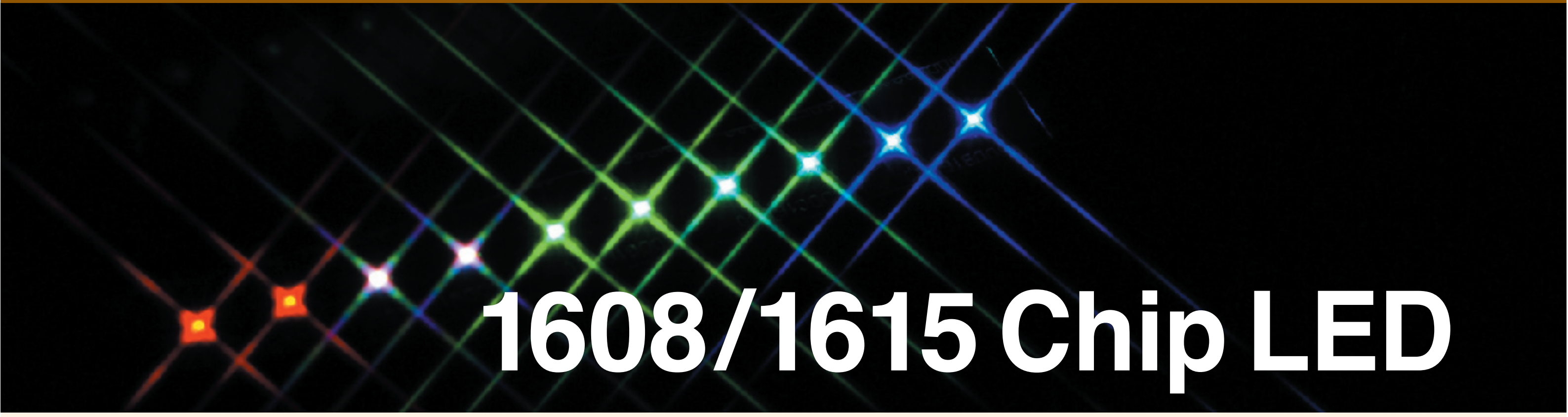


# 1608/1615 Chip LED



**SDD B 16 0 0 1 A 1**
1 2 3 4 5 6 7 8

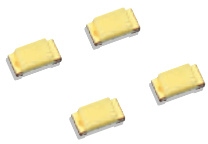
## 品番構成 Part No.

| | | |
|---|---|---|
| 1 | 型　式<br>Series Name | SDD：保護回路付チップLED<br>Chip LED with a protection circuit<br>SDC：チップLED Chip LED<br>SKD：保護回路付チップLED(車載向け)<br>Chip LED with a protection circuit (For Automotive) |
| 2 | 発光色<br>Emitting Color | A：アザレア Azalea<br>B：青 Blue<br>C：青緑 Blue-Green<br>F：フルカラー3色 Full Color(RGB)<br>G：緑色 Green<br>R：赤 Red<br>W：白 White<br>Y：黄色 Yellow |
| 3 | 形　状<br>Package Type | 16：1.6×0.8×t0.4<br>02：1.6×1.5×t0.4 |
| 4 | 発光形状<br>Emitting Style | 0：上面発光で発光面がフラット Emission from the flat top surface |
| 5 | 樹脂材料<br>Resin | 0：透明 Clear<br>4：赤・緑2波長蛍光体 2-Wavelength<red and green>Phosphor<br>5：蛍光体 Phosphor |
| 6 | 基準電流<br>Standard Current | 0：10mA<br>1：5mA<br>4：2mA※<br>※受注生産 Built to order |
| 7 | 弊社管理番号<br>Division | — |
| 8 | 荷　姿<br>Packing | 0：バラ Unavailable<br>1：テーピング Available |

# 高光度 白色

Ultra Brightness White

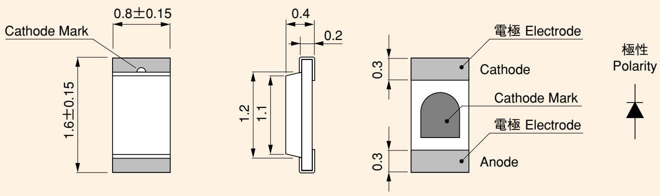
## SDDW



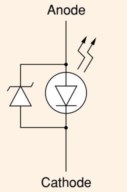
■特　長
白色発光
超薄型チップLED
(1.6X0.8Xt0.4)
静電気耐圧 ±2kV(Min.)

■Features
White light
Ultra-thin chip LED
(1.6X0.8Xt0.4)
ESD tolerance : ±2kV(Min.)

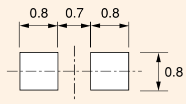
外形寸法図 Dimensions




回路図 Circuit Diagram




推奨はんだ付けパターン Recommended soldering patterns




・指示なき寸法公差 / ±0.1mm　・Tolerance without directions / ±0.1mm　(単位 unit / mm)

### ■絶対最大定格 Absolute Maximum Ratings

(Ta=25℃)

| シリーズ Series | 許容損失(mW) Power Dissipation | 順方向電流(mA) DC Forward Current | パルス順方向電流(mA) Peak Pulