{\theta JSel}$ Typ. (°C/W)	絶対最大定格 Absolute Maximum Ratings						最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
	I_F (mA)	I_{FP}^{*1} (mA)	I_R (mA)	P_D (mW)	T_J (°C)	T_{opr} (°C)			

Chip Scale Package

 1.6×1.2×0.75 L.E.S.:0.76×0.76 ^{*2}	NJSW170D		0.322	0.335	225	 1.8×1.45×0.75 L.E.S.:1.15×1.15 ^{*2}	3.25	3.5	 3.5	650	 3.5
	NJSA170C		0.57	0.42	70		3.0	3.3		350	
	NCSW170F ^{NEW}		0.3292	0.3439	410		—	—		—	
	NCSW131F ^{NEW}		0.48	0.50	370		—	—		—	
	NCSY170F ^{NEW}		0.48	0.50	370		—	—		—	
	NCSY131F ^{NEW}		0.57	0.42	280		—	—		—	
	NCSA170F ^{NEW}		0.663	0.329	115		—	—		—	
	NCSA131F ^{NEW}		0.667	0.323	83		—	—		—	
	NCSR170F ^{Under Development}		0.679	0.312	54		—	—		—	
	NCSR131F ^{*3,4 Under Development}		0.689	0.299	37		—	—		—	
 1.8×1.45×0.75 L.E.S.:0.95×0.95 ^{*2}	NCSW170F-SA ^{NEW}		—	—	380	 0.3292	3.25	120	 1000	—	 1000
	NCSW131F-SA ^{NEW}		—	—	380	—	—	—			
	NCSW170D-PCB		0.3292	0.3439	370	—	—	—			
	NCSW131D-PCB ^{*3}		—	—	370	—	—	—			
 3.0×1.6×0.75 L.E.S.:2.3×1.15 ^{*2}	NC2W170F ^{NEW}		—	—	820	 0.57	6.6	7.0	 560	—	 560
	NC2W131F ^{NEW}		—	—	820	—	—	—			
	NC2A170F ^{NEW}		0.57	0.42	560	—	—	—			
	NC2A131F ^{NEW}		—	—	560	—	—	—			

3.6	800	1000	 85	2870	 150	 -40 +125	 3500/P	 リフロー Reflow
5.9	700	900		2310				
2.3	—	—	 85	5580	 150	 -40 +125	 3500/P	 リフロー Reflow
3.3	1500	3000		5580				
3.7	1200	1500	 85	T.B.D.	 11100	 11100	 11100	 リフロー Reflow
2.4	1500	3000		4360				
2.6	1200	1500	 85	4360	 11100	 11100	 11100	 リフロー Reflow
1.3	—	—		4360				
1.8	1500	3000	 85	4360	 11100	 11100	 11100	 リフロー Reflow

*1 パルス幅10ms以下、デューティ比1/10以下。Pulse width≤10ms, Duty ratio≤1/10.

*2 発光面サイズ。Light Emitting Size.

*3 3パッドデザイン。3 pad design.

*4 開発中のため数値は参考値。Under Development (The values in the table are just for the reference.)

Product List

製品一覧

Surface Mount Type LED



Automotive

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 ϕ_V Typ. (lm)	輝度 L_V Typ. (cd/mm ²)	順電圧 V_F		指向特性 Directivity $2\theta_{1/2}$ (degree)	I_F (mA)
					Typ. (V)	Max. (V)		

熱抵抗 $R_{\theta JSel}$ Typ. (°C/W)	絶対最大定格 Absolute Maximum Ratings						最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
	I_F (mA)	I_{FP}^{*1} (mA)	I_R (mA)	P_D (mW)	T_J (°C)	T_{opr} (°C)			

Chip Scale Package

	NC2W121F	<small>*3 Under Development</small>		820	6.5	7.0	120	1000
	NC3W121F	<small>*3 Under Development</small>		1230	9.8	10.5		
	NC4W121F	<small>*3 Under Development</small>		1640	13.0	14.0		
	NC5W121F	<small>*3 Under Development</small>		2050	16.3	17.5		
	NC2W121D-S1 <small>NEW</small>			740	6.5	7.0	85	8590
	NC3W121D-S1 <small>NEW</small>			1110	9.8	10.5	1200	12900
	NC4W121D-S1 <small>NEW</small>			1480	13.0	14.0	1500	17100
	NC5W121D-S1 <small>NEW</small>			1850	16.3	17.5	21500	21500

*1 パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10.

*2 発光面サイズ。Light Emitting Size.

*3 開発中のため数値は参考値。Under Development (The value in the table are just for the reference.)

1.4									
1.0	1500	3000	T.B.D.						
0.8									
0.6									
1.4									
1.0	1200	1500							
0.8									
0.6									



リフロー
Reflow

Product List

製品一覧

Surface Mount Type LED



Automotive

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 ϕ_v Typ. (lm)	輝度 L_v Typ. (cd/mm ²)	順電圧 V_F		指向特性 Directivity $2\theta_{1/2}$ (degree)	I_F (mA)
					Typ. (V)	Max. (V)		

熱抵抗 $R_{\theta JSel}$ Typ. (°C/W)	絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
	I_F (mA)	$I_{FP}^{※1}$ (mA)	I_R (mA)	P_D (mW)	T_J (°C)	T_{opr} (°C)	T_{stg} (°C)			

Multi-chip package with die heat sink

	NC2W093B		860	6.6	7.2	120	1200
	NC3W093B		1290	9.9	10.8		
	NC4W093B		1720	13.2	14.4		
	NC5W093B		2150	16.5	18		
	NC2W093B-S1 NEW		800	6.6	7.2		
	NC3W093B-S1 NEW		1200	9.9	10.8		
	NC4W093B-S1 NEW		1600	13.2	14.4		
	NC5W093B-S1 NEW		2000	16.5	18		

※1 パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10.

※2 発光面サイズ。Light Emitting Size.

1.8	1500	1800	85	11100	-40 +130	-40 +130	3000/P	リフロー Reflow	
1.3				16700					
1.0				22300					
0.9				27900					
1.9				11100					
1.3				16700					
1.1				22300					
1.0				27900					

Product List

製品一覧

Surface Mount Type LED



Automotive

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 ϕ_V Typ. (lm)	輝度 ^{※1} L_V Typ. (cd/mm ²)	順電圧 V_F		指向特性 Directivity $2\theta_{1/2}$ (degree)	I_F (mA)
					Typ. (V)	Max. (V)		

熱抵抗 $R_{θJSel}$ Typ. (°C/W)	絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
	I_F (mA)	$I_{FP}^{※2}$ (mA)	I_R (mA)	P_D (mW)	T_J (°C)	T_{opr} (°C)	T_{stg} (°C)			

LED package with electrodes on the top surface

	NCSW321F NEW			410	3.25	3.5		
	NC2W321F NEW			820	6.50	7.0		
	NC3W321F NEW		0.3292	0.3439	1230	9.75	10.5	120 1000
	NC4W321F NEW			1640	13.00	14.0		
	NC5W321F NEW			2050	16.25	17.5		

High Luminance Package

	NJ2W270B			800	7.3	8.0		
	NJ3W270B			1200	11.0	12.0		
	NJ2W270B-PF NEW		0.322	0.335	760	7.3	8.0	120 1500
	NJ3W270B-PF NEW				1140	11.0	12.0	
	NV3W470A			4000	230	10.8	12.5	5000
	NLSW03A04A							

2.3 ^{※4}				5600						
1.3 ^{※4}				11100						
0.9 ^{※4}	1500	3000	85	16700	150	-40 S +130	-40 S +130	2000/P	接着剤 adhesive	
0.7 ^{※4}				22300						
0.6 ^{※4}				27900						

2.5				13500						
1.8	1650	1800	85	20000					2000/P	リフロー Reflow
2.5				13500		-40 S +125	-40 S +125			
1.8				20000						
0.46 ^{※4}	5500	7000 ^{※6}		71000				4000/P	接着剤 adhesive	
0.72 ^{※5}								28/P	ネジ screw	

*1 輝度は参考値。The Lv values in the table are just for the reference.

*2 パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10.

*3 発光面サイズ。Light Emitting Size.

*4 热抵抗は $R_{θJSel}$ typ. (°C/W)の値。

*5 热抵抗は $R_{θJB,sel}$ typ. (°C/W)の値。

*6 I_{rs} (サージ順流電流)の値。パルス幅0.01ms以下、デューティー比は0.5%以下。 I_{rs} =The surge forward current. Pulse width≤0.01ms, Duty ratio≤0.5%.



パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 ϕ_v Typ. (lm)	輝度 L_v Typ. (cd/mm ²)	順電圧 V_F		指向特性 Directivity $2\theta_{1/2}$ (degree)	I_F (mA)
					Typ. (V)	Max. (V)		

熱抵抗 $R_{\theta JSel}$ Typ. (°C/W)	絶対最大定格 Absolute Maximum Ratings						最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
	I_F (mA)	$I_{FP}^{※1}$ (mA)	I_R (mA)	P_D (mW)	T_J (°C)	T_{opr} (°C)			

0.5-1.0 Wattage Package

3×3×0.8	NFSW172C	白色 White	0.331	0.338	70	3.0 3.1 3.0 3.1	3.25 3.30 3.25 3.30	150 350 150 350	
	NJSW172C				155				
	NFSA172C	黄色 Yellow	0.57	0.42	50				
	NJSA172C				115				
	NFSR172C	红色 Red	R017 (612nm)	0.668	0.328	24	3.0 3.1	3.25 3.30	120 150
			R018 (615nm)	0.677	0.320	20			
			R019 (620nm)	0.688	0.309	12			
			R020 (627nm)	0.700	0.297	7			
			R017 (612nm)	0.668	0.328	50			
	NJSR172C	红色 Red	R018 (615nm)	0.677	0.320	40	3.1	3.30	350
			R019 (620nm)	0.688	0.309	27			
			R020 (627nm)	0.700	0.297	16			
3×2×0.7	NFSW123F	白色 White	0.331	0.338	57	3.2	3.4	115	150
	NFSA123F	黄色 Yellow	0.57	0.42	39				

※1. パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10.

85	8.3	250	350	850 1520 850 1520 850 1520 1110	-40 +40 +125 +125	4000/P	リフロー Reflow	  
	5.6	450	900					
	9.7	250	350					
	6.3	450	900					
	10.4	250	350					
	7.1	450	900					
	9.5							
	10.5	280	400					

Product List 製品一覽

製品一覧

Surface Mount Type LED



パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光度 IV	順電圧 V _F		指向特性 Directivity 2θ _{1/2} (degree)	I _F (mA)
			Typ. (mcd)	Typ. (V)	Max. (V)		

熱抵抗 R _θ Sel Max. (°C / W)	逆電流 I _R Max. (μA)	V _R (V)	絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
			I _F (mA)	I _{FB} ^{※1} (mA)	V _R (V)	I _R (mA)	P _D (mW)	T _J (°C)	T _{opr} (°C)	T _{stg} (°C)		

PLCC Package

	NSSW146A-V1		0.31	0.32	3200	3.0	3.40	30
	NSSW146A				3000			
	NESW146A		0.31	0.32	1200	3.2	3.5	20
	NHSW146A				450	3.1		10
	NHSW146A-Y1				250	2.9	3.15	5
	NHSW146AH-PA				90			30
	NHSW146AH				35			20
	NSSB146A		0.133	0.075	650	3.0	3.40	10
	NESB146A				290	3.2	3.5	5
	NHSB146A				110	3.1		30
	NHSB146AH				30	2.9	3.15	20
	NSSC146A				360	3.0	3.40	10
	NSSG146A		0.17	0.70	2000	3.2	3.60	30
	NESG146A				1200	3.5	3.85	20
	NHSG146A				370	3.1	3.5	10
	NSSA146A-V1 NEW			L7z (587nm)	0.55	0.44	2700	30
	NSSA146A			L3 (590nm)	0.57	0.42	2400	
	NESA146A			L7z (587nm)	0.55	0.44	2100	3.2
	NHSA146A			L3 (590nm)	0.57	0.42	2000	
	NSSB146A-N3			L7z (587nm)	0.55	0.44	980	
	NESB146A-N3			L3 (590nm)	0.57	0.42	880	3.5
	NHSB146A-N3			L7z (587nm)	0.55	0.44	350	
	NHSB146AH-N3			L3 (590nm)	0.57	0.42	330	3.1
	NSSB146A-NA		0.19	0.29	2000	3.0	3.40	30
	NESB146A-NA				900	3.2	3.5	20
	NHSB146A-NA				340	3.1		10
	NHSB146AH-NA				40	2.9	3.15	5
	NESB146A-ND		0.369	0.595	1800	3.0	3.40	30
	NHSB146A-ND				950	3.2	3.5	20
	NESB146A-N8				360	3.1		10
	NHSB146AH-NA				60	2.9	3.15	5
	NESB146A-ND				1450	3.2	3.5	20
	NSSR146A			0.35	550	3.1		10
	NESR146A				1600	3.2		20
	NSSR146A				Or5z (600nm)	0.616	0.372	1500
	NESR146A				Or6z (603nm)	0.628	0.359	1200
	NSSR146A				Or7z (606nm)	0.640	0.348	1000
	NESR146A				R13z (615nm)	0.677	0.320	550
	NSSR146A				R14z (620nm)	0.688	0.309	400
	NESR146A				R15z (630nm)	0.704	0.292	240
	NSSR146A				R16z (633nm)	0.708	0.289	180
	NESR146A				Or5z (600nm)	0.616	0.372	800
	NSSR146A				Or6z (603nm)	0.628	0.359	580
	NESR146A				Or7z (606nm)	0.640	0.348	480
	NSSR146A				R13z (615nm)	0.677	0.320	270
	NESR146A				R14z (620nm)	0.688	0.309	200
	NSSR146A				R15z (630nm)	0.704	0.292	120
	NESR146A				R16z (633nm)	0.708	0.289	90
	NSSR146A				Or5z (600nm)	0.616	0.372	30
	NESR146A				Or6z (603nm)	0.628	0.359	20
	NSSR146A				Or7z (606nm)	0.640	0.348	10
	NESR146A				R13z (615nm)	0.677	0.320	5



※1.パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10

Product List

製品一覧

Surface Mount Type LED



Automotive

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光度 IV Typ. (mcd)	順電圧 V _f Typ. (V)		指向特性 Directivity 2θ _{1/2} (degree)	I _f (mA)
				Typ. (V)	Max. (V)		

PLCC Package

 2.2×1.4×0.7	NHSR146A 	Or _{5z} (600nm)	0.616	0.372	300	3.1 3.5 115 10
		Or _{6z} (603nm)	0.628	0.359	240	
		Or _{7z} (606nm)	0.640	0.348	190	
		R13z (615nm)	0.677	0.320	100	
		R14z (620nm)	0.688	0.309	70	
		R15z (630nm)	0.704	0.292	45	
		R16z (633nm)	0.708	0.289	30	

 2.2×1.4×1.3	NHSW046A NHSW046 NHSW046H NHSB046A NHSB046 NHSG046 NHSA046	270	3.2	2.9 115 5
		106	3.1	
		35	3.1	
		63	3.2	
		31	3.1	
		195	3.1	
		65	3.1	

 3.5×2.8×2.0	NSSW063A 	0.31	0.32	6100	2.9 3.3 115 50
	NSSB063A-N3 	0.19	0.29	4300	

 3.5×2.8×2.0	NSSW064A NESW064A NHSW064 NESL064A NSSB064 NESB064 NHSB064 NESG064 NHSG064 NESA064	3300	2.9	3.3	115 30 20 10 20 30 20 10 20 10 20
		1500	3.1	3.5	
		650	3.1	3.5	
		1300	3.1	3.5	
		600	3.4	3.8	
		310	3.4	3.8	
		155	3.4	3.8	
		870	3.1	3.5	
		500	3.1	3.5	
		690	3.1	3.5	
		0.563	0.428	690	
		0.563	0.428	690	

 3.5×1.4×1.2	NSSW088A 	b _{5,b_{6,b_{7,b₈}}}	0.31	0.32	1600	3.2 3.5 115 20
		a ₃	0.28	0.27	1500	
		0.41	0.39	1400		
		0.31	0.32	3300		
 4.0×3.6×4.0	NSSL088A 	0.41	0.39	1400	2.9 3.3 115 30	
		0.19	0.29	4300		
		0.31	0.32	3300		
		0.31	0.32	3300		

 3.3×3.3×1.8	NSSM313A 	V _{c,Vd}	0.153	0.026	240	2.90 3.25 115 20	
		W _{1nC,W_{ind}}	0.131	0.070	450		
		0.171	0.720	1800	3.15		
		0.695	0.303	950	2.35		
		0.153	0.026	200	2.90		
		0.171	0.720	1400	3.15		
		0.695	0.303	800	2.35		
		0.695	0.303	800	2.35		
<small>*1 パルス幅10ms以下、デューティ比1/10以下。Pulse width≤10ms, Duty ratio≤1/10. *2 素子以上点灯したときの全許容損失を示します。Value for total power dissipation when two or three devices are lit simultaneously. </small>							

Automotive

熱抵抗 R _{θS,el} Typ. (°C / W)	逆電流 I _R Max. (μA)	V _R (V)	絶対最大定格 Absolute Maximum Ratings								最大梱包数量 (pcs.) Qty./Pack (Max.)</th
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Product List

製品一覧

Surface Mount Type LED



Automotive

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光束 ϕ_v Typ. (lm)	輝度 L_v Typ. (cd/mm ²)	順電圧 V_F		指向特性 Directivity $2\theta_{1/2}$ (degree)	I_F (mA)
					Typ. (V)	Max. (V)		

熱抵抗 $R_{\theta JSel}$ Typ. (°C/W)	絶対最大定格 Absolute Maximum Ratings						最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
	I_F (mA)	$I_{FP}^{※1}$ (mA)	I_R (mA)	P_D (mW)	T_J (°C)	T_{opr} (°C)			

For Multiple Applications

 3.0×2.0×0.7	NFSW123F	—		0.331	0.338	57	 3.2	 3.4	 115	 150
				0.41	0.39	56				
						52				
						44				
 3.0×3.0×0.8	NFSW172C	—				45	 3.0	 3.25	 150	 350
						56				
						128				
						168				
 1.6×1.2×0.75	NJSW172C					3.25	 120	 3.5	 650	 1000
						300				
						270				
						560				
 1.8×1.45×0.75	NCSW170D					6.6	 120	 7.1	 4360	 8520
						120				
 1.8×1.45×0.75	NCSW170D-PCA					3.25	 120	 3.55	 4360	 8520
						270				
 3.0×1.6×0.75	NC2W170C					6.6				

※1 パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10

※2 演色性ランクについては、110ページを参照。For Ra rank, please refer to the p.110.

9.5	 280	 400	 1110	 4000/P	 リフロー Reflow	 160km	
9.7							
9.5							
8.3							
5.6							
3.6							
2.5							
2.6							
1.8							

Chromaticity Coordinate

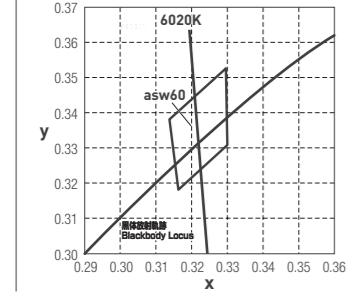
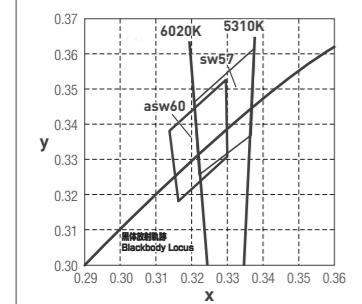
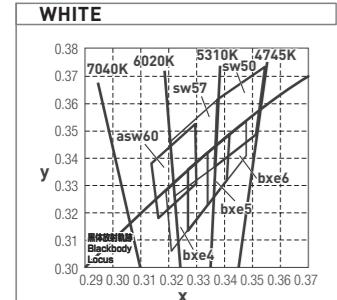
色調



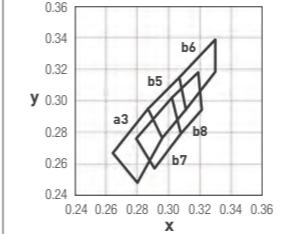
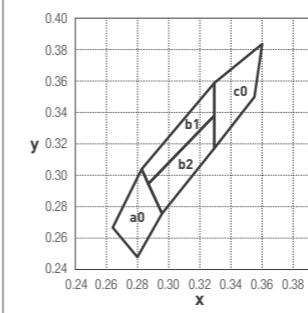
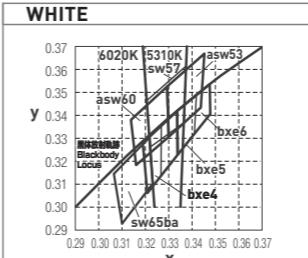
Automotive

これらの図における色及び色度点は近似されたものです。The colors and color coordinates on these diagrams are approximations.

Color Rank 色調ランク



Color Rank 色調ランク



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Measurement Uncertainty of the Rank: Please confirm specification sheet.
ランク選定につきましては弊社営業窓口とご相談願います。Please contact Nichia subsidiary or sales office about rank selection.

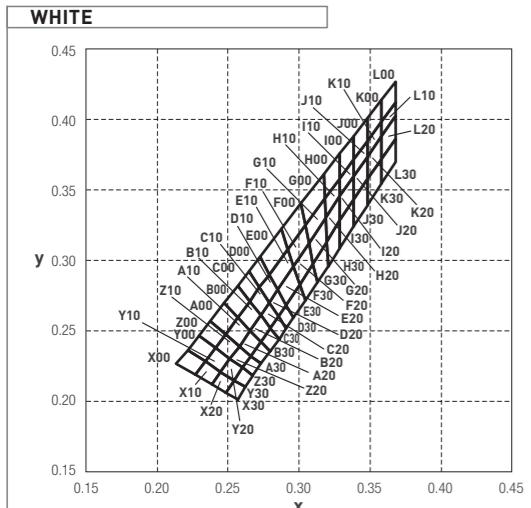
Chromaticity Coordinate

色調



Automotive

Color Rank 色調ランク



○NSSW146A-V1, NSSW146A, NESW146A, NSW146A, NSW146A-Y1,
NSW146AH-PA, NSW146AH

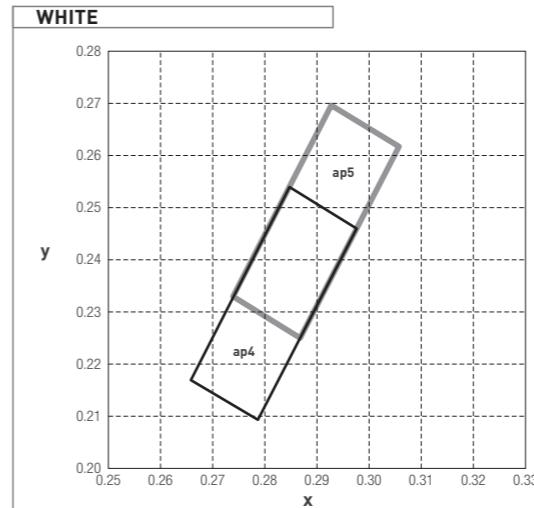
Rank X00				
x	0.2269	0.2136	0.2215	0.2340
y	0.2185	0.2262	0.2364	0.2282
Rank X20				
x	0.2486	0.2385	0.2447	0.2541
y	0.2060	0.2119	0.2209	0.2149
Rank Y00				
x	0.2340	0.2215	0.2294	0.2411
y	0.2282	0.2364	0.2466	0.2379
Rank Y20				
x	0.2541	0.2447	0.2512	0.2601
y	0.2149	0.2209	0.2300	0.2238
Rank Z00				
x	0.2411	0.2294	0.2373	0.2482
y	0.2379	0.2466	0.2568	0.2476
Rank Z10				
x	0.2512	0.2411	0.2482	0.2580
y	0.2300	0.2379	0.2476	0.2390
Rank Z20				
x	0.2601	0.2512	0.2580	0.2660
y	0.2238	0.2300	0.2390	0.2270
Rank Z30				
x	0.2675	0.2601	0.2660	0.2730
y	0.2183	0.2238	0.2320	0.2270

Rank A00			
x	0.2482	0.2373	0.2473
y	0.2476	0.2568	0.2696
Rank A10			
x	0.2580	0.2482	0.2568
y	0.2390	0.2476	0.2593
Rank B00			
x	0.2568	0.2473	0.2568
y	0.2593	0.2696	0.2819
Rank C00			
x	0.2653	0.2568	0.2646
y	0.2709	0.2819	0.2920
Rank D00			
x	0.2722	0.2646	0.2725
y	0.2805	0.2920	0.3027
Rank E00			
x	0.2791	0.2725	0.2873
y	0.2898	0.3027	0.3219
Rank F00			
x	0.2919	0.2873	0.3012
y	0.3073	0.3219	0.3401
Rank G00			
x	0.3045	0.3012	0.3176
y	0.3245	0.3401	0.3612
Rank H00			
x	0.3183	0.3176	0.3288
y	0.3434	0.3612	0.3752
Rank J00			
x	0.3386	0.3386	0.3484
y	0.3709	0.3879	0.4008
Rank K00			
x	0.3484	0.3484	0.3582
y	0.3841	0.4008	0.4137
Rank L00			
x	0.3582	0.3582	0.3680
y	0.3978	0.4137	0.4265

色調

これらの図における色及び色度点は近似されたものです。The colors and color coordinates on these diagrams are approximations.

Color Rank 色調ランク

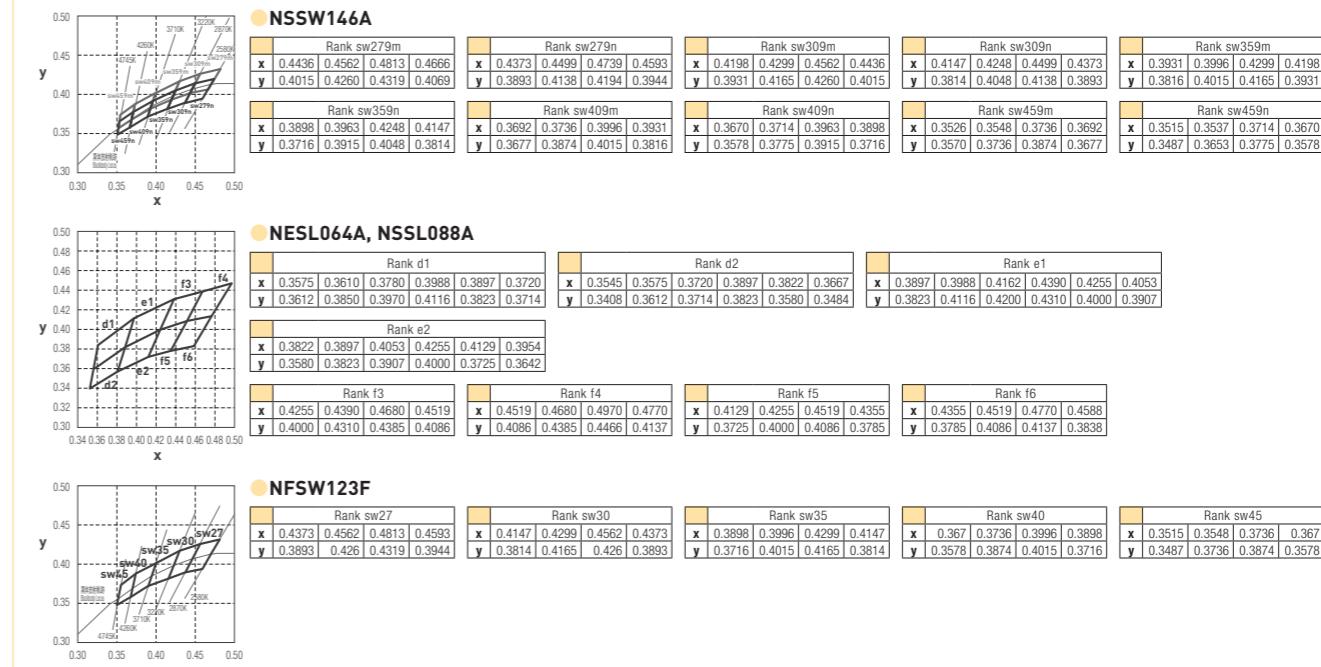


○NFSW123F, NFSW172C, NJSW172C, NJSW170D, NCSW170D, NCSW170D-PCA,
NC2W170C
※For Head-Up Display

Rank ap4				
x	0.2657	0.2850	0.2980	0.2788
y	0.2172	0.2540	0.2460	0.2093

Rank ap5				
x	0.2740	0.2932	0.3063	0.2870
y	0.2330	0.2697	0.2618	0.2250

WARM WHITE



ランク分けの公差については製品毎に標準仕様書をご確認ください。

Measurement Uncertainty of the Rank:Please confirm specification sheet.

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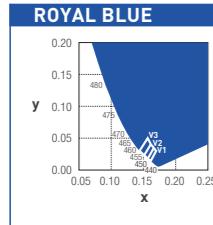
Chromaticity Coordinate

色調



Automotive

Color Rank 色調ランク

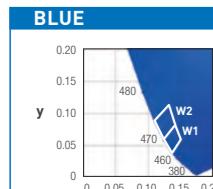


● NSSC146A

Rank V1 (445~450nm) [※]			
x	0.1611	0.1566	0.1658
y	0.0138	0.0177	0.0341

Rank V2 (450~455nm) [※]			
x	0.1566	0.1510	0.1610
y	0.0177	0.0230	0.0400

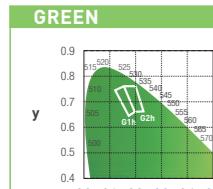
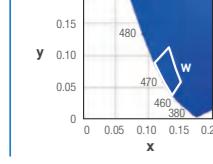
Rank V3 (455~460nm) [※]			
x	0.1510	0.1440	0.1560
y	0.0230	0.0297	0.0490



● NSSB146A, NESB046A, NHSB046

Rank W1 (464~470nm) [※]			
x	0.137	0.124	0.151
y	0.037	0.058	0.081

Rank W2 (470~475nm) [※]			
x	0.124	0.110	0.142
y	0.058	0.087	0.102



● NNSG146A, NESG146A, NHSG146A

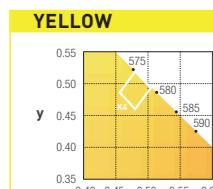
Rank G1h (520~527nm) [※]			
x	0.121	0.155	0.197
y	0.744	0.760	0.659

Rank G2h (527~535nm) [※]			
x	0.155	0.199	0.231
y	0.760	0.760	0.661

● NHSG046, NESG064, NHSG064

Rank G (520~535nm) [※]			
x	0.14	0.14	0.22
y	0.64	0.74	0.74

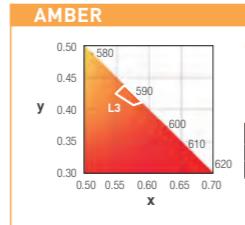
Rank H (535~545nm) [※]			
x	0.21	0.21	0.28
y	0.65	0.73	0.73



● NCSY170F, NCSY131F

Rank K4 (575~579nm) [※]			
x	0.480	0.454	0.480
y	0.460	0.486	0.519

ランク分けの公差については製品毎に標準仕様書をご確認ください。
Measurement Uncertainty of the Rank: Please confirm specification sheet.
ランク選定につきましては弊社営業窓口とご相談願います。
Please contact Nichia subsidiary or sales office about rank selection.
※()内の主波長範囲につきましては参考値です。
The range of dominant wavelength shown in parentheses is just for reference.



● NSSA146A-V1, NSSA146A, NESA146A, NHS146A

Rank W1 (464~470nm) [※]			
x	0.137	0.124	0.142
y	0.037	0.058	0.081

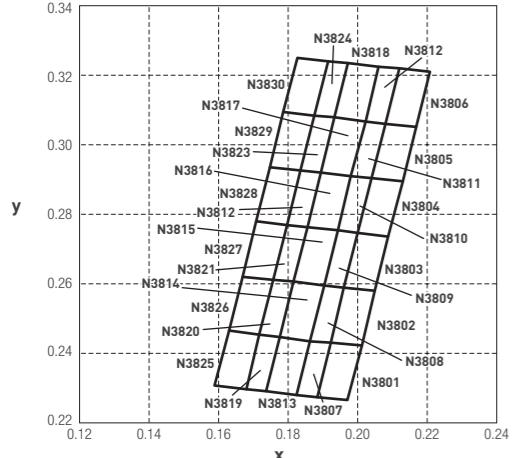
Rank W2 (470~475nm) [※]			
x	0.124	0.110	0.132
y	0.058	0.087</td	



これらの図における色及び色度点は近似されたものです。The colors and color coordinates on these diagrams are approximations.

Color Rank 色調ランク

ICE BLUE



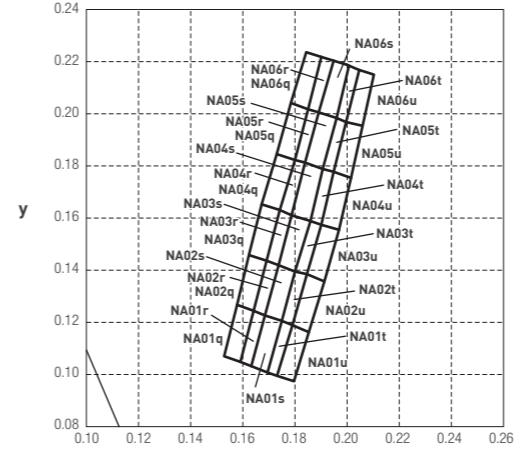
NSSB063A-N3

	Rank N3801			
	x	y	Rank	Color
1	0.1882	0.1921	0.2009	0.1969
2	0.2273	0.2431	0.2421	0.2264
3	0.1921	0.196	0.2048	0.2009
4	0.2431	0.2588	0.2579	0.2421
	Rank N3802			
	x	y	Rank	Color
1	0.196	0.2	0.2087	0.2048
2	0.2588	0.2746	0.2736	0.2579
	Rank N3803			
	x	y	Rank	Color
1	0.2039	0.2078	0.2166	0.2127
2	0.2904	0.3061	0.3051	0.2894
	Rank N3804			
	x	y	Rank	Color
1	0.2078	0.2118	0.2205	0.2166
2	0.3061	0.3219	0.3209	0.3051
	Rank N3805			
	x	y	Rank	Color
1	0.1823	0.1862	0.1921	0.1882
2	0.228	0.2437	0.2431	0.2273
	Rank N3806			
	x	y	Rank	Color
1	0.1902	0.1941	0.2	0.196
2	0.2437	0.2595	0.2588	0.2431
	Rank N3807			
	x	y	Rank	Color
1	0.1862	0.1902	0.196	0.1921
2	0.2437	0.2595	0.2588	0.2431
	Rank N3808			
	x	y	Rank	Color
1	0.1941	0.198	0.2039	0.2
2	0.2753	0.291	0.2904	0.2746
	Rank N3809			
	x	y	Rank	Color
1	0.195	0.202	0.2078	0.2039
2	0.291	0.3068	0.3061	0.2904
	Rank N3810			
	x	y	Rank	Color
1	0.1941	0.198	0.2039	0.2
2	0.2753	0.291	0.2904	0.2746
	Rank N3811			
	x	y	Rank	Color
1	0.198	0.202	0.2078	0.2039
2	0.291	0.3068	0.3061	0.2904
	Rank N3812			
	x	y	Rank	Color
1	0.202	0.2059	0.2118	0.2078
2	0.3068	0.3225	0.3219	0.3061
	Rank N3813			
	x	y	Rank	Color
1	0.1735	0.1775	0.1862	0.1823
2	0.229	0.2447	0.2437	0.228
	Rank N3814			
	x	y	Rank	Color
1	0.1775	0.1814	0.1902	0.1862
2	0.2447	0.2605	0.2595	0.2437
	Rank N3817			
	x	y	Rank	Color
1	0.1893	0.1932	0.202	0.198
2	0.292	0.3078	0.3068	0.291
	Rank N3821			
	x	y	Rank	Color
1	0.1756	0.1795	0.1853	0.1814
2	0.2611	0.2769	0.2762	0.2605
	Rank N3825			
	x	y	Rank	Color
1	0.1589	0.1628	0.1716	0.1677
2	0.2306	0.2464	0.2454	0.2296
	Rank N3829			
	x	y	Rank	Color
1	0.1746	0.1786	0.1874	0.1834
2	0.2936	0.3094	0.3084	0.2926
	Rank N3830			
	x	y	Rank	Color
1	0.1786	0.1825	0.1913	0.1874
2	0.3094	0.3252	0.3242	0.3084

NSSB146A-NA, NESB146A-NA, NHSB146A-NA, NHSB146AH-NA

Color Rank 色調ランク

SAPPHIRE BLUE



NSSB146A-NA, NESB146A-NA, NHSB146A-NA, NHSB146AH-NA

	Rank NA01q			
	x	y	Rank	Color
1	0.1532	0.1579	0.1644	0.1594
2	0.1072	0.1267	0.1243	0.1048
	Rank NA01r			
	x	y	Rank	Color
1	0.1594	0.1644	0.1685	0.1633
2	0.1048	0.1243	0.1228	0.103
	Rank NA01s			
	x	y	Rank	Color
1	0.1633	0.1685	0.175	0.1695
2	0.103	0.1228	0.1204	0.1008
	Rank NA01u			
	x	y	Rank	Color
1	0.1734	0.179	0.1855	0.1798
2	0.0995	0.1189	0.1163	0.0973
	Rank NA02q			
	x	y	Rank	Color
1	0.1579	0.1626	0.1694	0.1644
2	0.1267	0.1459	0.1437	0.1243
	Rank NA02r			
	x	y	Rank	Color
1	0.1644	0.1694	0.1737	0.1685
2	0.1228	0.1421	0.1399	0.1204
	Rank NA02s			
	x	y	Rank	Color
1	0.1685	0.1737	0.1805	0.175
2	0.1228	0.1421	0.1399	0.1204
	Rank NA02t			
	x	y	Rank	Color
1	0.175	0.1805	0.1846	0.179
2	0.1204	0.1399	0.1385	0.1163
	Rank NA03q			
	x	y	Rank	Color
1	0.1626	0.1674	0.1744	0.1694
2	0.1459	0.1654	0.1632	0.1437
	Rank NA03r			
	x	y	Rank	Color
1	0.1694	0.1744	0.1789	0.1737
2	0.1437	0.1632	0.1617	0.1421
	Rank NA04q			
	x	y	Rank	Color
1	0.1674	0.173	0.1798	0.1744
2	0.1385	0.1581	0.1559	0.1362
	Rank NA04u			
	x	y	Rank	Color
1	0.1902	0.195	0.2018	0.1972
2	0.1581	0.1778	0.1756	0.1559
	Rank NA05t			



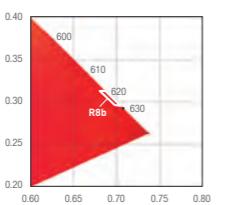
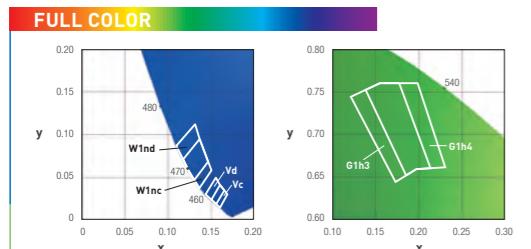
Chromaticity Coordinate

色調

Automotive

これらの図における色及び色度点は近似されたものです。The colors and color coordinates on these diagrams are approximations.

Color Rank 色調ランク

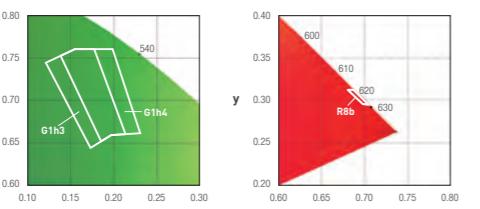
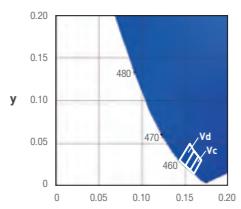


● ● ○ NSSM313A

Rank Vc (445~455nm)					
x	0.1611	0.1566	0.1510	0.1610	0.1658
y	0.0138	0.0177	0.0230	0.0400	0.0341
Rank Vd (450~460nm)					
x	0.1566	0.1510	0.1440	0.1560	0.1610
y	0.0177	0.0230	0.0297	0.0490	0.0400

Rank G1h3 (520~531nm)					
x	0.1730	0.1210	0.1550	0.1776	0.2141
y	0.6440	0.7440	0.7600	0.7600	0.6600
Rank R8b (618~628nm)					
x	0.6977	0.6802	0.6873	0.7049	0.6977
y	0.2956	0.3130	0.3126	0.2948	0.2956

Rank G1h4 (523.5~535.0nm)					
x	0.1852	0.1384	0.1550	0.1990	0.2310
y	0.6516	0.7522	0.7600	0.7600	0.6610
Rank W1nd (467~475nm)					
x	0.1310	0.1240	0.1180	0.1320	0.1370
y	0.0370	0.0460	0.0560	0.0710	0.0950



● ● ○ NSSM438A

Rank Vc (445~455nm)					
x	0.1611	0.1566	0.1510	0.1610	0.1658
y	0.0138	0.0177	0.0230	0.0400	0.0341
Rank Vd (450~460nm)					
x	0.1566	0.1510	0.1440	0.1560	0.1610
y	0.0177	0.0230	0.0297	0.0490	0.0400

Rank G1h3 (520~531nm)					
x	0.1730	0.1210	0.1550	0.1776	0.2141
y	0.6440	0.7440	0.7600	0.7600	0.6600
Rank R8b (618~628nm)					
x	0.6977	0.6802	0.6873	0.7049	0.6977
y	0.2956	0.3130	0.3126	0.2948	0.2956

Rank G1h4 (523.5~535.0nm)					
x	0.1852	0.1384	0.1550	0.1990	0.2310
y	0.6516	0.7522	0.7600	0.7600	0.6610
Rank W1nd (467~475nm)					
x	0.1310	0.1240	0.1180	0.1320	0.1370
y	0.0370	0.0460	0.0560	0.0710	0.0950

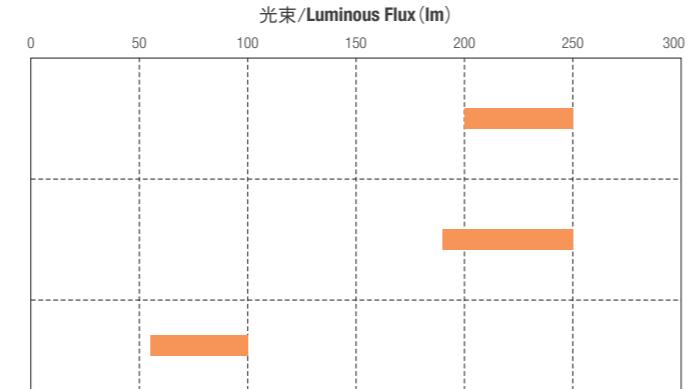
Luminous Flux, Luminous Intensity

光束・光度

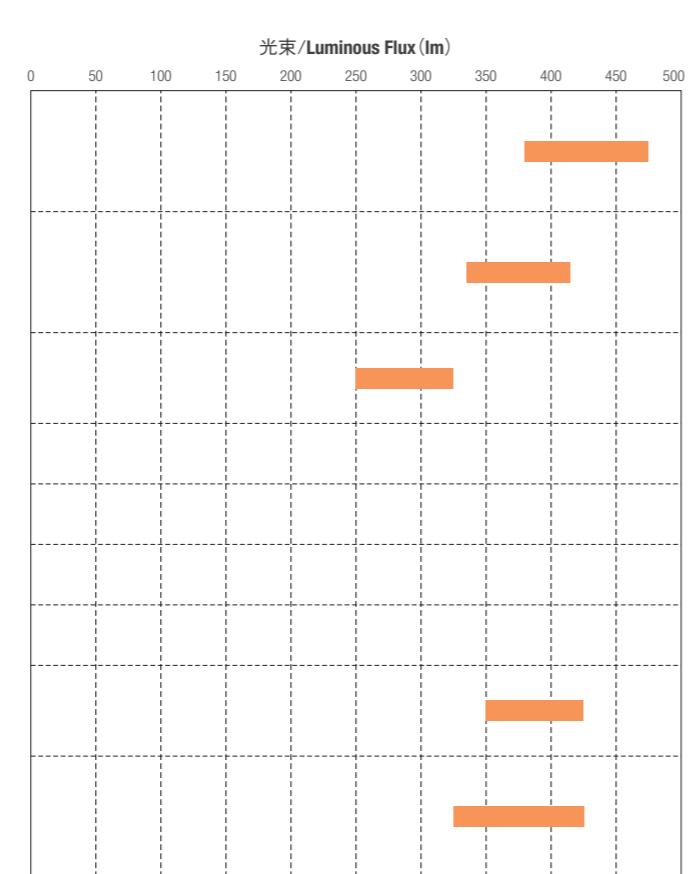
Surface Mount Type LED
Automotive



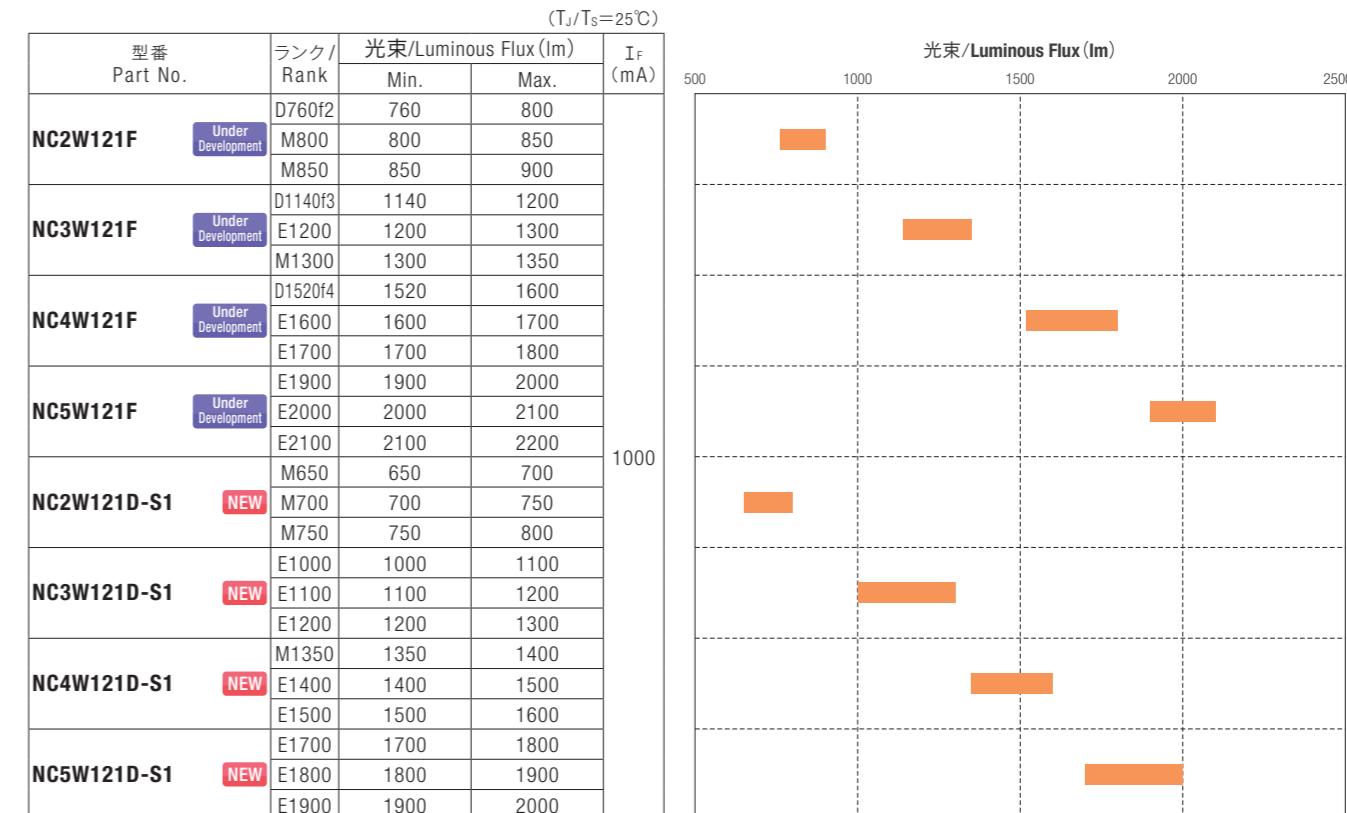
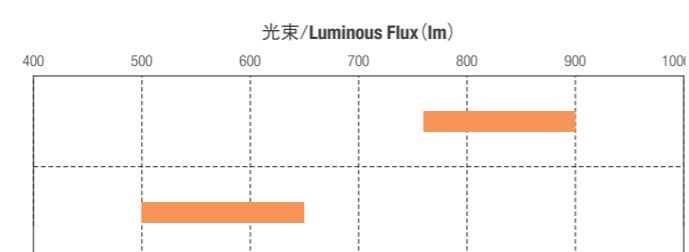
型番 Part No.		ランク / Rank	光束/Luminous Flux (lm)		I_F (mA)
			Min.	Max.	
NJSW170D	asw60, sw57	T200	200	205	650
		C205	205	220	
		C220	220	235	
		C235	235	250	
	bxe4, bex5 bxe6, sw50	C190	190	205	
		C205	205	220	
		C220	220	235	
		C235	235	250	
NJSW170C		C055	55	70	350
		C070	70	85	
		C085	85	100	



型番 Part No.		ランク / Rank	光束/Luminous Flux (lm)		I_F (mA)
			Min.	Max.	
NCSW170F	NEW	D380	380	400	1000
		R400	400	425	
		R425	425	450	
		R450	450	475	
	NEW	C335	335	350	
		R350	350	375	
		R375	375	400	
		C400	400	415	
NCSA170F	NEW	R250	250	275	
		R275	275	300	
		R300	300	325	
		T.B.D.			
	Under Development	R017 (612nm)			
		R018 (614nm)			
		R019 (619nm)			
		R020 (626nm)			
NCSW170F-SA	NEW	R350	350	375	1000
		R375	375	400	
		R400	400	425	
NCSW170D-PCB	NEW	R325	325	350	1000
		R350	350	375	
		R375	375	400	
		R400	400	425	



型番 Part No.		ランク / Rank	光束/Luminous Flux (lm)		I_F (mA)
			Min.	Max.	
NC2W170F	NEW	D760f2	760	800	1000
		M800	800	850	
		M850	850	900	
		D1140f3	1140	1200	
	Under Development	E1200	1200	1300	
		M1300	1300	1350	
		D1520f4	1520	1600	
		E1600	1600	1700	
NC3W170F	Under Development	E1700	1700	1800	1000
		E1900	1900	2000	
		E2000	2000	2100	
		E2100	2100	2200	
	NEW	M650	650	700	
		M700	700	750	
		M750	750	800	
		E1000	1000	1100	
NC4W170F	Under Development	E1100	1100	1200	1000
		E1200	1200	1300	
		M1350	1350	1400	
		E1400	1400	1500	
	NEW	E1500	1500	1600	
		E1700	1700	1800	
		E1800	1800	1900	
		E1900	1900	2000	



ランク分けの公差については製品毎に標準仕様書をご確認ください。
Measurement Uncertainty of the Rank:Please confirm specification sheet.

Luminous Flux, Luminous Intensity

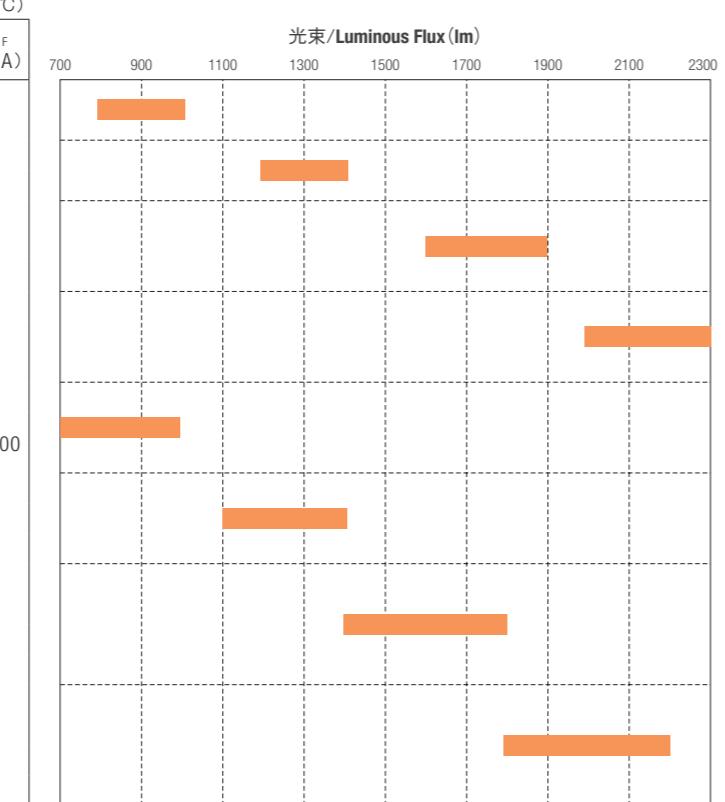
光束・光度

Surface Mount Type LED

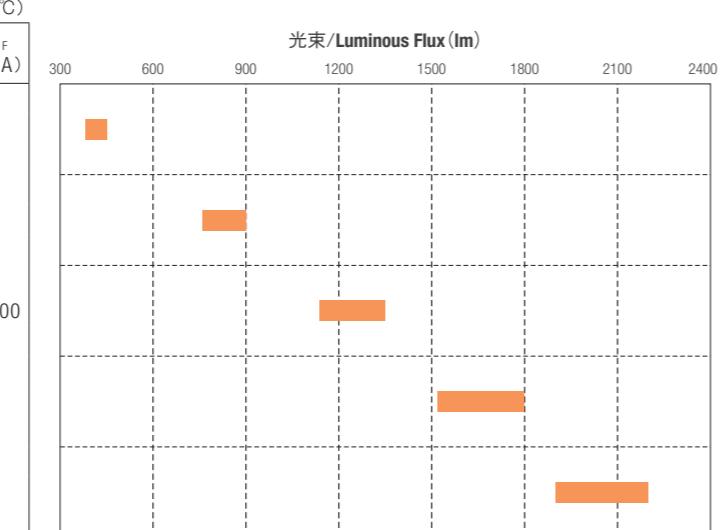


Automotive

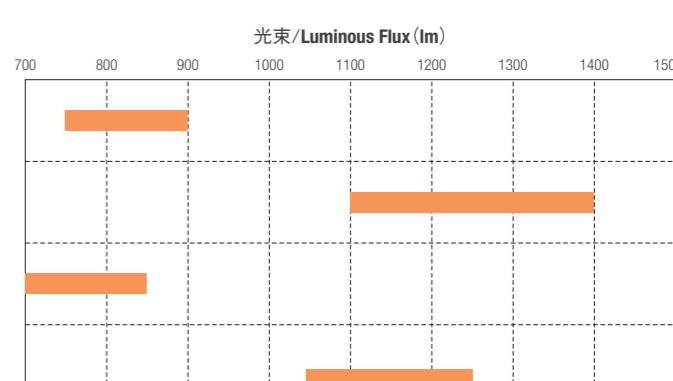
型番 Part No.	ランク/ Rank	光束/Luminous Flux (lm)		I_F (mA)
		Min.	Max.	
NC2W093B	E800	800	900	
	E900	900	1000	
NC3W093B	E1200	1200	1300	
	E1300	1300	1400	
NC4W093B	E1600	1600	1700	
	E1700	1700	1800	
NC5W093B	E1800	1800	1900	
	E2000	2000	2100	
NC2W093B-S1	NEW	E2100	2100	2200
	E700	700	800	
NC3W093B-S1	NEW	E800	800	900
	E900	900	1000	
NC4W093B-S1	NEW	E1100	1100	1200
	E1200	1200	1300	
NC5W093B-S1	NEW	E1300	1300	1400
	E1400	1400	1500	
NC5W093B-S1	NEW	E1500	1500	1600
	E1600	1600	1700	
NC5W093B-S1	NEW	E1700	1700	1800
	E1800	1800	1900	
NC5W093B-S1	NEW	E1900	1900	2000
	E2000	2000	2100	
NC5W093B-S1	NEW	E2100	2100	2200



型番 Part No.	ランク/ Rank	光束/Luminous Flux (lm)		I_F (mA)
		Min.	Max.	
NCSW321F	NEW	D380	380	
	R400	400	425	
NC2W321F	NEW	R425	425	
	D760f2	760	800	
NC3W321F	NEW	M800	800	
	M850	850	900	
NC3W321F	NEW	D1140f3	1140	
	E1200	1200	1300	
NC4W321F	NEW	M1300	1300	
	D1520f4	1520	1600	
NC5W321F	NEW	E1600	1600	
	E1700	1700	1800	
NC5W321F	NEW	E1900	1900	
	E2000	2000	2100	
NC5W321F	NEW	E2100	2100	2200



型番 Part No.	ランク/ Rank	光束/Luminous Flux (lm)		I_F (mA)
		Min.	Max.	
NJ2W270B	M750	750	800	
	M800	800	850	
NJ3W270B	M850	850	900	
	E1100	1100	1200	
NJ2W270B-PF	M1200	1200	1300	
	M700	700	750	
NJ3W270B-PF	M750	750	800	
	M800	800	850	
NJ3W270B-PF	M1050	1050	1100	
	M1100	1100	1150	
NJ3W270B-PF	M1150	1150	1200	
	M1200	1200	1250	



型番 Part No.	ランク/ Rank	光束/Luminous Flux (lm)		I_F (mA)
		Min.	Max.	
NV3W470A	J3700f2	3700	4000	
	J4000f2	4000	4300	
NLSW03A04A	J3700f2	3700	4000	
	J4000f2	4000	4300	
NFSW172C	P15	60.5	72.0	
	P16d21	72.0	78.5	
NJSW172C	P19d22	132.0	144.0	
	P20	144.0	171.2	
NFSA172C	P13	42.8	51.0	
	P14	51.0	60.5	
NJSA172C	P15	60.5	72.0	
	P			

Luminous Flux, Luminous Intensity

光束・光度

Surface Mount Type LED
Automotive

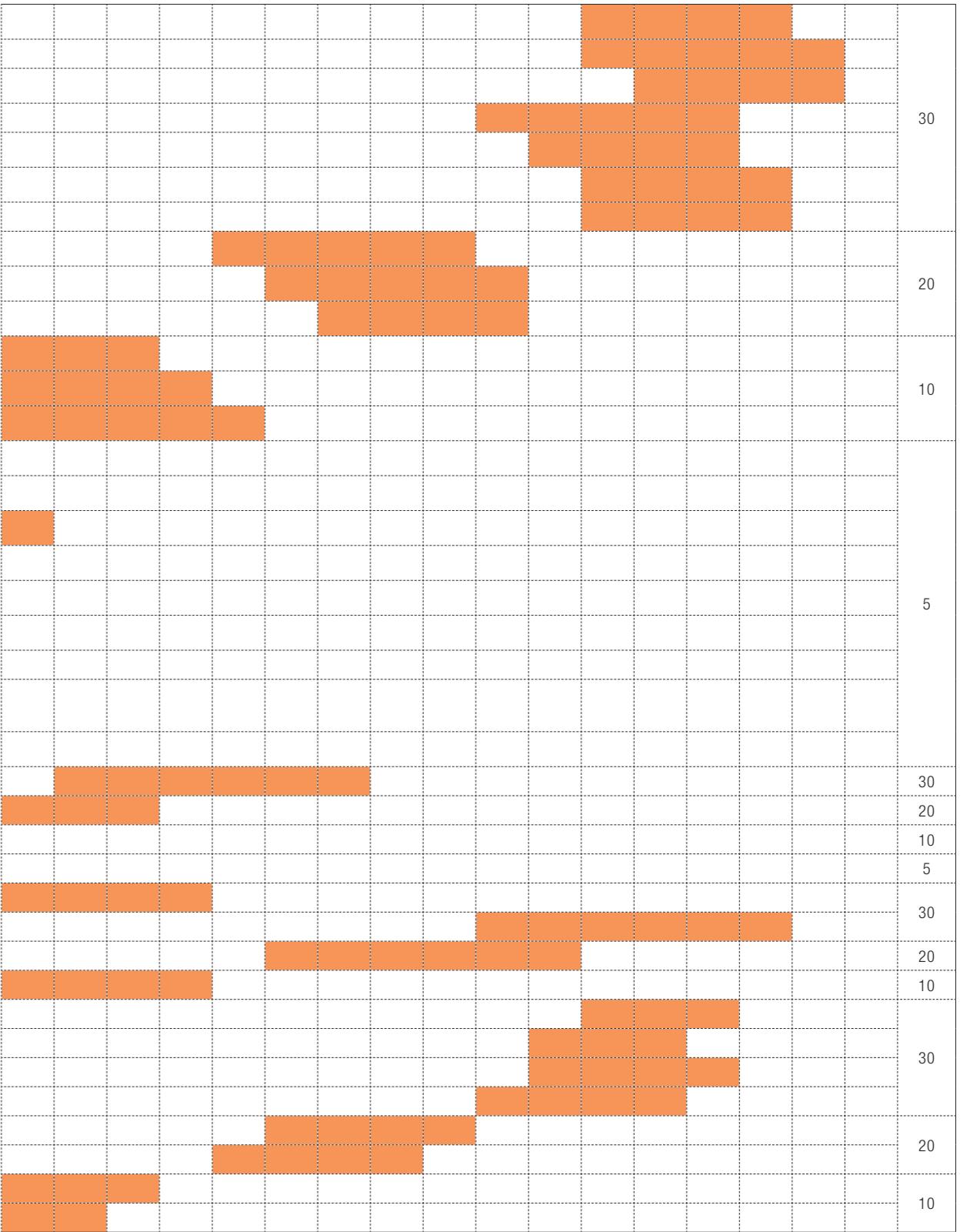


(T_A=25°C)

型番 Part No.	ランク / Rank	光度 / Luminous Intensity (mcd)																I _F (mA)	
		Cd16	Cd19	Cd23	Cd27	Cd32	Cd38	Cd45	Cd53	Cd63	Cd75	Cd90	Cd105	Cd125	Cd150	Cd180	Cd210	Cd250	
		Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.		
		16	19	23	27	32	38	45	53	63	75	90	105	125	150	180	210	250	300

NSSW146A -V1	Xxx,Yxx,Zxx, Axx,Bxx,Cxx Dxx,Exx,Fxx Gxx,Hxx,Ixx Jxx,Kxx,Lxx																	
NSSW146A	Xxx,Yxx,Zxx, Axx, Bxx, Cxx, Dxx, Exx Fxx, Gxx, Hxx Ixx, Jxx, Kxx, Lxx SWXXXX																	
NESW146A	Xxx,Yxx,Zxx, Axx,Bxx Cxx,Dxx,Exx, Fxx,Gxx,Hxx Ixx,Jxx,Kxx, Lxx																	
NHSW146A	Xxx,Yxx,Zxx, Axx,Bxx,Cxx Dxx,Exx,Fxx, Gxx,Hxx Ixx,Jxx,Kxx, Lxx																	
NHSW146A -Y1	Xxx,Yxx,Zxx, Axx,Bxx,Cxx Dxx,Exx,Fxx Gxx,Hxx Ixx,Jxx,Kxx, Lxx																	
NHSW146AH -PA	Xxx,Yxx,Zxx, Axx,Bxx Cxx,Dxx,Exx, Fxx,Gxx Hxx,Ixx,Jxx, Kxx,Lxx																	
NHSW146AH	Xxx,Yxx,Zxx Axx,Bxx,Cxx Dxx,Exx,Fxx, Gxx Hxx,Ixx,Jxx, Kxx,Lxx																	
NSSB146A																		
NESB146A																		
NHSB146A																		
NHSB146AH																		
NSSC146A																		
NSSG146A																		
NESG146A																		
NHSG146A																		
NSSA146A -V1 NEW	L _{7z} (587nm) L ₃ (590nm)																	
NSSA146A	L _{7z} (587nm) L ₃ (590nm)																	
NESA146A	L _{7z} (587nm) L ₃ (590nm)																	
NHSA146A	L _{7z} (587nm) L ₃ (590nm)																	

光度 / Luminous Intensity (mcd)																(T _A =25°C)	
Cd300	Cd360	Cd430	Cd500	Cd600	Cd720	Cd860	Cd1000	Cd1200	Cd1440	Cd1720	Cd2000	Cd2400	Cd2880	Cd3440	Cd4000	Cd4800	
Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	
300	360	430	500	600	720	860	1000	1200	1440	1720	2000	2400	2880	3440	4000	4800	5760



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Measurement Uncertainty of the Rank: Please confirm specification sheet.

Luminous Flux, Luminous Intensity

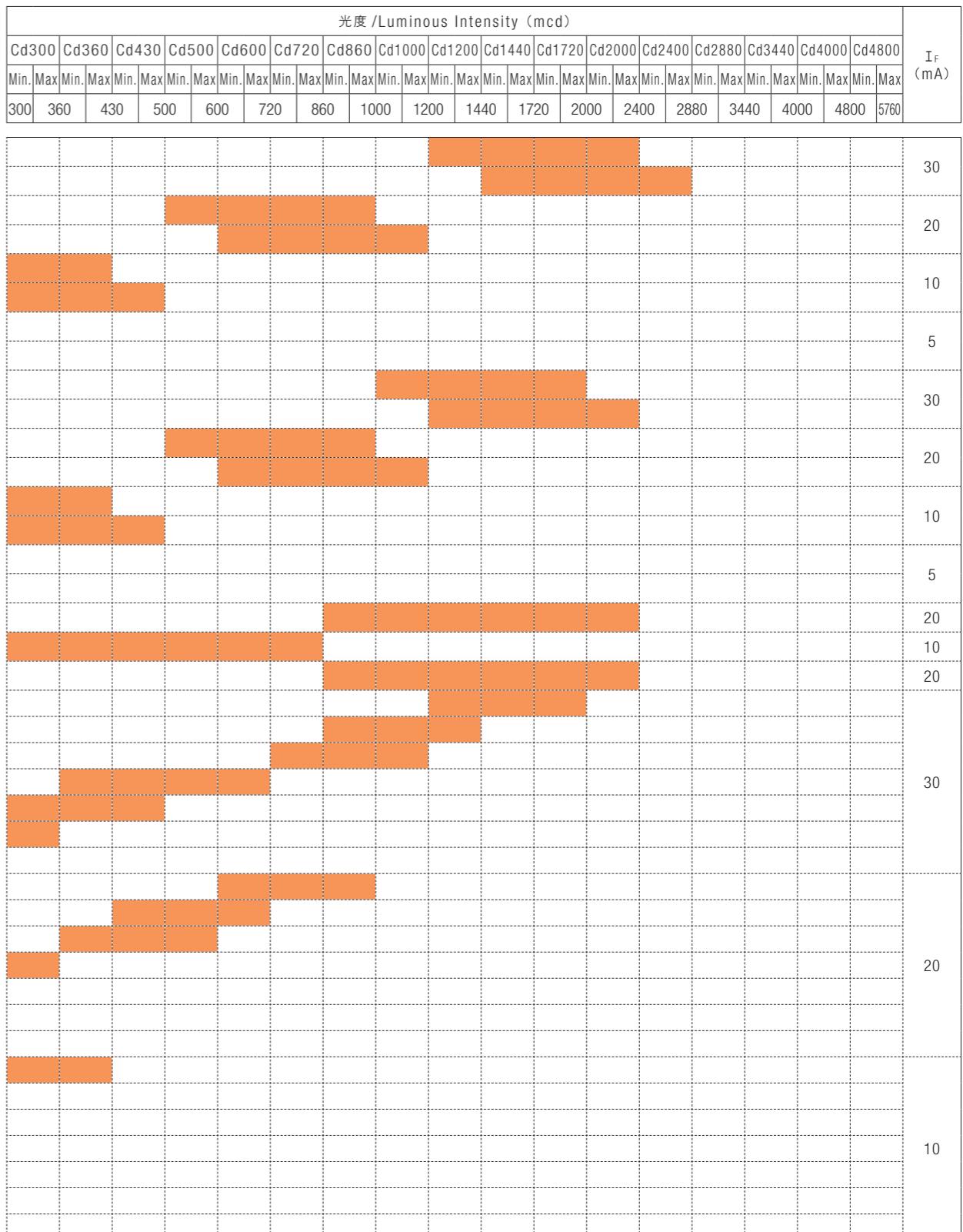
光束・光度

Surface Mount Type LED

Automotive



型番 Part No.	ランク / Rank	光度 / Luminous Intensity (mcd)																		$T_A=25^\circ\text{C}$
		Cd16	Cd19	Cd23	Cd27	Cd32	Cd38	Cd45	Cd53	Cd63	Cd75	Cd90	Cd105	Cd125	Cd150	Cd180	Cd210	Cd250		
		Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.	Min. Max.		
NSSB146A -N3	x11,x12	16	19	23	27	32	38	45	53	63	75	90	105	125	150	180	210	250	300	
NSSB146A -N3	x13,x14,x15																			
NESB146A -N3	x11,x12																			
NHSB146A -N3	x13,x14,x15																			
NHSB146AH -N3	x11,x12																			
NHSB146AH -N3	x13,x14,x15																			
NSSB146A -NA	NA01x,NA02x, NA03x NA04x,NA05x, NA06x																			
NESB146A -NA	NA01x,NA02x, NA03x NA04x,NA05x, NA06x																			
NHSB146A -NA	NA01x,NA02x, NA03x NA04x,NA05x, NA06x																			
NHSB146AH -NA	NA01x,NA02x, NA03x NA04x,NA05x, NA06x																			
NESB146A-ND																				
NHSB146A-ND																				
NESB146A-N8																				
NSSR146A	0r5z (600nm) 0r6z (603nm) 0r7z (606nm) R13z (615nm) R14z (620nm) R15z (630nm) R16z (633nm)																			
	0r5z (600nm) 0r6z (603nm) 0r7z (606nm) R13z (615nm) R14z (620nm) R15z (630nm) R16z (633nm)																			
	0r5z (600nm) 0r6z (603nm) 0r7z (606nm) R13z (615nm) R14z (620nm) R15z (630nm) R16z (633nm)																			
	0r5z (600nm) 0r6z (603nm) 0r7z (606nm) R13z (615nm) R14z (620nm) R15z (630nm) R16z (633nm)																			
	0r5z (600nm) 0r6z (603nm) 0r7z (606nm) R13z (615nm) R14z (620nm) R15z (630nm) R16z (633nm)																			
	0r5z (600nm) 0r6z (603nm) 0r7z (606nm) R13z (615nm) R14z (620nm) R15z (630nm) R16z (633nm)																			
	0r5z (600nm) 0r6z (603nm) 0r7z (606nm) R13z (615nm) R14z (620nm) R15z (630nm) R16z (633nm)																			
	0r5z (600nm) 0r6z (603nm) 0r7z (606nm) R13z (615nm) R14z (620nm) R15z (630nm) R16z (633nm)																			
	0r5z (600nm) 0r6z (603nm) 0r7z (606nm) R13z (615nm) R14z (620nm) R15z (630nm) R16z (633nm)																			
	0r5z (600nm) 0r6z (603nm) 0r7z (606nm) R13z (615nm) R14z (620nm) R15z (630nm) R16z (633nm)																			



ランク分けの公差については製品毎に標準仕様書をご確認ください。
Measurement Uncertainty of the Rank:Please confirm specification sheet.

Luminous Flux, Luminous Intensity

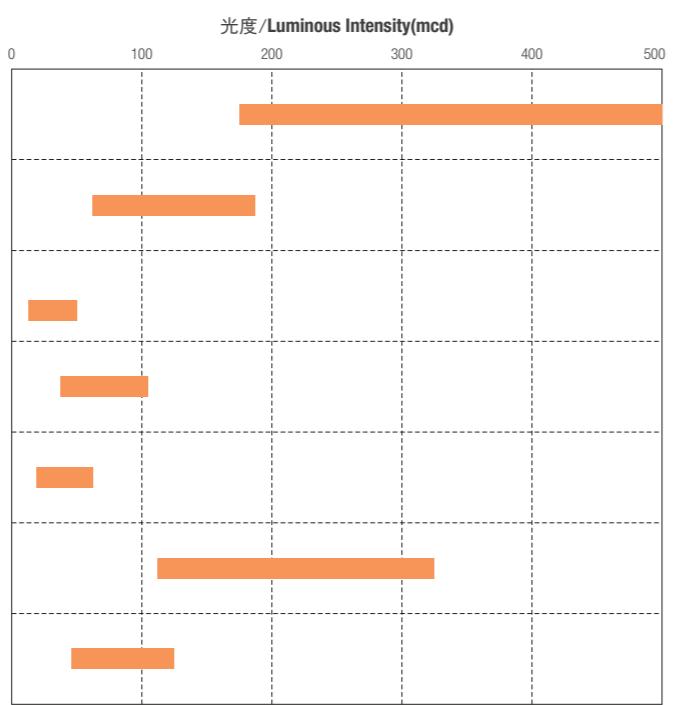
光束・光度

Surface Mount Type LED

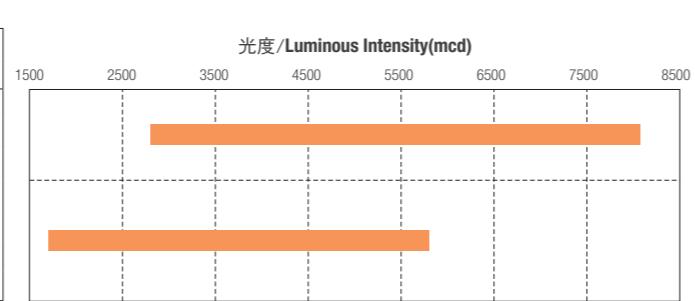


Automotive

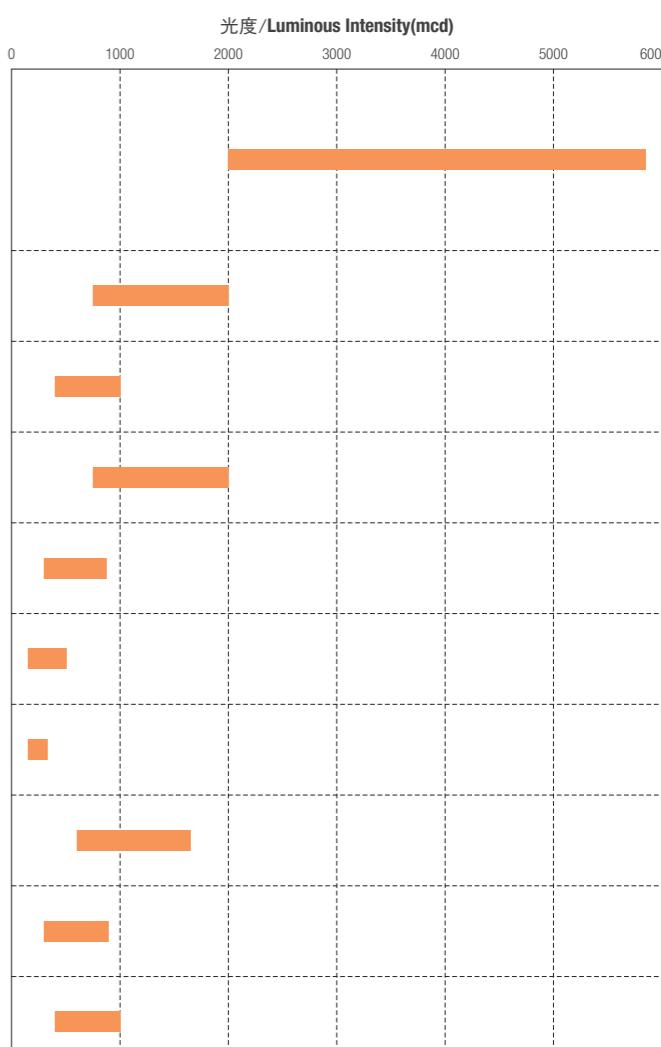
型番 Part No.	ランク / Rank	光度/Luminous Intensity(mcd)		I_F (mA)
		Min.	Max.	
NHSW046A	T	180	250	
	U	250	360	
	V	360	500	
NHSW046	Q	63	90	
	R	90	125	
	S	125	180	
NHSW046H	N	23	32	
	O	32	45	
	P	45	63	
NHSB046A	S	37	52	
	T	52	75	
	U	75	104	
NHSB046	Q	19	26	
	R	26	37	
	S	37	52	
NHSG046	Q	115	160	
	R	160	230	
	S	230	320	
NHSA046	P	45	63	
	O	63	90	
	R	90	125	



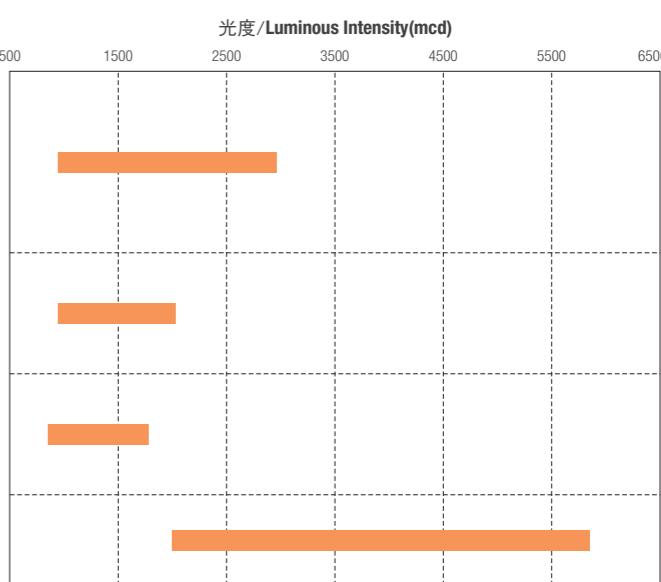
型番 Part No.	ランク / Rank	光度/Luminous Intensity(mcd)		I_F (mA)
		Min.	Max.	
NSSW063A	X	2880	4000	
	Y	4000	5760	
	Z	5760	8000	
NSSB063A-NA	W	1720	2400	
	X	2400	3440	
	Y	3440	4800	
	Z1	4800	5760	



型番 Part No.	ランク / Rank	光度/Luminous Intensity(mcd)		I_F (mA)
		Min.	Max.	
NSSW064A	W1	2000	2400	
	W2	2400	2880	
	X1	2880	3440	
	X2	3440	4000	
	Y1	4000	4800	
	Y2	4800	5760	
NESW064A	T	720	1000	
	U	1000	1440	
	V	1440	2000	
NHSW064	R	360	500	
	S	500	720	
	T	720	1000	
NESL064A	T	720	1000	
	U	1000	1440	
	V	1440	2000	
NSSB064	V	300	426	
	W	426	600	
	X	600	852	
NESB064	T	150	213	
	U	213	300	
	V	300	426	
NHSB064	R3	89	126	
	S3	126	178	
	T3	178	252	
NESG064	T	560	780	
	U	780	1120	
	V	1120	1560	
NHSG064	R	280	390	
	S	390	560	
	T	560	780	
NEA064	R	360	500	
	S	500	720	
	T	720	1000	



型番 Part No.	ランク / Rank	光度/Luminous Intensity(mcd)		I_F (mA)
		Min.	Max.	
NSSW088A	U1	1000	1200	
	U2	1200	1440	
	V1	1440	1720	
	V2	1720	2000	
	W1	2000	2400	
	W2	2400	2880	
NSSL088A	U1	1000	1200	
	U2	1200	1440	
	V1	1440	1720	
	V2	1720	2000	
	T2	860	1000	
	U1	1000	1200	
NSSW129	U2	1200	1440	
	V1	1440	1720	
	W	2000	2880	
	X	2880	4000	
NSSW129	Y	4000	5760	



ランク分けの公差については製品毎に標準仕様書をご確認ください。
Measurement Uncertainty of the Rank:Please confirm specification sheet.

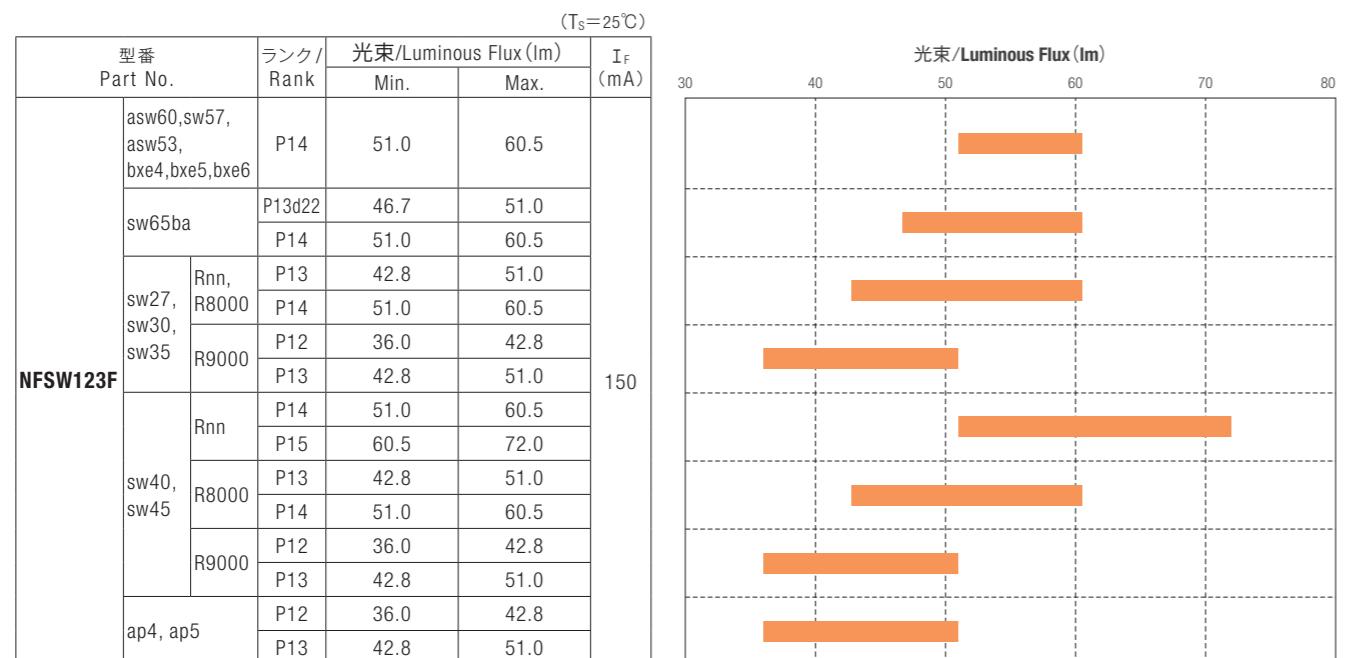
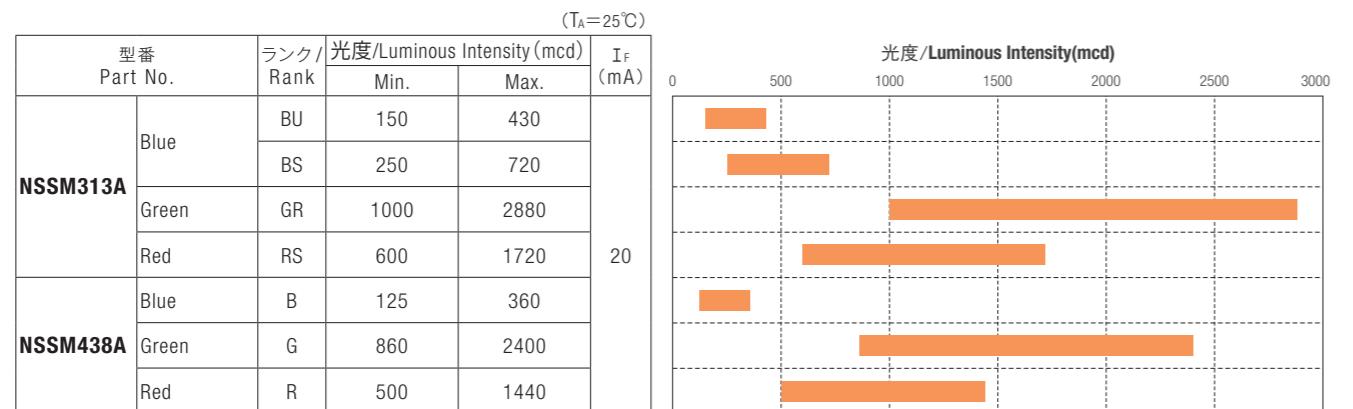
Luminous Flux, Luminous Intensity

光束・光度

Surface Mount Type LED

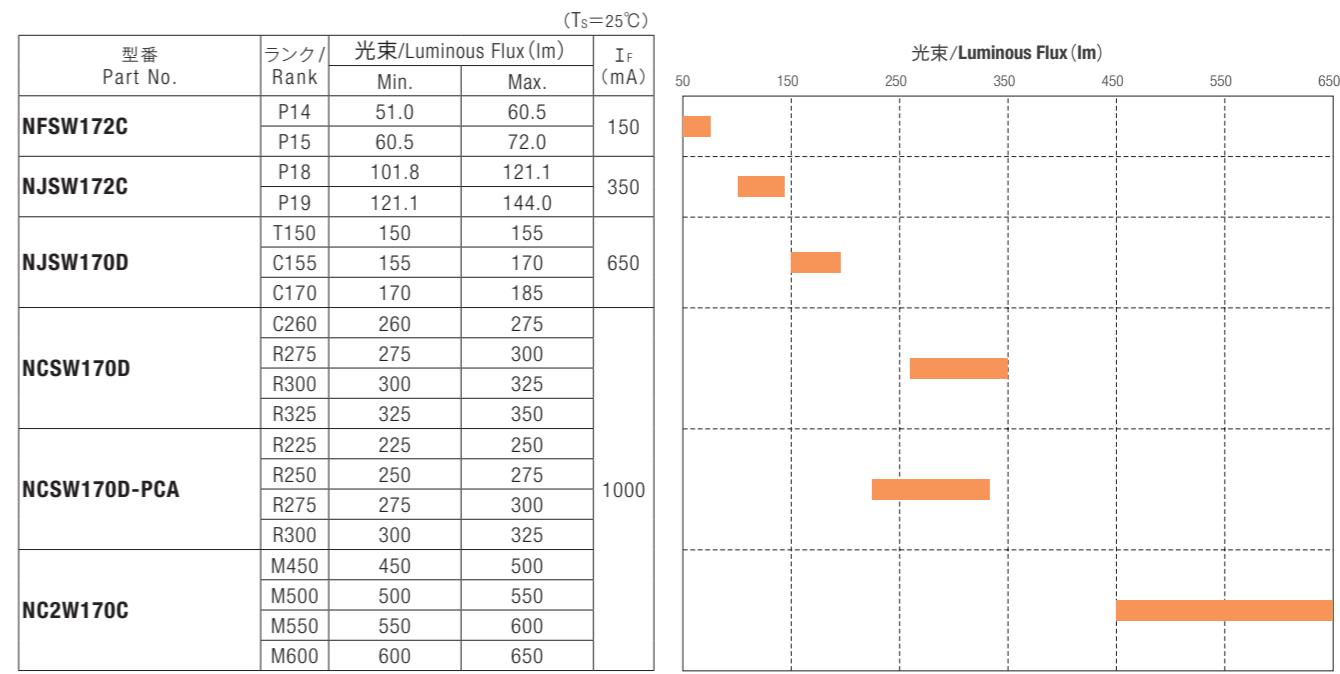


Automotive



			Rank		
			Rnn	R8000	R9000
Color Rendering Index	Min.	Ra	—	80	90
		R9	—	>0	>0

ランク分けの公差については製品毎に標準仕様書をご確認ください。
Measurement Uncertainty of the Rank:Please confirm specification sheet.



ランク分けの公差については製品毎に標準仕様書をご確認ください。
Measurement Uncertainty of the Rank:Please confirm specification sheet.

UV(Ultra Violet)

省電力・長寿命化を実現させる
世界No.1高出力UV LED

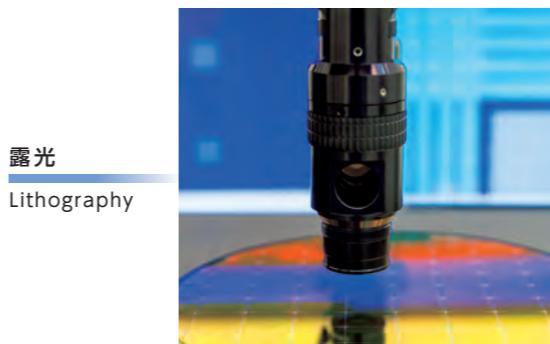
The highest output UV LED with long Life-time
and high efficacy



APPLICATIONS



殺菌
Sterilization



露光
Lithography



インク硬化
Ink Curing

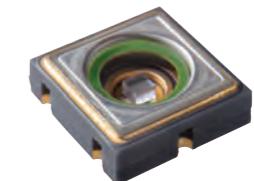


紙幣鑑別
Counterfeit
Detection

PRODUCTS

■ 深紫外LED DEEP UV LED

NCSU334B



NCSU434A

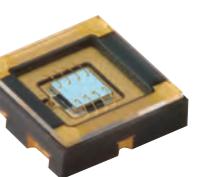


■ ガラスカバー Glass cover

NVSU233B

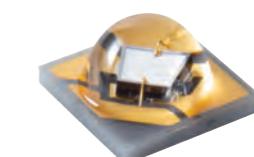


NWSU333B

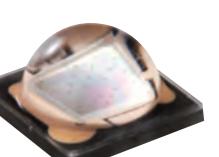


■ 樹脂封止 Resin encapsulated

NCSU276C

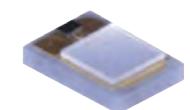


NVSU119C



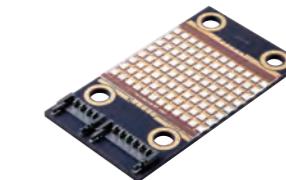
■ CSP Chip Scale Package

NVSU279A

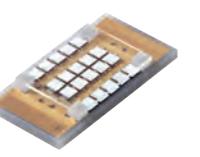


■ COB Chip On Board

NVCUQ096A



NVMUR020A



■ 砲弾形 Lamp type

NSPUS510CS



Product List

製品一覧

Surface Mount Type LED



UV (Ultra Violet)

パッケージ Package (mm)	型番 Part No.	ピーク波長 Peak Wavelength λ_p (nm)	放射束 Φ_e (mW)	順電圧 $V_F(V)$		指向特性 Directivity $2\theta_{1/2}$ (degree)	I_F (mA)
				Typ. (V)	Max. (V)		

絶対最大定格 Absolute Maximum Ratings VR							最大梱包数量 (pcs.) Qty./Tray (Max.)	実装方法 Mounting	製品用途例 Target Application
T_J (°C)	I_F (A)	$I_{FP}^{※1}$ (mA)	I_R (mA)	P_D (W)	T_{opr} (°C)	T_{stg} (°C)			

Deep UV

 6.8×6.8×2.12	NCSU334B NEW		280	70	5.50	6.50	115	350
			330 <small>Under Development</small>	(80)	—	—	—	
 3.5×3.5×1.72	NCSU434A NEW		280	17.5	5.30	6.00	110	100

110	500	600	85	3.49	-10～+85	-40～+100	500/P		
—	—	—	—	—	—	—			
110	150	200	85	0.94	-10～+85	-40～+100	1000/P		

Glass Cover

 3.5×3.5×1.23	NVSU233B		365	1450	3.85	4.2	120	1000		
			385	1730	3.70					
			395	1650	3.65	4.0				
			405	1400	3.45					
 3.5×3.5×2.73	NVSU233B-D4		365	1450	3.85	4.2	60	1000		
			385	1730	3.70					
			395	1650	3.65	4.0				
			405	1400	3.45					
 6.8×6.8×1.9	NWSU333B NEW		365	4900	3.85	4.20	120	3500		
			385	5500	3.70					
			405	4640	3.55	4.00				
			365	750	3.80	4.40	115	500		
 6.8×6.8×1.9	NVSU333A		385	830	3.55	4.30	120	3500		
			405	770	3.40	3.90				
			365	750	3.80	4.40	115	500		
			385	830	3.55	4.30	115	500		
 6.8×6.8×1.9	NCSU033C		405	770	3.40	3.90	115	500		
			385	830	3.55	4.30				
			405	770	3.40	3.90				
			365	750	3.80	4.40				

130	1400	2000	85	5.88	-10～+85	-40～+100	1400/P		
—	—	—	—	5.60	—	—	—		
130	1400	2000	85	5.88	-10～+85	-40～+100	800/P		
—	—	—	—	5.60	—	—	—		
100	4500	6000	85	19.6	-10～+85	-40～+100	500/P		
100	4500	6000	85	18.9	-10～+85	-40～+100	500/P		
130	700	1000	85	3.08	-10～+85	-40～+100	500/P		
130	700	1000	85	3.01	-10～+85	-40～+100	500/P		
130	700	1000	85	2.73	-10～+85	-40～+100	500/P		

Resin Encapsulated

 3.5×3.5×2.0	NCSU276C		365	1050	3.80	4.40	120	500
			375	1160	3.40	3.80	135	700
 3.5×3.5×2.0	NVSU119C		385	1450	3.35			
			395	1450	3.30			
			405	1420	3.10	3.60	140	
			405	1420	3.10	3.60	140	700
 3.5×3.5×2.0	NVSU219C		405	1420	3.10	3.60	140	700

90	700	1000	85	3.08	-10～+85	-40～+100	3500/P		

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Product List

製品一覧

Surface Mount Type LED / Lamp Type LED



UV (Ultra Violet)

パッケージ Package (mm)	型番 Part No.	ピーク波長 Peak Wavelength λ_p (nm)	放射束 Φ_e (W)	順電圧 $V_F(V)$		指向特性 Directivity $2\theta_{1/2}$ (degree)	I_F (A)
				Typ. (V)	Max. (V)		

絶対最大定格 Absolute Maximum RatingsVR							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
T_J (°C)	I_F (mA)	I_{FP}^{*1} (mA)	I_R (mA)	P_D (W)	T_{opr} (°C)	T_{stg} (°C)			

Chip On Board

 24.9×45.0×1.6	NVCUQ096A		365	135	46.3	48.5	120	8
			385	165	44.8	47.0		
			395	157	44.1	46.5		
 24.9×45.0×1.6	NVCUQ072A		365	100	46.3	48.5	120	6
			385	123	44.8	47.0		
			395	118	44.1	46.5		
 24.9×45.0×1.6	NVCUQ048A		365	68	46.3	48.5	60	4
			385	81	44.8	47.0		
			395	78	44.1	46.5		
 24.9×45.0×2.8	NVCUQ096A-D4		365	123	46.3	48.5	60	8
			385	150	44.8	47.0		
			395	144	44.1	46.5		
	NVCUQ072A-D4		365	92	46.3	48.5	60	6
			385	112	44.8	47.0		
			395	108	44.1	46.5		
	NVCUQ048A-D4		365	61	46.3	48.5	60	4
			385	75	44.8	47.0		
			395	72	44.1	46.5		
 9.0×18.0×2.0	NVMUR020A		365	29	4.00	4.20	120	20
			385	35	3.90	4.05		
 9.0×18.0×2.0	NVMUR008A		365	11.8	3.95	4.20	120	8
			385	13.8	3.85	4.05		

	8.8	—	85	427	0~+85	-40~+100	6/P	—	
	6.6	—	85	320	0~+85	-40~+100	6/P	—	
	4.4	—	85	213	0~+85	-40~+100	6/P	—	
	8.8	—	85	427	0~+85	-40~+100	6/P	—	
	6.6	—	85	320	0~+85	-40~+100	6/P	—	
	4.4	—	85	213	0~+85	-40~+100	6/P	—	
130	24	—	85	105	0~+85	-40~+100	20/P	—	
85	9.6	—	85	40	0~+60	-40~+100	20/P	—	

パッケージ Package	型番 Part No.	ピーク波長 Peak Wavelength λ_p (nm)	放射束 Φ_e (mW)	順電圧 $V_F(V)$		I_F (mA)
				Typ. (V)	Max. (V)	

絶対最大定格 Absolute Maximum RatingsVR							最大梱包数量 (pcs.) Qty./Tray (Max.)	実装方法 Mounting	製品用途例 Target Application
T_J (°C)	I_F (mA)	I_{FP}^{*1} (mA)	I_R (mA)	P_D (W)	T_{opr} (°C)	T_{stg} (°C)			

Chip Scale Package

 1.8×2.6×0.6	NVSU279A		385	1650	3.50	4.00	135	1000
			395	1650	3.45			
			405	1600	3.20			

130	1400	2000	85	5.60	-10~+85	-40~+100	4000/P	リフロー Reflow	
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Lamp Type

	NSPU510CS		375	15.1	3.30	4.00	40	15
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Optical Power Output

光出力／スペクトル

Surface Mount Type LED



型番 Part No.		ランク/Rank	放射束/Radiant Flux(mW)	
			Min.	Max.
NCSU334B NEW	U280	P13d22	45.7	54.4
		P14d21	54.4	64.6
		P14d22	64.6	76.8
		P15d21	76.8	91.3

放射束は± 6.5% の公差があります。Radiant Flux Tolerance: ± 6.5%

(T_S=25°C, I_F=350mA)

型番 Part No.		ランク/Rank	放射束/Radiant Flux(mW)	
			Min.	Max.
NCSU434A NEW	U280	P9d22	11.4	13.6
		P10d21	13.6	16.2
		P10d22	16.2	19.2
		P11d21	19.2	22.8
		P11d22	22.8	27.2

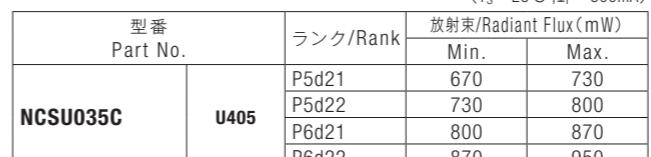
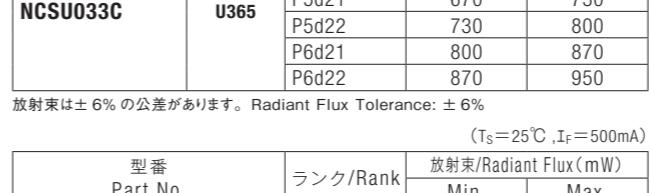
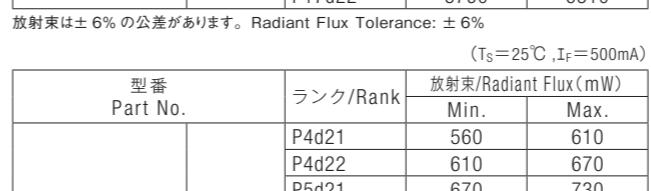
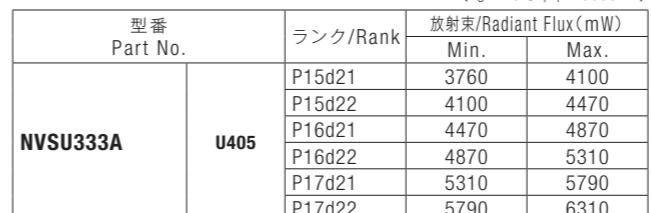
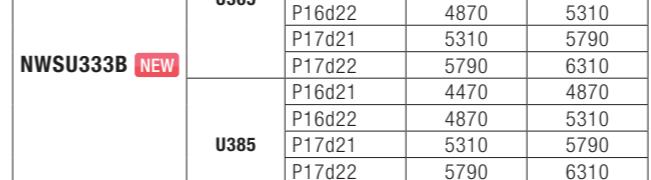
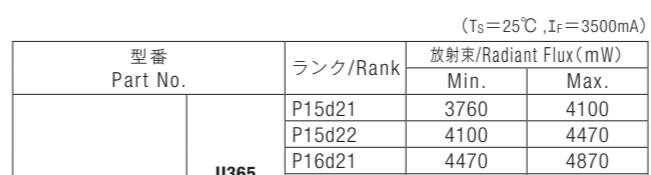
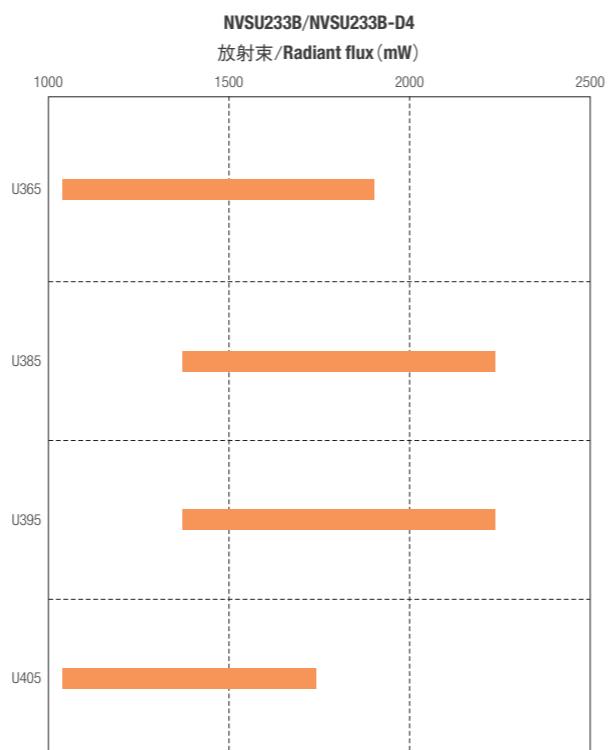
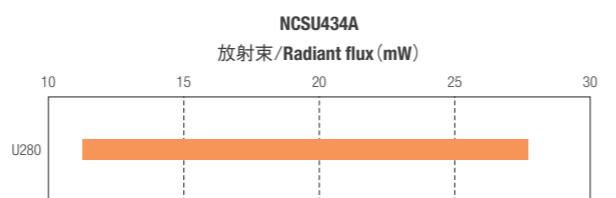
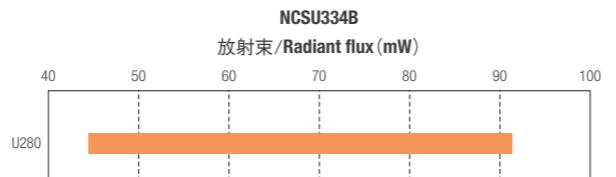
放射束は± 6.5% の公差があります。Radiant Flux Tolerance: ± 6.5%

(T_S=25°C, I_F=100mA)

型番 Part No.		ランク/Rank	放射束/Radiant Flux(mW)	
			Min.	Max.
NVSU233B NVSU233B-D4	U365	P7d22	1040	1130
		P8d21	1130	1230
		P8d22	1230	1340
		P9d21	1340	1460
		P9d22	1460	1600
		P10d21	1600	1740
		P10d22	1740	1900
	U385	P9d21	1340	1460
		P9d22	1460	1600
		P10d21	1600	1740
		P10d22	1740	1900
		P11d21	1900	2060
		P11d22	2060	2240
	U395	P9d21	1340	1460
		P9d22	1460	1600
		P10d21	1600	1740
		P10d22	1740	1900
		P11d21	1900	2060
		P11d22	2060	2240
	U405	P7d22	1040	1130
		P8d21	1130	1230
		P8d22	1230	1340
		P9d21	1340	1460
		P9d22	1460	1600
		P10d21	1600	1740

放射束は± 6% の公差があります。Radiant Flux Tolerance: ± 6%

(T_S=25°C, I_F=1000mA)



●本素子は紫外発光LEDです。点灯中のLEDからは強い紫外線が出ており、紫外光は人間の目に直接入射すると非常に危険です。
紫外光をのぞき込んだり、光学系を通して見ないようにしてください。
光の反射を受ける可能性がある場合は安全眼鏡を使用し、光が直接目に入らないように保護してください。

●The products are UV light LED, and radiate intense UV light during operation.
Since UV light can be harmful to eyes, do NOT look directly into the UV light, even through an optical instrument.
In case of the light reflection, UV protective glasses are required to use in order to avoid damage by the light.

Caution 注意

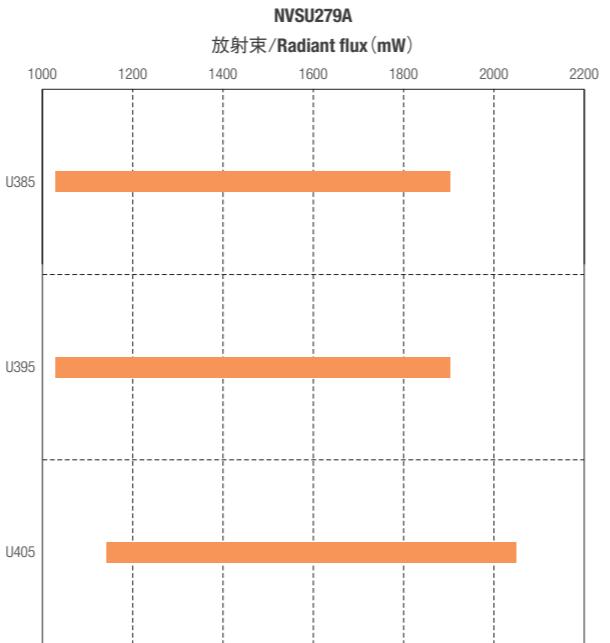
Optical Power Output

光出力／スペクトル

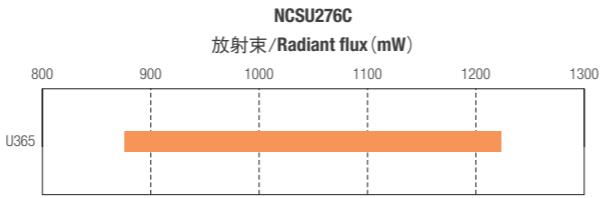
Surface Mount Type LED
UV (Ultra Violet)



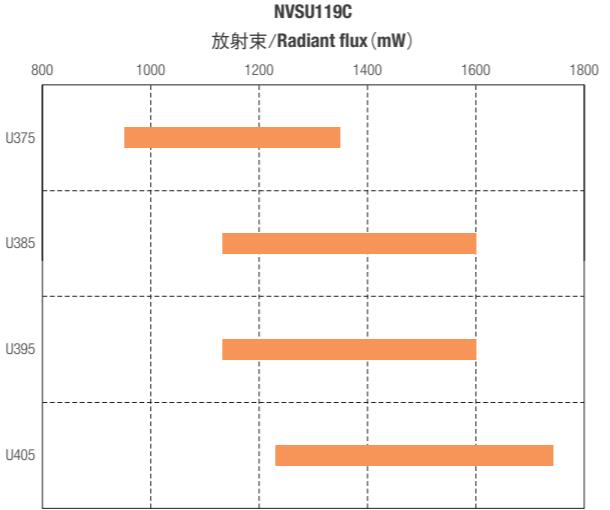
型番 Part No.		ランク/Rank	放射束/Radiant Flux(mW)	
			Min.	Max.
NVSU279A	U385	P7d22	1040	1130
		P8d21	1130	1230
		P8d22	1230	1340
		P9d21	1340	1460
		P9d22	1460	1600
		P10d21	1600	1740
	U395	P10d22	1740	1900
		P7d22	1040	1130
		P8d21	1130	1230
		P8d22	1230	1340
		P9d21	1340	1460
		P9d22	1460	1600
	U405	P10d21	1600	1740
		P10d22	1740	1900
		P11d21	1900	2060



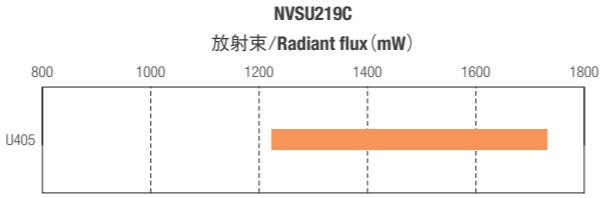
型番 Part No.		ランク/Rank	放射束/Radiant Flux(mW)	
			Min.	Max.
NCSU276C	U365	P6d22	870	950
		P7d21	950	1040
		P7d22	1040	1130
		P8d21	1130	1230



型番 Part No.		ランク/Rank	放射束/Radiant Flux(mW)	
			Min.	Max.
NVSU119C	U375	P7d21	950	1040
		P7d22	1040	1130
		P8d21	1130	1230
		P8d22	1230	1340
	U385	P8d21	1130	1230
		P8d22	1230	1340
		P9d21	1340	1460
		P9d22	1460	1600
	U395	P8d21	1130	1230
		P8d22	1230	1340
		P9d21	1340	1460
		P9d22	1460	1600
	U405	P8d22	1230	1340
		P9d21	1340	1460
		P9d22	1460	1600
		P10d21	1600	1740



型番 Part No.		ランク/Rank	放射束/Radiant Flux(mW)	
			Min.	Max.
NVSU219C	U405	P8d22	1230	1340
		P9d21	1340	1460
		P9d22	1460	1600
		P10d21	1600	1740



型番 Part No.		ランク/Rank	放射束/Radiant Flux(W)	
			Min.	Max.
NVCUQ096A	U365	Pw109a	109.1	120.0
		Pw120	120.0	132.0
		Pw132	132.0	145.2
U385	U385	Pw145b	145.2	159.7
		Pw145b	145.2	159.7
		Pw159h	159.7	175.7
U395	U395	Pw132	132.0	145.2
		Pw145b	145.2	159.7
		Pw159h	159.7	175.7

型番 Part No.		ランク/Rank	放射束/Radiant Flux(W)	
			Min.	Max.
NVCUQ096A-D4	U365	Pw099b	99.2	109.1
		Pw109a	109.1	120.0
		Pw120	120.0	132.0
U385	U385	Pw132	132.0	145.2
		Pw145b	145.2	159.7
		Pw159h	159.7	175.7
U395	U395	Pw120	120.0	132.0
		Pw132	132.0	145.2
		Pw145b	145.2	159.7

型番 Part No.		ランク/Rank
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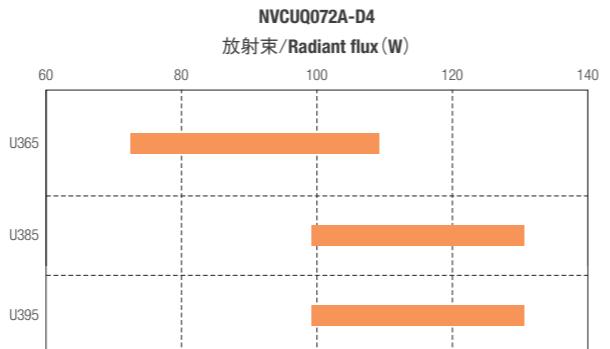
Optical Power Output

光出力／スペクトル

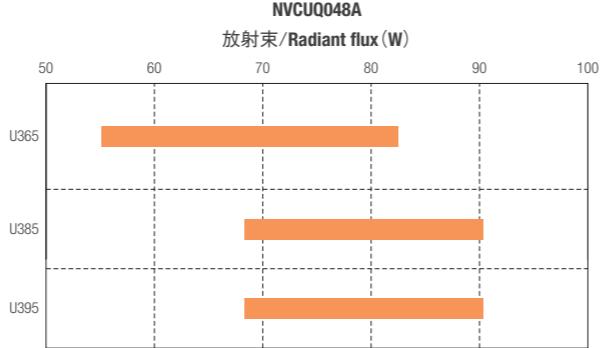
Surface Mount Type LED / Lamp Type LED



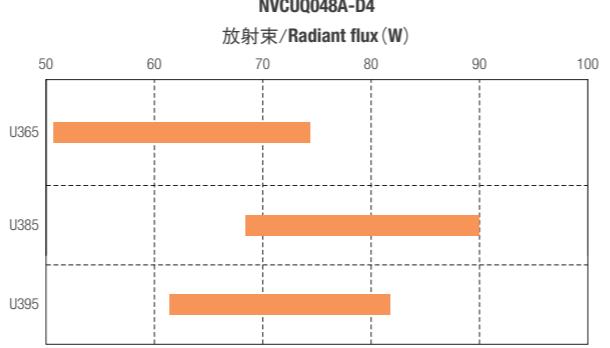
型番 Part No.		ランク/Rank	(T _{TH} =25°C, I _F =6A)		
			放射束/Radiant Flux(W)	Min.	Max.
NVCUQ072A-D4	U365	Pw074f	74.5	82.0	
		Pw082	82.0	90.2	
		Pw090b	90.2	99.2	
		Pw099b	99.2	109.1	
	U385	Pw099b	99.2	109.1	
		Pw109a	109.1	120.0	
		Pw120	120.0	132.0	
	U395	Pw099b	99.2	109.1	
		Pw109a	109.1	120.0	
		Pw120	120.0	132.0	



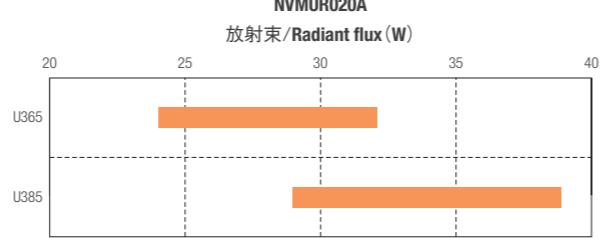
型番 Part No.		ランク/Rank	(T _{TH} =25°C, I _F =4A)		
			放射束/Radiant Flux(W)	Min.	Max.
NVCUQ048A	U365	Pw056	56.0	61.6	
		Pw061g	61.6	67.7	
		Pw067h	67.7	74.5	
		Pw074f	74.5	82.0	
	U385	Pw067h	67.7	74.5	
		Pw074f	74.5	82.0	
		Pw082	82.0	90.2	
	U395	Pw067h	67.7	74.5	
		Pw074f	74.5	82.0	
		Pw082	82.0	90.2	



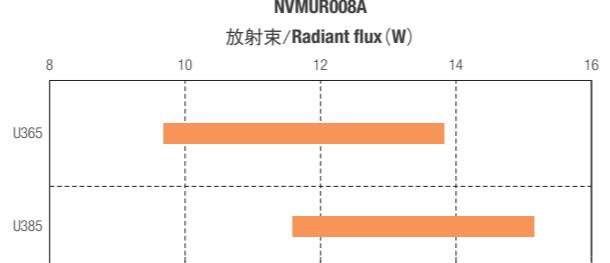
型番 Part No.		ランク/Rank	(T _{TH} =25°C, I _F =4A)		
			放射束/Radiant Flux(W)	Min.	Max.
NVCUQ048A-D4	U365	Pw050k	50.9	56.0	
		Pw056	56.0	61.6	
		Pw061g	61.6	67.7	
		Pw067h	67.7	74.5	
	U385	Pw067h	67.7	74.5	
		Pw074f	74.5	82.0	
		Pw082	82.0	90.2	
	U395	Pw061g	61.6	67.7	
		Pw067h	67.7	74.5	
		Pw074f	74.5	82.0	



型番 Part No.		ランク/Rank	(T _{MP} =25°C, I _F =20A)		
			放射束/Radiant Flux(W)	Min.	Max.
NVMUR020A	U365	P11	24.1	26.5	
		P12	26.5	29.1	
		P13	29.1	32.0	
		P13	29.1	32.0	
		P14	32.0	35.2	
	U385	P15	35.2	38.7	
		P11f	29.1	32.0	
		P12f	32.0	35.2	
		P13f	35.2	38.7	

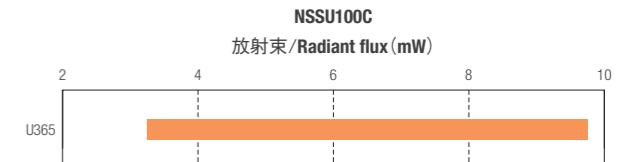


型番 Part No.		ランク/Rank	(T _{MP} =25°C, I _F =8A)		
			放射束/Radiant Flux(W)	Min.	Max.
NVMUR008A	U365	Pw009g	9.6	10.5	
		Pw010f	10.5	11.5	
		Pw011f	11.5	12.6	
		Pw012g	12.6	13.8	
	U385	Pw011f	11.5	12.6	
		Pw012g	12.6	13.8	
		Pw013j	13.8	15.1	
		Pw011f	11.5	12.6	
		Pw012g	12.6	13.8	



型番 Part No.		ランク/Rank	(T _A =25°C, I _F =20mA)		
			放射束/Radiant Flux(mW)	Min.	Max.
NSSU100C	U365	6	3.4	4.8	
		7	4.8	6.8	
		8	6.8	9.6	

型番 Part No.		ランク/Rank	(T _A =25°C, I _F =20mA)		
			放射束/Radiant Flux(mW)	Min.	Max.
NSSU100D	U375	8	13.6	19.2	
		9	13.6	19.2	
		10	13.6	19.2	





Specialty Lighting

色調・配光のバリエーションを取り揃え
様々な特徴に合わせた提案を可能にします

Various single colors, package styles, and directivities allow
for unlimited possibilities for lighting applications



携帯用照明
Portable Light



イルミネーション
Decorative Lighting



ゲーミング
Gaming



サイン
Signage



信号
Traffic Signal



演出照明
Special Effects Lighting



VMS
VMS

APPLICATION



PRODUCTS

High Power

Royal Blue
NCSCx19B-V1

Blue
NCSBx19B-V1

Blue Green
NCSEx19B-V1

Green
NCSGx19B-V1

Amber
NxSAx19B-V1

Red
NCSRx19B-V1

Mid Power

Royal Blue
NCSCE17A

NCSBE17A

Blue Green
NF2E757GR

Green
NCSGE17A

Amber
NCSAE17A

Red
NCSRE17A

Low Power

Blue
NE2B757G

Blue Green
NF2E757GR

Green
NE2G757G

Yellow
NFSY757G

Red
NE2R757G-P6

フルカラー Full Color

NSSM240A

NSSM340A

NESM238x

配光・色バリエーション Directivity / Color Variations

Lamp Type



Product List

製品一覧

Lamp Type LED
Specialty Lighting



パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光度 IV Typ. (cd)	光束 φV Typ. (lm)	順電圧 VF		指向特性 Directivity $2\theta_{1/2}$ (degree)	IF (mA)
					Typ. (V)	Max. (V)		

Φ5 Type

	NSDW510GS-K1		0.310	0.320	—	25.5	3.4	3.7	35	70
	NSDL510GS-K1		0.410	0.390	—	21	3.4	3.7	35	70
	NSDW570GS-K1		0.310	0.320	—	28	3.4	3.7	140	70
	NSDL570GS-K1		0.410	0.390	—	23	3.4	3.7	140	70

	NSPW500GS-K1		0.310	0.320	33	—	3.1	3.5	15	20
	NSPW500DS				27	—	3.2	3.5	15	20
	NSPL500DS		0.410	0.390	22	—	3.2	3.5	15	20
	NSPW510HS-K1		0.344	0.355	13.8	—	2.8	3.1	30	20
	NSPW510DS-D1		0.310	0.320	12.2	—	3.2	3.5	30	20
	NSPW510DS		0.310	0.320	6.15	—	3.2	3.5	45	20
	NSPL510DS		0.410	0.390	4.7	—	3.2	3.5	50	20
	NSPW570GS-K1		0.310	0.320	1.9	—	3.1	3.5	130	20
	NSPW570DS				1.7	—	3.2	3.5	120	20
	NSPL570DS		0.410	0.390	1.2	—	3.2	3.5	130	20
	NSPW515DS		0.310	0.320	2.3	—	3.2	3.5	65	20
	NSPL515DS		0.410	0.390	1.9	—	3.2	3.5	70	20

Φ3 Type

	NSPW300DS		0.310	0.320	12.9	—	3.2	3.5	20	20
	NSPW310DS				6.2	—	3.2	3.5	50	20

Flat Type

	NSPWF50DS		0.310	0.320	1.2	—	3.2	3.5	130/120	20

*1. パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10

*2. Ammo Packing

逆電流 IR Max. (μA)	VR (V)	絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
		IF (mA)	IF [*] (mA)	VR (V)	IR (mA)	P _D (mW)	T _{opr} (°C)	T _{stg} (°C)			
100	5	80	200	5	—	296	-30 +85	-40 +100	2500/P	フロー Flow	
100	5	80	200	5	—	296	-30 +85	-40 +100			
100	5	80	200	5	—	296	-30 +85	-40 +100			
100	5	80	200	5	—	296	-30 +85	-40 +100			
50	5	30	100	5	—	105	-30 +85	-40 +100	2500/P	フロー Flow	
50	5	30	100	5	—	105	-30 +85	-40 +100			
50	5	30	100	5	—	105	-30 +85	-40 +100			
50	5	40	120	5	—	124	-30 +85	-40 +100			
50	5	30	100	5	—	105	-30 +85	-40 +100			
50	5	30	100	5	—	105	-30 +85	-40 +100			
50	5	30	100	5	—	105	-30 +85	-40 +100			
50	5	30	100	5	—	105	-30 +85	-40 +100			
50	5	30	100	5	—	105	-30 +85	-40 +100	4000/P	フロー Flow	

50	5	30	100	5	—	105	-30 +85	-40 +100	4000/P	フロー Flow	
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50	5	30	100	5	—	105	-30 +85	-40 +100	4000/P	フロー Flow	
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Product List

製品一覧

Surface Mount Type LED
Specialty Lighting



パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光度 IV Typ. (cd)	光束 ϕV Typ. (lm)	順電圧 V _F		指向特性 Directivity $2\theta_{1/2}$ (degree)	I _F (mA)
					Typ. (V)	Max. (V)		

Top Emitting Type

3.0×3.0×0.65	NE2B757G	●	0.133	0.075	—	8.7	2.9	3.3	100 150 100
	NF2E757GR	●	0.095	0.565	—	83	6.96	7.3	
	NE2G757G	●	0.17	0.70	—	33	3.5	3.9	
3.0×3.0×0.65	NFSY757G	●	0.4987	0.4946	—	30.2	2.88	3.3	120 65 100
	NE2R757G-P6	●	0.695	0.305	—	16	2.13	2.4	
	NCSCE17A	●	0.157	0.021	—	18	3.0	130	120
1.7×1.7×0.35	NCSBE17A	●	0.126	0.078	—	42			
	NCSGE17A	●	0.252	0.651	—	208			
		●	0.414	0.543	—	212			
1.7×1.7×0.35	NCSAE17A	●	0.567	0.419	—	124			
	NCSRE17A	●	0.669	0.328	—	58			
		●	0.683	0.313	—	31			
3.5×3.5×2	NCSC119B-V1 NCSC219B-V1	●	0.161	0.026	—	—	2.93	3.3	125 350
	NCSB119B-V1 NCSB219B-V1	●	0.133	0.070	11.7	40	3.0	3.3	125 350
	NCSE119B-V1 NCSE219B-V1	●	0.095	0.565	28	108	3.32	3.7	135 350
	NCSG119B-V1 NCSG219B-V1	●	0.168	0.729	35	139	3.38	3.8	145 350
	NCSA119B-V1 NCSA219B-V1	●	0.568	0.422	35	118	2.93	3.3	120 350
	NCSR119B-V1 NCSR219B-V1	●	0.695	0.305	19.4	75	2.2	2.6	130 350
	NVSA119B-V1 NVSA219B-V1	●	0.568	0.422	66	240	2.98	3.3	125 700

Side Emitting Type

4.7×1.6×1.3	NESM238A	●	0.133	0.075	0.33	—	3.2	3.55	115 20
		●	0.189	0.718	1.80	—	3.4	3.70	115 20
		●	0.700	0.299	0.87	—	2.2	2.55	115 20
		B	0.307	0.315	2.0	—	—	—	115 8 16 12
		G					—	—	
		R					—	—	
							—	—	
							—	—	
							—	—	
							—	—	
							—	—	
							—	—	
							—	—	
4.7×1.6×1.3	NESM238B	●	0.133	0.075	0.33	—	3.2	3.55	115 20
		●	0.189	0.718	1.80	—	3.4	3.70	115 20
		●	0.700	0.299	0.87	—	2.2	2.55	115 20
		B	0.307	0.315	2.0	—	—	—	115 8 16 12
		G					—	—	
		R					—	—	
							—	—	
							—	—	
							—	—	
							—	—	
							—	—	
							—	—	
							—	—	

*1 パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10

*2 1素子(単色)当たりの値を示します。Value for one LED device (Single color).

*3 2素子以上点灯したときの全許容損失を示します。Value for total power dissipation when two or three devices are lit simultaneously.

逆電流 I _R Max. (μA)	V _R (V)	絶対最大定格 Absolute Maximum Ratings						最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
		I _F (mA)	I _{FP} ^{*1} (mA)	V _R (V)	I _R (mA)	P _D (mW)	T _{opr} (°C)			

5	5000/P	リフロー Reflow	—	—	140	180	—	85	462	-40 +100 -40 +100 -40 +100 -40 +100 -40 +100
			—	—	200	400	—	85	1460	
			—	—	140	180	—	85	546	
			—	—	150	200	—	85	495	
			—	5	140	180	—	336	-40 +85	



パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光度 I_v Typ. (cd)	光束 ϕ_v Typ. (lm)	順電圧 V_F		指向特性 Directivity $2\theta_{1/2}$ (degree)	I_F (mA)
					Typ. (V)	Max. (V)		

3 in 1 Type

2.4×2.4×0.6	NSSM240A	Blue	0.1330	0.0750	0.64	—	2.9	3.25	120	20
		Green	0.1844	0.7280	2.70	—	3.3	3.55	120	20
		Red	0.6960	0.3030	0.84	—	2.2	2.55	120	20
2.8×2.8×0.6	NSSM340A	B	0.307	0.315	2.7	—	—	—	120	6
		G					—	—		12
		R					—	—		18
3.0×3.3×0.75	NSSM124D	Blue	0.133	0.075	0.50	—	2.9	3.25	115	20
		Green	0.189	0.718	2.20	—	3.2	3.55	115	20
		Red	0.700	0.299	0.75	—	2.2	2.55	115	20
3.0×3.3×0.75	NSSM124F	B	0.307	0.315	2.8	—	—	—	115	9
		G					—	—		15
		R					—	—		17

Φ5 Type

	NSPA500BS	Orange	0.560	0.435	19.5	—	3.1	3.45	13	20
	NSPB510BS	Blue	0.133	0.075	4.7	—	3.1	3.45	30	20
	NSPG510BS	Green	0.170	0.700	16.0	—	3.2	3.55	30	20
	NEPE510JS	Cyan	0.085	0.490	6.3	—	3.1	3.45	30	10
	NSPA510BS	Orange	0.560	0.435	7.8	—	3.1	3.45	30	20
	NSPR510GS	Red	0.700	0.299	6.8	—	2.1	2.35	30	20

Φ3 Type

	NSPB300B	Blue	0.133	0.075	6.55	—	3.2	3.5	15	20
	NSPG300D	Green	0.170	0.700	36.1	—	3.2	3.6	15	20
	NSPB310B	Blue	0.133	0.075	2.5	—	3.2	3.5	30	20
	NSPG310B	Green	0.170	0.700	10.8	—	3.2	3.5	30	20
	NSPE310S	Cyan	0.085	0.490	5.5	—	3.1	3.45	30	10
	NSPA310S	Orange	0.560	0.435	6.7	—	3.1	3.45	30	20
	NSPR310S	Red	0.700	0.299	4.5	—	2.1	2.45	30	20

*1 パルス幅10ms以下、デューティ比1/10以下。Pulse width≤10ms, Duty ratio≤1/10

*2 1素子(単色)当たりの値を示します。Value for one LED device (Single color).

*3 2素子以上点灯したときの全許容損失を示します。Value for total power dissipation when two or three devices are lit simultaneously.

*4 Ammo Packing

逆電流 I_R Max. (μ A)	V_R (V)	絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
		I_F (mA)	I_{FP}^{*1} (mA)	V_R (V)	I_R (mA)	P_D (mW)	T_{opr} (°C)	T_{stg} (°C)			
50	5	35	110	—	113 ^{*2}	—	—	—	—	—	—
50	5	35	110	5	124 ^{*2}	—	—	—	-30	-40	5000/P
50	5	50	150	—	127 ^{*2}	127 ^{*3}	—	—	+85	+100	—
50	5	35	110	5	113 ^{*2}	—	—	—	—	—	—
50	5	35	110	5	124 ^{*2}	—	—	—	—	—	—
50	5	50	150	—	127 ^{*2}	127 ^{*3}	—	—	—	—	—
—	—	35	110	—	122 ^{*2}	—	—	—	—	—	—
—	—	35	110	85	133 ^{*2}	—	—	—	—	—	—
—	—	50	150	—	177 ^{*2}	200 ^{*3}	—	—	-30	-40	5000/P
—	—	35	110	85	122 ^{*2}	—	—	—	+85	+100	—
—	—	50	150	—	133 ^{*2}	—	—	—	—	—	—
—	—	50	150	—	177 ^{*2}	200 ^{*3}	—	—	—	—	—
—	—	30	100	85	97.5 ^{*2}	—	—	—	—	—	—
—	—	35	110	—	124 ^{*2}	—	—	—	—	—	—
—	—	50	150	—	127 ^{*2}	150 ^{*3}	—	—	-30	-40	3500/P
50	5	30	100	5	97.5 ^{*2}	—	—	—	+85	+100	—
50	5	35	110	5	124 ^{*2}	—	—	—	—	—	—
50	5	50	150	5	127 ^{*2}	150 ^{*3}	—	—	—	—	—
50	5	30	100	5	97.5 ^{*2}	—	—	—	—	—	—
50	5	35	110	5	124 ^{*2}	—	—	—	—	—	—
50	5	50	150	5	127 ^{*2}	150 ^{*3}	—	—	—	—	—

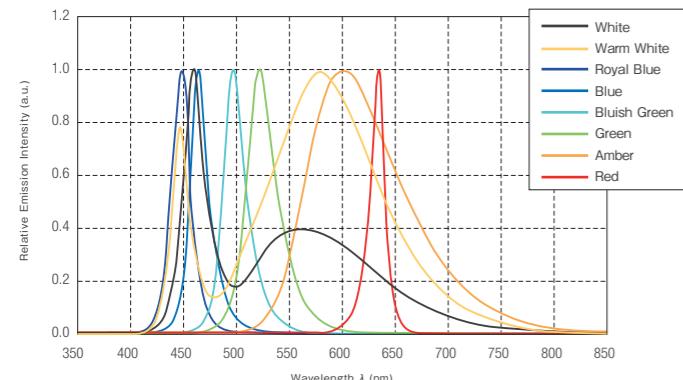


	50	5	35	110	5	—	123	—	-3

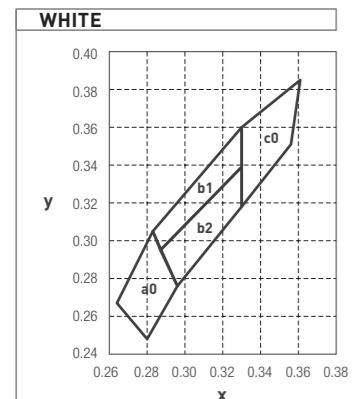
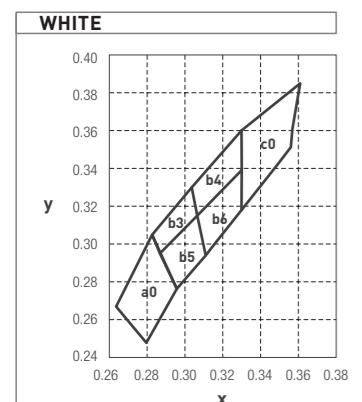


これらの図における色及び色度点は近似されたものです。The colors and color coordinates on these diagrams are approximations.

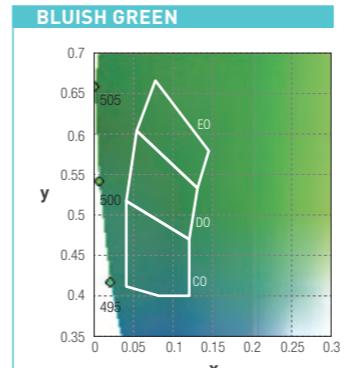
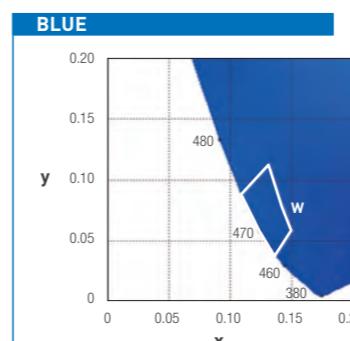
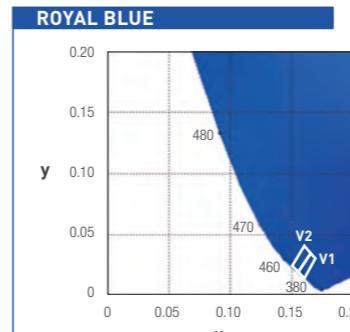
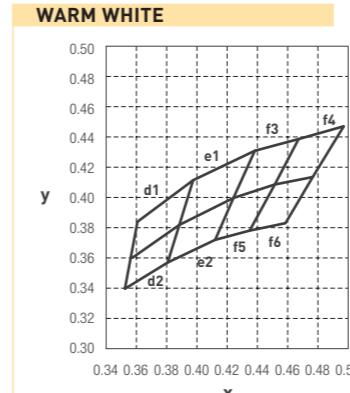
Spectrum 発光スペクトル



Color Rank 色調ランク



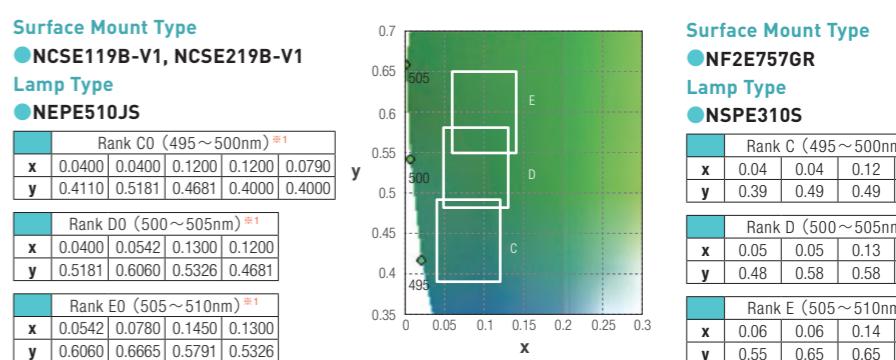
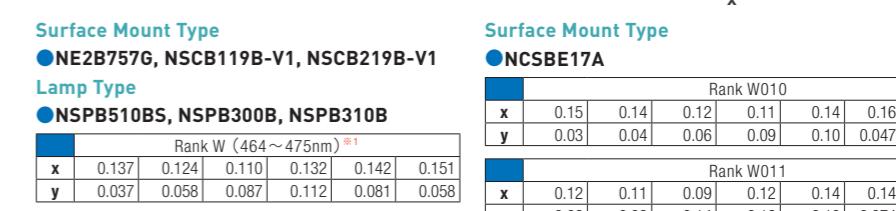
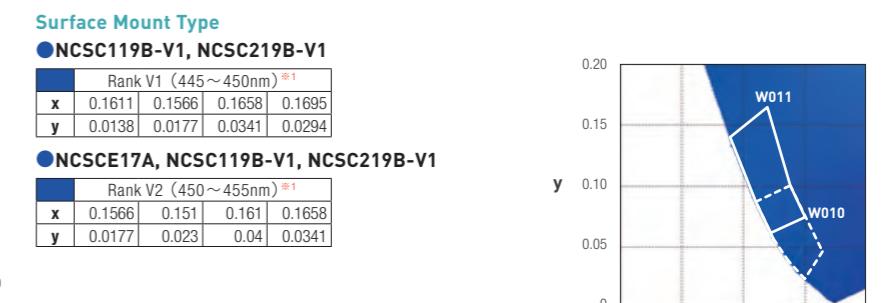
Color Rank 色調ランク



Lamp Type

- NSDL510GS-K1, NSDL570GS-K1, NSPL500DS, NSPL510DS, NSPL570DS, NSPL515DS

Rank d1						Rank d2							
x	0.3575	0.3610	0.3780	0.3988	0.3897	0.3720	x	0.3545	0.3575	0.3720	0.3897	0.3822	0.3667
y	0.3612	0.3850	0.3970	0.4116	0.3823	0.3714	y	0.3408	0.3612	0.3714	0.3823	0.3580	0.3484
Rank e1						Rank e2							
x	0.3897	0.3988	0.4162	0.4390	0.4255	0.4053	x	0.3822	0.3897	0.4053	0.4255	0.4129	0.3954
y	0.3823	0.4116	0.4200	0.4310	0.4000	0.3907	y	0.3580	0.3823	0.3907	0.4000	0.3725	0.3642



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Measurement Uncertainty of the Rank: Please confirm specification sheet.
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※1. () 内の主波長範囲につきましては参考値です。The range of dominant wavelength shown in parenthesis is just for reference.

Chromaticity Coordinate

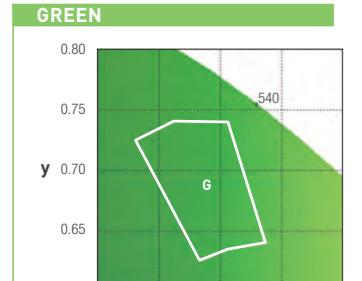
色調



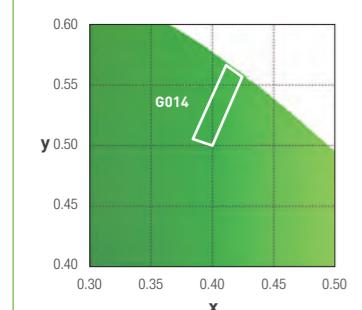
Specialty Lighting

これらの図における色及び色度点は近似されたものです。The colors and color coordinates on these diagrams are approximations.

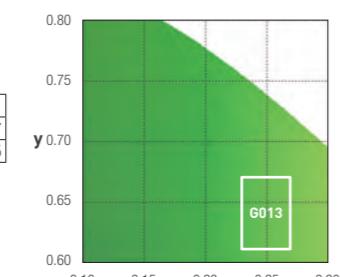
Color Rank 色調ランク



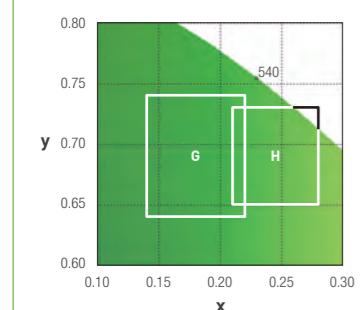
Surface Mount Type
● NE2G757G, NSCG119B-V1,
NSCG219B-V1



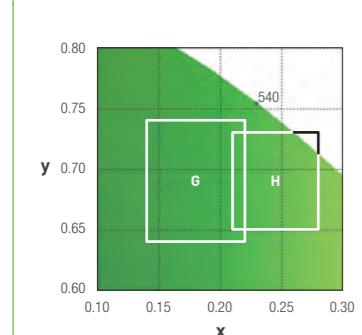
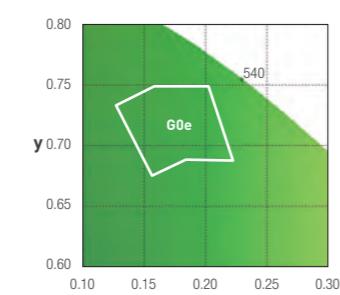
Surface Mount Type
● NCSGE17A



Surface Mount Type
● NCSGE17A

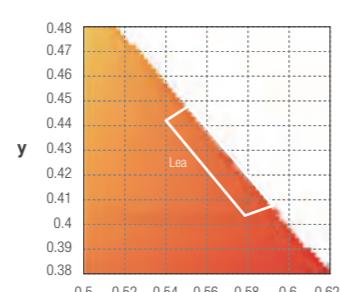


Lamp Type
● NSPG510BS

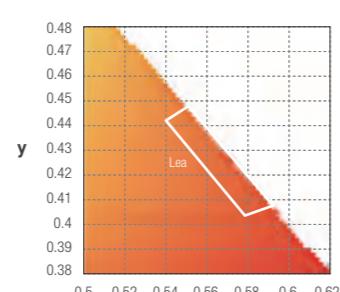


Surface Mount Type
● NCSA119B-V1, NCSA219B-V1,
NVSA119B-V1, NVSA219B-V1

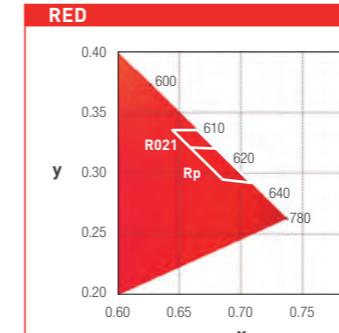
Lamp Type
● NSPA500BS, NPSA510BS,
NPSA310S



Surface Mount Type
● NCSAE17A

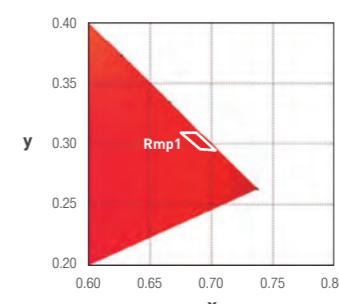


Color Rank 色調ランク



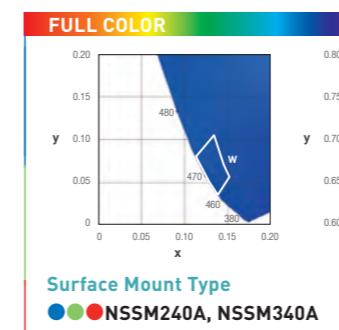
Surface Mount Type
● NCSR119B-V1, NCSR219B-V1

Lamp Type
● NSPR510GS, NSPR310S



Surface Mount Type
● NE2R757G-P6

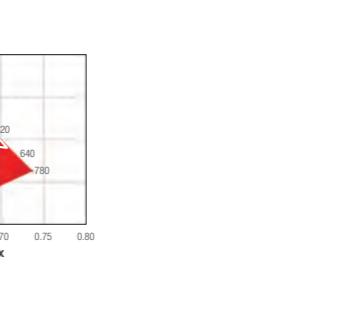
	Rank Rmp1 (618~628nm) ^{※1}					
x	0.6900	0.6700	0.6900	0.7000		
y	0.3000	0.3100	0.3100	0.2900		



Surface Mount Type

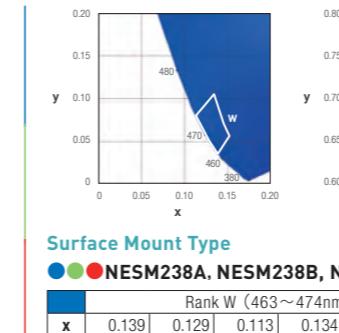
●

● NSSM240A, NSSM340A

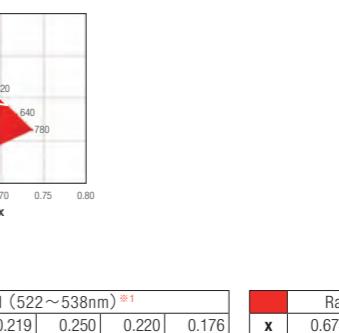


Surface Mount Type
● NE2R757G-P6

	Rank R8a (618~628nm) ^{※1}					
x	0.6718	0.6562	0.6873	0.7049		
y	0.2982	0.3144	0.3126	0.2948		

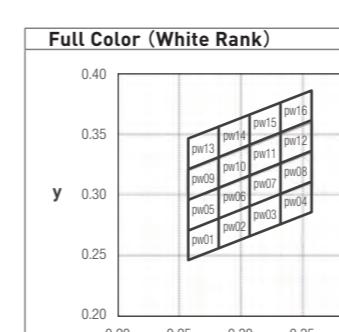


Surface Mount Type
● ● NSSM240A, NSSM340A



Surface Mount Type
● NE2R757G-P6

	Rank R (614~630nm) ^{※1}					
x	0.674	0.648	0.677	0.708		
y	0.296	0.323	0.323	0.292		



Surface Mount Type

● ● ● ● NESM238A, NESM238B, NSSM124D, NSSM124F

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*1. ()内の主波長範囲につきましては参考値です。The range of dominant wavelength shown in parenthesis is just for reference.

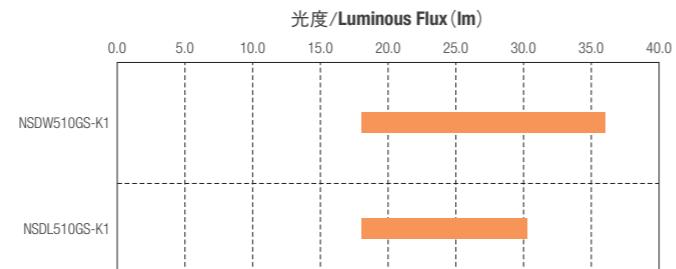
Luminous Intensity・Luminous Flux

光度・光束

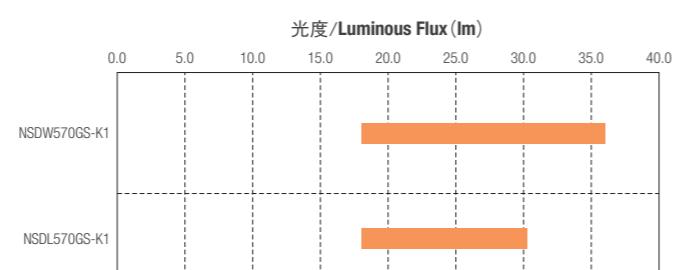
Lamp Type LED
Specialty Lighting



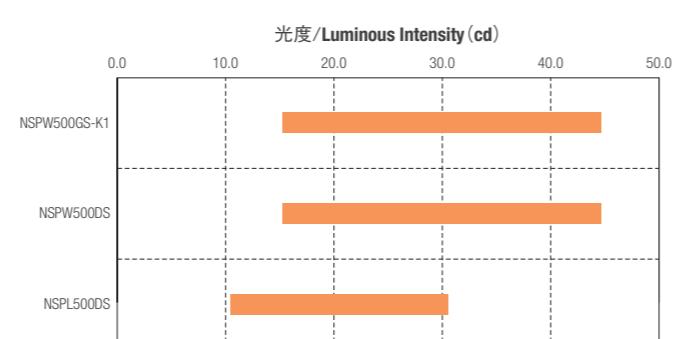
型番 Part No.	ランク / Rank	光度/Luminous Flux(lm)	
		Min.	Max.
NSDW510GS-K1	P8	18.0	21.4
	P9	21.4	25.5
	P10	25.5	30.3
	P11	30.3	36.0
NSDL510GS-K1	P8	18.0	21.4
	P9	21.4	25.5
	P10	25.5	30.3



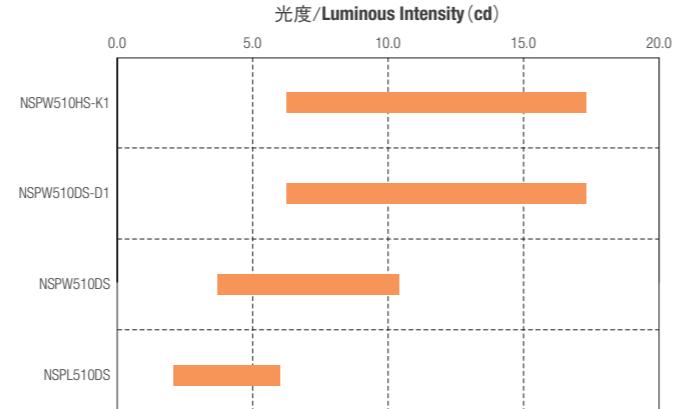
型番 Part No.	ランク / Rank	光度/Luminous Flux(lm)	
		Min.	Max.
NSDW570GS-K1	P8	18.0	21.4
	P9	21.4	25.5
	P10	25.5	30.3
	P11	30.3	36.0
NSDL570GS-K1	P8	18.0	21.4
	P9	21.4	25.5
	P10	25.5	30.3



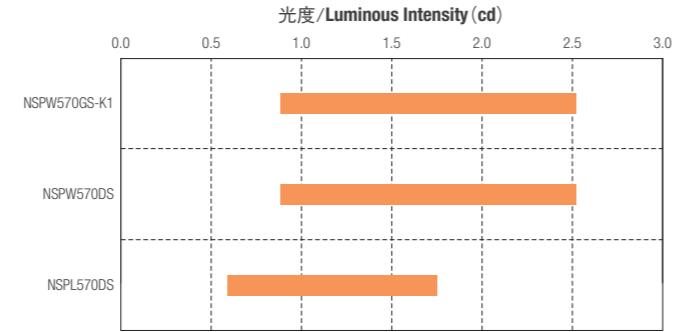
型番 Part No.	ランク / Rank	光度/Luminous Intensity(cd)	
		Min.	Max.
NSPW500GS-K1	U	15.5	22.0
	V	22.0	31.0
	W	31.0	44.0
NSPW500DS	U	15.5	22.0
	V	22.0	31.0
	W	31.0	44.0
NSPL500DS	T	11.0	15.5
	U	15.5	22.0
	V	22.0	31.0



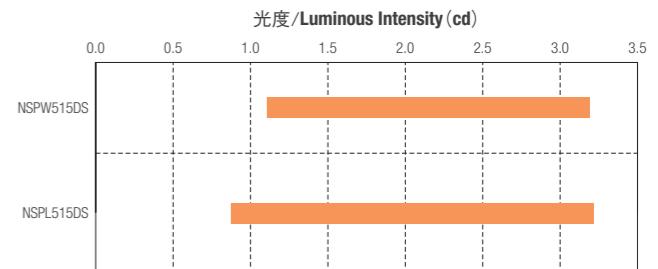
型番 Part No.	ランク / Rank	光度/Luminous Intensity(cd)	
		Min.	Max.
NSPW510HS-K1	U	6.24	8.68
	V	8.68	12.40
	W	12.40	17.30
NSPW510DS-D1	U	6.24	8.68
	V	8.68	12.40
	W	12.40	17.30
NSPW510DS	U	3.69	5.20
	V	5.20	7.38
	W	7.38	10.40
NSPL510DS	S	2.06	3.00
	T	3.00	4.25
	U	4.25	6.00



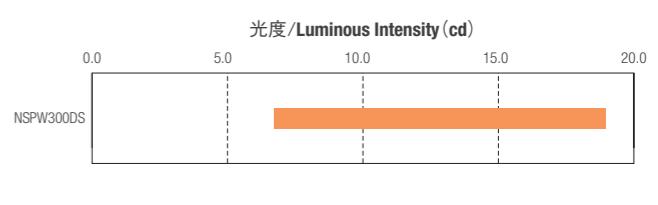
型番 Part No.	ランク / Rank	光度/Luminous Intensity(cd)	
		Min.	Max.
NSPW570GS-K1	U	0.88	1.24
	V	1.24	1.75
	W	1.75	2.53
NSPW570DS	U	0.88	1.24
	V	1.24	1.75
	W	1.75	2.53
NSPL570DS	T	0.62	0.88
	U	0.88	1.24
	V	1.24	1.75



型番 Part No.	ランク / Rank	光度/Luminous Intensity(cd)	
		Min.	Max.
NSPW515DS	U	1.16	1.61
	V	1.61	2.32
NSPL515DS	W	2.32	3.22
	T	0.80	1.16
NSPL515DS	U	1.16	1.61
	V	1.61	2.32
NSPL515DS	W	2.32	3.22

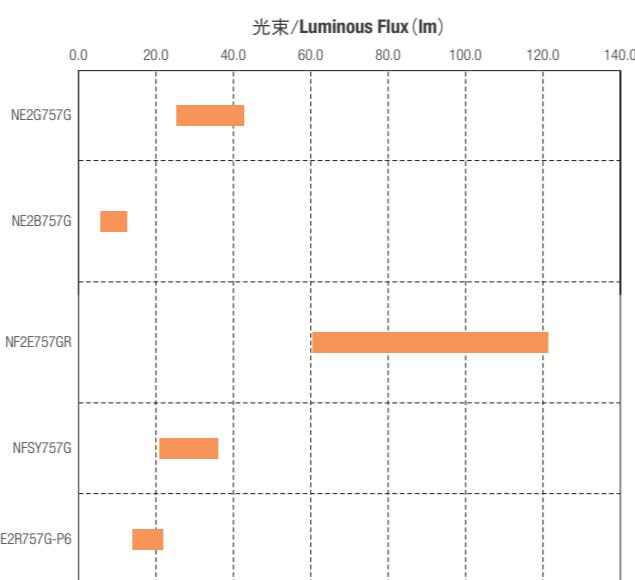


型番 Part No.	ランク / Rank	光度/Luminous Intensity(cd)	
		Min.	Max.
NSPW300DS	U	6.72	9.48
	V	9.48	13.35
NSPW300DS	W	13.35	18.96

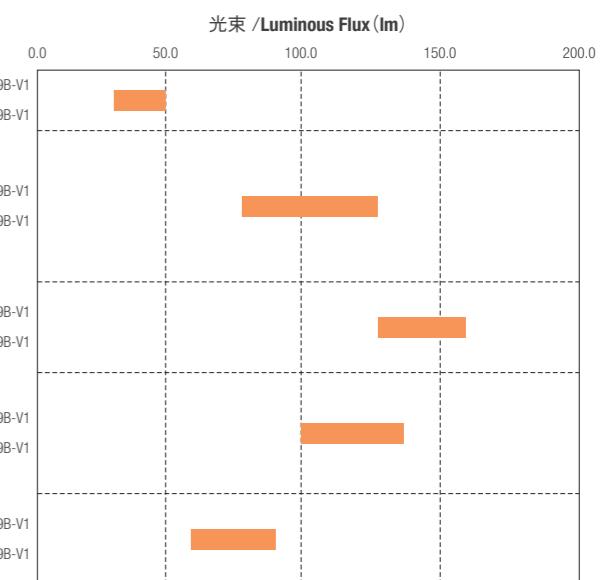




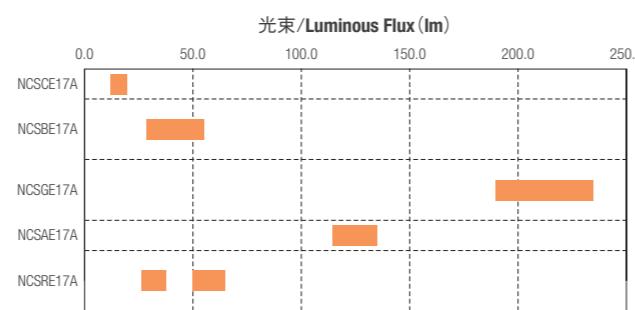
型番 Part No.	ランク / Rank	光束/Luminous Flux(Im)		I_F (mA)
		Min.	Max.	
NE2G757G	P10	25.5	30.3	100
	P11	30.3	36	
	P12	36	42.8	
NE2B757G	P2	6.4	7.6	100
	P3	7.6	9	
	P4	9	10.7	
	P5	10.7	12.7	
NF2E757GR	P15	60.5	72	150
	P16	72	85.6	
	P17	85.6	101.8	
	P18	101.8	121.1	
NFSY757G	P9	21.4	25.5	65
	P10	25.5	30.3	
	P11	30.3	36	
NE2R757G-P6	P6	12.7	15.1	100
	P7	15.1	18	
	P8	18	21.4	



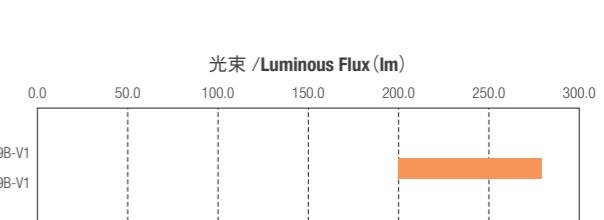
型番 Part No.	ランク / Rank	光束/Luminous Flux(Im)		$T_j=25^\circ\text{C}, I_F=350\text{mA}$
		Min.	Max.	
NCSB119B-V1	B03	30	40	
	B04	40	50	
NCSE119B-V1	B08	80	90	
	B09	90	100	
NCSE219B-V1	B10	100	110	
	B11	110	120	
NCSG119B-V1	B12	120	130	
	B13	130	140	
NCSG219B-V1	B14	140	150	
	B15	150	160	
NCSA119B-V1	B10	100	110	
	B11	110	120	
NCSA219B-V1	B12	120	130	
	B13	130	140	
NCSR119B-V1	B06	60	70	
	B07	70	80	
NCSR219B-V1	B08	80	90	



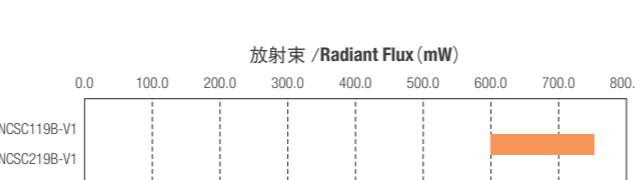
型番 Part No.	ランク / Rank	光束/Luminous Flux(Im)		$T_j=25^\circ\text{C}, I_F=350\text{mA}$
		Min.	Max.	
NCSCE17A	H14f4	14	22	
	D030	30	50	
NCSBE17A	D035	35	55	
	G013 D200	200	220	
NCSGE17A	G014 D190f2	190	230	
	D115	115	135	
NCSAE17A	Rp T25f2	25	35	
	R021 c050	50	65	



型番 Part No.	ランク / Rank	光束/Luminous Flux(Im)		$T_j=25^\circ\text{C}, I_F=700\text{mA}$
		Min.	Max.	
NVSA119B-V1	D200	200.0	220.0	
	D220	220.0	240.0	
NVSA219B-V1	D240	240.0	260.0	
	D260	260.0	280.0	



型番 Part No.	ランク / Rank	放射束/Radiant Flux(mW)		$T_j=25^\circ\text{C}, I_F=350\text{mA}$
		Min.	Max.	
NCSC119B-V1	P17d21	600	650	
	P17d22	650	700	
NCSC219B-V1	P18d21	700	750	



Luminous Intensity

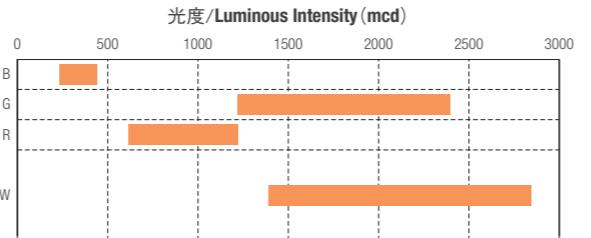
光度

Surface Mount Type LED / Lamp Type LED

Specialty Lighting

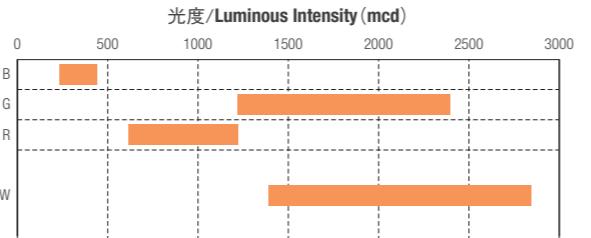


型番 Part No.		光度/Luminous Intensity(mcd)		I_F (mA)
		Min.	Max.	
NESM238A	B	210	420	20
	G	1200	2400	20
	R	600	1200	20
	B			8
	W	1400※1	2800※1	16
	G			12
	R			



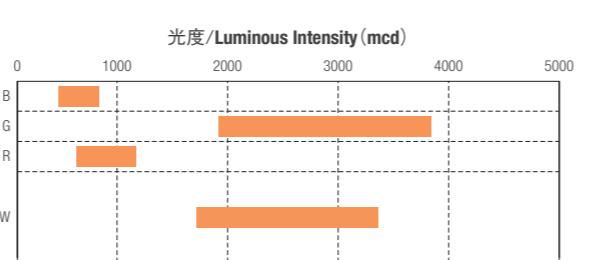
※1. 3素子同時点灯。Three circuits are lit simultaneously

型番 Part No.		光度/Luminous Intensity(mcd)		I_F (mA)
		Min.	Max.	
NESM238B	B	210	420	20
	G	1200	2400	20
	R	600	1200	20
	B			8
	W	1400※1	2800※1	16
	G			12
	R			



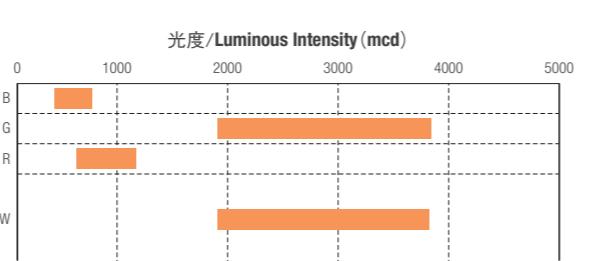
※1. 3素子同時点灯。Three circuits are lit simultaneously

型番 Part No.		光度/Luminous Intensity(mcd)		I_F (mA)
		Min.	Max.	
NSSM240A	B	410	820	20
	G	1910	3820	20
	R	595	1190	20
	B			6
	W	1700※1	3400※1	12
	G			18
	R			



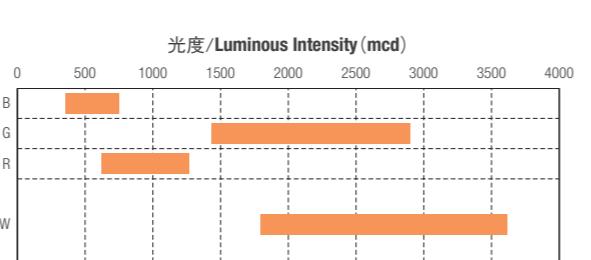
※1. 3素子同時点灯。Three circuits are lit simultaneously

型番 Part No.		光度/Luminous Intensity(mcd)		I_F (mA)
		Min.	Max.	
NSSM340A	B	375	750	20
	G	1910	3820	20
	R	595	1190	20
	B			6
	W	1900※1	3800※1	12
	G			18
	R			



※1. 3素子同時点灯。Three circuits are lit simultaneously

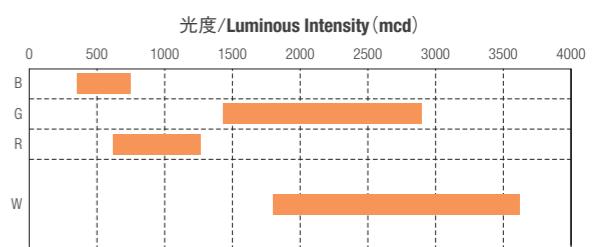
型番 Part No.		光度/Luminous Intensity(mcd)		I_F (mA)
		Min.	Max.	
NSSM124D	B	350	700	20
	G	1450	2900	20
	R	630	1260	20
	B			9
	W	1800※1	3600※1	15
	G			17
	R			



※1. 3素子同時点灯。Three circuits are lit simultaneously

型番 Part No.		光度/Luminous Intensity(mcd)		I_F (mA)
		Min.	Max.	
NSSM124F	B	350	700	20
	G	1450	2900	20
	R	630	1260	20
	B			9
	W	1800※1	3600※1	15
	G			17
	R			

※1. 3素子同時点灯。Three circuits are lit simultaneously



型番 Part No.	ランク / Rank	光度/Luminous Intensity(cd)	
		Min.	Max.
NSPA500BS	S	12.5	17.7
NSPA500BS	T	17.7	25.0
NSPA500BS	U	25.0	35.4

型番 Part No.	ランク / Rank	光度/Luminous Intensity(cd)	
		Min.	Max.
NSPB510BS	V	3.0	4.2
	W	4.2	6.0
NSPG510BS	X	6.0	8.4
	V	10.5	14.8
NEPE510JS	W	14.8	21.0
	U	3.6	5.1
NSPA510BS	V	5.1	7.2
	W	7.2	10.2
NSPR510GS	S	4.2	5.9
	T	5.9	8.4
NSPR510GS	U	8.4	11.8
	T		

Display

使用環境や用途に応じて選択可能な
フルカラー表示用LEDをラインナップ

LEDs for full color displays:
Meeting your needs by application and by environment

APPLICATIONS



屋内
ディスプレイ
Indoor Display



屋外
ディスプレイ
Outdoor Display

PRODUCTS

■高精細対応極小パッケージ
Superior Resolution / Small Size

NESM180A



■標準パッケージ
Standard Package

NESM026D



■防水対応パッケージ
Water Protection Package

NSSM332B



NSSM432A



NSSM532A



■側面発光パッケージ
Side Emitting Package

NSSM228A



■砲弾型 Lamp Type

NSPx336xS



NSPx346MS



屋内
Indoor Display



室内(透過型)
Indoor Display
(Transparent type)



屋外(看板)
Outdoor
(Commercial)



屋外(スタジアム)
Outdoor
(Stadium/Events)

Product List

製品一覧

Surface Mount Type LED

LED

Display

(TA=25°C)

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光度 IV Typ. (cd)	順電圧 V _F Typ. (V)		指向特性 Directivity 2θ _{1/2} (degree)	I _F (mA)
				Typ. (V)	Max. (V)		

Top Emitting Type

 1.8×1.8×0.85	NESM180A	●	0.133	0.075	0.045	2.9	3.22	105	10
		●	0.189	0.718	0.440	3.5	3.82		20
		●	0.700	0.299	0.280	2.1	2.40		20
 2.1×2.1×0.9	NESM526A	●	0.133	0.075	0.150	3.1	3.45	110	20
		●	0.189	0.718	0.700	3.4	3.70		20
		●	0.696	0.303	0.465	2.15	2.45		20
 3.0×3.0×1.8	NESM026D	●	0.133	0.075	0.30	3.2	3.55	115	20
		●	0.189	0.718	1.20	3.5	3.82		20
		●	0.700	0.299	0.70	2.15	2.45		20
 4.5×4.0×2.7	NSSM032B	●	0.133	0.075	0.51	2.9	3.25	110	20
		●	0.189	0.718	2.40	3.3	3.55		20
		●	0.696	0.303	0.86	2.2	2.55		20
 2.8×2.8×2.5	NSSM332B NEW	●	0.133	0.075	0.34	2.90	3.25	110/105	20
		●	0.189	0.718	1.95	3.30	3.55		20
		●	0.696	0.303	0.85	2.15	2.50		20
 2.8×2.8×2.5	NSSM432A NEW	●	0.133	0.075	0.47	2.90	3.25	110	20
		●	0.189	0.718	2.35	3.30	3.55		20
		●	0.696	0.303	1.00	2.15	2.50		20
 2.8×2.8×2.3	NSSM532A Under Development	●	0.133	0.075	0.20	2.90	3.25	100	20
		●	0.189	0.718	0.94	3.30	3.55		20
		●	0.696	0.303	0.52	2.15	2.50		20

Side Emitting Type

 3.2×1.5×1.35	NSSM228A Under Development	●	0.133	0.075	0.43	3.10	3.45	115	20
		●	0.189	0.718	2.30	3.30	3.55		20
		●	0.696	0.303	1.00	2.15	2.50		20

逆電流 I _R Max. (μA)	V _R (V)	絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
		I _F (mA)	I _{FP} ^{※1} (mA)	V _R (V)	I _R (mA)	P _D (mW)	T _{opr} (°C)	T _{stg} (°C)			
50	5	20	70	—	64.4 ^{※2}		-30	-40	3500/P		
50	5	25	80	5	95.5 ^{※2}		-30	-40	3500/P		
50	5	30	100	—	72.0 ^{※2} 69 ^{※3}		+85	+100	3500/P		
50	5	25	80	5	86.2 ^{※2}		-30	-40	4000/P		
50	5	30	100	—	111 ^{※2}		+85	+100	4000/P		
50	5	50	150	—	122 ^{※2} 86.2 ^{※3}		-30	-40	2000/P		
50	5	25	80	5	88.7 ^{※2}		-30	-40	2000/P		
50	5	30	100	—	114 ^{※2}		+85	+100	2000/P		
50	5	50	150	—	122 ^{※2} 90 ^{※3}		-30	-40	3000/P		
50	5	35	110	5	113 ^{※2}		-40	-40	3000/P		
50	5	35	110	—	124 ^{※2}		+85	+100	3000/P		
50	5	50	150	—	125 ^{※2} 160 ^{※3}		-30	-40	3000/P		
50	5	35	110	5	113 ^{※2}		-40	-40	3000/P		
50	5	35	110	—	124 ^{※2}		+85	+100	3000/P		
50	5	50	150	—	125 ^{※2} 180 ^{※3}		-30	-40	3000/P		
50	5	35	110	5	113 ^{※2}		-40	-40	2500/P	リフロー Reflow	
50	5	35	110	—	124 ^{※2}		+85	+100	2500/P	リフロー Reflow	
50	5	50	150	—	125 ^{※2} 180 ^{※3}		-30	-40	2500/P	リフロー Reflow	

(TA=25°C)

パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光度 IV Typ. (cd)	順電圧 VF		指向特性 Directivity 2θ _{1/2} (degree)	I _F (mA)
				Typ. (V)	Max. (V)		

逆電流 I _R Max. (μA)	V _R (V)	絶対最大定格 Absolute Maximum Ratings						最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
		I _F (mA)	I _{FP} ^{※1} (mA)	V _R (V)	I _R (mA)	P _D (mW)	T _{opr} (°C)			

φ3 Oval Type

	NSPB336DS		0.133	0.075	1.4	2.9	3.25	90/45	20
	NSPG336DS		0.189	0.718	6.5	3.3	3.55		20
	NSPR336DS		0.696	0.303	2.6	2.15	2.5		20
	NSPB336GS		0.133	0.075	1.5	2.9	3.25	90/43	20
	NSPG336GS		0.189	0.718	7.2	3.3	3.55		20
	NSPR336GS		0.696	0.303	2.9	2.15	2.5		20
	NSPB346MS		0.133	0.075	0.95	2.9	3.25	110/65	20
	NSPG346MS		0.189	0.718	4.0	3.2	3.55		20
	NSPR346MS		0.696	0.303	1.7	2.15	2.6		20

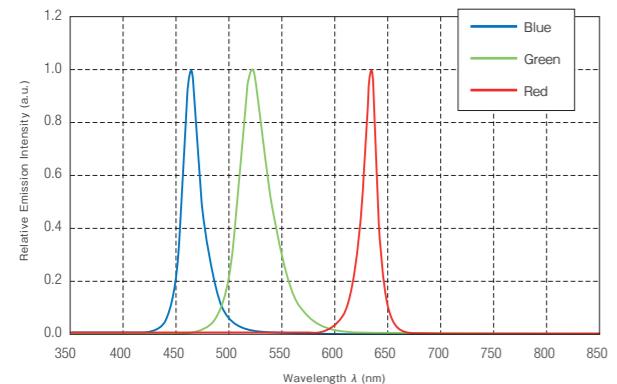
※1. パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10

※2. Ammo Packing

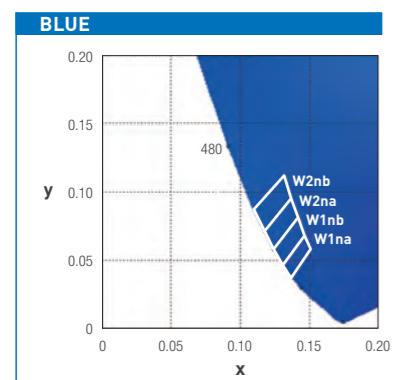
	50	5	35	110	5	—	113	-30 +85	-40 +100	フロー Flow	
	50	5	35	110	5	—	124				
	50	5	50	150	5	—	125				
	50	5	35	110	5	—	113				
	50	5	35	110	5	—	124				
	50	5	50	150	5	—	125				
	50	5	35	110	5	—	113	-30 +85	-40 +100		
	50	5	35	110	5	—	124				
	50	5	50	150	5	—	130				

Chromaticity Coordinate 色調

Spectrum 発光スペクトル

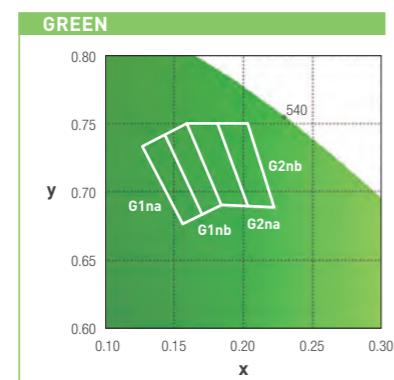


Color Rank 色調ランク



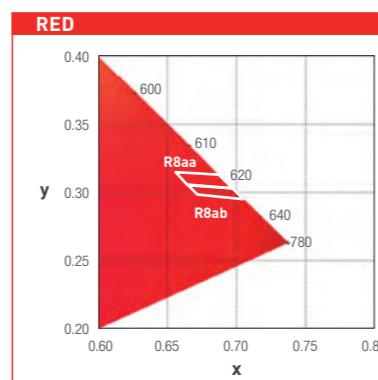
Lamp Type
● NSPB336DS, NSPB336GS
NSPB346MS

Rank W1na (464~467nm) ^{※1}
x 0.137 0.131 0.147 0.151
y 0.037 0.046 0.068 0.058
Rank W1nb (467~470nm) ^{※1}
x 0.131 0.124 0.142 0.147
y 0.046 0.058 0.081 0.068
Rank W2na (470~472.5nm) ^{※1}
x 0.124 0.118 0.137 0.142
y 0.058 0.071 0.095 0.081
Rank W2nb (472.5~475nm) ^{※1}
x 0.118 0.110 0.132 0.137
y 0.071 0.087 0.112 0.095



Lamp Type
● NSPG336DS, NSPG336GS
NSPG346MS

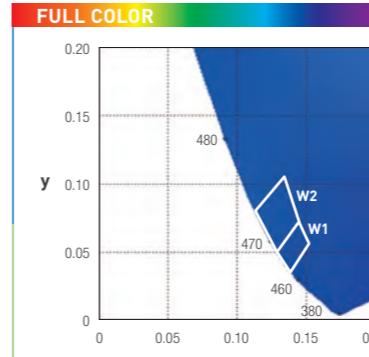
Rank G1na (520~523.5nm) ^{※1}
x 0.1560 0.1270 0.1430 0.1700
y 0.6760 0.7330 0.7415 0.6830
Rank G1nb (523.5~527nm) ^{※1}
x 0.1700 0.1430 0.1590 0.1840
y 0.6830 0.7415 0.7500 0.6900
Rank G2na (527~531nm) ^{※1}
x 0.1840 0.1590 0.1810 0.2030
y 0.6900 0.7500 0.7500 0.6890
Rank G2nb (531~535nm) ^{※1}
x 0.2030 0.1810 0.2030 0.2220
y 0.6890 0.7500 0.7500 0.6880



Lamp Type
● NSPR336DS, NSPR336GS
NSPR346MS

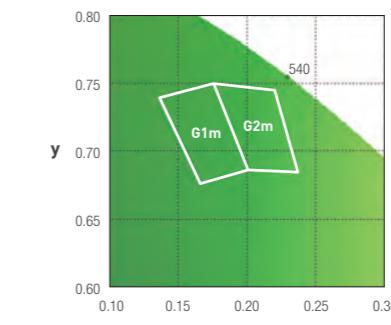
Rank R8aa (618~623nm) ^{※1}
x 0.6649 0.6562 0.6873 0.6971
y 0.3054 0.3144 0.3126 0.3027
Rank R8ab (623~628nm) ^{※1}
x 0.6718 0.6649 0.6971 0.7049
y 0.2982 0.3054 0.3027 0.2948

Color Rank 色調ランク

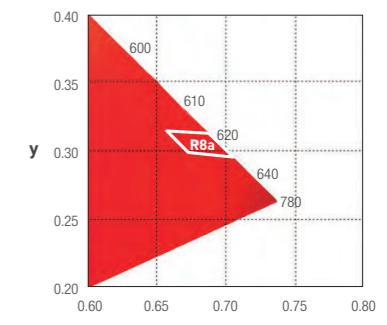


Surface Mount Type
● ● NESM180A, NESM526A, NSSM032B

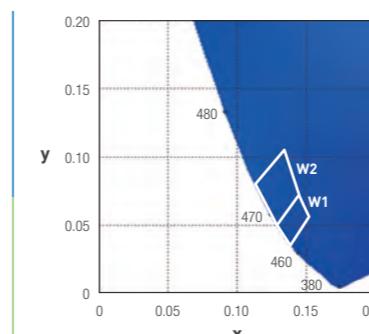
Rank W1 (463~468nm) ^{※1}
x 0.1390 0.1290 0.1450 0.1520
y 0.0350 0.0500 0.0720 0.0560
Rank W2 (468~474nm) ^{※1}
x 0.1290 0.1130 0.1340 0.1450
y 0.0500 0.0800 0.1050 0.0720



Rank G1m (522~530nm) ^{※1}
x 0.1660 0.1360 0.1760 0.2010
y 0.6760 0.7390 0.7500 0.6860
Rank G2m (530~538nm) ^{※1}
x 0.2010 0.1760 0.2200 0.2370
y 0.6860 0.7500 0.7450 0.6840



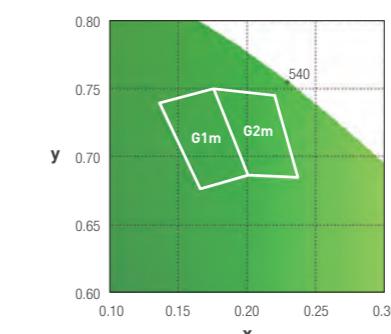
Rank R8a (618~628nm) ^{※1}
x 0.6718 0.6562 0.6873 0.7049
y 0.2982 0.3144 0.3126 0.2948



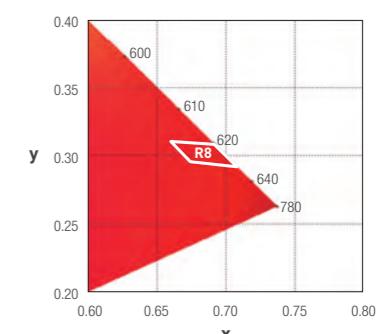
Surface Mount Type

● ● NESM026D

Rank W1 (463~468nm) ^{※1}
x 0.1390 0.1290 0.1450 0.1520
y 0.0350 0.0500 0.0720 0.0560
Rank W2 (468~474nm) ^{※1}
x 0.1290 0.1130 0.1340 0.1450
y 0.0500 0.0800 0.1050 0.0720



Rank G1m (522~530nm) ^{※1}
x 0.1660 0.1360 0.1760 0.2010
y 0.6760 0.7390 0.7500 0.6860
Rank G2m (530~538nm) ^{※1}
x 0.2010 0.1760 0.2200 0.2370
y 0.6860 0.7500 0.7450 0.6840



Rank R8 (620~630nm) ^{※1}
x 0.6742 0.6598 0.6915 0.7080
y 0.2958 0.3106 0.3083 0.2920

ランク分けの公差については製品毎に標準仕様書をご確認ください。

Measurement Uncertainty of the Rank: Please confirm specification sheet.

ランク選定につきましては弊社営業窓口とご相談願います。Please contact Nichia subsidiary or sales office about rank selection.

※1. () 内の主波長範囲につきましては参考値です。The range of dominant wavelength shown in parenthesis is just for reference.

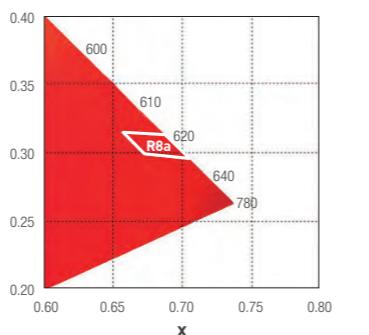
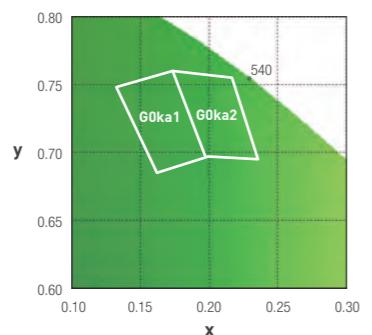
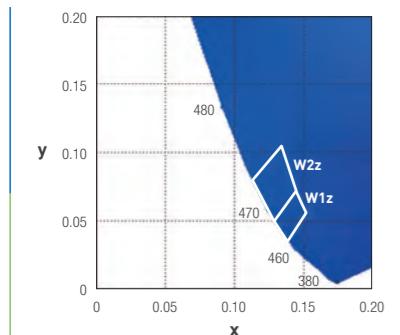
Chromaticity Coordinate

色調

LED
Display

これらの図における色及び色度点は近似されたものです。The colors and color coordinates on these diagrams are approximations.

Color Rank 色調ランク



Surface Mount Type

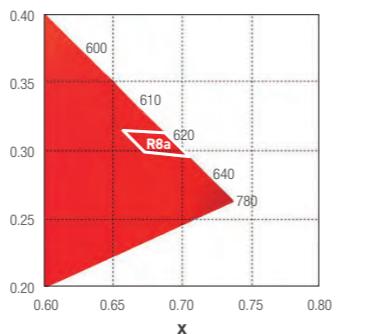
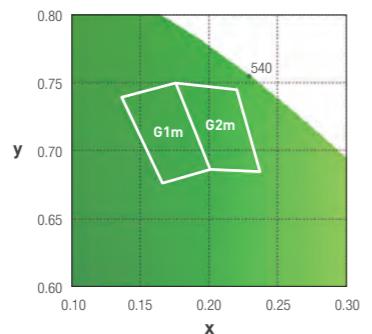
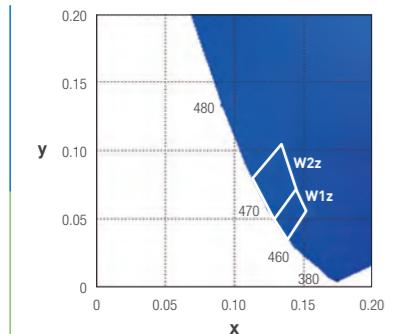
● ● ● NSSM332B

Rank W1z (463~468nm) ^{※1}				
x	0.1390	0.1290	0.1450	0.1520
y	0.0350	0.0500	0.0720	0.0560

Rank W2z (468~474nm) ^{※1}				
x	0.1290	0.1130	0.1340	0.1450
y	0.0500	0.0800	0.1050	0.0720

Rank G0ka1 (522~530nm) ^{※1}				
x	0.1617	0.1311	0.1722	0.1971
y	0.6862	0.7490	0.7600	0.6960

Rank G0ka2 (530~538nm) ^{※1}				
x	0.1971	0.1722	0.2172	0.2343
y	0.6960	0.7600	0.7550	0.6940



Surface Mount Type

● ● ● NSSM432A, NSSM532A

Rank W1z (463~468nm) ^{※1}				
x	0.1390	0.1290	0.1450	0.1520
y	0.0350	0.0500	0.0720	0.0560

Rank W2z (468~474nm) ^{※1}				
x	0.1290	0.1130	0.1340	0.1450
y	0.0500	0.0800	0.1050	0.0720

Rank G1m (522~530nm) ^{※1}				
x	0.1660	0.1360	0.1760	0.2010
y	0.6760	0.7390	0.7500	0.6860

Rank G2m (530~538nm) ^{※1}				
x	0.2010	0.1760	0.2200	0.2370
y	0.6860	0.7500	0.7450	0.6840

ランク分けの公差については製品毎に標準仕様書をご確認ください。

Measurement Uncertainty of the Rank: Please confirm specification sheet.

ランク選定につきましては弊社営業窓口とご相談願います。Please contact Nichia subsidiary or sales office about rank selection.

※1. ()内の主波長範囲につきましては参考値です。The range of dominant wavelength shown in parenthesis is just for reference.

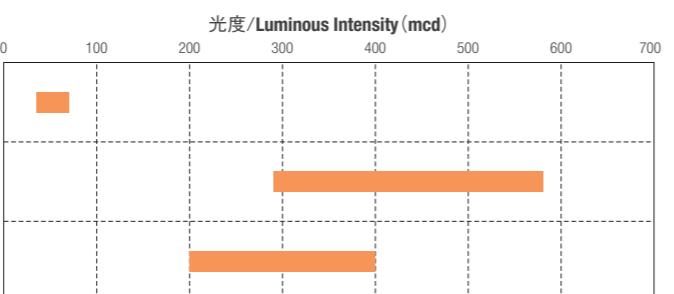
Luminous Intensity

光度

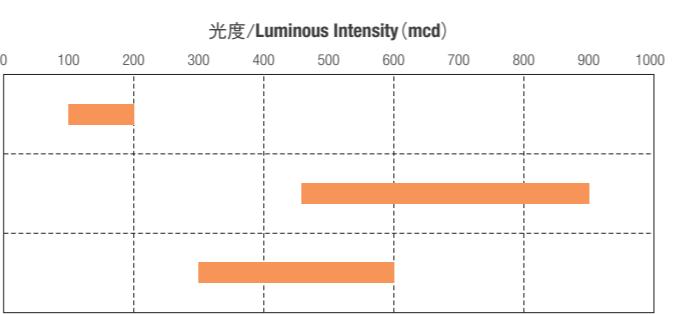
Surface Mount Type LED

LED
Display

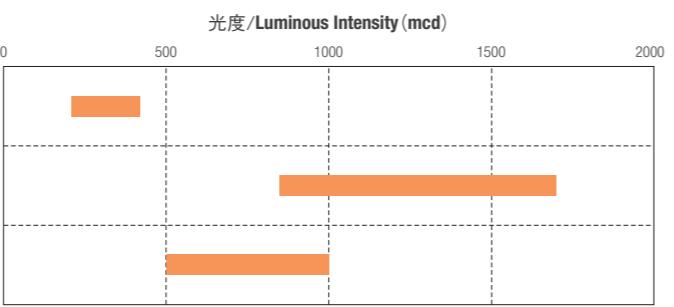
型番 Part No.	ランク /Rank	光度 /Luminous Intensity(mcd)		I_F (mA)			
		Min.	Max.				
NESM180A	B	BR3	—	BR	35	44	10
		BRa	BS3	BS	44	56	
			BT	BT	56	70	
	G	GR3	—	GR	290	365	20
		GRa	GS3	GS	365	460	
			GT	GT	460	580	
	R	RR3	—	RR	200	252	20
		RRa	RS3	RS	252	318	
			RT	RT	318	400	



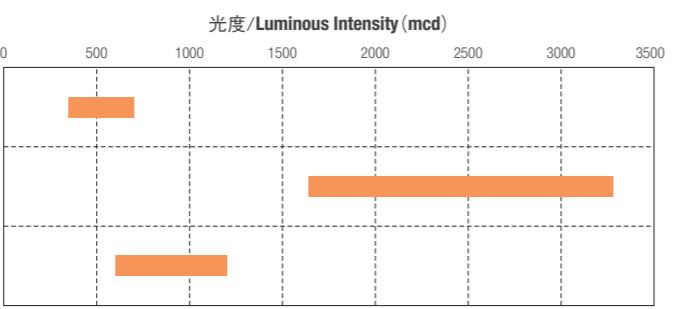
型番 Part No.	ランク /Rank	光度 /Luminous Intensity(mcd)		I_F (mA)			
		Min.	Max.				
NESM526A	B	BR3	—	BR	100	126	20
		BRa	BS3	BS	126	159	
			BT	BT	159	200	
	G	GR3	—	GR	450	565	20
		GRa	GS3	GS	565	715	
			GT	GT	715	900	
	R	RR3	—	RR	300	378	20
		RRa	RS3	RS	378	476	
			RT	RT	476	600	



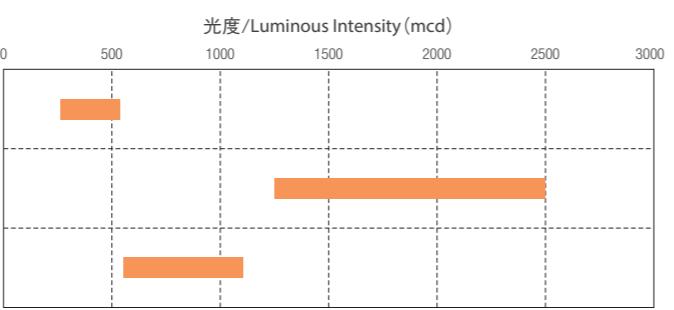
型番 Part No.	ランク /Rank	光度 /Luminous Intensity(mcd)		I_F (mA)			
		Min.	Max.				
NESM026D	B	BR3	—	BR	210	265	20
		BRa	BS3	BS	265	335	
			BT	BT	335	420	
	G	GR3	—	GR	850	1070	20
		GRa	GS3	GS	1070	1350	
			GT	GT	1350	1700	
	R	RR3	—	RR	500	630	20
		RRa	RS3	RS	630	795	
			RT	RT	795	1000	



型番 Part No.	ランク /Rank	光度 /Luminous Intensity(mcd)		I_F (mA)			
		Min.	Max.				
NSSM032B	B	BR3	—	BR	350	440	20
		BRa	BS3	BS	440	550	
			BT	BT	550	700	
	G	GR3	—	GR	1640	2070	20
		GRa	GS3	GS	2070	2600	
			GT	GT	2600	3280	
	R	RR3	—	RR	600	755	20
		RRa	RS3	RS	755	950	
			RT	RT	950	1200	



型番 Part No.	ランク /Rank	光度 /Luminous Intensity(mcd)		I_F (mA)			
		Min.	Max.				
NSSM332B	B	BR3	—	BR	265	334	20
		BRa	BS3	BS	334	421	
			BT	BT	421	530	
	G	GR3	—	GR	1250	1575	20
		GRa	GS3	GS	1575	1985	
			GT	GT	1985	2500	
	R	RR3	—	RR	555	699	20
		RRa	RS3	RS	699	881	
			RT	RT	881	1110	



型番 Part No.	ランク /Rank	光度 /L
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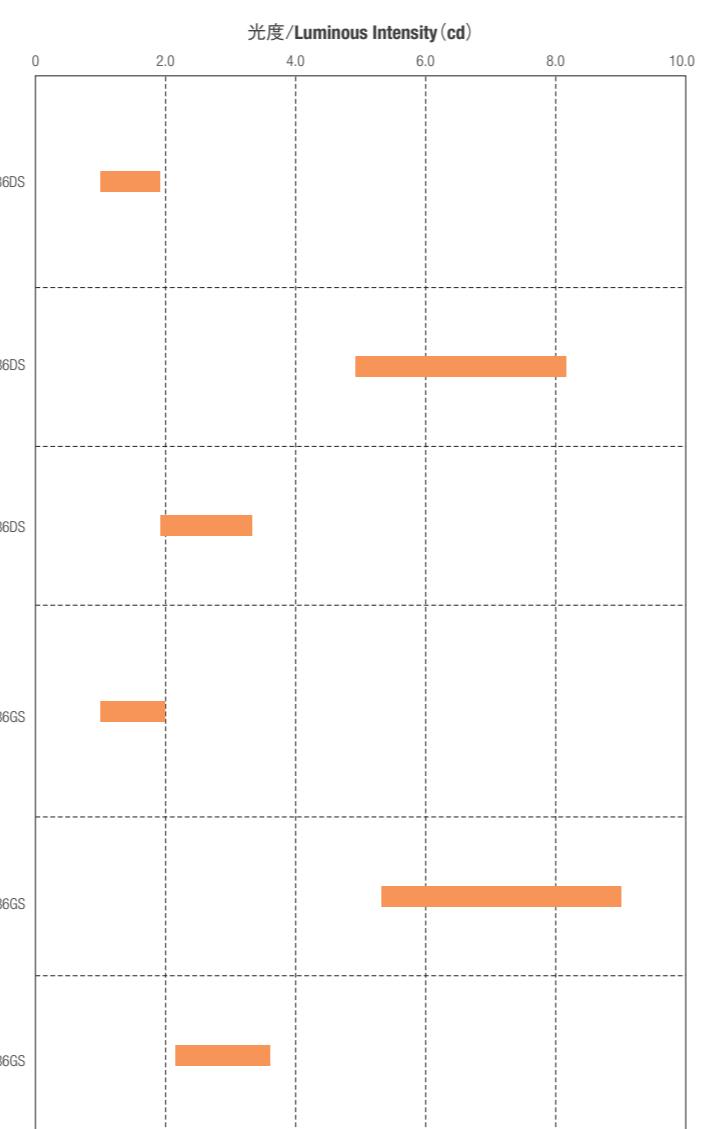
Luminous Intensity

光度

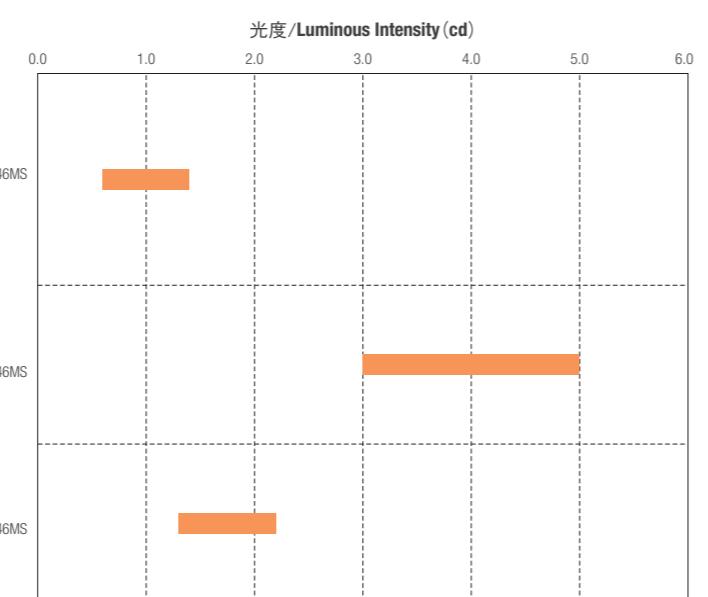
Lamp Type LED
Display

LED

型番 Part No.	ランク / Rank	光度 / Luminous Intensity(cd)	
		Min.	Max.
NSPB336DS	U2	—	U21 0.95 1.04
		U9	U22 1.04 1.13
	V1	V11	1.13 1.24
		V12	1.24 1.35
	V2	V21	1.35 1.47
		V22	1.47 1.60
	W1	W11	1.60 1.75
		—	W12 1.75 1.91
	NSPG336DS	—	V21 4.85 5.29
		V9	V22 5.29 5.76
		W1	W11 5.76 6.29
		W8	W12 6.29 6.86
		W2	W21 6.86 7.48
NSPR336DS	V1	—	W22 7.48 8.15
		V11	1.93 2.11
	V8	V12	2.11 2.30
		V21	2.30 2.51
	V9	V22	2.51 2.73
		W11	2.73 2.98
	W1	—	W12 2.98 3.25
		U22	1.00 1.09
	NSPB336GS	V11	1.09 1.19
		V12	1.19 1.30
		V21	1.30 1.41
		V22	1.41 1.54
		W11	1.54 1.68
NSPG336GS	W8	W12	1.68 1.83
		—	W21 1.83 2.00
		V22	5.37 5.86
		W11	5.86 6.39
	W9	W12	6.39 6.96
		W21	6.96 7.59
	W9	W22	7.59 8.28
		—	X11 8.28 9.03
NSPR336GS	V8	—	V12 2.13 2.32
		V21	2.32 2.53
	V9	V22	2.53 2.76
		W11	2.76 3.01
	W8	W12	3.01 3.28
		—	W21 3.28 3.57



型番 Part No.	ランク / Rank	光度 / Luminous Intensity(cd)	
		Min.	Max.
NSPB346MS	U8	—	U12 0.63 0.69
		U21	0.69 0.75
	U9	U22	0.75 0.82
		V11	0.82 0.90
	V8	V12	0.90 0.98
		V21	0.98 1.07
	V9	V22	1.07 1.16
		—	W11 1.16 1.27
	NSPG346MS	—	U22 2.98 3.25
		V11	3.25 3.55
		V12	3.55 3.87
		V21	3.87 4.22
NSPR346MS	V9	V22	4.22 4.60
		—	W11 4.60 5.02
	U8	—	U12 1.28 1.40
		U21	1.40 1.53
	U9	U22	1.53 1.67
		V11	1.67 1.82
	V8	V12	1.82 1.98
		—	V21 1.98 2.16



ランク分けの公差については製品毎に標準仕様書をご確認ください。

Measurement Uncertainty of the Rank: Please confirm specification sheet.



LCD Backlighting

液晶ディスプレイのバックライト光源として
用途に応じたパッケージをラインナップ

LEDs ideal for LCD backlighting requirements

APPLICATIONS



スマートフォン
Smartphone



ノートパソコン/
タブレット
Laptop/
Tablet PC



テレビ/モニタ
TV/Monitor



PRODUCTS

■ 側面発光パッケージ
Side Emitting Package

[0.3t Series]
NS2W763F-HG



3.1×0.65×0.3

[0.4t Series]
NS2W764F-HG



3.1×0.7×0.4

[0.5t Series]
NS2W765D-HG



3.1×0.65×0.5

[0.6t Series]
NSSW506H-HG
NSSW506H-HS



3.0×0.85×0.6

NS2W566H-HG
NS2W566H-HS



4.2×0.85×0.6

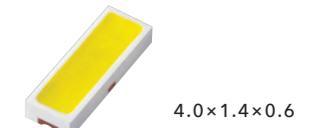
■ 上面発光パッケージ
Top Emitting Package

NFSW157K-HG
NFSW157K
NJSW157K-HG
NJSW157K



3.0×1.4×0.6

NJ2W257KR-HG



4.0×1.4×0.6

Product List

製品一覧

Surface Mount Type LED
LCD Backlighting



パッケージ Package (mm)	型番 Part No.	色度座標 Chromaticity Coordinate Typ. (x,y)	光度 ^{※2} IV Typ. (cd)		光束 φV Typ. (lm)		順電圧 VF Typ. (V)		指向特性 Directivity 2θ _{1/2} (degree)		I _F (mA)
			Typ. (cd)	Max. (cd)	Typ. (lm)	Max. (lm)	Typ. (V)	Max. (V)	2θ _{1/2} (degree)		

Side Emitting Type 0.3t Series

	NS2W763F-HG NEW		0.277	0.260	4.99	15.6	5.6	5.8	120	22	3.1×0.65×0.3
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0.4t Series

	NS2W764F-HG NEW		0.277	0.260	5.44	16.6	5.6	5.8	120	22	3.1×0.7×0.4
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0.5t Series

	NS2W765D-HG		0.277	0.260	5.66	17.7	5.6	5.8	120	22	3.1×0.65×0.5
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0.6t Series

	NSSW506H-HG NEW		0.277	0.260	2.96	9.2	2.8	2.9	120	20	3.0×0.85×0.6
	NSSW506H-HS NEW		0.277	0.260	2.94	9.0	2.8	2.9	120	20	
	NS2W566H-HG NEW		0.277	0.260	6.09	18.0	5.6	5.75	120	20	4.2×0.85×0.6
	NS2W566H-HS NEW		0.277	0.260	5.97	17.6	5.6	5.75	120	20	

Top Emitting Type

	NFSW157K-HG NEW		0.277	0.260	11.1	34.0	2.9	3.05	120	80	3.0×1.4×0.6
	NFSW157K NEW		0.290	0.275	12.1	37.1	2.9	3.05	120	80	
	NJSW157K-HG NEW		0.277	0.260	16.2	49.5	2.93	3.1	120	120	
	NJSW157K NEW		0.290	0.275	18.0	55.0	2.93	3.1	120	120	
	NJ2W257KR-HG NEW		0.277	0.260	32.1	98.0	5.86	6.2	120	120	4.0×1.4×0.6

*1. パルス幅10ms以下、デューティー比1/10以下。Pulse width≤10ms, Duty ratio≤1/10

*2. 参考値。Reference.

*3. LCD Backlighting 規定/LCD Backlighting only

*4. Peak wavelength(typ.):451<λp<457nm

逆電流 I _R Max. (μA)	V _R (V)	絶対最大定格 Absolute Maximum Ratings							最大梱包数量 (pcs.) Qty./Pack (Max.)	実装方法 Mounting	製品用途例 Target Application
		I _F (mA)	I _{FP} (mA)	V _R (V)	I _R (mA)	P _D (mW)	T _{opr} (°C)	T _{stg} (°C)			

50	5	30	150	5	—	176	-30 +85	-40 +100	13000/P	リフロー Reflow	
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50	5	35	150	5	—	208	-30 +85	-40 +100	12000/P	リフロー Reflow	
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50	5	35	150	5	—	203	-30 +85	-40 +100	11000/P	リフロー Reflow	
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50	5	35	100	5	—	103	-30 +85	-40 +100	10000/P	リフロー Reflow	
50	5	35	100	5	—	103					
50	5	30	100	5	—	178					
50	5	30	100	5	—	178					

—	—	200	400	—	85	641	-40 +100	-40 +100	5000/P	リフロー Reflow	
—	—	200	400	—	85	642					
—	—	200	400	—	85	619					
—</td											

Chromaticity Coordinate

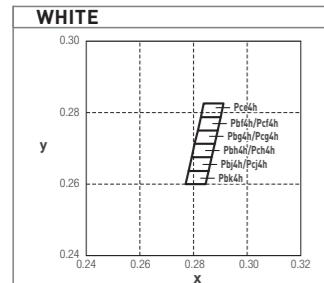
色調

Surface Mount Type LED
LCD Backlighting



これらの図における色及び色度点は近似されたものです。The colors and color coordinates on these diagrams are approximations.

Color Rank 色調ランク

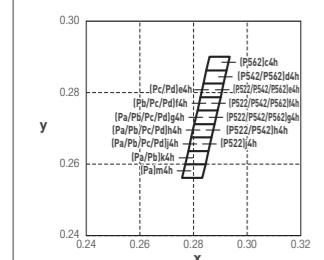


Surface Mount Type

○NS2W763F-HG, NS2W764F-HG, NS2W765D-HG

Rank Pce4h		Rank Pbf4h/Pcf4h		Rank Pbg4h/Pcg4h		Rank Pb4h/Pch4h			
x	0.2826	0.2837	0.2912	0.2901	x	0.2815	0.2826	0.2901	0.2890
y	0.2787	0.2825	0.2825	0.2787	x	0.2792	0.2803	0.2878	0.2867

Rank Pb4h/Pcj4h		Rank Pbk4h		
x	0.2781	0.2792	0.2867	0.2856
y	0.2637	0.2675	0.2675	0.2637

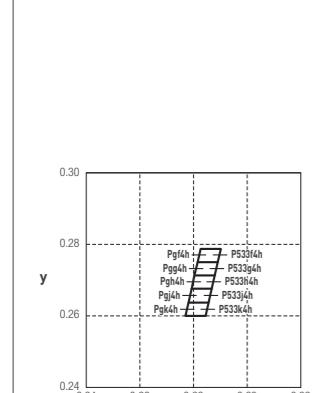


Surface Mount Type

○NSSW506H-HG

Rank Pce4h/Pde4h		Rank Pbf4h/Pcf4h/Pdf4h		Rank Pag4h/Pbg4h/Pcg4h/Pdg4h		Rank Pah4h/Pbh4h/Pch4h/Pdh4h			
x	0.2826	0.2837	0.2912	0.2901	x	0.2815	0.2826	0.2901	0.2890
y	0.2787	0.2825	0.2825	0.2787	x	0.2792	0.2803	0.2878	0.2867

Rank Paj4h/Pbj4h/Pcj4h/Pdj4h		Rank Pak4h/Pbk4h		Rank Pam4h					
x	0.2781	0.2792	0.2867	0.2856	x	0.2770	0.2781	0.2856	0.2845
y	0.2637	0.2675	0.2675	0.2637	x	0.2758	0.2770	0.2845	0.2833

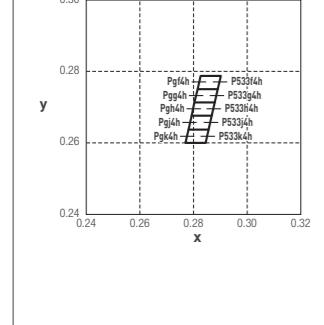


Surface Mount Type

○NS2W566H-HS

Rank P5624h		Rank P542d4h/P562d4h		Rank P522e4h/P542e4h/P562e4h		Rank P522f4h/P542f4h/P562f4h			
x	0.2848	0.2860	0.2935	0.2923	x	0.2837	0.2848	0.2923	0.2912
y	0.2862	0.2900	0.2900	0.2862	x	0.2825	0.2862	0.2862	0.2857

Rank P522g4h/P542g4h/P562g4h		Rank P522h4h/P542h4h		Rank P522j4h					
x	0.2803	0.2815	0.2890	0.2878	x	0.2792	0.2803	0.2878	0.2867
y	0.2712	0.2750	0.2750	0.2750	x	0.2781	0.2792	0.2867	0.2856



Surface Mount Type

○NS2W566H-HS

Rank Pg4h		Rank Pgg4h		Rank Pgh4h		Rank Pgj4h			
x	0.2815	0.2826	0.2901	0.2890	x	0.2803	0.2815	0.2890	0.2878
y	0.2750	0.2787	0.2787	0.2750	x	0.2792	0.2803	0.2878	0.2867

Rank Pgk4h				
x	0.2770	0.2781	0.2856	0.2845
y	0.2600	0.2637	0.2637	0.2600

Rank P533f4h		Rank P533g4h		Rank P533h4h		Rank P533j4h			
x	0.2815	0.2826	0.2901	0.2890	x	0.2803	0.2815	0.2890	0.2878
y	0.2750	0.2787	0.2787	0.2750	x	0.2792	0.2803	0.2878	0.2867

Rank P533k4h				
x	0.2770	0.2781	0.2856	0.2845
y	0.2600	0.2637	0.2637	0.2600

Color Rank 色調ランク



Surface Mount Type

○NFSW157K-HG, NJSW157K-HG, NJ2W257KR-HG

Btf45		Btf46		Btf47		Btf48			
x	0.2835	0.2850	0.2905	0.2890	x	0.2820	0.2835	0.2890	0.2875
y	0.3000	0.3050	0.3050	0.3000	x	0.2950	0.3000	0.3000	0.2950

Btf49		Btf50		Btf51		Btf52			
x	0.2775	0.2790	0.2845	0.2830	x	0.2760	0.2775	0.2830	0.2815
y	0.2800	0.2850	0.2850	0.2800	x	0.2750	0.2800	0.2800	0.2750

Btf53		Btf54		Btf55		Btf56			
x	0.2715	0.2730	0.2785	0.2770	x	0.2700	0.2715	0.2770	0.2755
y	0.2600	0.2650	0.2650	0.2600	x	0.2550	0.2600	0.2600	0.2550

Btdf57		Btf58		Btf59		Btf60</th
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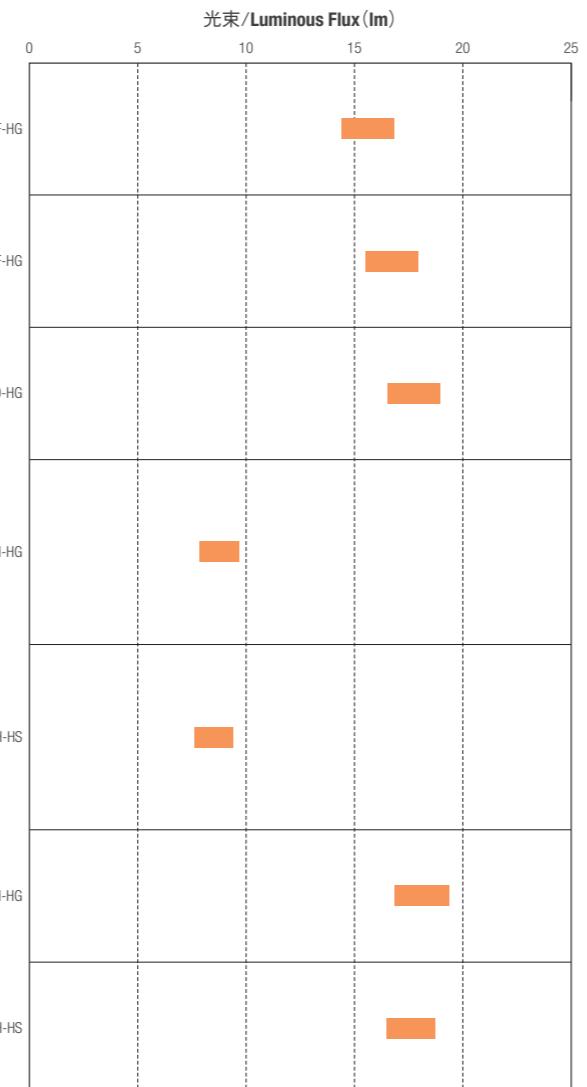
Luminous Flux

光束

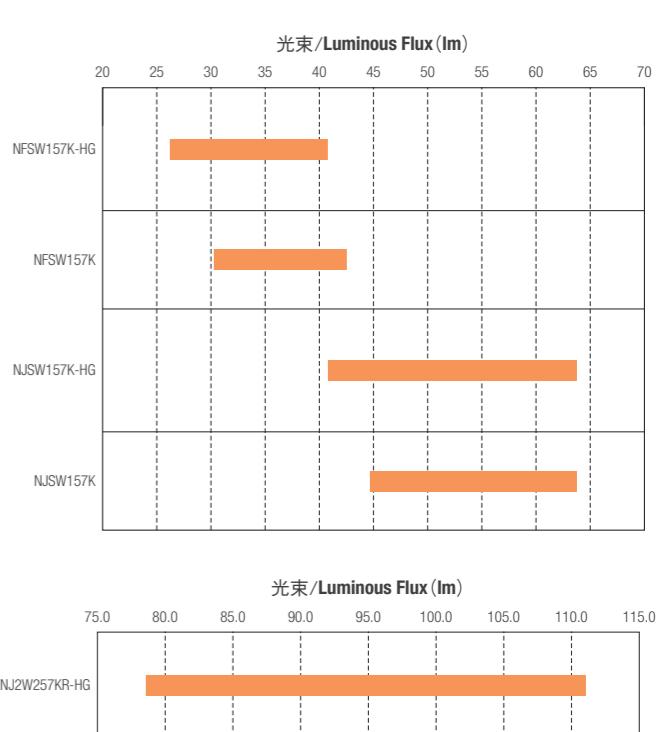
Surface Mount Type LED
LCD Backlighting



型番 Part No.	ランク/Rank	光束/Luminous Flux(Im)		I_F (mA)
		Min.	Max.	
NS2W763F-HG	K145	14.5	15.0	22
	K150	15.0	15.5	
	K155	15.5	16.0	
	K160	16.0	16.5	
	K165	16.5	17.0	
NS2W764F-HG	K155	15.5	16.0	22
	K160	16.0	16.5	
	K165	16.5	17.0	
	K170	17.0	17.5	
	K175	17.5	18.0	
NS2W765D-HG	K165	16.5	17.0	22
	K170	17.0	17.5	
	K175	17.5	18.0	
	K180	18.0	18.5	
	K185	18.5	19.0	
NSSW506H-HG	NW800	8.00	8.25	20
	NW825	8.25	8.50	
	NW850	8.50	8.75	
	NW875	8.75	9.00	
	NW900	9.00	9.25	
NSSW506H-HS	NW925	9.25	9.50	20
	NW950	9.50	9.75	
	NW775	7.75	8.00	
	NW800	8.00	8.25	
	NW825	8.25	8.50	
NSSW506H-HS	NW850	8.50	8.75	20
	NW875	8.75	9.00	
	NW900	9.00	9.25	
	NW925	9.25	9.50	
NS2W566H-HG	K170	17.0	17.5	20
	K175	17.5	18.0	
	K180	18.0	18.5	
	K185	18.5	19.0	
	K190	19.0	19.5	
NS2W566H-HS	K165	16.5	17.0	20
	K170	17.0	17.5	
	K175	17.5	18.0	
	K180	18.0	18.5	
	K185	18.5	19.0	



型番 Part No.	ランク/Rank	光束/Luminous Flux(Im)		I_F (mA)
		Min.	Max.	
NFSW157K-HG	P10d2a	26.7	29.1	80
	P10d2b	29.1	31.7	
	P11d2a	31.7	34.5	
	P11d2b	34.5	37.6	
	P12d2a	37.6	41.0	
NFSW157K	P11d21	30.3	33.0	80
	P11d22	33.0	36.0	
	P12d21	36.0	39.2	
	P12d22	39.2	42.8	
NJSW157K-HG	P12d2b	41.00	44.80	120
	P13d2a	44.80	48.80	
	P13d2b	48.80	53.30	
	P14d2a	53.30	58.10	
NJSW157K	P14d2b	58.10	63.25	120
	P13d2a	44.80	48.80	
	P13d2b	48.80	53.30	
	P14d2a	53.30	58.10	
NJ2W257KR-HG	P14d2b	58.10	63.25	120
	P18d21	101.8	111.0	



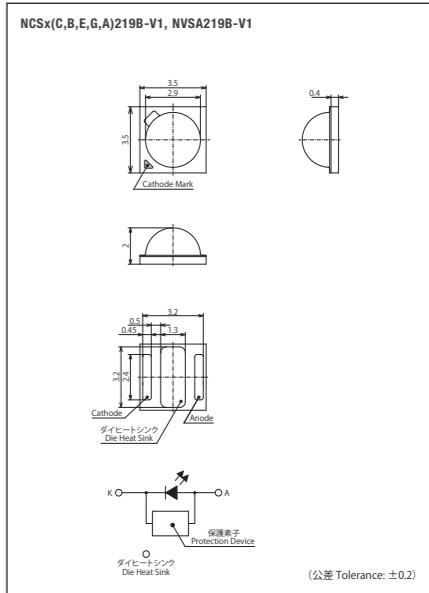
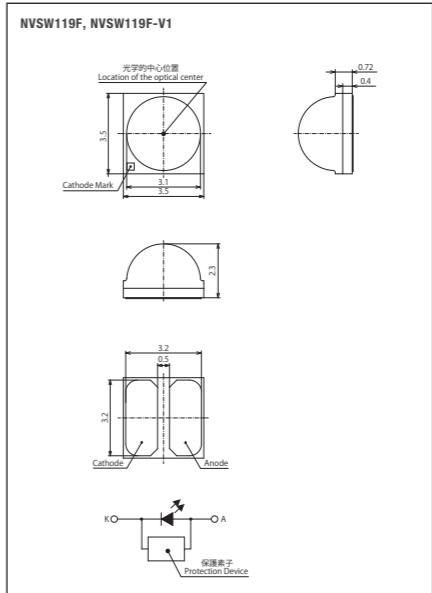
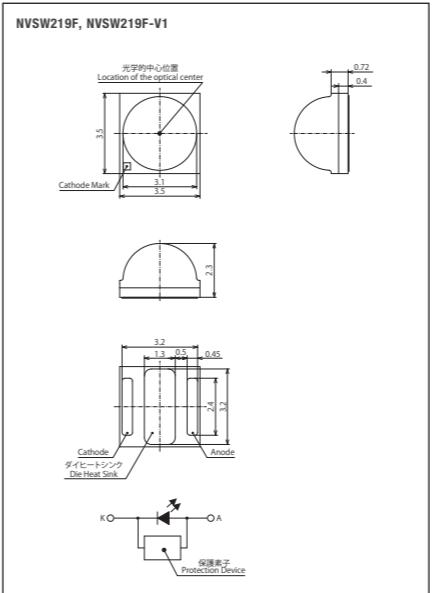
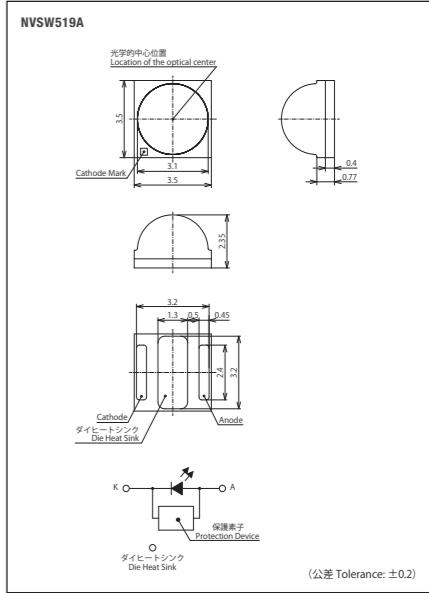
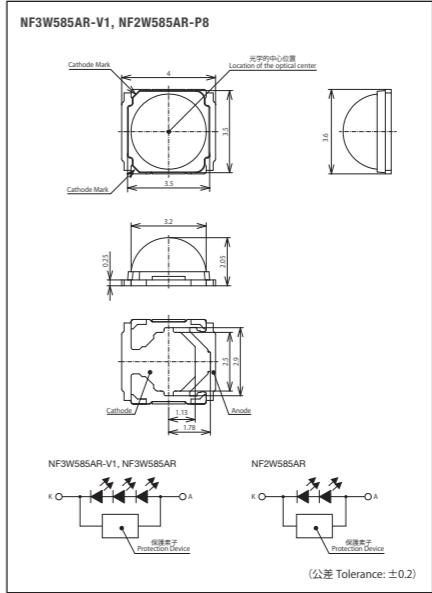
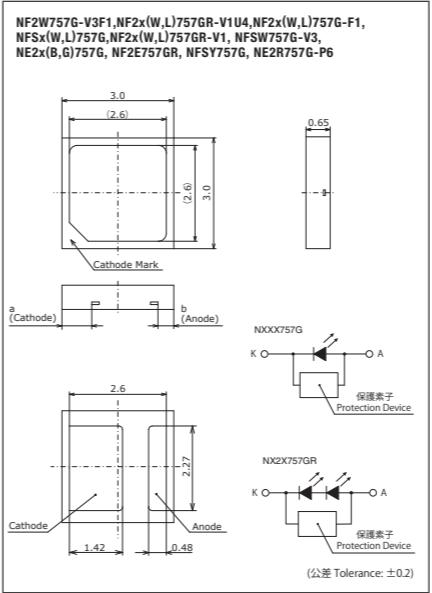
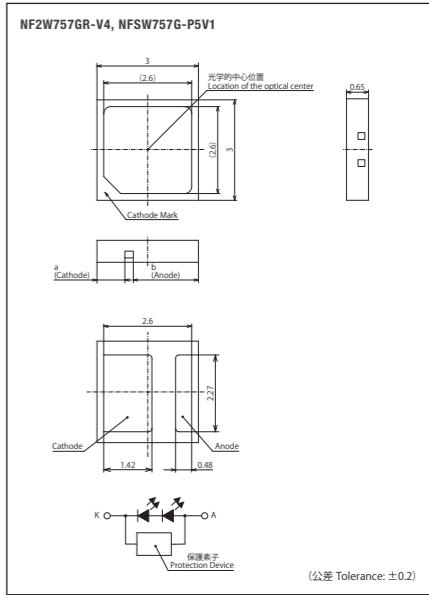
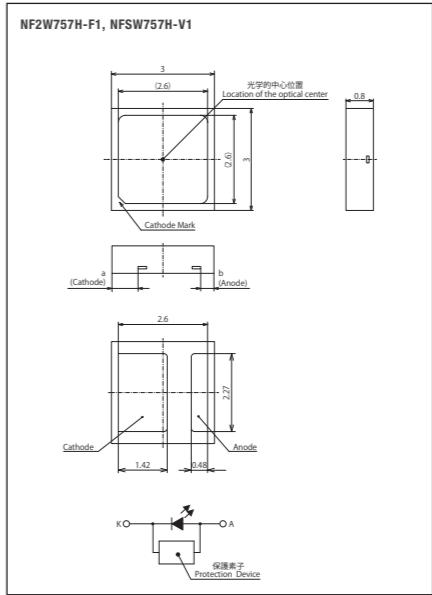
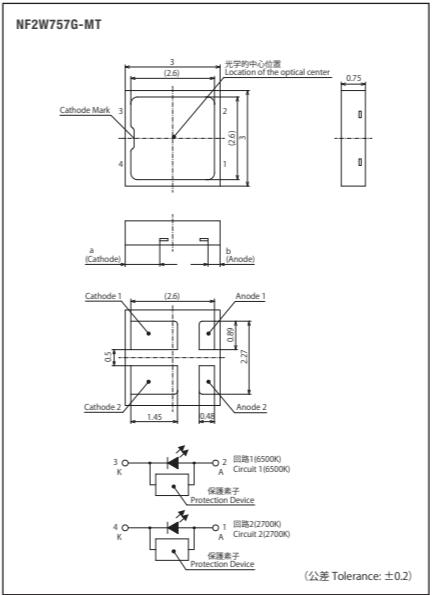
ランク分けの公差については製品毎に標準仕様書をご確認ください。
Measurement Uncertainty of the Rank: Please confirm specification sheet.



Surface Mount Type

Outline Dimensions / Packing Example / Handling Precautions

[外形寸法図 / 梱包例 / 注意事項]



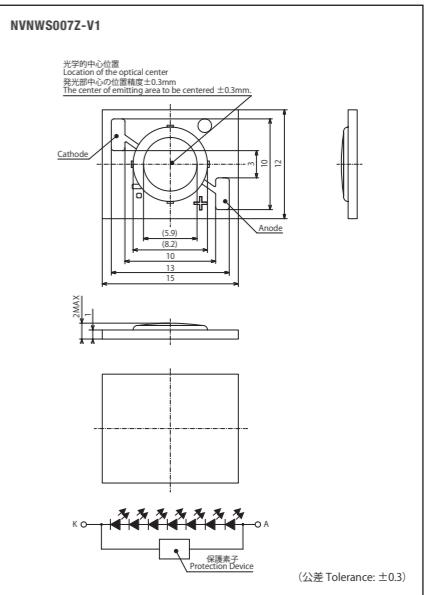
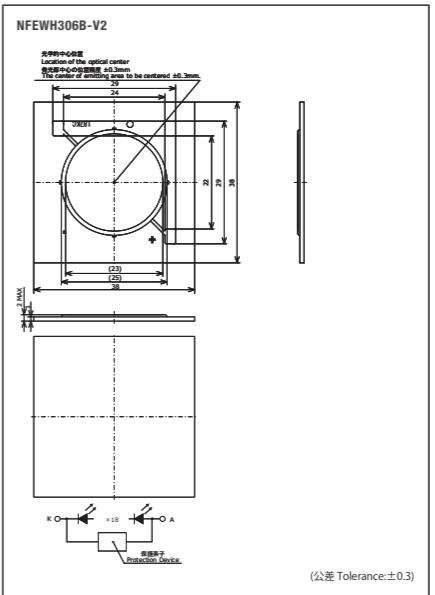
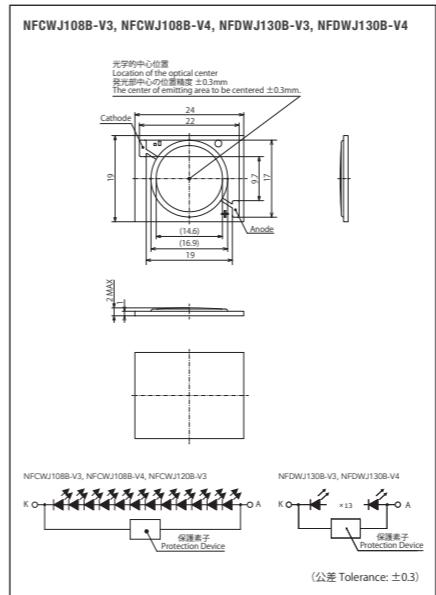
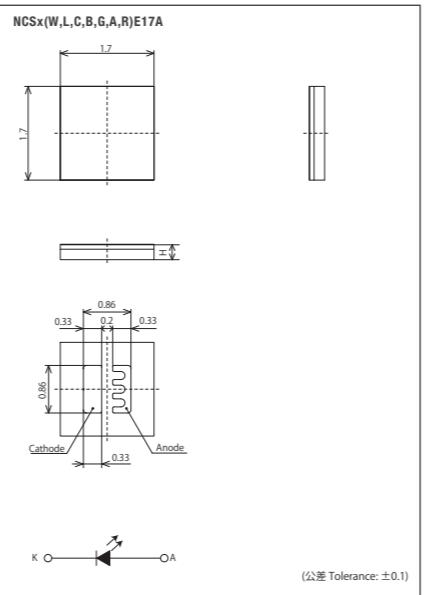
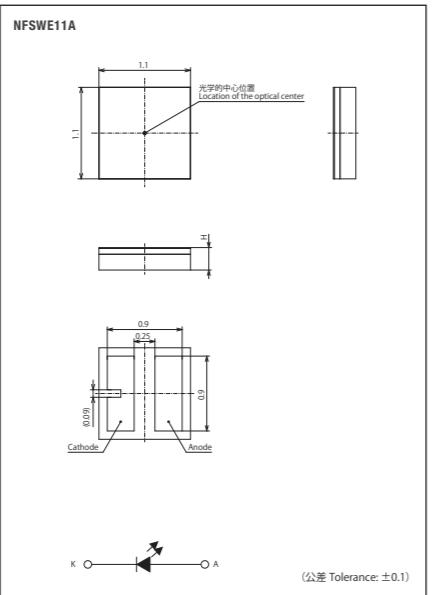
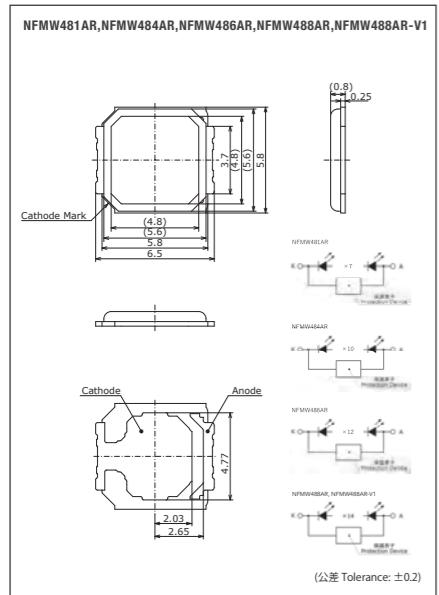
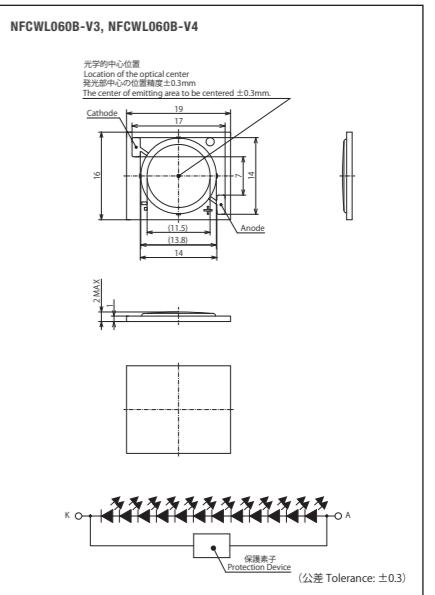
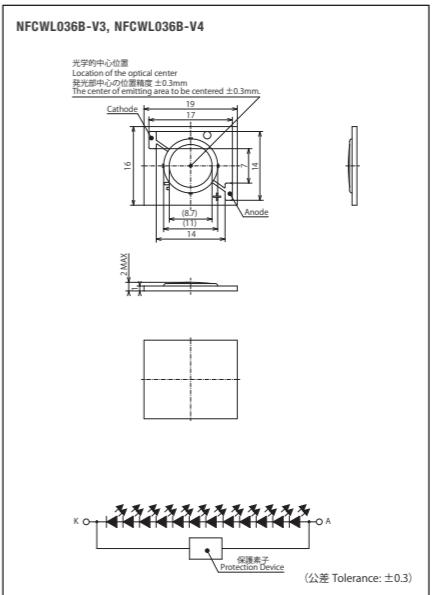
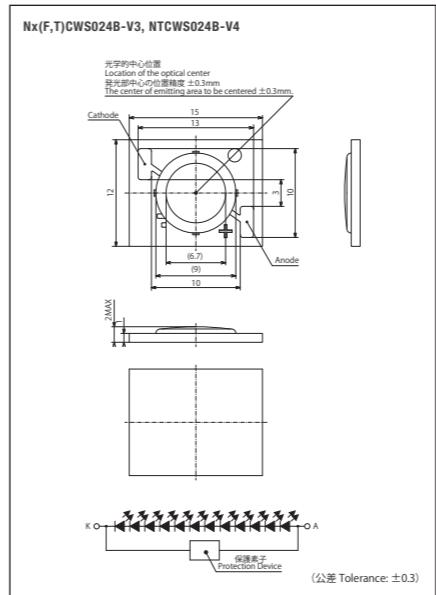
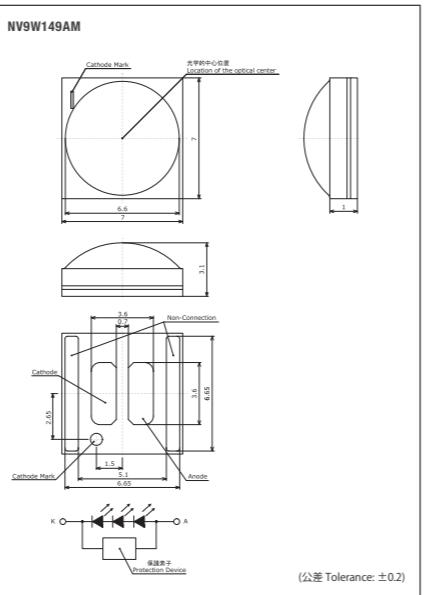
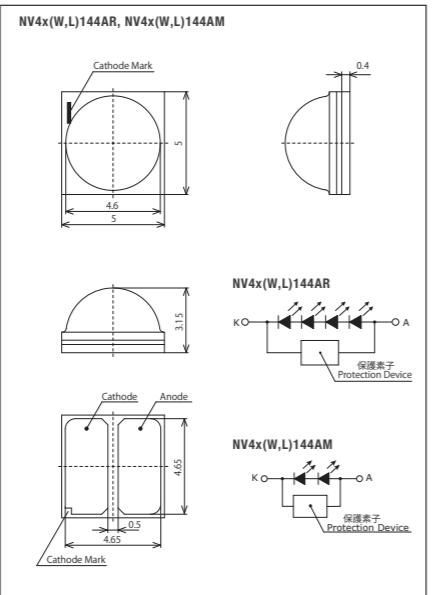
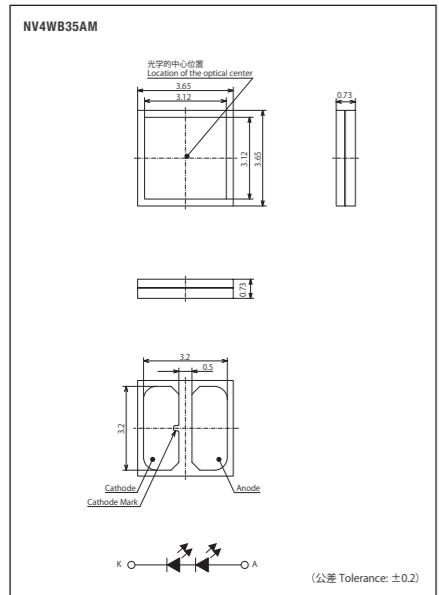
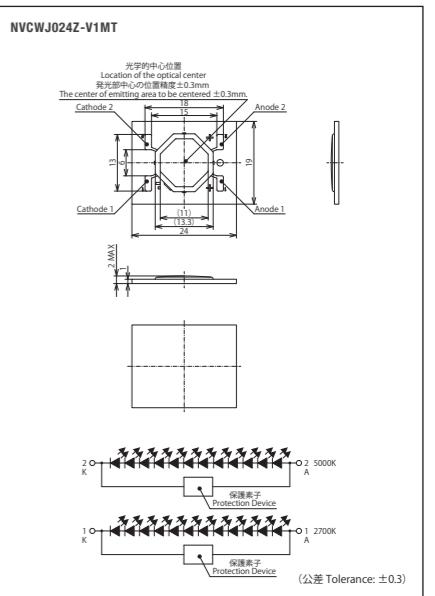
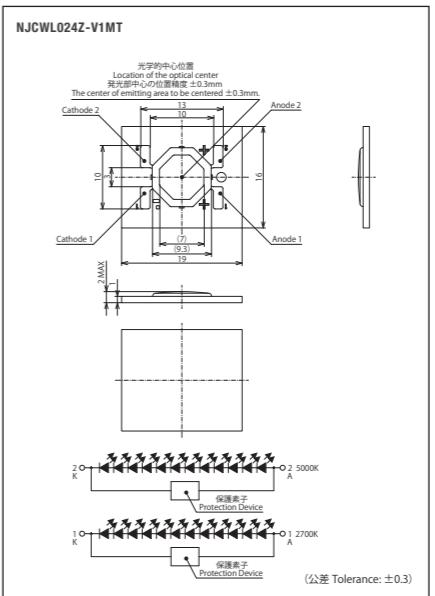
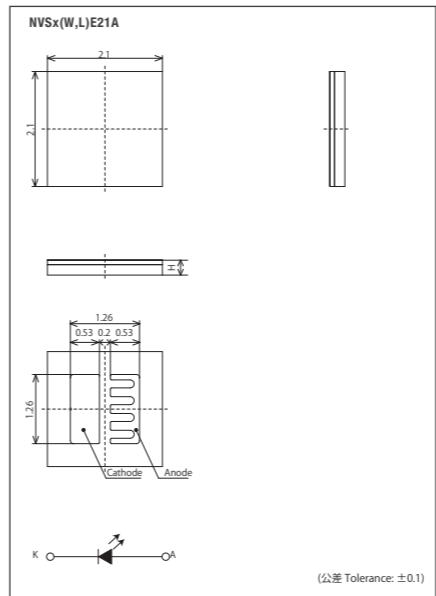
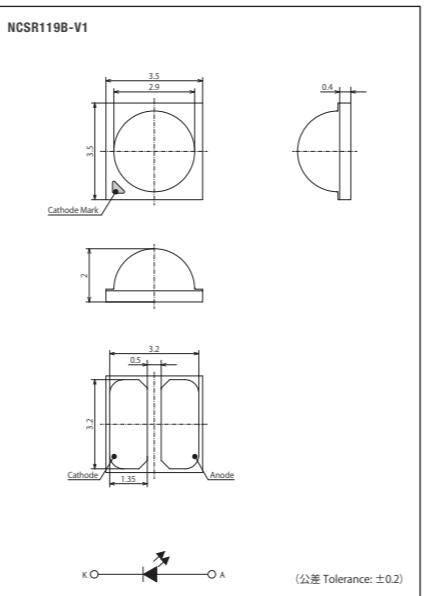
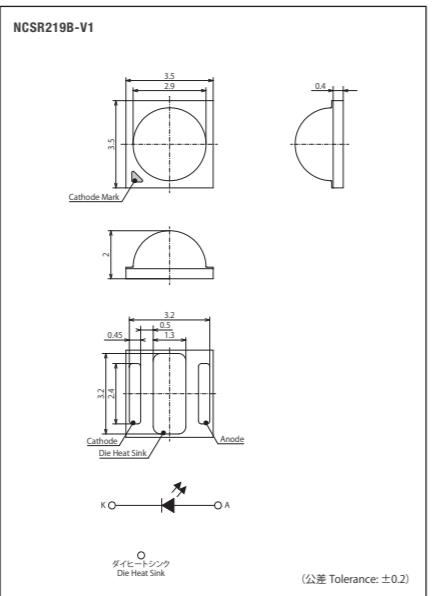
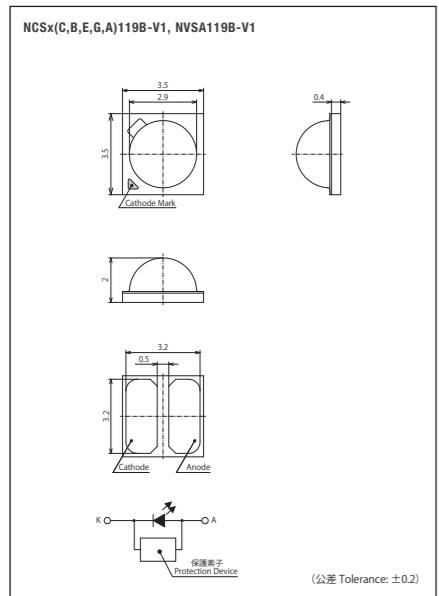
Outline Dimensions

外形寸法図

Surface Mount Type LED



(単位 mm)



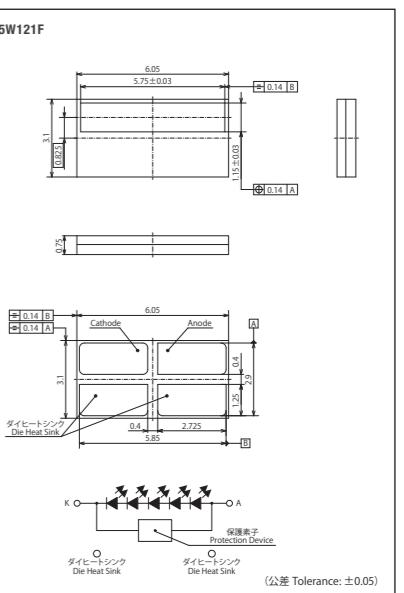
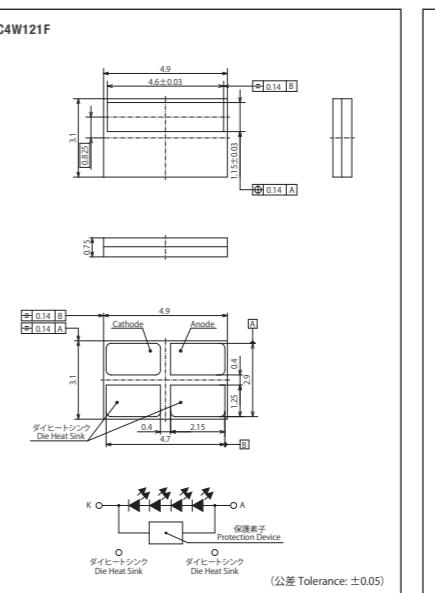
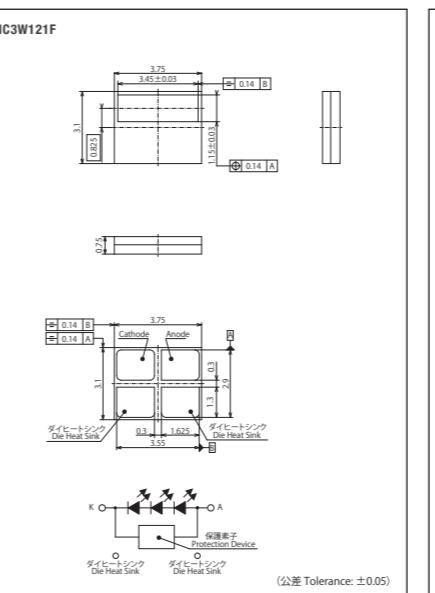
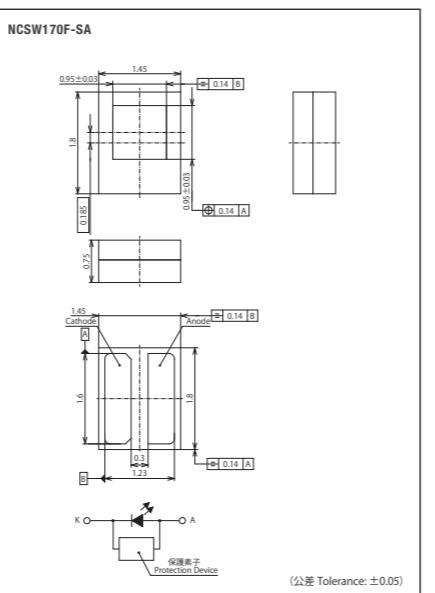
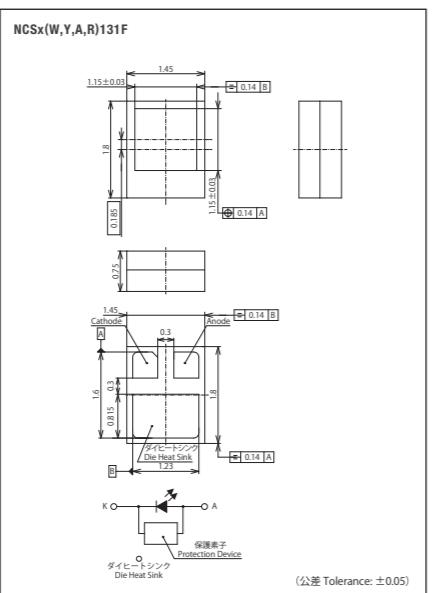
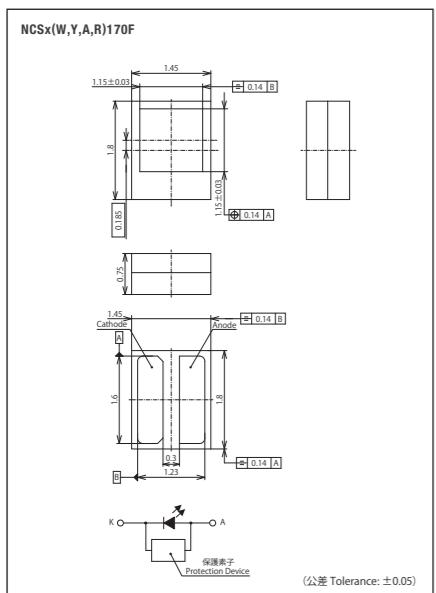
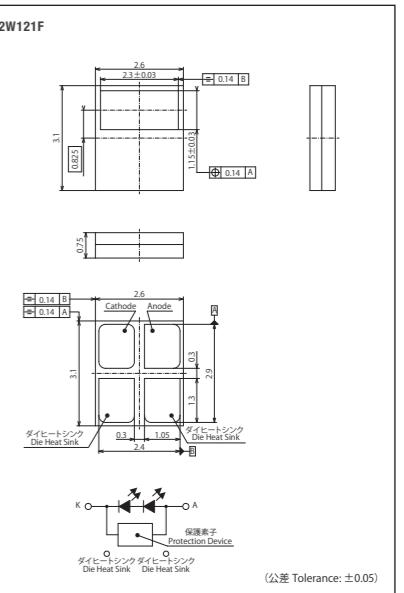
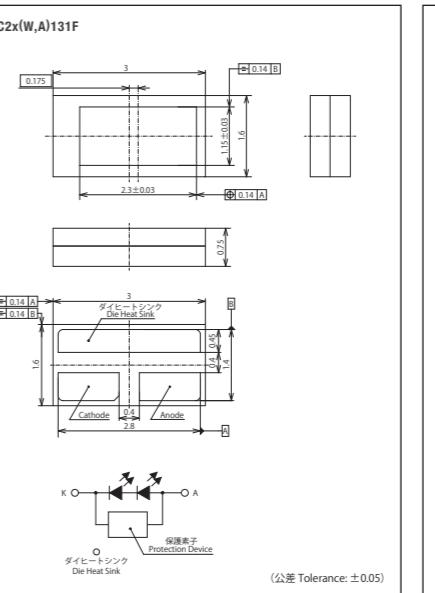
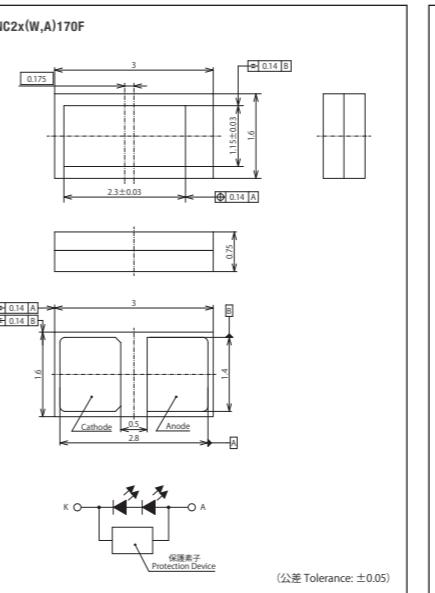
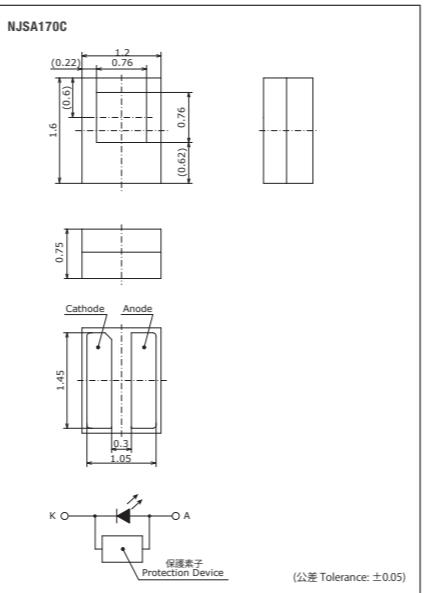
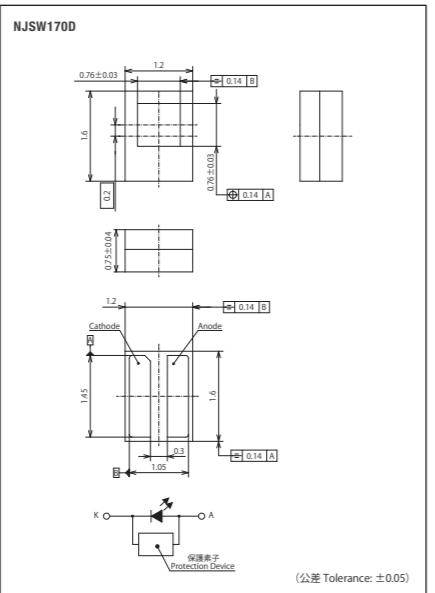
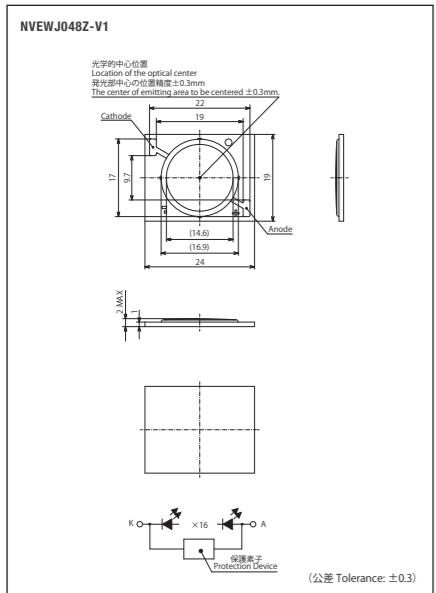
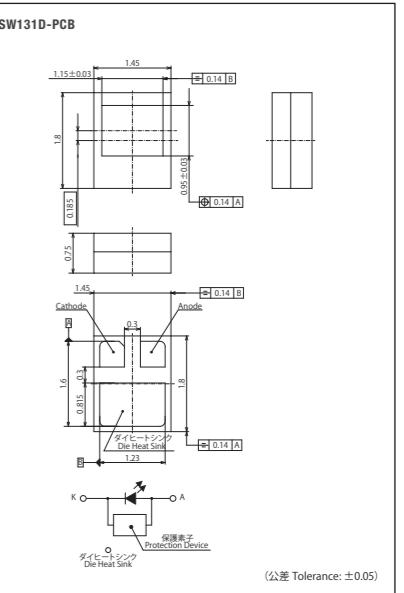
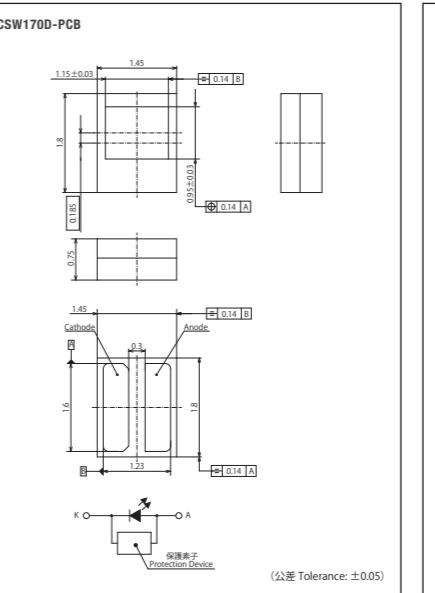
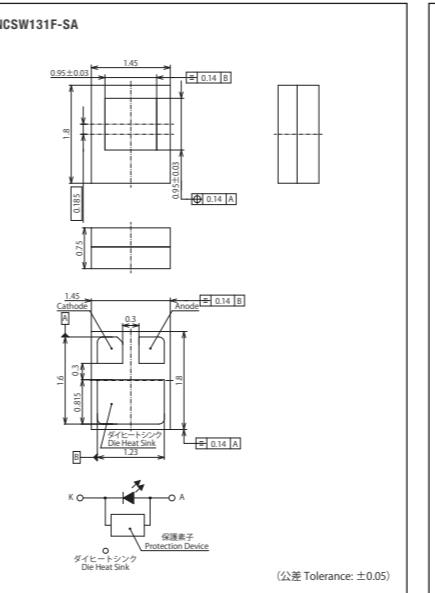
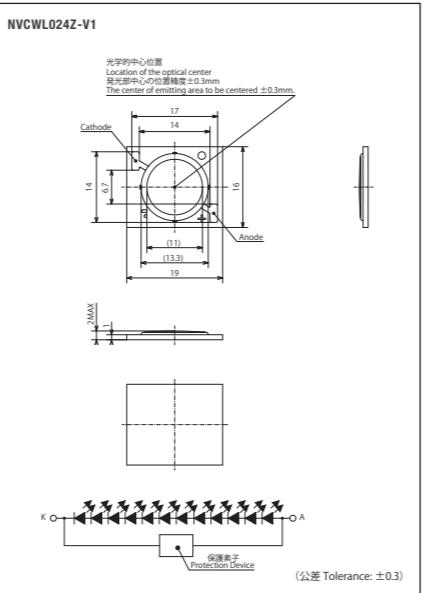
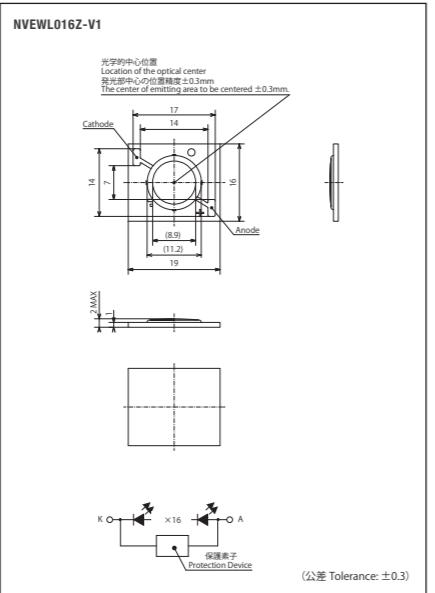
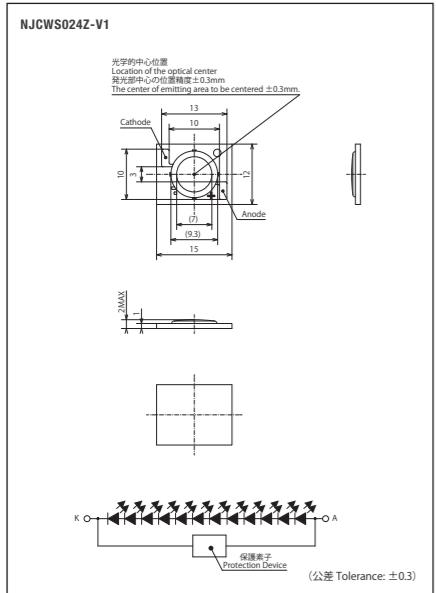
Outline Dimensions

外形寸法図

Surface Mount Type LED



(単位 mm)

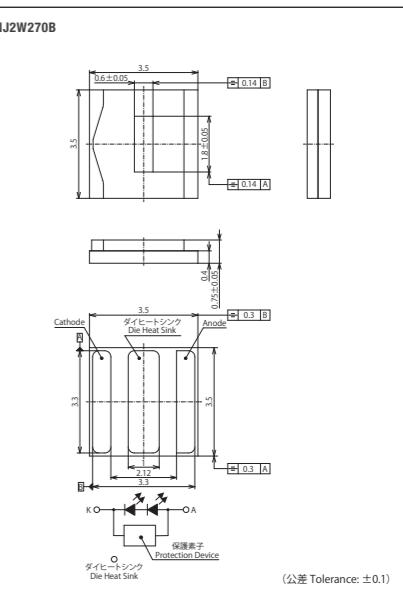
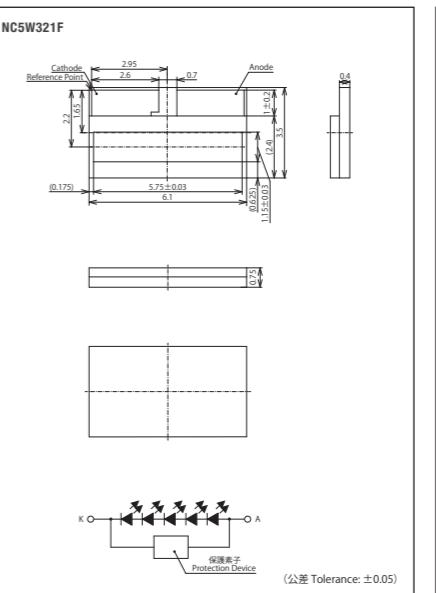
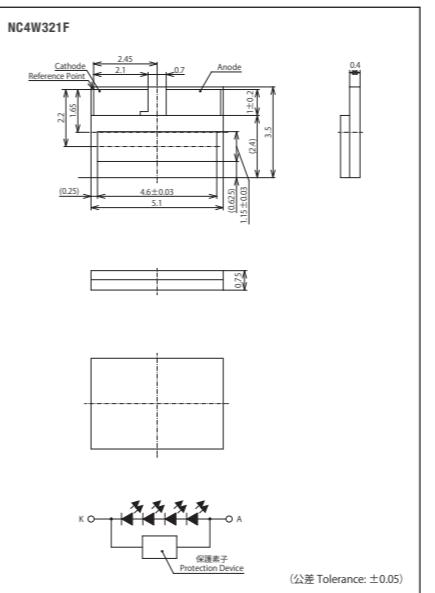
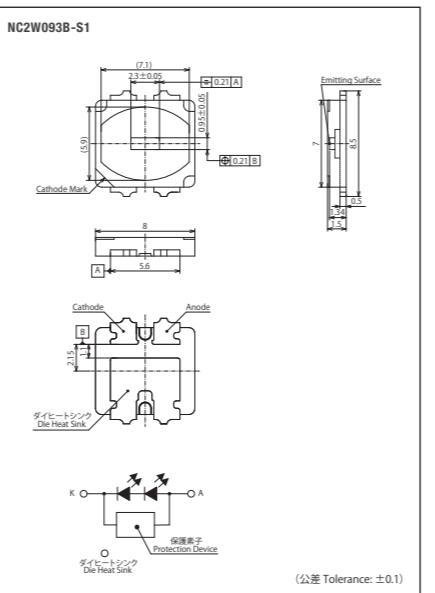
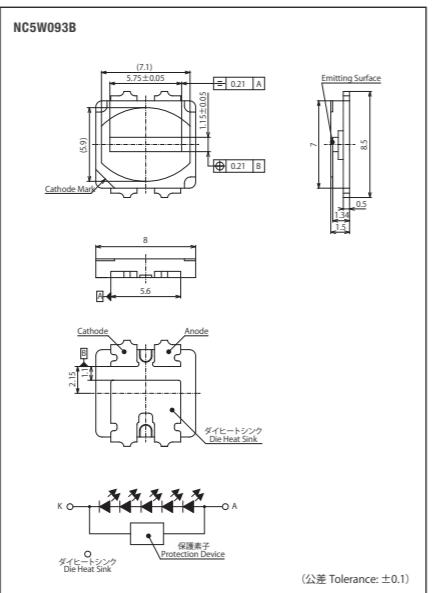
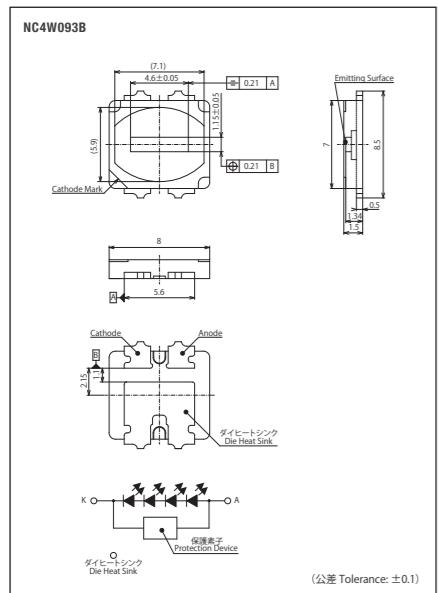
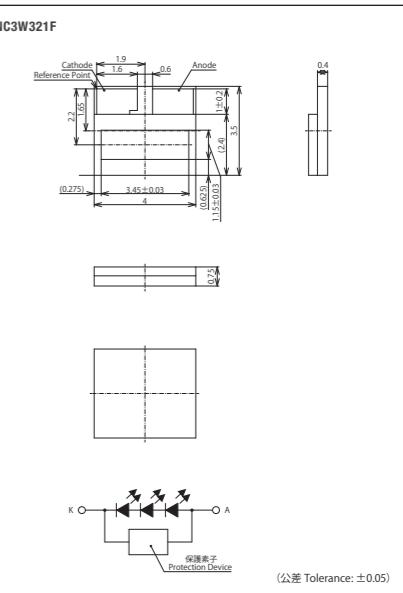
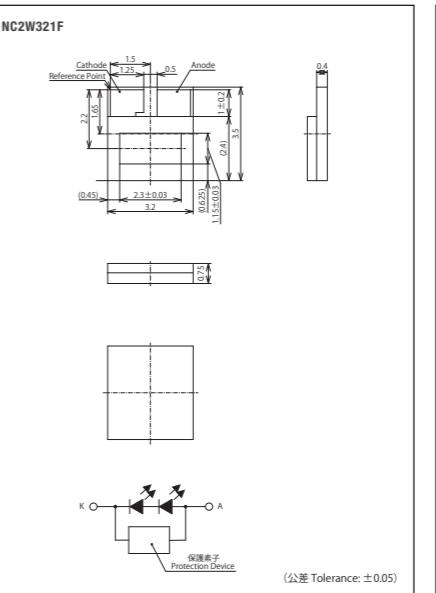
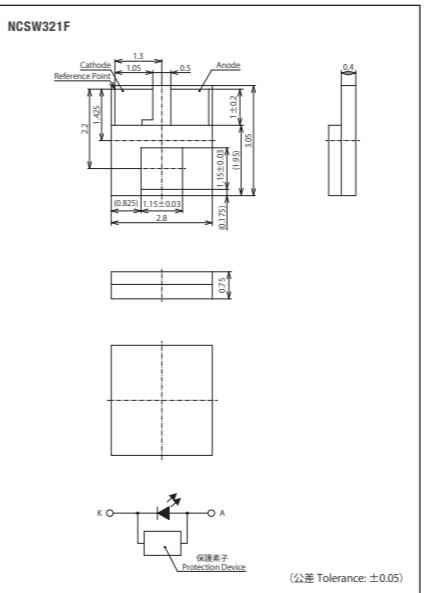
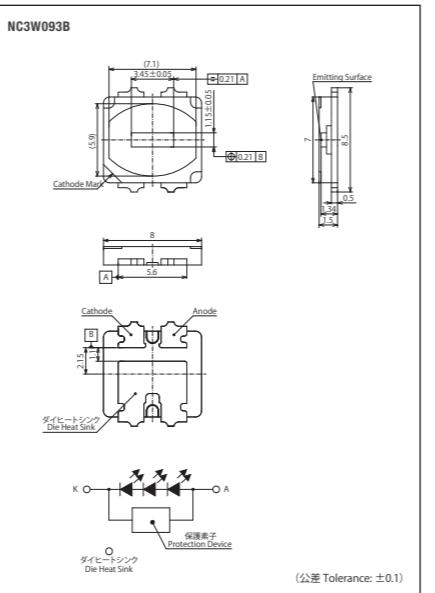
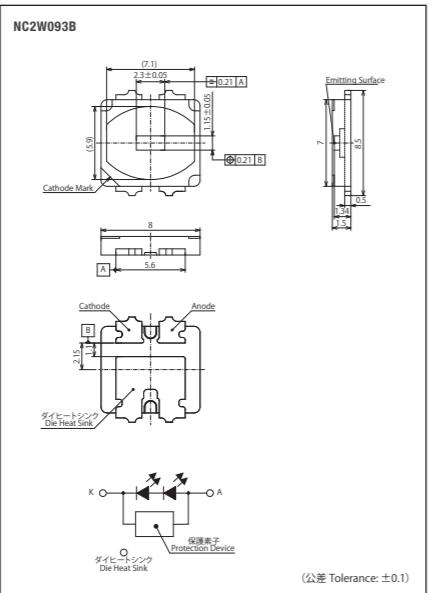
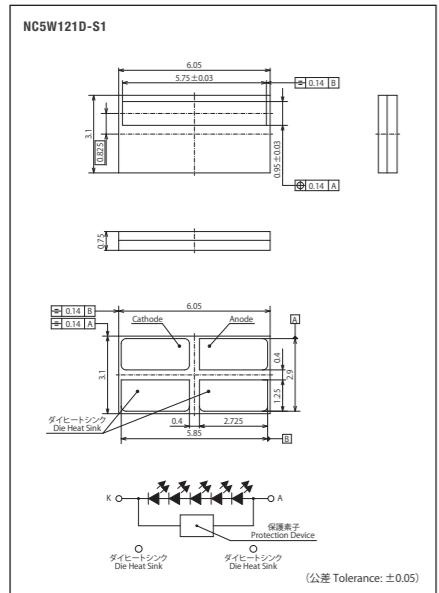
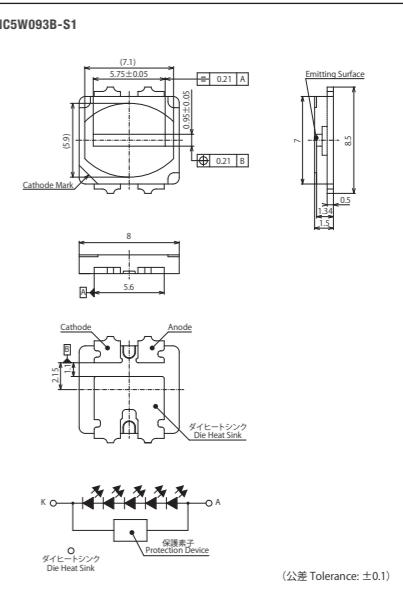
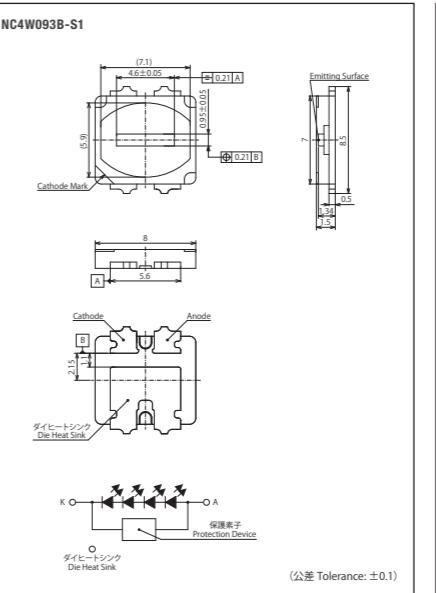
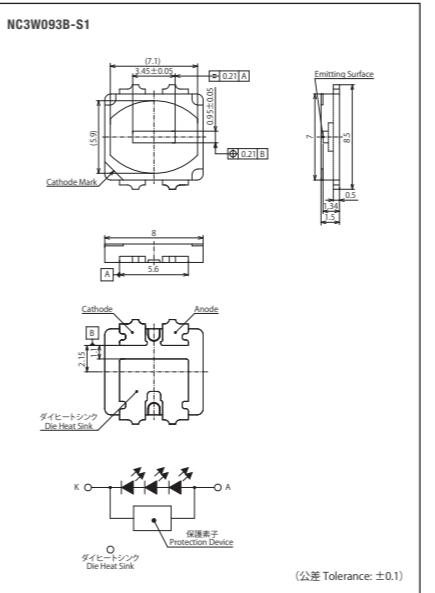
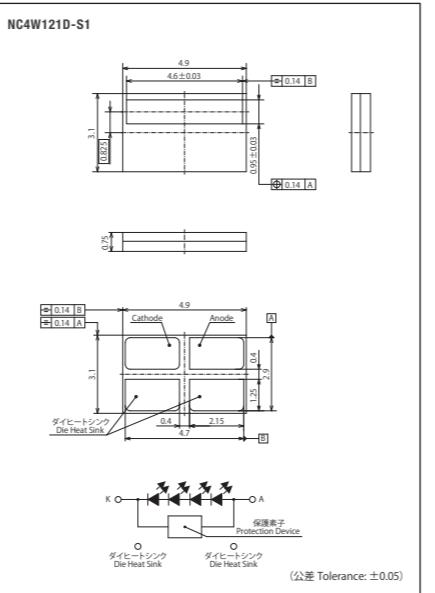
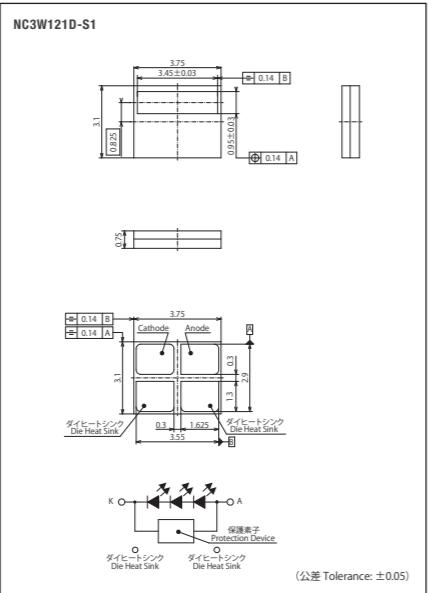
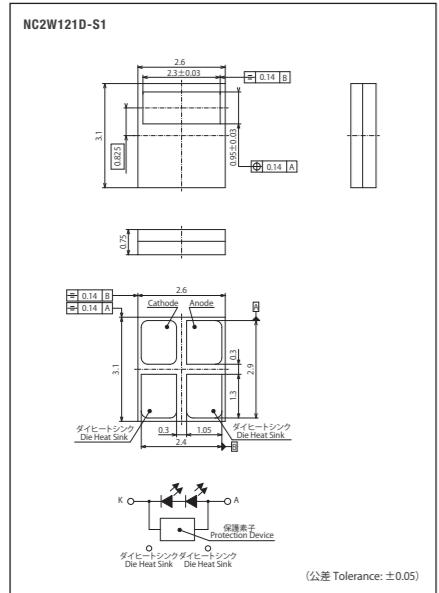


Outline Dimensions 外形寸法図

Surface Mount Type LED



(单位 Unit:mm)



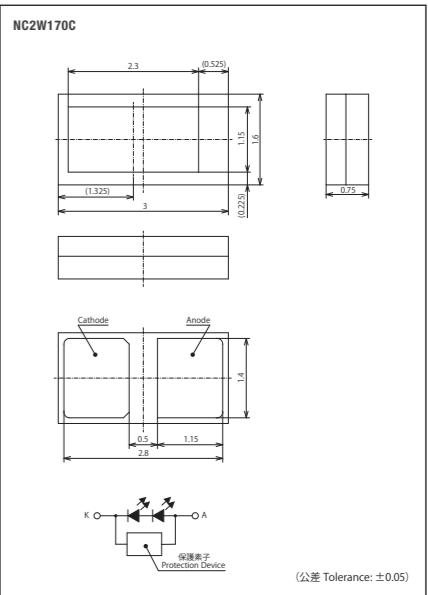
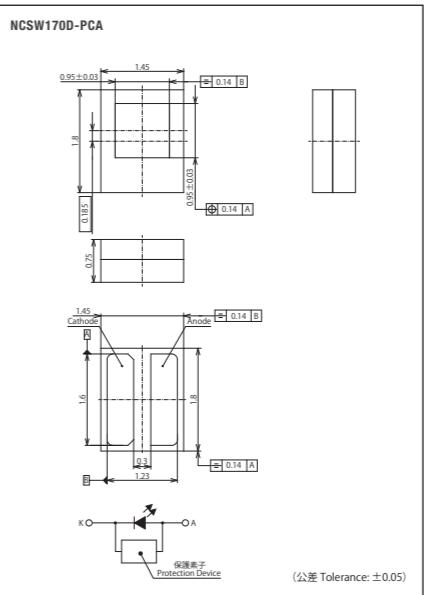
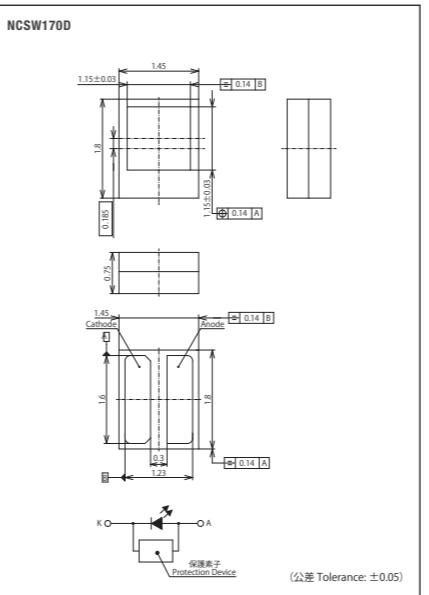
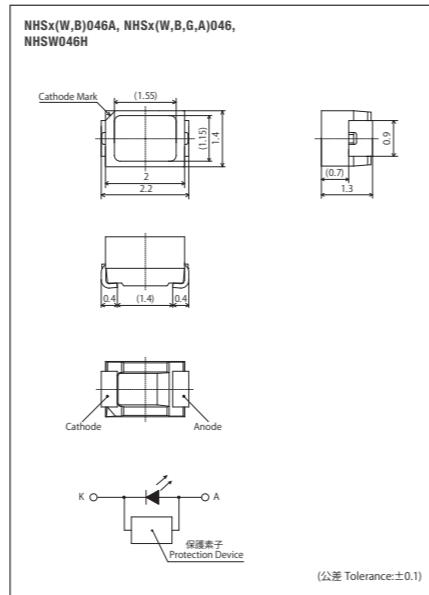
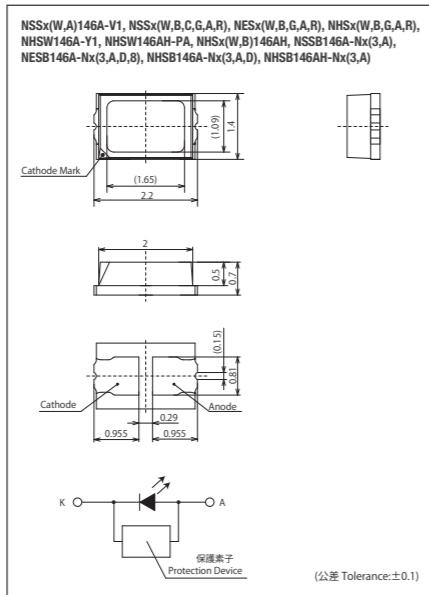
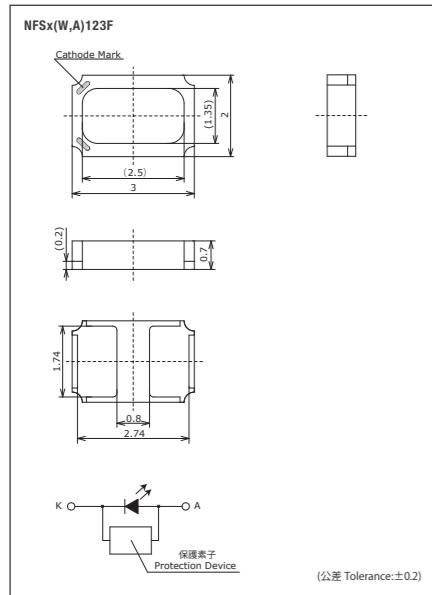
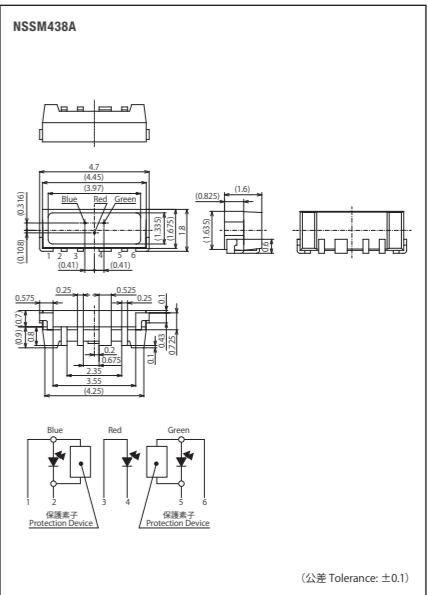
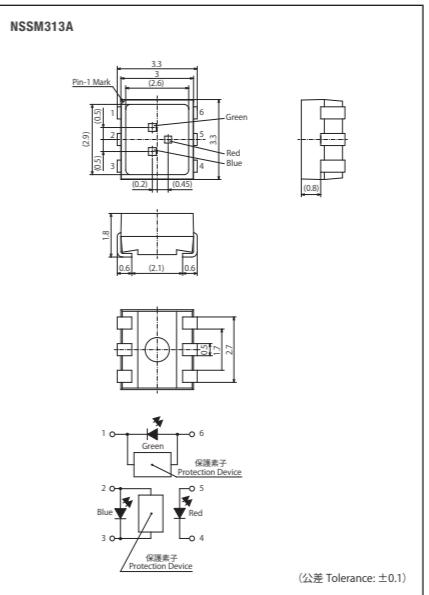
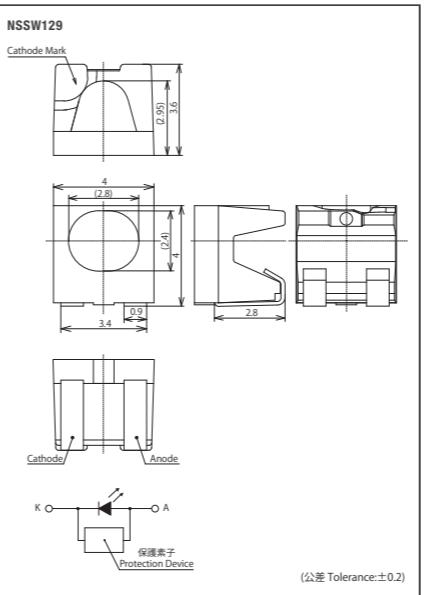
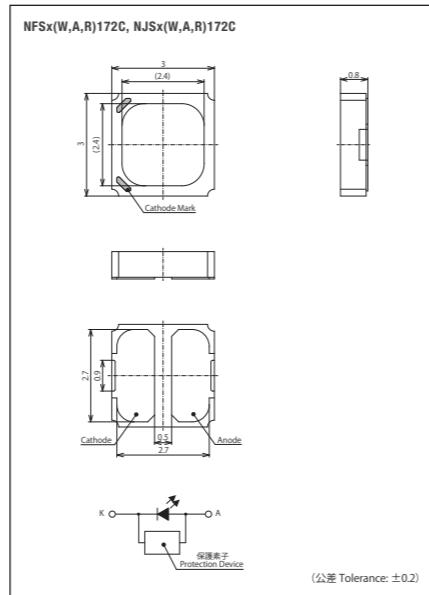
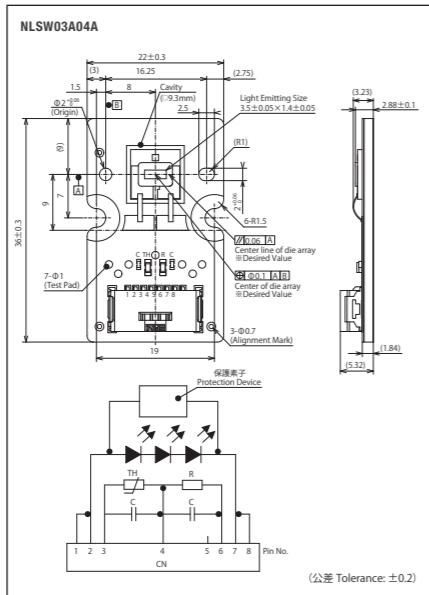
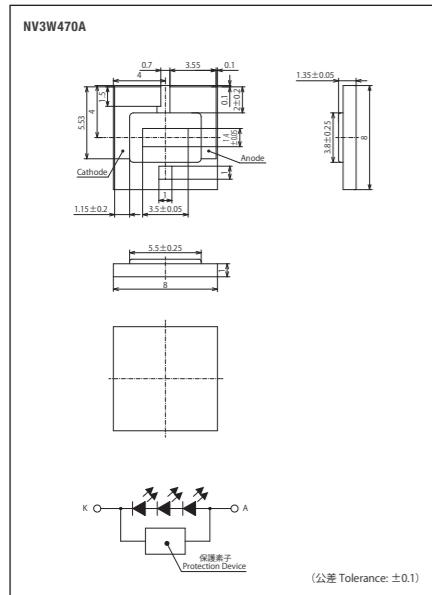
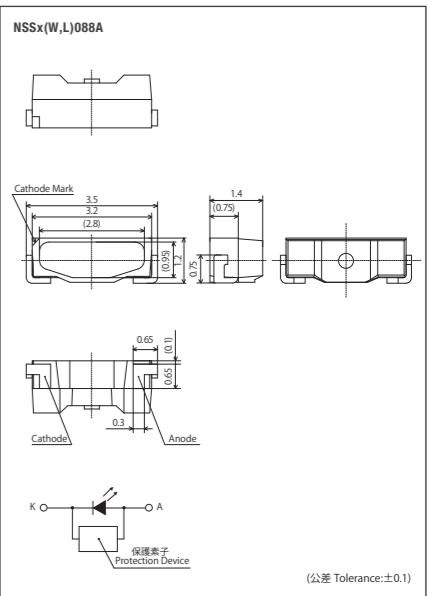
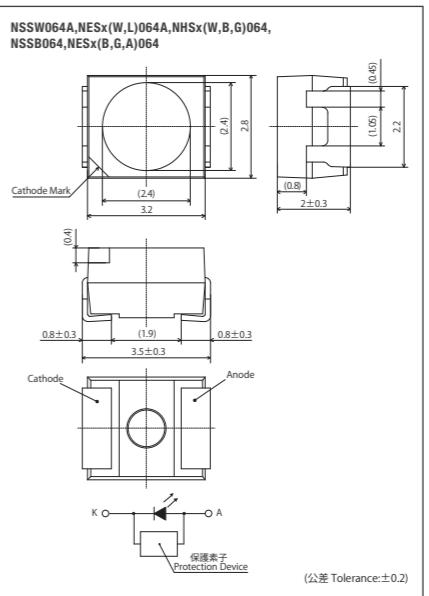
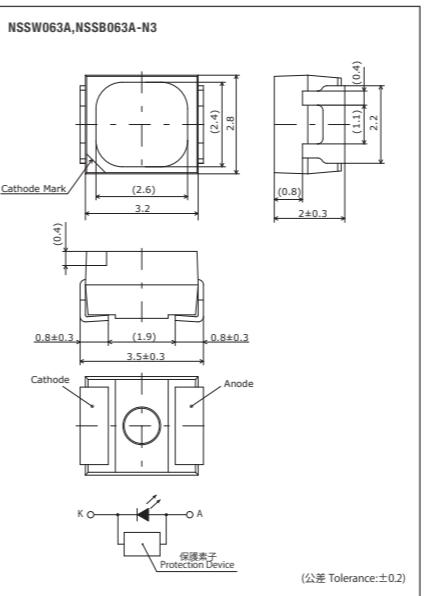
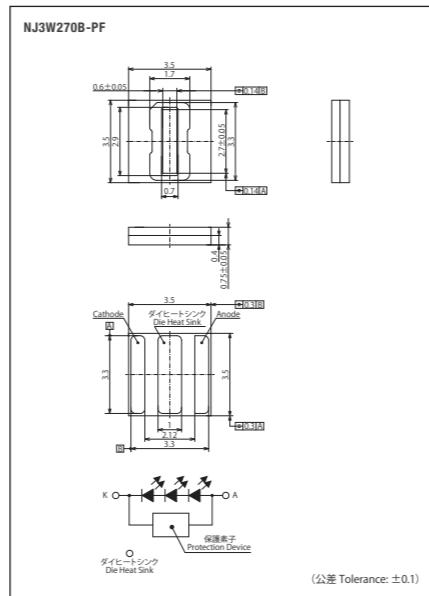
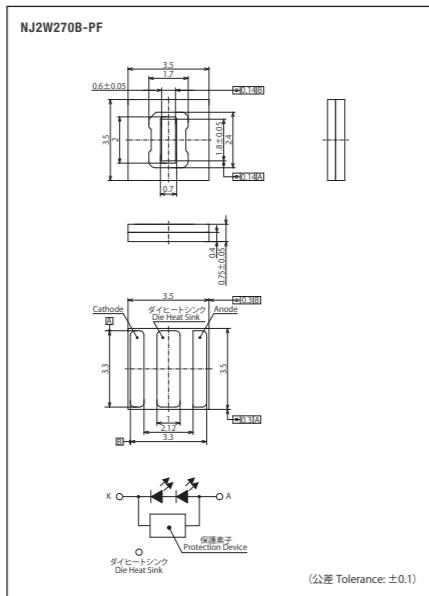
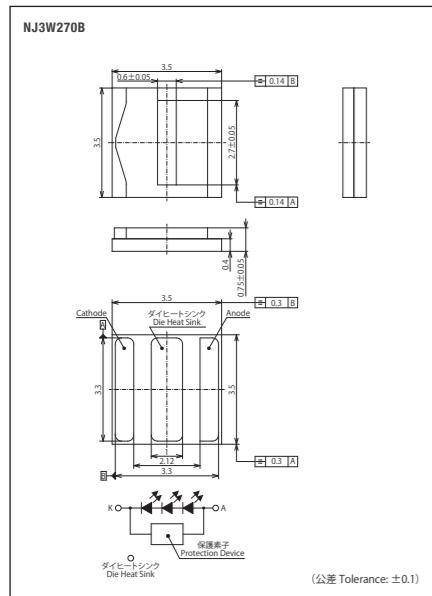
Outline Dimensions

外形寸法図

Surface Mount Type LED



(単位 mm)



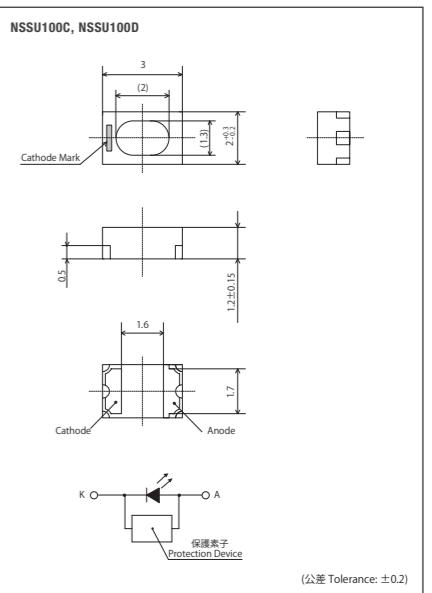
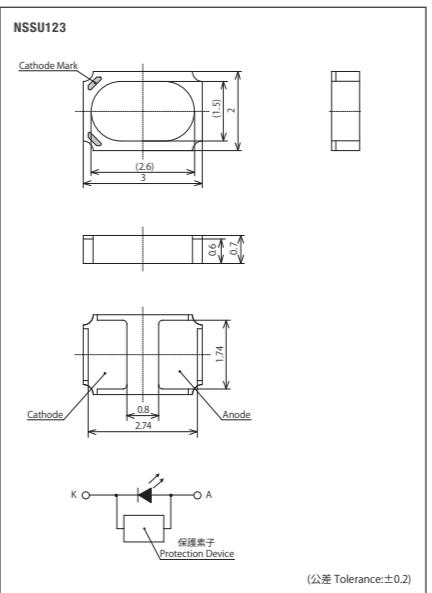
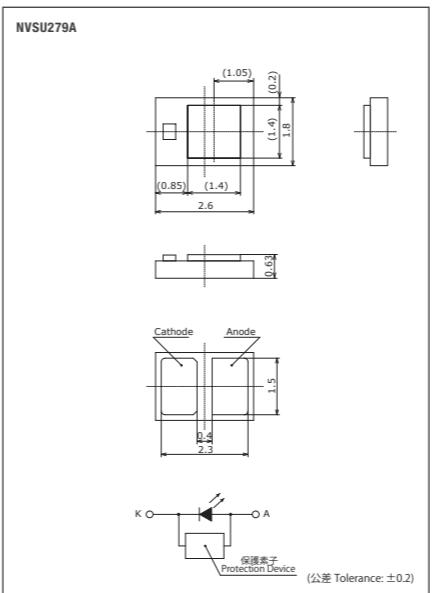
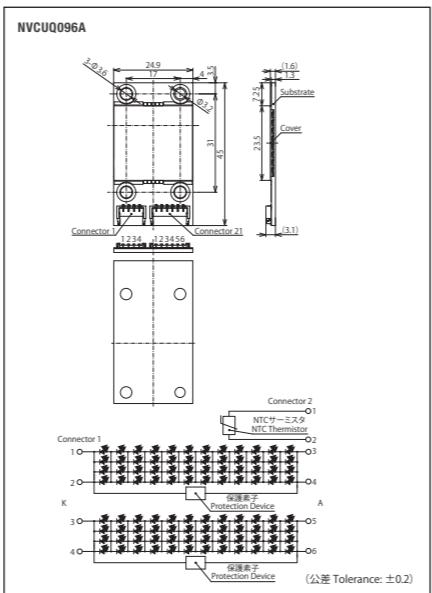
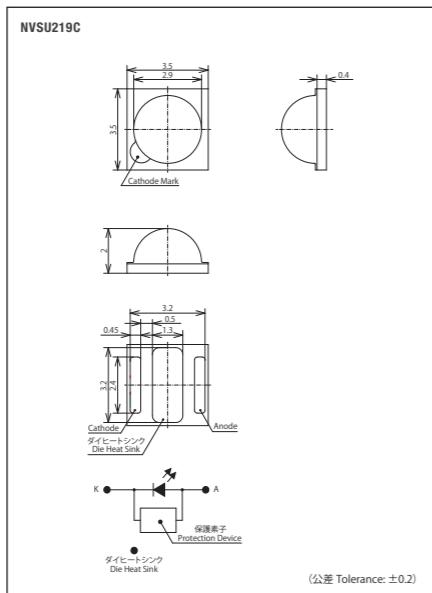
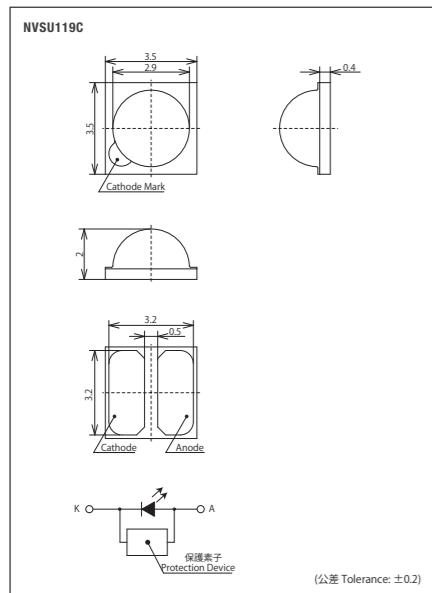
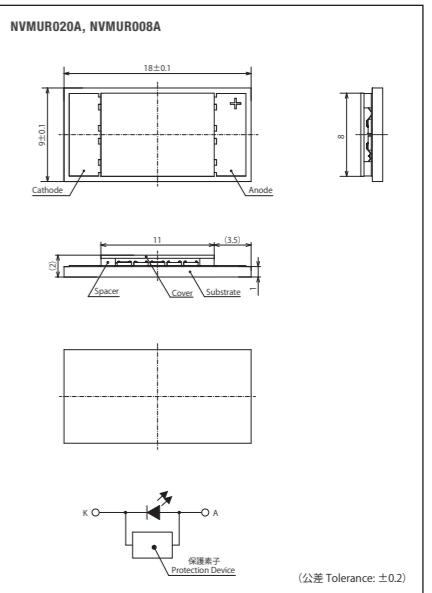
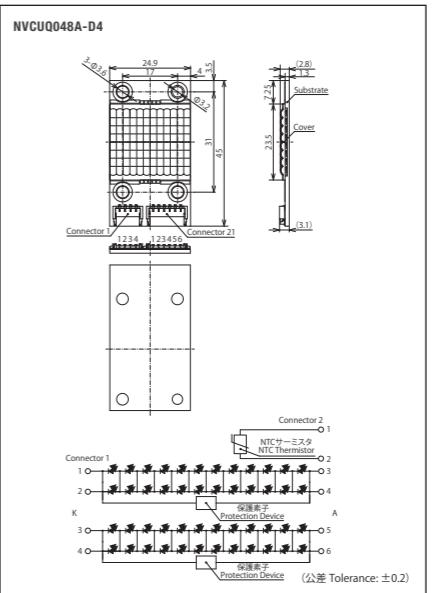
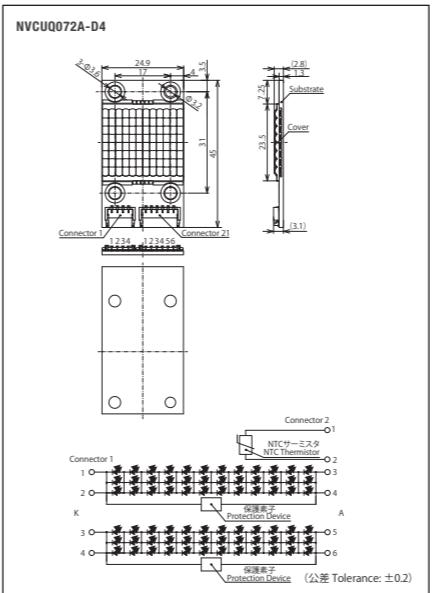
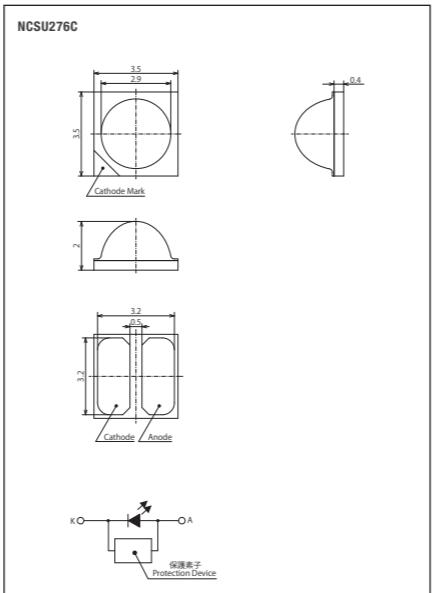
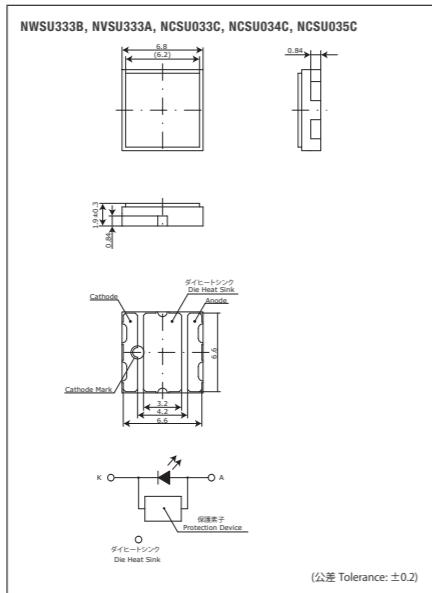
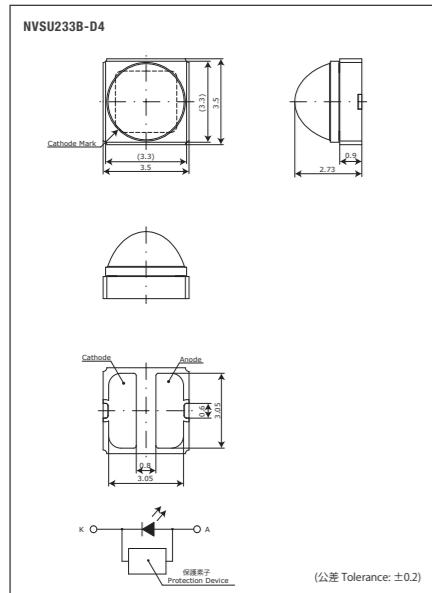
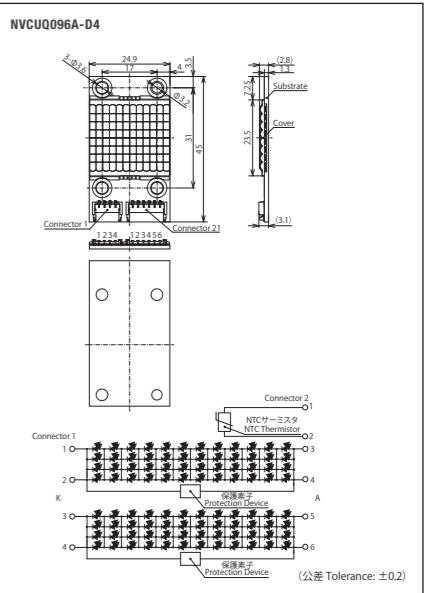
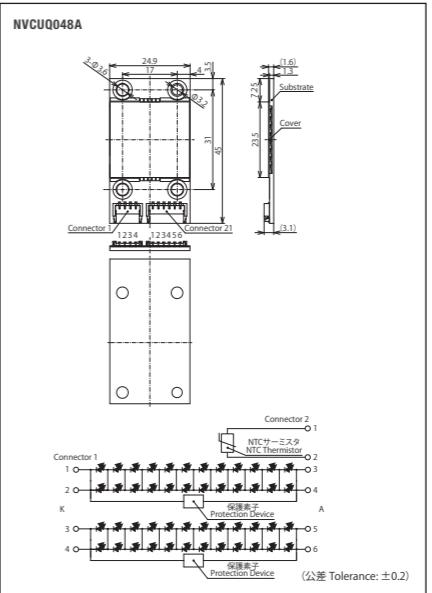
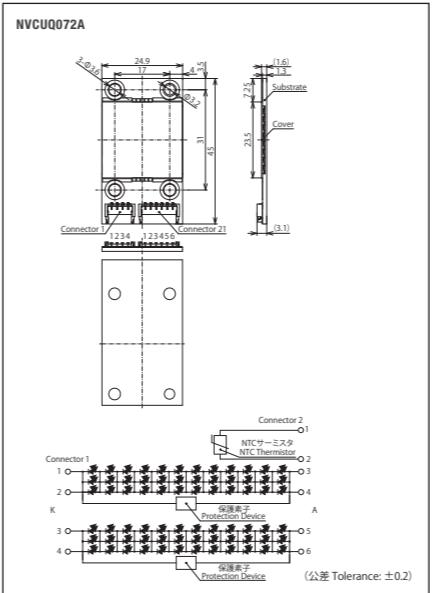
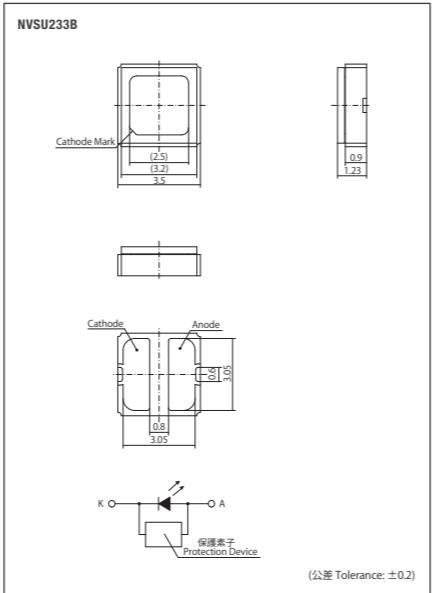
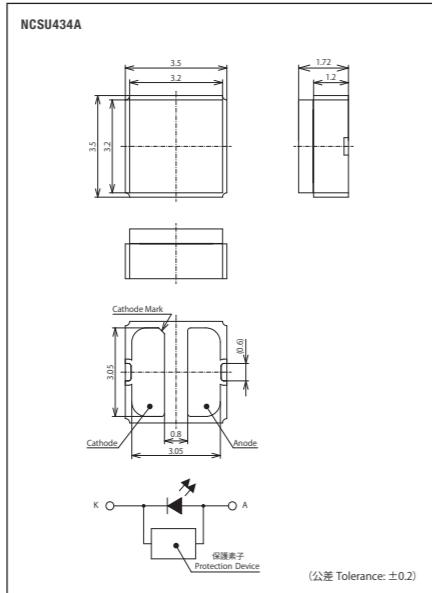
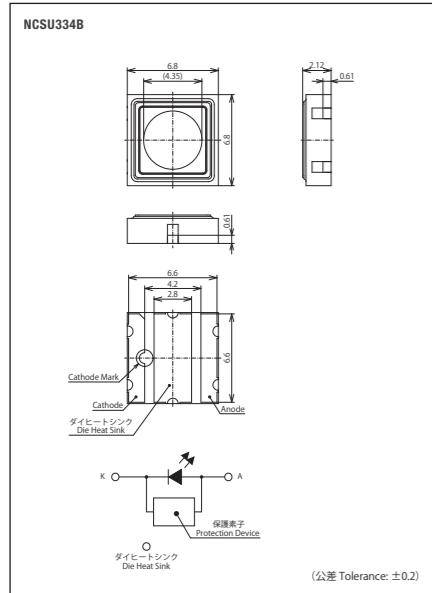
Outline Dimensions

外形寸法図

Surface Mount Type LED



(単位 Unit: mm)



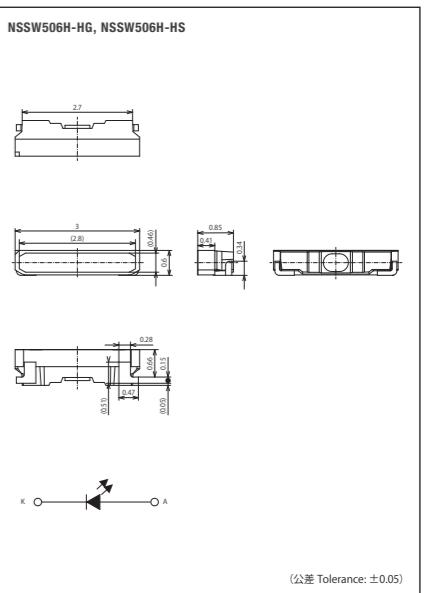
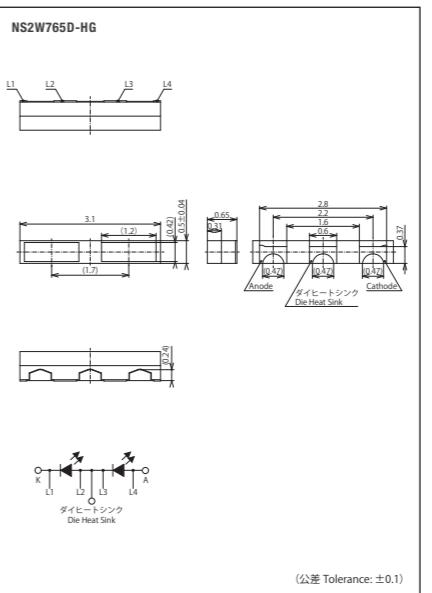
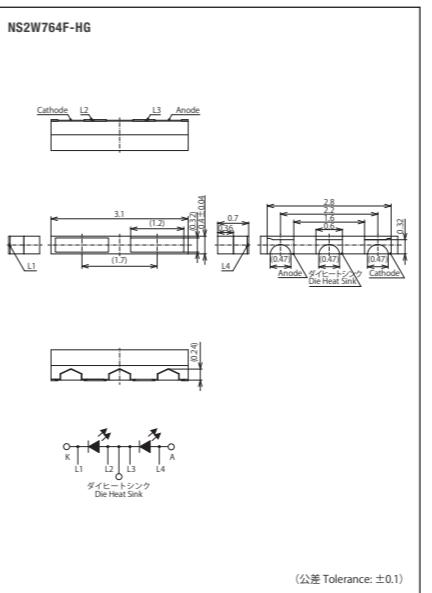
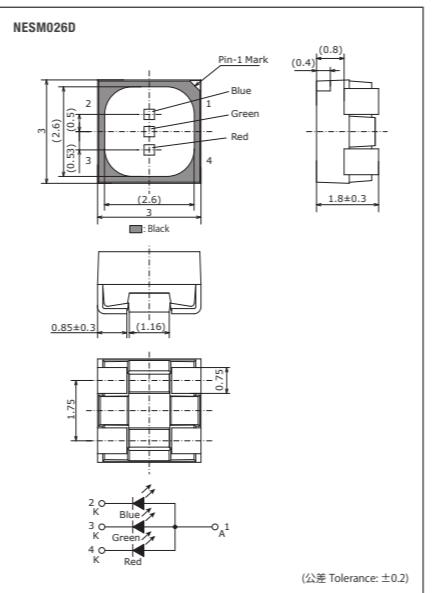
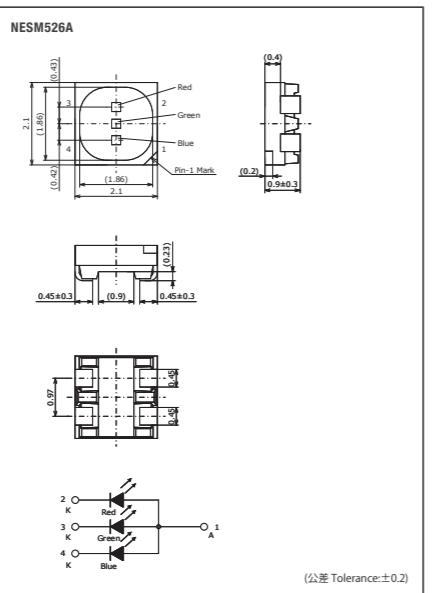
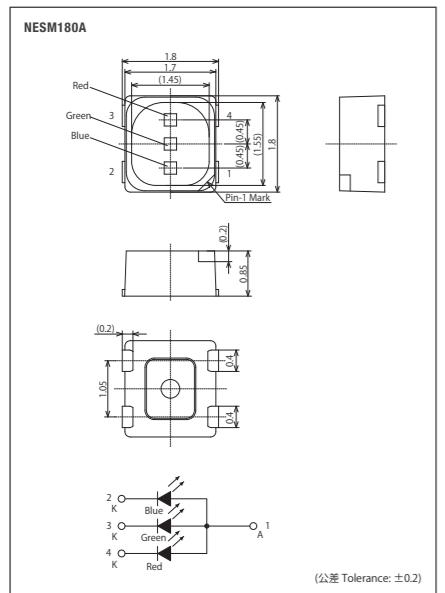
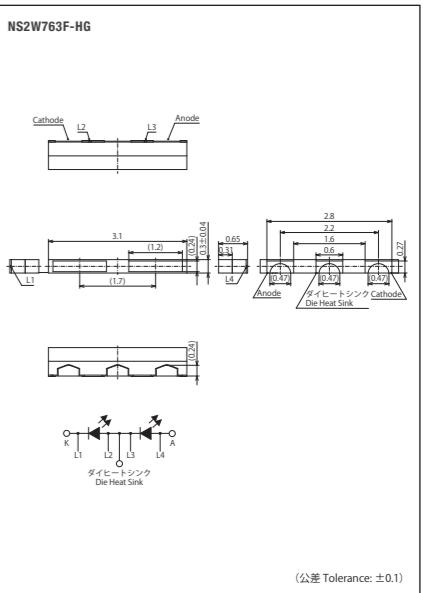
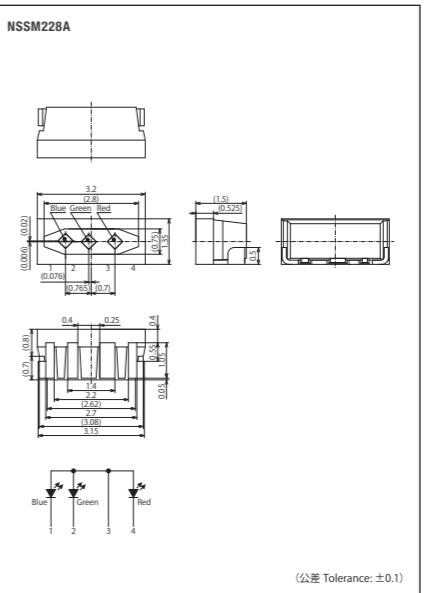
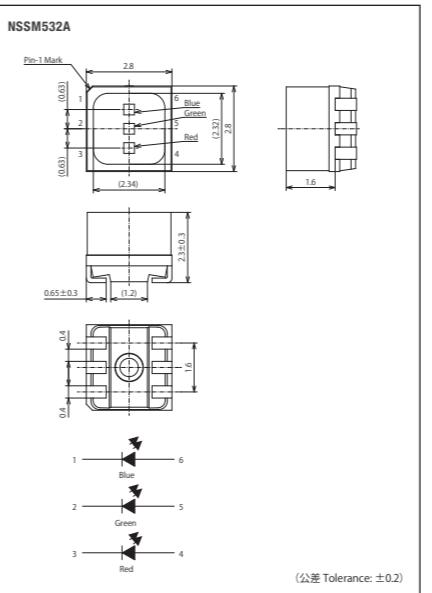
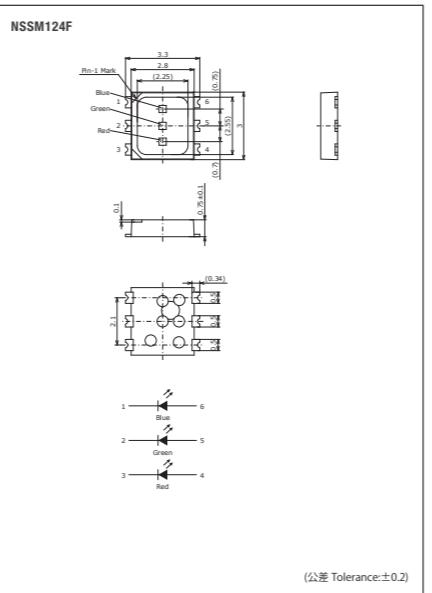
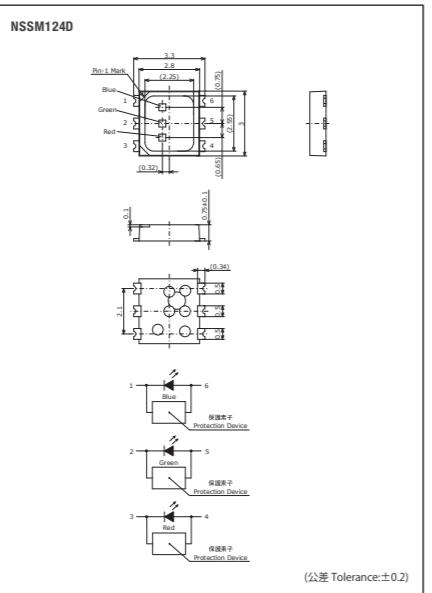
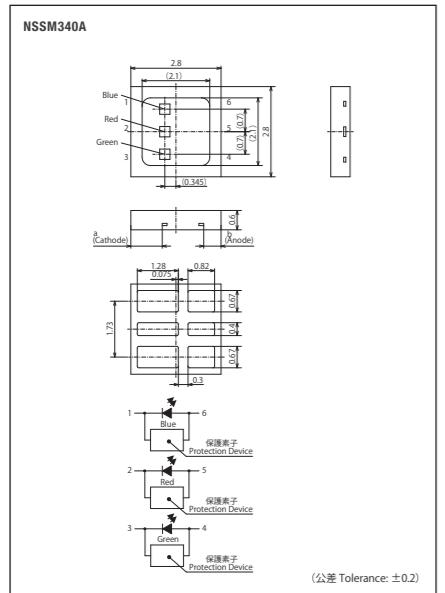
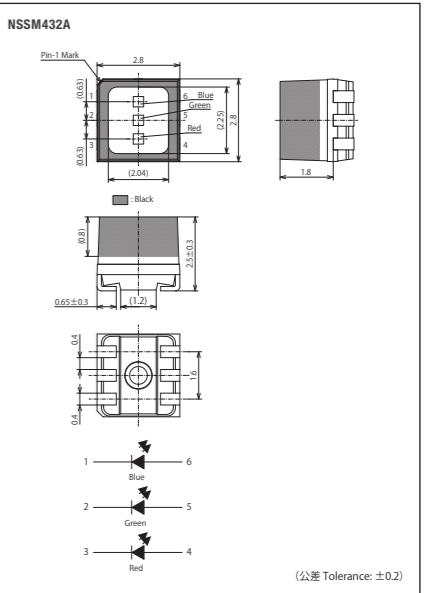
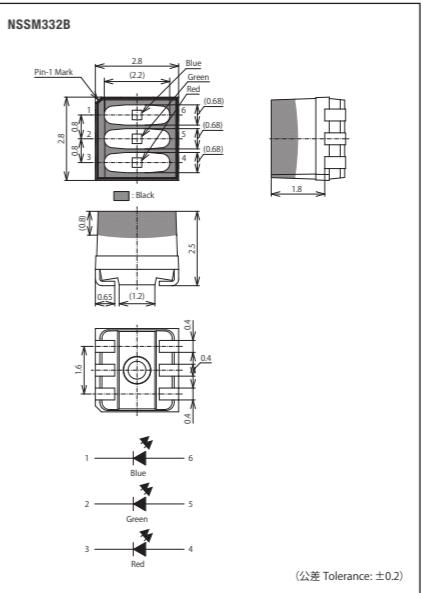
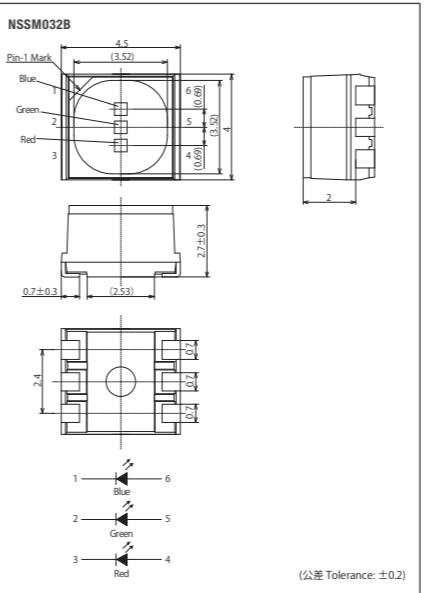
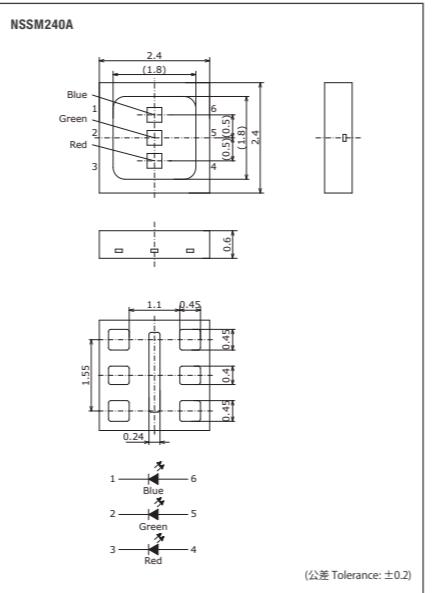
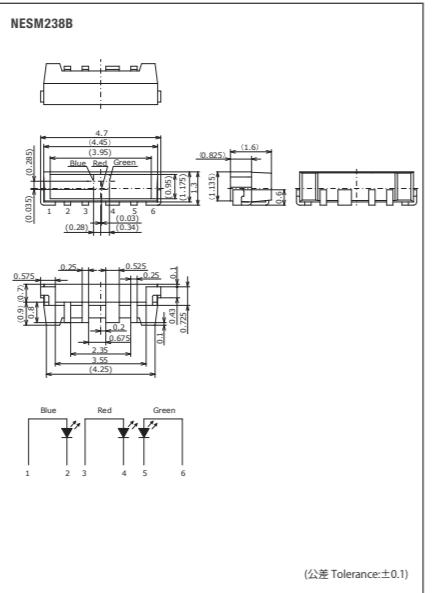
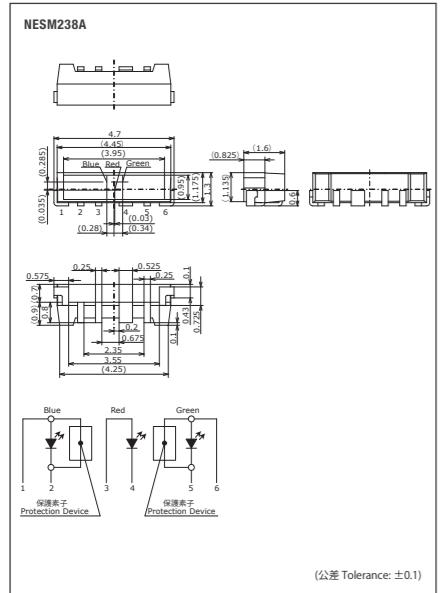
Outline Dimensions

外形寸法図

Surface Mount Type LED



(単位 mm)



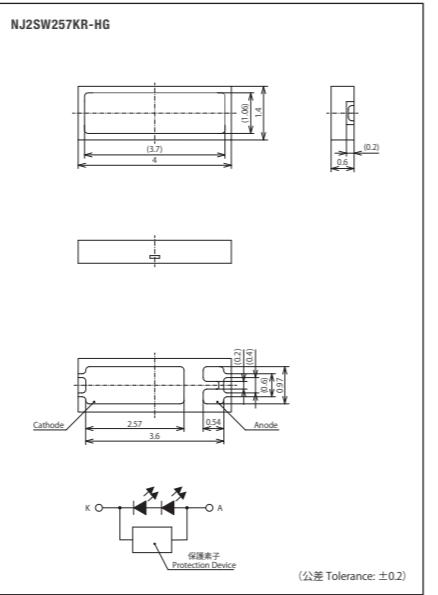
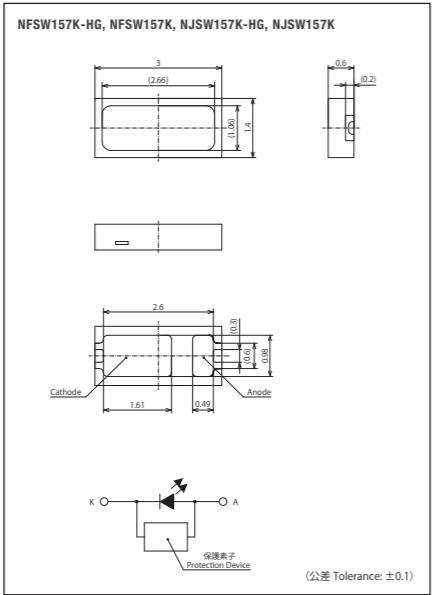
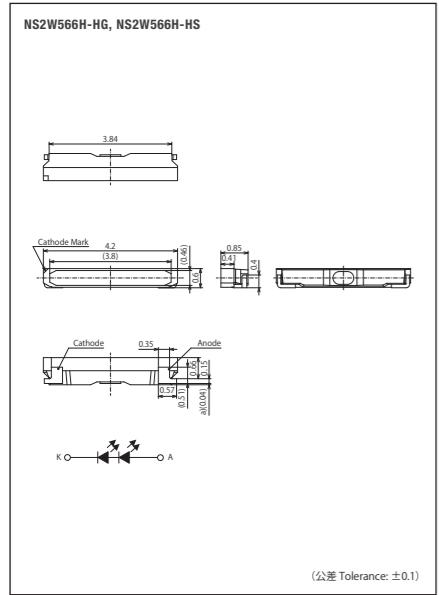
Outline Dimensions

外形寸法図

Surface Mount Type LED



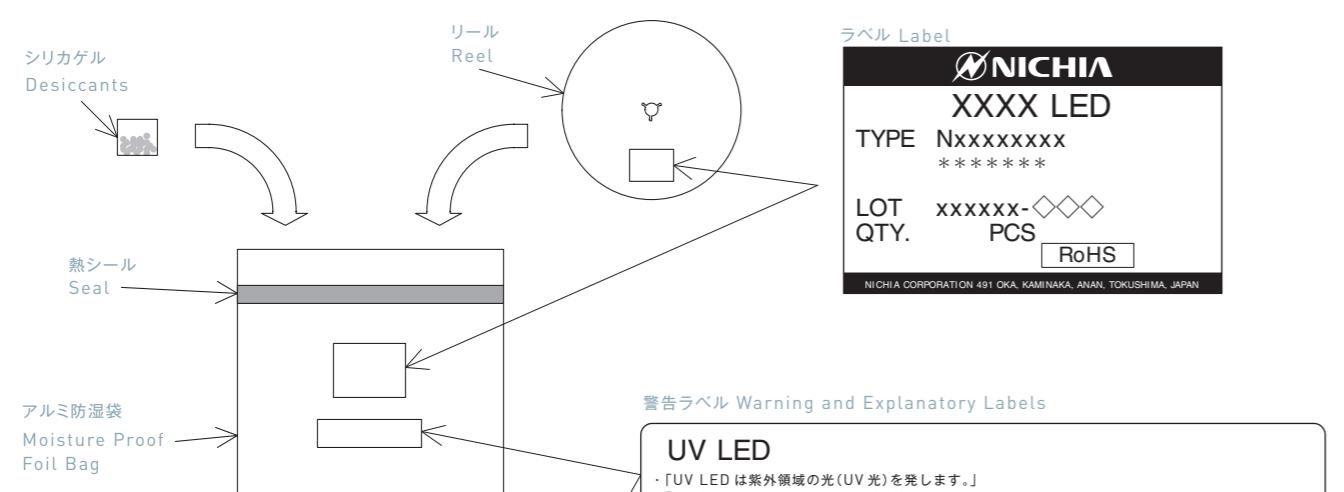
(单位 Unit:mm)



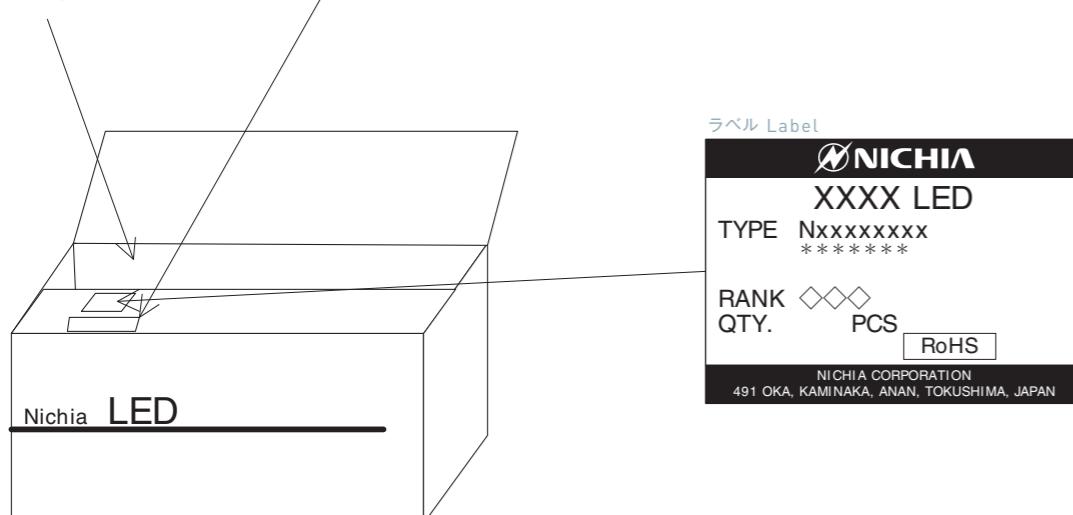


[Reel] リール梱包仕様図

シリカゲルとともにリールをアルミ防湿袋に入れ、熱シールにより封をします。
Reel shipped with desiccants in heat-sealed moisture-proof bags.



アルミ防湿袋を並べて入れ、ダンボールで仕切れます。
Moisture-proof bags packed in cardboard boxes with corrugated partitions.



防湿梱包

チップタイプLEDは、パッケージに吸収された水分がはんだ付け時の熱で気化膨張することにより、界面の剥離が発生し光学的劣化を起こす可能性があります。そのためお客様にて実装するまでの、吸湿量を最小限に抑えるため防湿梱包を実施しております。
アルミ防湿袋に入っているシリカゲルは吸湿が進むと青色から赤色へ変色します。

保管

アルミ防湿袋を開封後は下記の条件を越えないようにはんだ付けを完了下さい。万一未使用のLEDが残った場合は、シリカゲル入り密閉容器等で保管下さい。なお当社防湿袋に戻し、再封印することを推奨します。

開封前：30°C以下、90%RH以下とし納品日より1年以内
開封後：30°C以下、70%RH以下とし168時間以内

保管期間を過ぎた場合は、ベーキング処理を施して下さい。また、保管期間内に同封してあるシリカゲルの青色が無くなった場合も、同様にベーキングをお願いします。ベーキングは1回までとします。

ベーキング条件：65 ± 5°C 24時間以上

急激な温度変化のある場所では、結露が起りますので温度変化の少ない場所に保管して下さい。

静電気に対する取り扱い

本製品は静電気やサージ電圧に敏感で、素子の損傷や信頼性低下を起こすことがあります。取り扱いに際しては、以下の例を参考に静電気対策を十分行って下さい。

リストストラップ、導電性衣類、導電靴、導電性床材等による電荷の除去
作業区域内の装置、治具等の接地による電荷の除去
導電性材料による作業台、保管棚等の設置

使用機器、治具、装置類や作業区域内は適切に接地をして下さい。また、実装される機器等についてもサージ対策の実施を推奨します。

Moisture Proof Package

Absorbed moisture in SMT packages can vaporize and expand during soldering, which can cause interface delamination and result in optical performance degradation. Products are packed in moisture-proof bags to minimize moisture absorption during transportation and storage. Included desiccants change from blue to red if moisture had penetrated bags.

Storage

After opening the moisture-proof bag, the products should go through the soldering process within the range of the conditions stated below. Unused remaining LEDs should be stored with desiccants in a hermetically sealed container, preferably the original moisture-proof bags for storage.

Before Opening Aluminum Bag: ≤30°C, ≤90%RH, Within 1 Year from Delivery Date
After Opening Aluminum Bag: ≤30°C, ≤70%RH, ≤168 hours

After the "Period After Opening" storage time has been exceeded or desiccants are no longer blue, the products should be baked. Baking should only be done once.

Baking Treatment: 65 ± 5°C, ≥24 hours

To prevent water condensation, please avoid large temperature and humidity fluctuations for the storage conditions.

Electrostatic Discharge (ESD)

The products are sensitive to static electricity or surge voltage. ESD can damage a chip and its reliability. When handling the products, the following measures against electrostatic discharge are strongly recommended:

Eliminating the charge
Grounded wriststrap, ESD footwear, clothes, and floors
Grounded workstation equipment and tools
ESD table/shelf mat made of conductive materials

Proper grounding is required for all devices, equipment, and machinery used in product assembly. Surge protection should be considered when designing commercial products.



半田付け

半田付け推奨条件

リフロー半田		手半田	
予備加熱	180°C ~ 200°C	コテ温度	350°C 以下
加熱時間	120秒以内	時間	3秒以内
半田温度	260°C 以下		(1回)
時間	10秒以内		
条件	温度プロファイル参照 (N ₂ リフロー推奨)		

*半田付け推奨条件は製品により異なります。

*上表に、半田付け推奨条件を提示しておりますが、製品の品質上、リフロー半田時、手半田時のピーク温度は、低くすることを推奨致します。

*ピーク温度からの冷却温度勾配が緩やかになるように配慮して、急冷却を避け下さい。

- 全表面実装型LEDはPbフリー半田使用可能となっております。
- 大気リフローの場合、リフロー時の熱や雰囲気の影響により、光学的劣化を起こすことがあります。
- リフローに際しては、窒素リフローを推奨します。
- 基本的に半田の取り付け後の修正は行わないで下さい。
- やむをえず修正する場合は、双頭式の半田コテを使用して下さい。(双頭式

- の半田コテが使用できない製品についてはホットプレートを使用のこと)
- また、事前に修正による特性の劣化のなきことを確認の上行って下さい。
- リフロー半田は2回までとして下さい。
- 半田付け時、加熱された状態でLEDにストレスを加えないでください。
- 半田付け後、プリント基板をそらさないでください。

Soldering Conditions

Recommended soldering conditions

Reflow Soldering		Hand Soldering	
Pre-heat	180°C ~ 200°C		
Pre-heat time	120°C sec. Max.		
Peak temperature	260°C Max.	Temperature	350°C Max.
Dipping time	10 sec. Max.	Soldering time	3 sec. Max.
Condition	Refer to Temperature-profile (N ₂ reflow is recommended.)		(one time only)

* Recommended soldering conditions vary according to the type of LED.

* Although the recommended soldering conditions are specified in the above table, reflow or hand soldering at the lowest possible temperature is desirable for the LEDs.

* Avoid rapid cooling. Ramp down the temperature gradually from the peak temperature.

- All SMT LED products are Pb-free soldering available.
- Nitrogen reflow soldering is recommended.

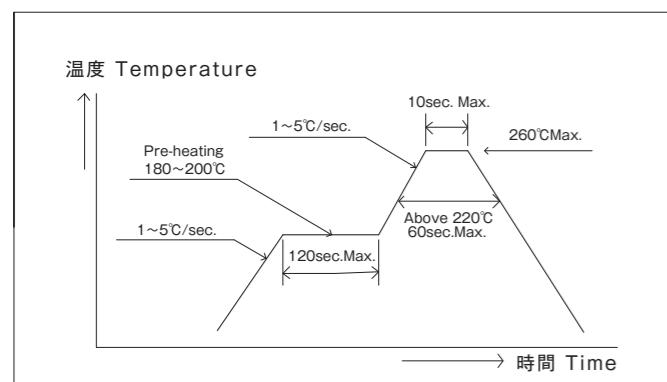
Air flow soldering conditions can cause optical degradation.

- Do not repair LEDs after soldering.

If repair is necessary, a double-hand soldering iron should be used. (Hot plate should be used if the LED which double-hand soldering iron is not recommended.)

- Prior to repair, please confirm that the LED characteristics will not be damaged.
- Reflow soldering should not be done more than two times.
- Do not apply stress to the LED when/during soldering while the LED is hot.
- After soldering, do not warp the circuit board.

温度プロファイル (基板表面) Temperature-Profile (Surface of Circuit Board)



*半田付け推奨条件は製品により異なります。Recommended soldering conditions vary according to the type of LED.

熱の発生

- LEDをご使用の際は、熱の発生を考慮して下さい。通電時の素子の温度上昇は、実装する基板の熱抵抗やLEDの集合状態により変化します。熱の集中を避け、LED周囲の環境条件により最大ジャンクション温度(T_J)を超えることがないよう配慮下さい。また、場合によっては、放熱等の処理を施して下さい。

- LED周囲の温度条件(T_A)により使用電流を決め放熱等の処理を施して下さい。

洗浄

- 洗浄剤は、イソプロピルアルコールを使用して下さい。その他の洗浄剤の使用に当たってはパッケージ及び樹脂が浸され不具合発生の原因となる場合がありますので、問題のないことを十分確認の上での使用をお願い致します。フロン系溶剤については、世界的に使用が規制されています。
- 超音波洗浄は、基本的には行わないで下さい。やむをえず行う場合は、発振出力や基板の取り付け方によりLEDへの影響が異なりますので、予め実使用状態で異常のない事を確認の上実施下さい。
- 一部の製品は、上記洗浄方法が当てはまらないものがあります。製品別の洗浄方法については、各仕様書を確認下さい。

目の安全性

- 2006年に国際電気委員会(IEC)からランプ及びランプシステムの光生物学的安全性に関する規格IEC62471が発行され、LEDもこの規格の適用範囲に含められました。一方、2001年に発行されたレーザー製品の安全に関する規格IEC60825-1 Edition1.2において、LEDが適用範囲に含まれていましたが、2007年に改訂されたIEC60825-1 Edition2.0でLEDが適用除外されました。

但し、国や地域によっては、依然としてIEC60825-1 Edition1.2と同等規格を採用し、LEDが適用範囲に含まれられています。

これらの国や地域向けには、ご注意下さい。IEC62471によって分類されるLEDのリスクグループは、放射束や発光スペクトル、指向性などによって異なり、特に青色成分を含む高出力ではリスクグループ2に相当する場合もあります。

LEDの出力を上げたり、LEDからの光を光学機器にて集光したりするなどした状態で、直視しますと眼を痛めることができますので、ご注意下さい。

- 点滅光を見つけると光刺激により不快感を覚えることがありますのでご注意下さい。又、機器に組み込んでご使用される場合は、光刺激などによる第三者への影響をご配慮下さい。

Thermal Management

- Absorbed moisture in SMT packages can vaporize and expand during soldering, which can cause interface delamination and result in optical performance degradation. Products are packed in moisture-proof bags to minimize moisture absorption during transportation and storage. Included desiccants change from blue to red if moisture had penetrated bags.

Cleaning

- It is recommended that isopropyl alcohol be used as a solvent for cleaning the LEDs. 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.

- Ultrasonic cleaning is not recommended since it may have adverse effects on the LEDs depending on the ultrasonic power and how LED is assembled. If ultrasonic cleaning must be used, the customer is advised to make sure the LEDs will not be damaged prior to cleaning.

- It is not recommended to use isopropyl alcohol as a solvent for cleaning on certain LEDs. For more information about proper cleaning methods of each LED, please refer its respective specification sheet.

Eye Safety

- In 2006, the International Electrical Commission(IEC) published IEC 62471:2006 Photobiological safety of lamps and lamp systems, which added LEDs in its scope. On the other hand, the IEC 60825-1:2007 laser safety standard removed LEDs from its scope.

However, please be advised that some countries and regions have adopted standards based on the IEC laser safety standard IEC 60825-1:20112001, which still includes LEDs in its scope. Most of Nichia's LEDs can be classified as belonging into either the Exempt Group or Risk Group 1. High-power LEDs, that emit light containing blue wavelengths, may be classified as Risk Group 2.

Please proceed with caution when viewing directly any LEDs driven at high current, or viewing LEDs with optical instruments which may greatly increase the damages to your eyes.

- Viewing a flashing light may cause eye discomfort. When incorporating the LED into your product, please be careful to avoid adverse effects on the human body caused by light stimulation.

Outline Dimensions

外形寸法図

Lamp Type

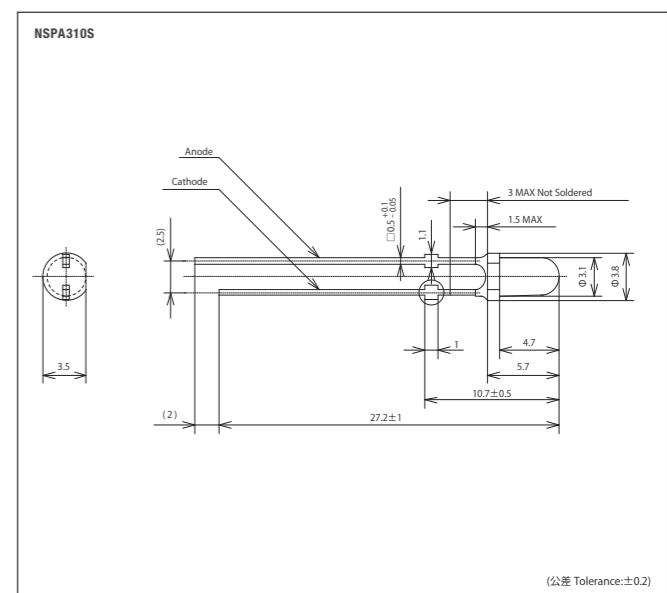
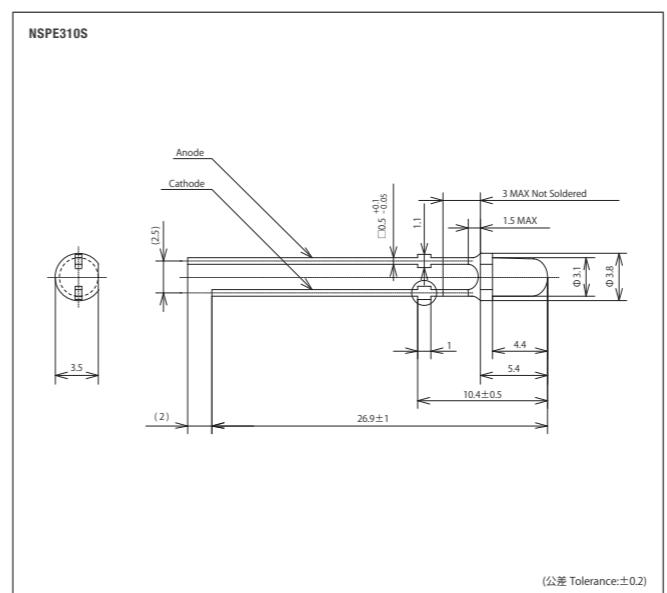
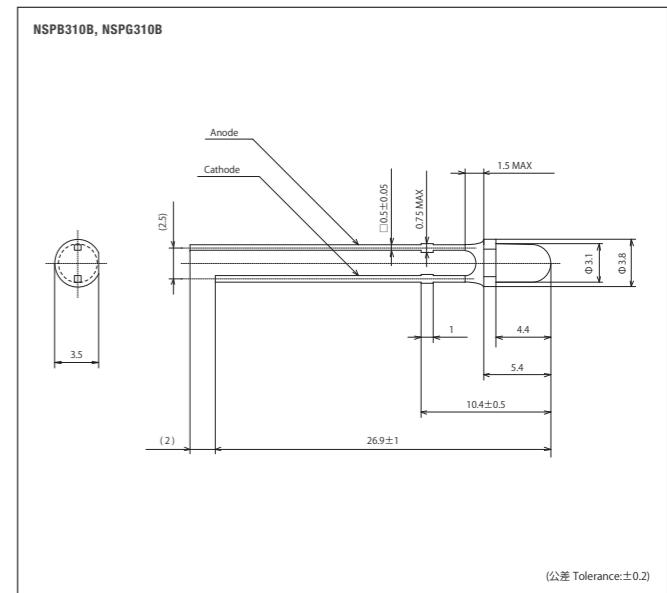
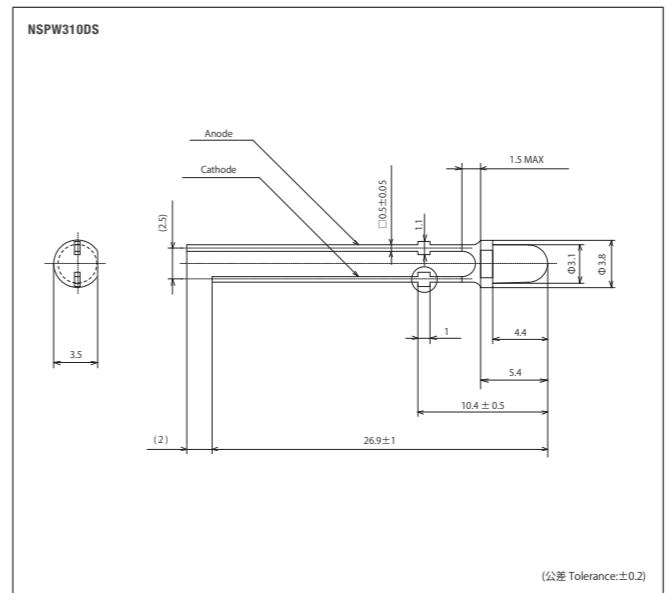
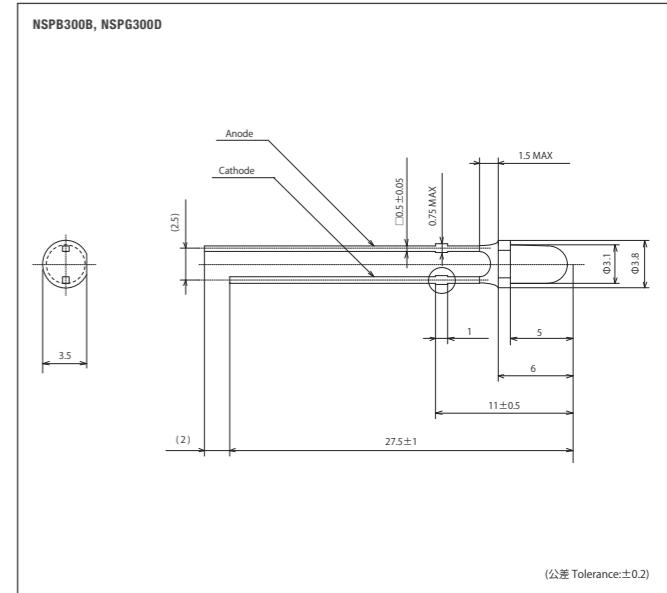
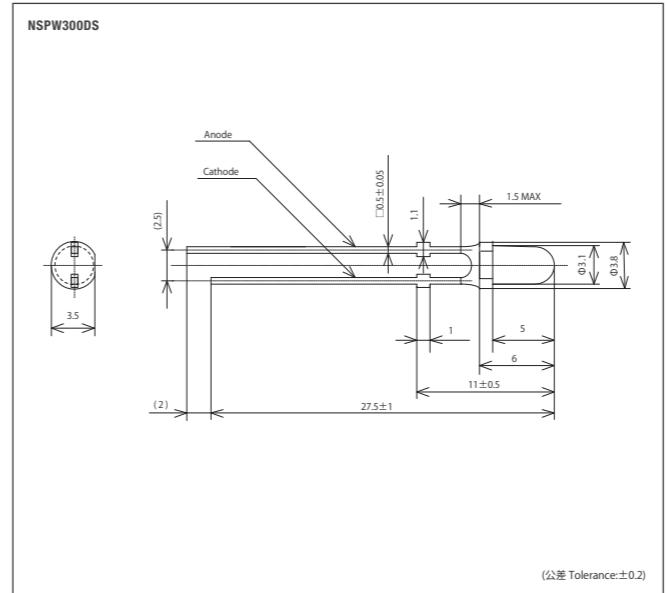


(単位 mm)

Lamp Type

Outline Dimensions / Packing Example / Handling Precautions

[外形寸法図 / 梱包例 / 注意事項]



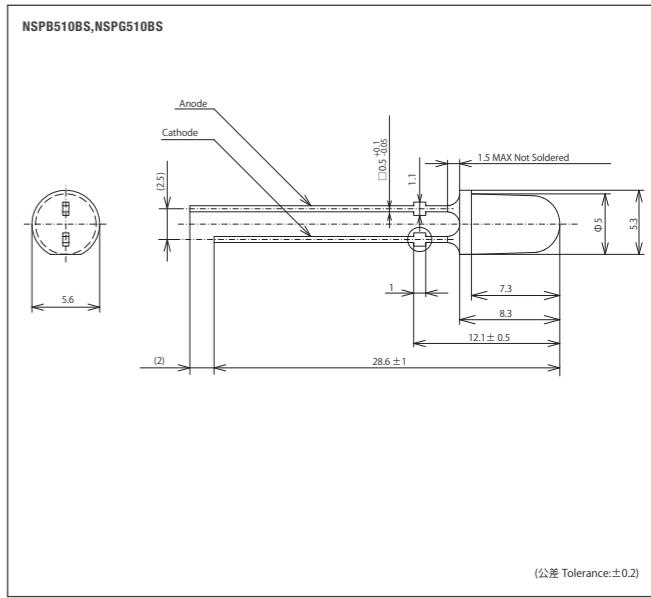
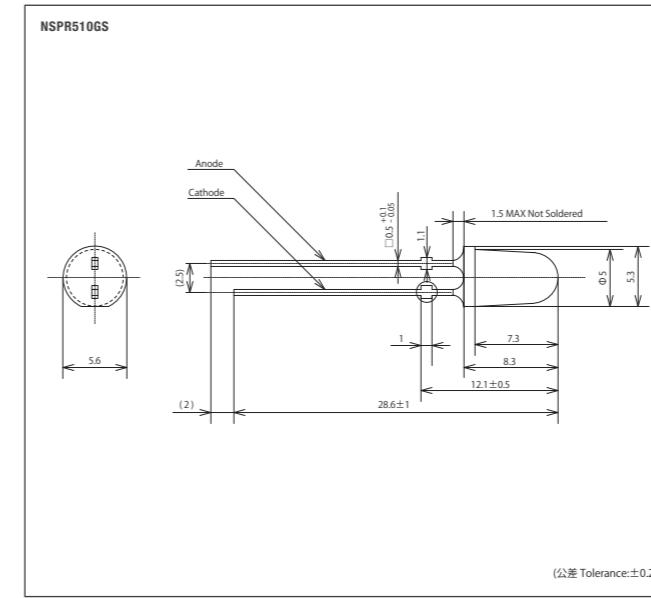
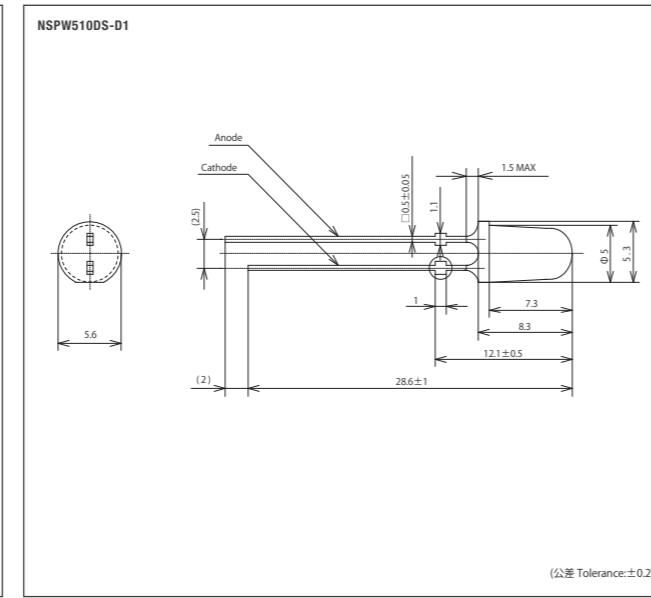
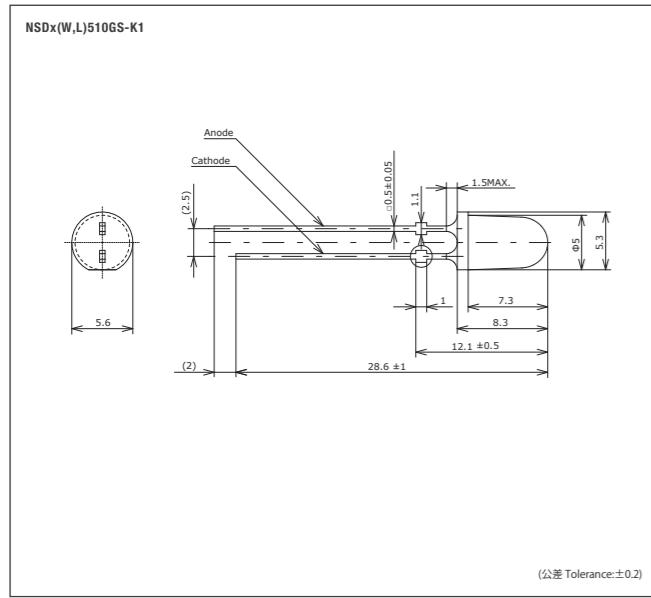
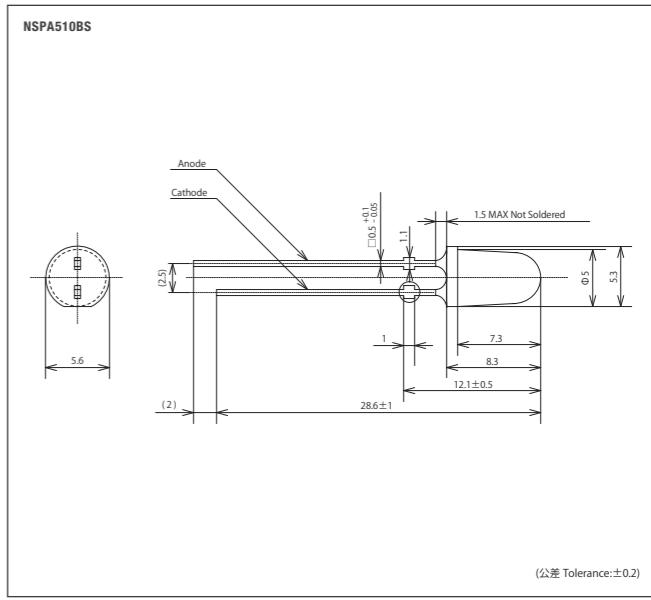
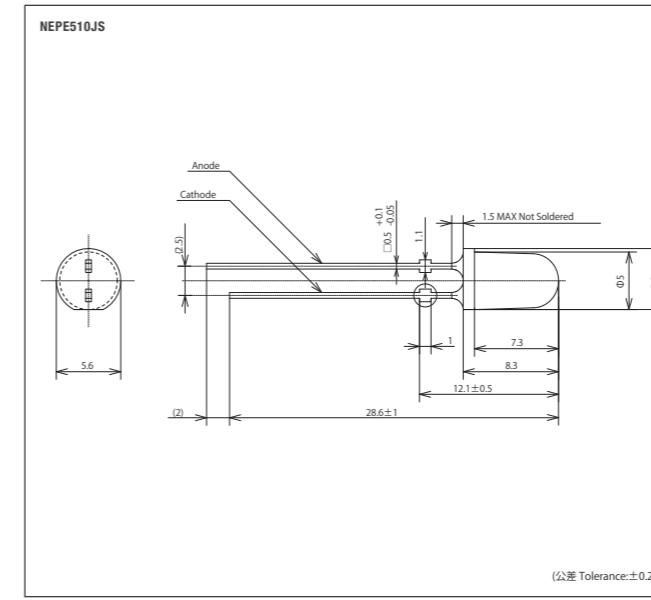
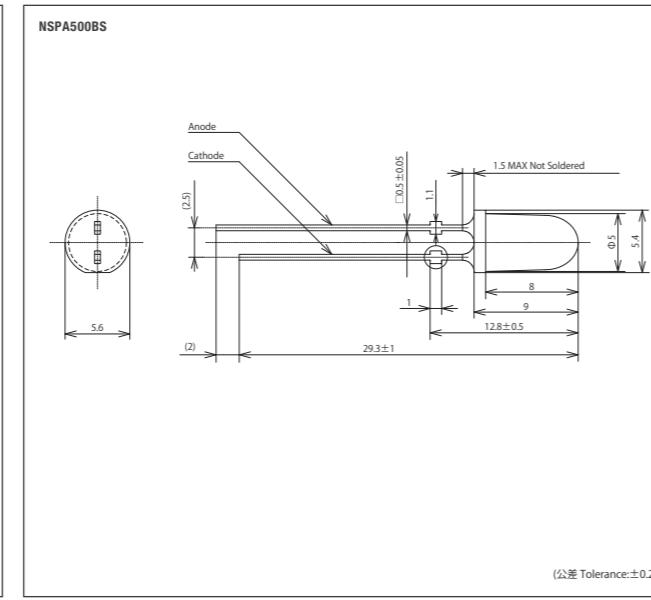
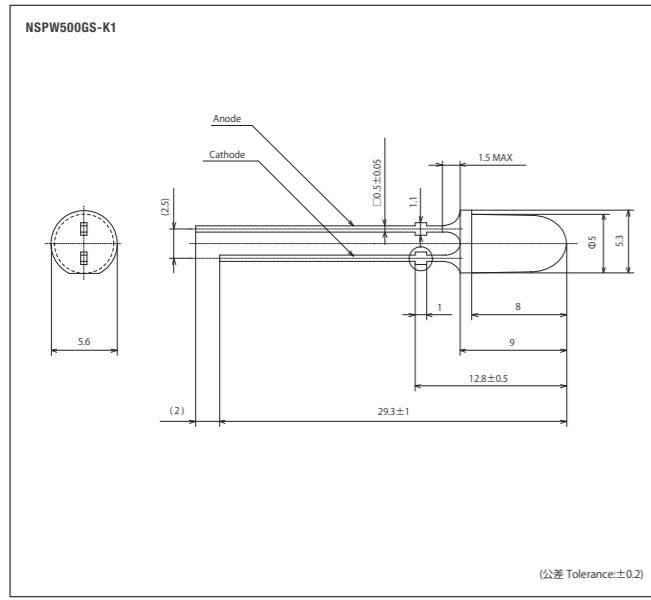
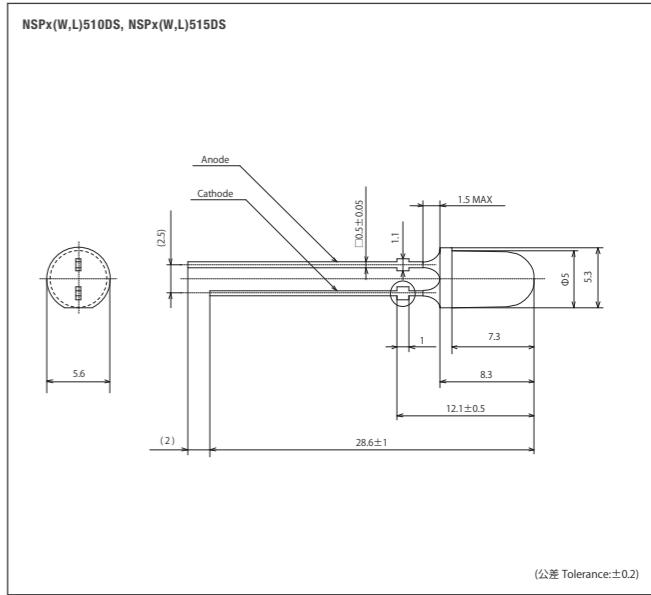
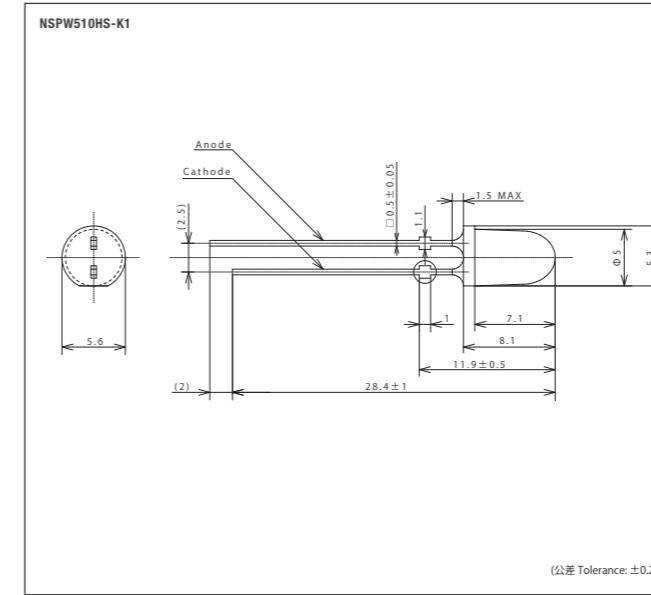
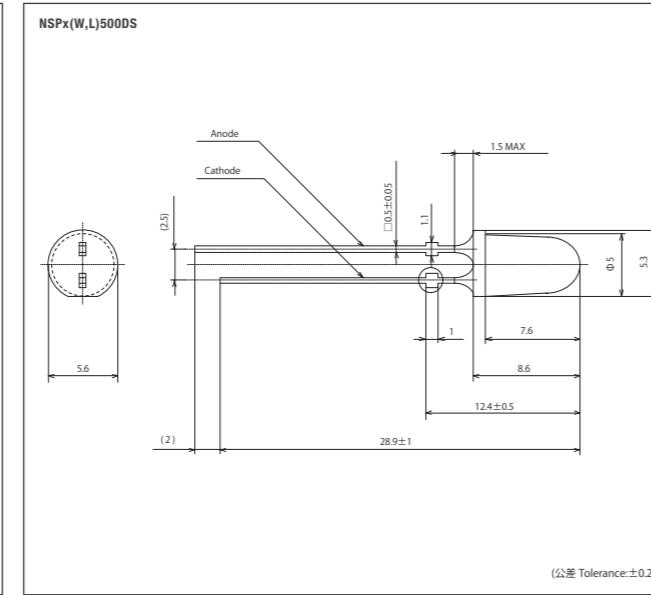
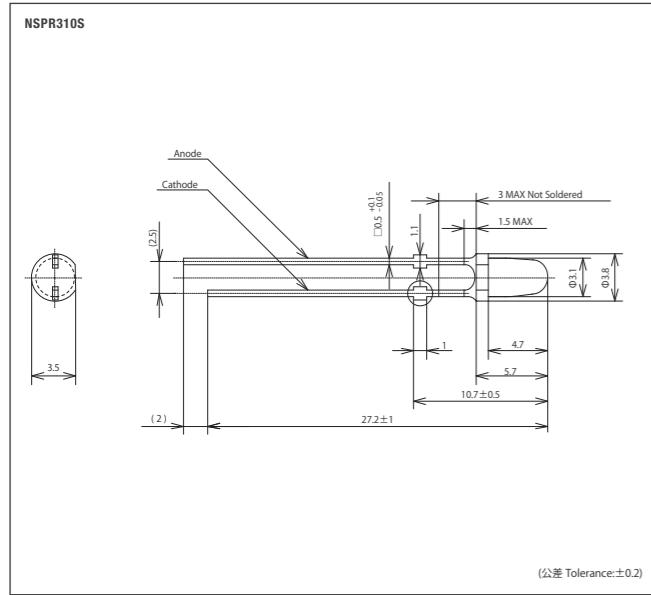
Outline Dimensions

外形寸法図

Lamp Type



(単位 mm)



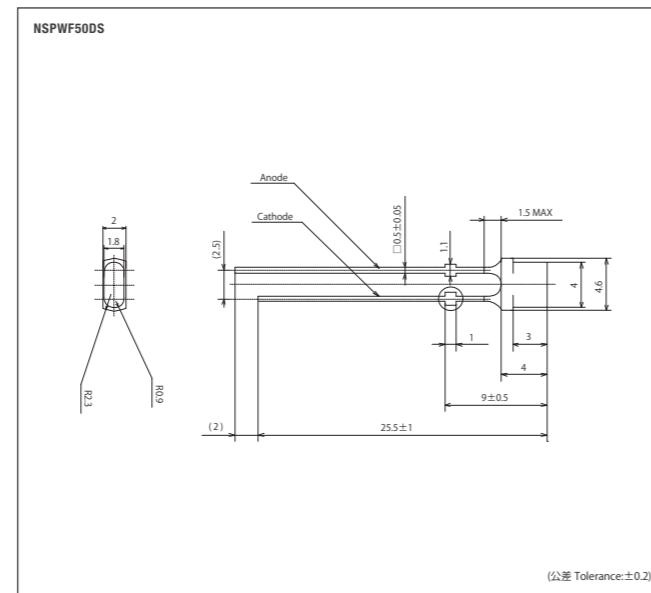
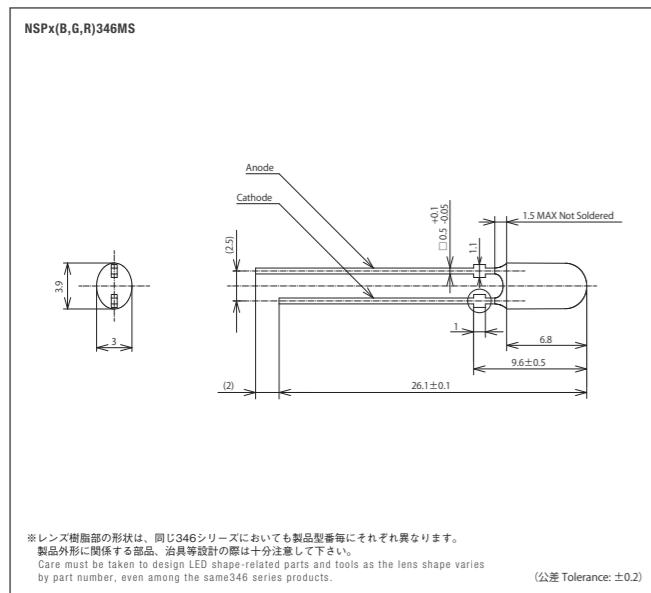
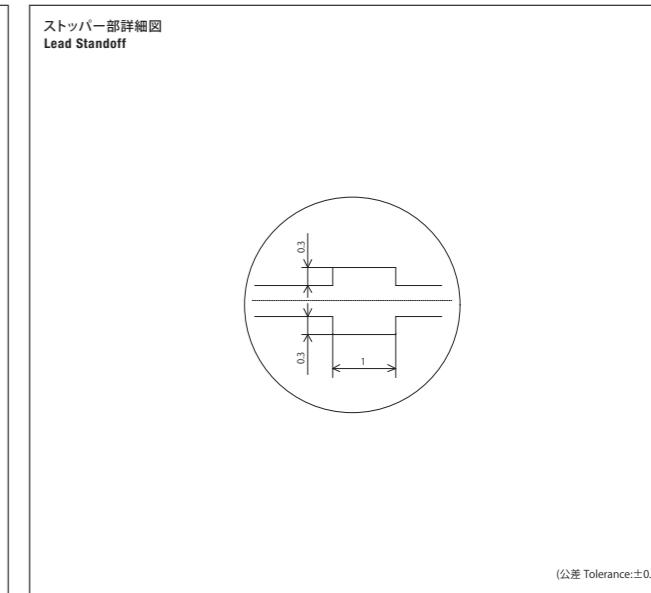
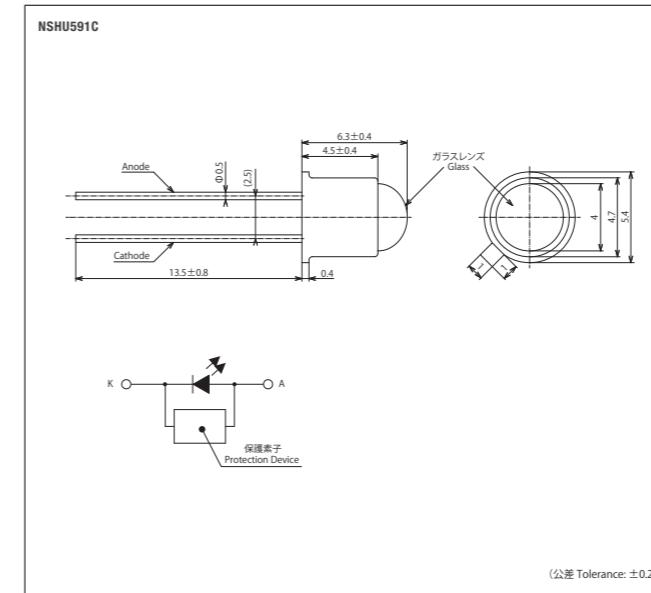
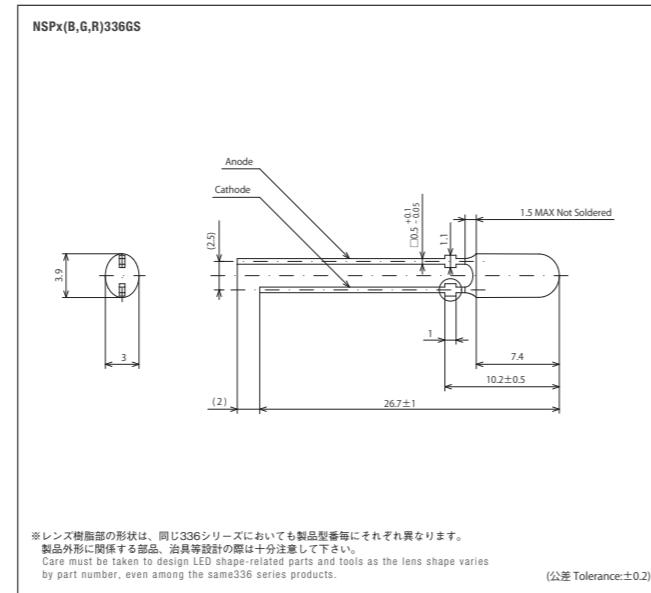
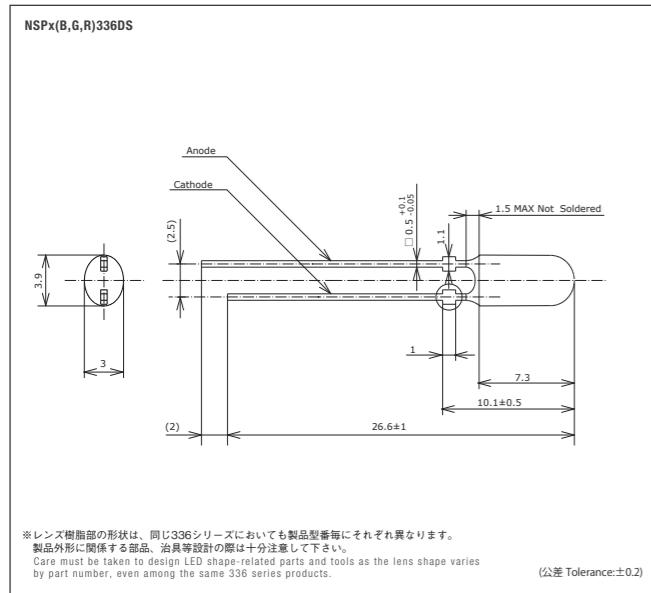
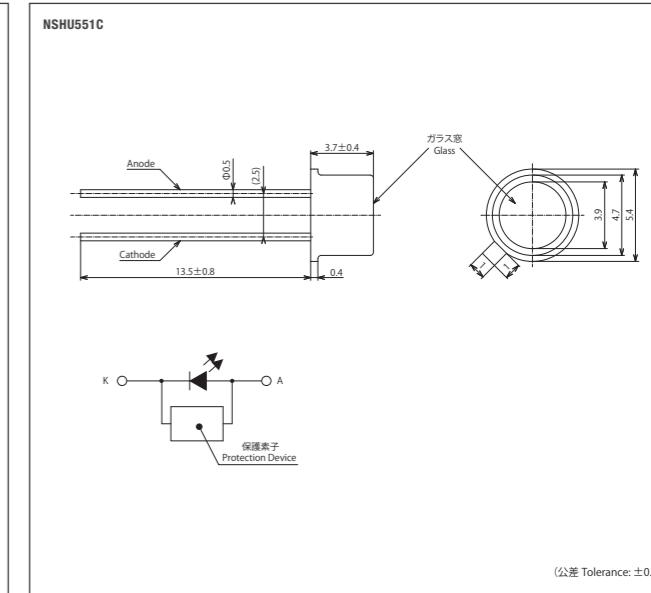
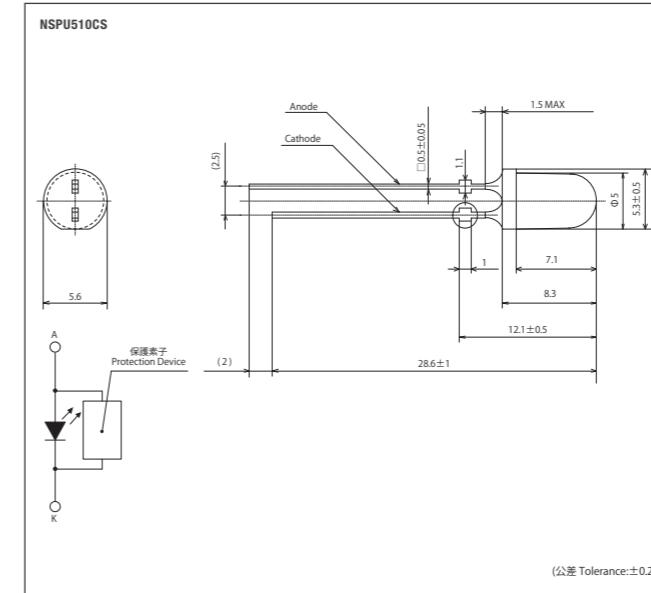
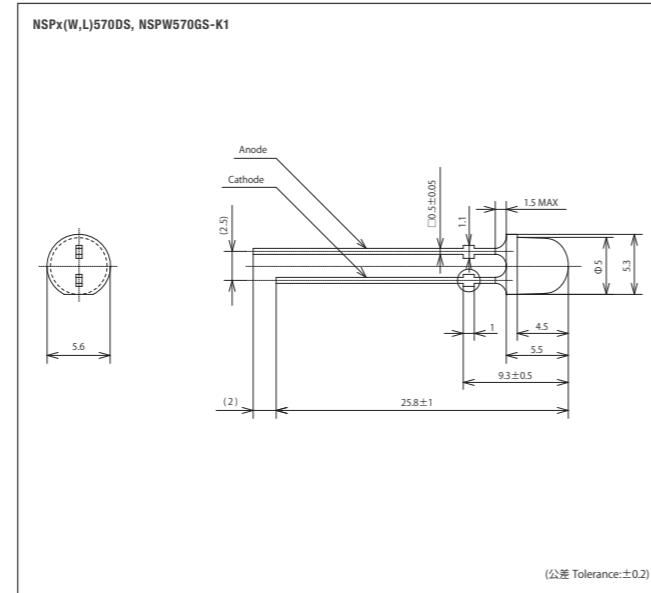
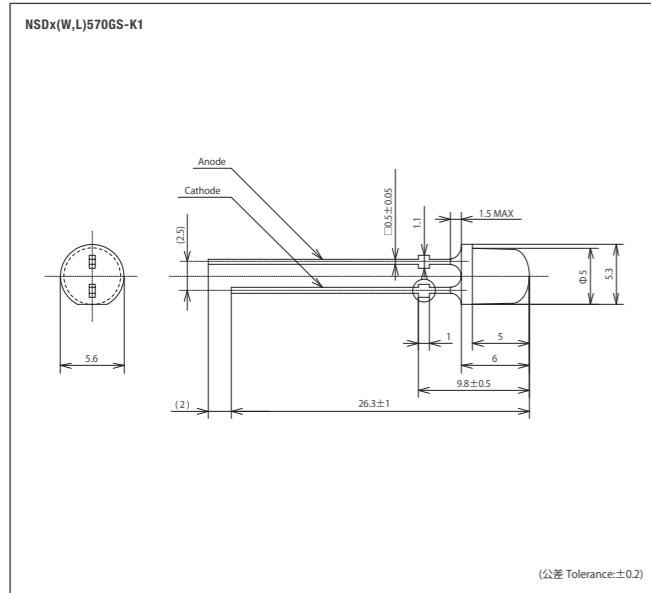
Outline Dimensions

外形寸法図

Lamp Type



(単位 mm)



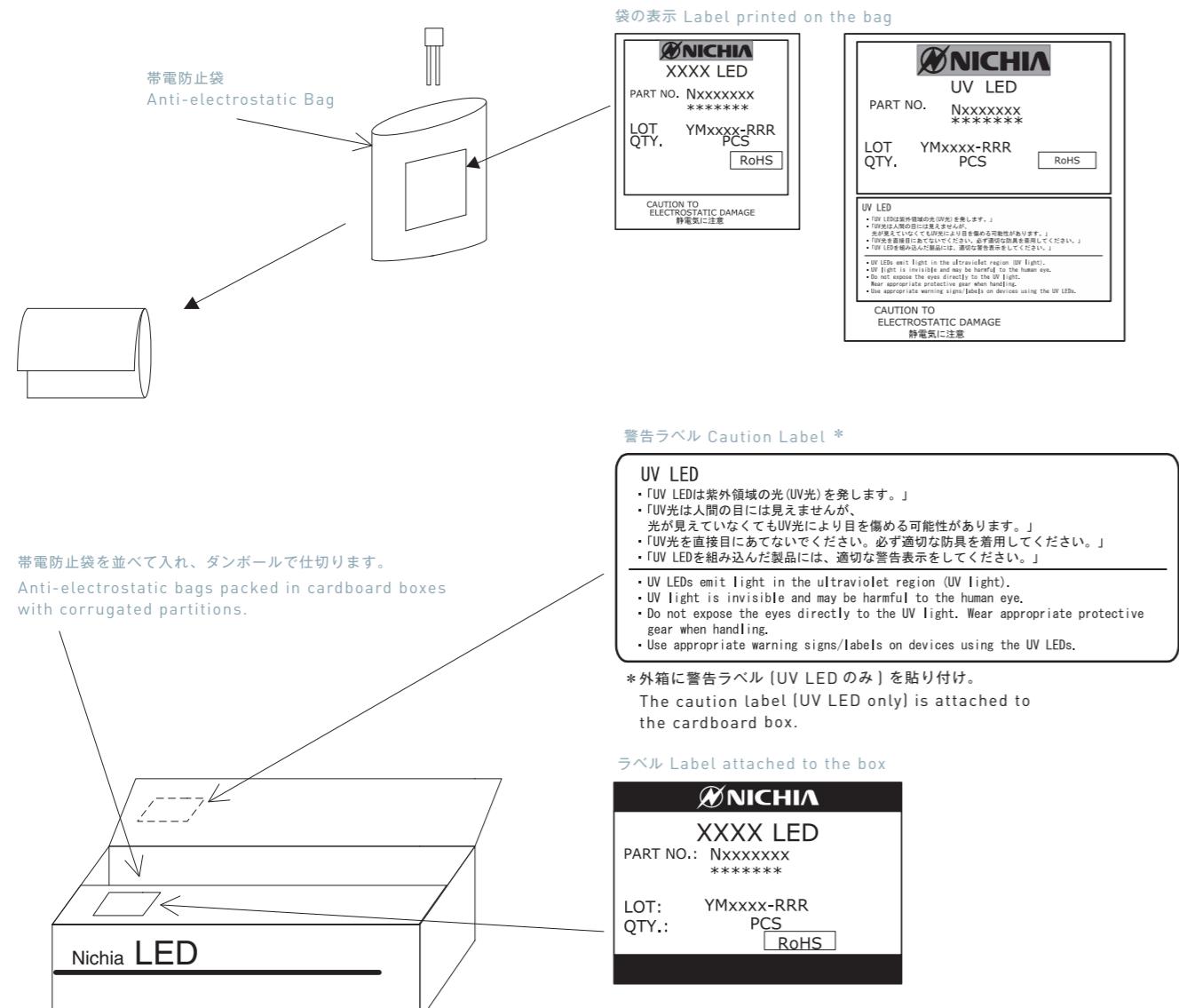
Packing Examples

梱包例

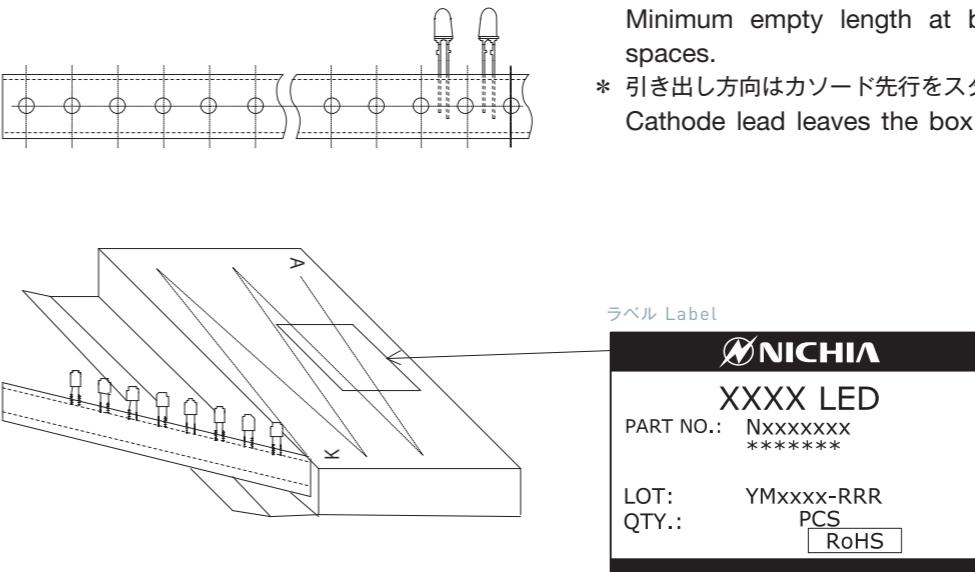
Lamp Type



[Bulk] バラ（袋詰）梱包仕様図



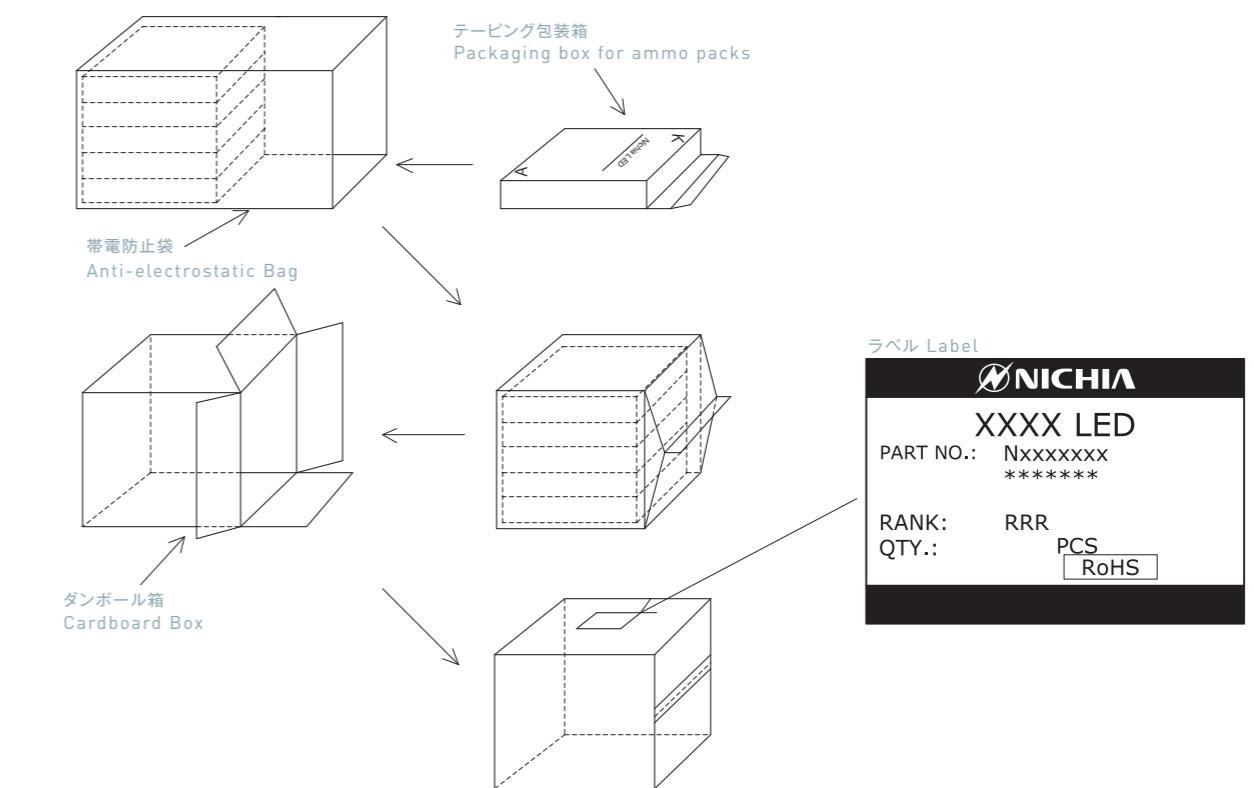
[Taping] テーピング梱包仕様図



ツヅラ折り包装

Ammo Packing

- * 25 素子毎にツヅラ折りをおこないます。
25 LEDs are contained within in a concertina-like folded ammo pack tape.
- * テーピングの始め、終わり部分は 10 素子以上除きます。
Minimum empty length at both tape ends is 10 blank spaces.
- * 引き出し方向はカソード先行をスタンダードとします。
Cathode lead leaves the box first.





リードフォーミング

- リードフォーミングの折り曲げ位置は、樹脂根元から少なくとも3mm以上離して下さい。リードフレームの根元が支点となるようなフォーミング方法は避けて下さい。
- リードフォーミングは半田付け前に行って下さい。
- 曲げ歪みをリード根元にかけないで下さい。歪みによりLEDの特性が損なわれることがあります。
- 基板に取付ける場合、取り付け穴はリードフレームのピッチと正確に一致させて下さい。リードフレームにストレスが残るような間隔での取り付けは樹脂部分の変形を招き、信頼性を低下させる原因となります。

Lead Forming

- When forming leads, the leads should be bent at a point at least 3mm from the base of the epoxy bulb. Do not use the base of the leadframe as a fulcrum during lead forming.
- Lead forming should be done before soldering.
- Do not apply any bending stress to the base of the lead. The stress to the base may damage the LED's characteristics or it may break the LEDs.
- When mounting the LEDs onto a printed circuit board, the holes on the circuit board should be exactly aligned with the leads of the LEDs. If the LEDs are mounted with stress at the leads, it causes deterioration of the epoxy resin and this will degrade the LEDs.

保管

- 納入状態での保管は30°C以下、70%RH以下の環境条件とし3ヶ月を限度として下さい。それ以上の期間となる時は、乾燥剤（シリカゲル）入りの窒素置換した密閉容器等を使用し、1年を限度として下さい。
- リード部分が腐食性ガス等を含む雰囲気にさらされるとメタキ表面が変質し、半田付けの際に問題が生じる事があります。保管雰囲気の管理に充分注意し、速やかにご使用下さい。
- 急激な温度変化のある場所では、結露が起りますので温度変化の少ない場所に保管して下さい。

Storage

- The LEDs should be stored at 30°C or less and 70%RH or less after being shipped from Nichia and the storage life limits are 3 months. If the LEDs are stored for 3 months or more, they can be stored for a year in a sealed container with a nitrogen atmosphere and moisture absorbent material (desiccants).
- The lead part may be affected by environments which contain corrosive substances. Please avoid conditions which may cause the LED to corrode, tarnish or discolor. This corrosion or discoloration may cause difficulty during soldering operations. It is recommended that the LEDs be used as soon as possible.
- To prevent water condensation, please avoid large temperature and humidity fluctuations for the storage conditions.

静電気に対する取り扱い

- 本製品は静電気やサージ電圧に敏感で、素子の損傷や信頼性低下を起こすことがあります。取り扱いに際しては、以下の例を参考に静電気対策を十分行って下さい。
 - リストストラップ、導電性衣類、導電靴、導電性床材等による電荷の除去、作業区域内の装置、治具等の接地による電荷の除去、導電性材料による作業台、保管棚等の設置
- 使用機器、治具、装置類や作業区域内は適切に接地をして下さい。また、実装される機器等についてもサージ対策の実施を推奨します。

Electrostatic Discharge (ESD)

- The products are sensitive to static electricity or surge voltage. ESD can damage a chip and its reliability. When handling the products, the following measures against electrostatic discharge are strongly recommended:
 - Eliminating the charge
Grounded wriststrap, ESD footwear, clothes, and floors
 - Grounded workstation equipment and tools
ESD table/shelf mat made of conductive materials
- Proper grounding is required for all devices, equipment, and machinery used in product assembly. Surge protection should be considered when designing commercial products.

半田付け

半田付け推奨条件

ディップ半田		手半田	
予備加熱 加熱時間 半田槽温度 浸漬時間 浸漬位置	120°C以下 60秒以内 260°C以下 10秒以内 樹脂根元より3mm以上 (336DS, 336GS, 346MSシリーズ(Series)は2mm)	コテ温度 時間 位置	350°C以下 3秒以内 樹脂根元より3mm以上* (336DS, 336GS, 346MSシリーズ(Series)は2mm)

*半田付けは樹脂根元から3mm以上離して下さい。できればタイバーカット位置より先の方を推奨します。(336DS, 336GS, 346MSシリーズ(Series)は2mm)

- 全砲弾型 LED は Pbフリー半田使用可能となっております。
- 弊社 LED は使用時の放熱性を重視し、銅合金または鉄のリードフレームを使用しておりますので、半田付け条件や取り扱いについて十分な注意をお願いします。
- 上表に、半田付け推奨条件を提示しておりますが、製品の品質上、ディップ半田時、手半田時のピーク温度は、低くすることを推奨致します。
- ピーク温度からの冷却温度勾配が緩やかになるように配慮して、急冷却を避けて下さい。
- ディップ半田は、1回までとして下さい。
- 手半田は、1回までとして下さい。
- 半田付け時、リードフレームが加熱された状態でストレスを加えないで下さい。
- 半田付け後の位置修正は極力避けて下さい。
- 半田付け後 LED が常温復帰前に LED 樹脂部分に衝撃、振動が伝わらないように配慮下さい。
- LED の基板への直付けは、基板のそり、及びリードフレームのクリンチやカット時に樹脂部を損傷する事がありますので、基本的に保証できません。やむを得ず実施される場合は、自社の責任において断線や樹脂損傷がないことを十分確認の上ご使用下さい。両面基板への直付けは熱が樹脂部に直接影響するため行わないで下さい。
- 半田ディップ時の位置ずれ防止等で LED を固定する必要がある場合は、取り付け状態に応じストレスがかかりにくいように配慮下さい。
- リードフレームをカットする場合は常温で行って下さい。高温の状態で行うと事故発生の原因となることがあります。



Soldering Conditions

Recommended soldering conditions

Dip Soldering		Hand Soldering	
Pre-Heat Time	Temperature	Soldering Time	Temperature
Pre-Heat	120°C Max.	3 seconds Max.	350°C Max.
Pre-Heat	60 seconds Max.	3 seconds Max.	No closer than 3 mm
Time	260°C Max.	(2 mm for 336DS, 336GS, 346MS Series)	(2 mm for 336DS, 336GS, 346MS Series) from the base of the epoxy bulb.*
Solder Bath Temperature	10 seconds Max.	from the base of the epoxy bulb.*	
Dipping Time	No lower than 3 mm		
Dipping Position	(2 mm for 336DS, 336GS, 346MS Series) from the base of the epoxy bulb.		

* Solder the LED no closer than 3mm from the base of the epoxy bulb. Soldering beyond the base of the tie bar is recommended. (2mm for 336DS, 336GS, 346MS Series (Series))

All Lamp Type LED products are Pb-free soldering available.

Nichia LED leadframes are silver plating copper alloy or Ag Plating Iron.

This substance has a low thermal coefficient (easily conducts heat). Careful attention should be paid during soldering.

Although the recommended soldering conditions are specified in the above table, dip or hand soldering at the lowest possible temperature is desirable for the LEDs.

Avoid rapid cooling. Ramp down the temperature gradually from the peak temperature.

Dip soldering should not be done more than one time.

Hand soldering should not be done more than one time.

Do not apply any stress to the lead particularly when heated.

The LEDs must not be repositioned after soldering.

After soldering the LEDs, the epoxy bulb should be protected from mechanical shock or vibration until the LEDs return to room temperature.

熱の発生

LEDをご使用の際は、熱の発生を考慮して下さい。通電時の素子の温度上昇は、実装する基板の熱抵抗やLEDの集合状態により変化します。熱の集中を避け、LED周囲の環境条件により最大ジャンクション温度(T_J)を超えることがないよう配慮下さい。また、場合によっては、放熱等の処理を施して下さい。

LED周囲の温度条件(T_A)により使用電流を決め放熱等の処理を施して下さい。

Thermal Management

Proper thermal management is important when designing products with LEDs. LED chip temperature is affected by PCB thermal resistance and LED spacing on the board. Please design products in a way that the LED chip temperature does not exceed the maximum Junction Temperature (T_J). It is necessary to avoid intense heat generation and operate within the maximum ratings given in the specification.

Drive current should be determined for the surrounding ambient temperature (T_A) to dissipate the heat from the LED.

洗浄

洗浄剤は、イソプロピルアルコールを使用して下さい。その他の洗浄剤の使用に当たってはパッケージ及び樹脂が浸され不具合発生の原因となる場合がありますので、問題のないことを十分確認の上での使用をお願い致します。フロン系溶剤については、世界的に使用が規制されています。

超音波洗浄は、基本的には行わないで下さい。やむをえず行う場合は、発振出力や基板の取り付け方によりLEDへの影響が異なりますので、予め実使用状態で異常のない事を確認の上実施下さい。

一部の製品は、上記洗浄方法が当てはまらないものがあります。製品別の洗浄方法については、各仕様書を確認下さい。

Cleaning

It is recommended that isopropyl alcohol be used as a solvent for cleaning the LEDs. 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.

Ultrasonic cleaning is not recommended since it may have adverse effects on the LEDs depending on the ultrasonic power and how LED is assembled. If ultrasonic cleaning must be used, the customer is advised to make sure the LEDs will not be damaged prior to cleaning.

It is not recommended to use isopropyl alcohol as a solvent for cleaning on certain LEDs. For more information about proper cleaning methods of each LED, please refer its respective specification sheet.

目の安全性

2006年に国際電気委員会(IEC)からランプ及びランプシステムの光生物学的安全性に関する規格IEC 62471が発行され、LEDもこの規格の適用範囲に含まれられました。一方、2001年に発行されたレーザー製品の安全に関する規格IEC 60825-1 Edition1.2において、LEDが適用範囲に含まれていましたが、2007年に改訂されたIEC60825-1 Edition2.0でLEDが適用除外されました。

但し、国や地域によっては、依然としてIEC60825-1 Edition1.2と同等規格を採用し、LEDが適用範囲に含まれています。

これらの国や地域向けには、ご注意下さい。IEC62471によって分類されるLEDのリスクグループは、放射束や発光スペクトル、指向性などによって異なり、特に青色成分を含む高出力ではリスクグループ2に相当する場合もあります。

LEDの出力を上げたり、LEDからの光を光学機器にて集光したりするなどした状態で、直視しますと眼を痛めることができますので、ご注意下さい。

点滅光を見つづけると光刺激により不快感を覚えることがありますのでご注意下さい。又、機器に組み込んでご使用される場合は、光刺激などによる第三者への影響をご配慮下さい。

Eye Safety

In 2006, the International Electrical Commission (IEC) published IEC 62471:2006 Photobiological safety of lamps and lamp systems, which added LEDs in its scope. On the other hand, the IEC 60825-1:2007 laser safety standard removed LEDs from its scope.

However, please be advised that some countries and regions have adopted standards based on the IEC laser safety standard IEC 60825-1:20112001, which still includes LEDs in its scope. Most of Nichia's LEDs can be classified as belonging into either the Exempt Group or Risk Group 1. High-power LEDs, that emit light containing blue wavelengths, may be classified as Risk Group 2. Please proceed with caution when viewing directly any LEDs driven at high current, or viewing LEDs with optical instruments which may greatly increase the damages to your eyes.

Viewing a flashing light may cause eye discomfort. When incorporating the LED into your product, please be careful to avoid adverse effects on the human body caused by light stimulation.

JAPAN	Patent	3348843	3368890	3417415	3424634	3428597	3440908	3487251	3498697	3498698	3498745	3511987
		3511993	3543745	3543809	3589187	3589200	3636079	3640158	3654242	3655783	3674483	3685018
		3685057	3685682	3690968	3716974	3736366	3762197	3783572	3786114	3803696	3809760	3820845
		3821128	3832313	3849855	3849876	3859069	3864782	3888080	3891115	3893874	3896895	3909826
		3910080	3912219	3921989	3925066	3925127	3925137	3931916	3941410	3941487	3941626	3945479
		3956918	3956941	3956972	3965929	3967134	3972889	3982521	3982560	3985742	3991612	3991961
		4009828	4009868	4010299	4013475	4017015	4019649	4026659	4029565	4032636	4032803	
		4033644	4037125	4043193	4045767	4046954	4053926	4055373	4055503	4058956	4059293	
		4063259	4066608	4066620	4069936	4075324	4081985	4084068	4085773	4089194	4096678	4096977
		4097601	4103437	4106525	4106876	4107057	4113835	4113837	4114364	4115732	4116535	
		4120443	4120782	4122785	4126878	4131144	4131293	4147755	4148264	4151282	4151284	
		4161603	4165030	4165592	4182848	4186058	4187033	4193446	4193471	4193905	4196631	
		4206874	4207537	4207781	4211329	4211358	4214704	4214749	4214768	4215045	4215046	
		4218328	4221950	4222017	4222036	4224952	4225083	4230777	4236840	4239509		
		4239545	4241870	4244542	4244607	4250949	4254141	4254214	4258191	4259584	4265225	
		4269645	4269709	4269880	4274032	4275889	4275891	4280038	4280449	4281839	4283557	
		4288991	4289940	4291960	4304883	4304984	4306247	4306772	4311000	4314758	4320676	
		4320687	4325160	4325232	4325412	4325645	4328366	4337520	4341228	4341245		
		4342134	4342158	4348684	4349032	4349181	4352666	4353167	4356723	4358646	4360071	
		4363215	4363418	4366810	4366923	4367250	4369649	4370904	4370911	4374913	4375270	4378242
		4379474	4379530	4379531	4383172	4383753	4385590	4385924	4390686	4397575	4401610	4403067
		4404097	4407204	4408185	4411871	4411892	4414821	4415065	4415548	4415572	4415575	
		4416648	4422653	4423969	4432413	4432414	4432459	4433136	4438422	4441563		
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		4470414	4474887	4492134	4492189	4493073	4496774	4501109	4501205	4501225		
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		4600404	4604488	4604697	4611617	4611937	4615346	4617761	4618261	4622253		
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		4637534	4638837	4644947	4645008	4645024	4650378	4650436	4651787	4654611	4654639	
		4654670	4655032	4656816	4661147	4661675	4663319	4663575	4667803	4670151	4670251	
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		4710835	4715422	4715895	4720077	4720177	4725008	4726923	4729278	4729918	4730227	
		4734786	4736937	4737016	4737611	4742897	4759791	4760082	4765632	4765688	4765905	4770058
		4770319	4770873	4774201	4774928	4780203	4784012	4788138	4792726	479751	4793684	4797621
		4802533	4802747	4806889	4810751	4815734	4818543	4821343	4824313	4826102		
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		4857791	4857938	4858032	4860927	4866746	4868655	4868735	4872296	4873116	4873183	4874510
		4876426	4882424	4882476	4886234	4887292	4889244	489193	4892193	4892861	4895466	
		4895493	4899431	4899502	4900374	4902040	4902114	4904623	4905125	4915128		
		4923693	4924012	4924090	4924536	4929776	4930092	4930162	4930830	4931271	4931372	
		4932078	4933739	4934944	4935151	4937492	4940669	4940987	4941207			
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		4983398	4983613	4984514	4984609	4985139	4988334	4988513	4991213	4991225		
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		5030009	5032747	5034342	5034686	5034719	5036975	5040355	5045193	5045248	5050562	
		5053605	5055837	5055970	5056142	5056142	5056327	5056549	5057707	5062283	5066786	
		5071037	5071069	5076278	5076694	5076746	5076916	5077068	5077282	5079487	5081370	
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10468567	10468571	10468852	10473840	10475373	10475977	10477692	10479935	10480754	10488325	
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65465652	65466030	6560264	6567444	6594297	6621159	6627974	6643306	6656615	6657382	6665324
6678303	6683324	6690698	6709513	6711191	6711969	6728285	6737681	6738175	6738403	6740869
6744071	6778573	6795469	6797416	6798804	6800996	6808293	6816524	6820991	6822272	
6838693	6838701	6838705	6843905	6847193	6847342	6870191	6872986	6876009	6876685	6882672
6885687	6888165	6888866	6904225	6916676	6921928	6924514	6924596	6925101	6943433	
6946683	6960878	6965552	6973109	6999486	7009218	7011431	7015053	7015902	7019335	
7019723	7045905	7049635	7053416	7063450	7065117	7072374	7073922	7075115	7081162	7087445
7091656	7093952	7095051	7103082	7105857	7110425	7112636	7113530	7119378	7132730	7138991
7145184	7149233	7160388	7167497	7168834	7171104	7183586	7193358	7211835	7220789	7230263
7247257	7250212	7256468	7257140	7258816	7269329	7288797	7295587	7297293	7301175	
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Japan/ 日本

① 本社
HEADQUARTERS

〒 774-8601 徳島県阿南市上中町岡 491 番地
491 Oka, Kaminaka-Cho, Anan-Shi, TOKUSHIMA
774-8601, JAPAN
TEL +81-884-22-2311 FAX +81-884-21-0148

② 東京営業所
TOKYO SALES OFFICE

〒 108-0014 東京都港区芝五丁目 34 番 7 号
田町センタービル 13 階
13F Tamachi Center Building
34-7, Shiba 5-Chome, Minato-Ku, TOKYO
108-0014, JAPAN
TEL +81-3-3456-3746 FAX +81-3-5440-7516

③ 大阪営業所
OSAKA SALES OFFICE

〒 532-0003 大阪府大阪市淀川区宮原三丁目 4 番 30 号
ニッセイ新大阪ビル 10 階
10F Nissay-Shin-Osaka Building
4-30, Miyahara 3-Chome, Yodogawa-Ku, Osaka-Shi,
OSAKA 532-0003, JAPAN
TEL +81-6-6396-7708 FAX +81-6-6396-7399

④ 名古屋営業所
NAGOYA SALES OFFICE

〒 453-0801 愛知県名古屋市中村区太閤三丁目 1 番 18 号
名古屋 KS ビル 10 階
10F Nagoya KS Building
1-18, Taikoh 3-Chome, Nakamura-Ku, Nagoya-Shi,
AICHI 453-0801, JAPAN
TEL +81-52-459-1741 FAX +81-52-459-1740

Asia Pacific

⑤ 韓国日亞株式会社

NICHIA KOREA CORPORATION
#3290, 32FL, Three IFC, 10, Gukjegeumyeong-ro,
Yeongdeungpo-gu, Seoul, 07326, KOREA
TEL +82-2-6137-9200 FAX +82-2-6137-9201
info@nichia.co.kr

⑥ 上海日亞電子化学有限公司

NICHIA SHANGHAI CORPORATION
201613 中國 上海市松江区松勝路 622 号 1 樓 101 室
Rm101, Bldg.1, 622 Song Sheng Road, Song Jiang,
Shanghai, CHINA
TEL +86-21-6236-7000 FAX +86-21-6236-1718
info@nichia-china.cn

⑦ 台湾日亞化学股份有限公司

NICHIA TAIWAN CORPORATION
30351 台灣新竹縣湖口鄉新竹工業區光復北路 6 號
No.6 Kwang-Fu North Road, Hsinchu Industrial Park,
Fukou, Hsinchu, TAIWAN 30351
TEL +886-3-598-4468*9 FAX +886-3-598-4402
info@nichia.com.tw

⑧ 深圳日亞化学有限公司

NICHIA SHENZHEN CORPORATION
518001 中国廣東省深圳市人民南路 2008 号深圳嘉里中心 1116 室
Rm1116, Kerry Center, Renminnan Road 2008,
Shenzhen, Guangdong 518001, CHINA
TEL +86-755-2238-7958/7961 FAX +86-755-2238-7959
ntsc@nichia.com.tw

⑨ NICHIA CHEMICAL(THAILAND)CO.,Ltd.

388 Exchange Tower, 24th floor, Unit 2403
Sukhumvit Road, Klongtoey
Bangkok 10110, THAILAND
TEL +66-2663-7640 FAX +66-2663-7665
info@nichia.co.th

⑩ THE REPRESENTATIVE OFFICE OF
NICHIA CHEMICAL (THAILAND) COMPANY
LIMITED IN HO CHI MINH CITY

Room 13, 7th Floor, 33ter-33bis Star Building, Mac Dinh Chi St.,
Da Kao Ward, Dist.1, HCMC, VIETNAM
TEL +84-08-62887593 FAX +84-08-62887593
info@nichia.com.vn

⑪ NICHIA(MALAYSIA)SDN. BHD.

Lot 27, Subang High-Tech Industrial Park, Batu Tiga, 40000
Shah Alam, Selangor D.E., MALAYSIA
TEL +60-3-5632-6230 FAX +60-3-5635-1312
info@nichia.com.my

⑫ NICHIA CHEMICAL Pte Ltd.

20 Anson Road #08-02 Twenty Anson Singapore 079912
TEL +65-63248218 FAX +65-63245756
info@nichia.com.sg

⑬ NICHIA CHEMICAL Pte Ltd.
Representative Office in Jakarta

Multivision Tower 25th Floor, Jl.Kuningan Mulia Lot.9B,
Jakarta 12980, Indonesia
TEL: +62-813-8188-0918
info@nichia.com.sg

North America

⑯ NICHIA AMERICA CORPORATION

48561 Alpha Drive, Suite 100, Wixom, MI 48393, USA
TEL +1-248-349-9800 FAX +1-248-349-9814
info@nichia.com

⑰ NICHIA AMERICA CORPORATION
LOS ANGELES SALES OFFICE

5000 East Spring St. Ste 625, Long Beach, CA 90815, USA
TEL +1-310-540-5667 FAX +1-310-540-5662
info@nichia.com

⑲ NICHIA AMERICA CORPORATION
ATLANTA SALES OFFICE

3575 Koger Boulevard, Suite 375, Duluth, GA 30096, USA
TEL +1-770-806-8300 FAX +1-770-806-8399
info@nichia.com

⑳ NICHIA AMERICA CORPORATION
SAN JOSE SALES OFFICE

20480 Pacifica Drive Suite B, Cupertino, CA 95014

㉑ NICHIA AMERICA CORPORATION
MONTREAL SALES OFFICE

237 Hymus Boulevard, Pointe-Claire, Quebec, Canada H9R 5C7
TEL +1-514-429-2263

㉒ NICHIA AMERICA CORPORATION
TEXAS SALES OFFICE

Austin, TX

㉓ NICHIA CHEMICAL (INDIA) Pvt Ltd.

Unit #0511, 5th Floor, MGF Metropolis Mall,
MG Road, Gurgaon, Haryana 122002 INDIA
TEL +91-124-408-1211
FAX +91-124-428-4342
info@nichiaindia.com

㉔ NICHIA CHEMICAL (INDIA) Pvt Ltd.
BANGALORE SALES OFFICE

#409, Prestige Meridian-1, 29, M.G. Road Bangalore
560 001 Karnataka, INDIA
TEL +91-80-2559-8821,8822 FAX +91-80-2559-8823
info@nichiaindia.com

㉕ NICHIA CHEMICAL (INDIA) Pvt Ltd.
MUMBAI SALES OFFICE

Unit No. 807, Damji Shamji Business Galleria, LBS Marg
Kanjur Marg West, Mumbai - 400078, Maharashtra, INDIA
TEL +91-22-2577-4111 FAX +91-22-2577- 4472
info@nichiaindia.com

Europe

㉖ NICHIA EUROPE B.V.

Thomas R. Malthusstraat 1-3, 1066 JR Amsterdam,
THE NETHERLANDS
TEL +31-20-5060900 FAX +31-20-5060999
info_NL@nichia.eu

㉗ NICHIA CHEMICAL EUROPE GmbH

Westerbach strasse 28, 61476 Kronberg, GERMANY
TEL +49-617-396-700 FAX +49-617-396-7024
info_DE@nichia.eu

㉘ NICHIA RUS LLC

15 Savvinskaya Naberezhnaya, Moscow RUSSIA 119435
TEL +7-495-7874733 FAX +7-495-7874733
info@nichia-rus.ru

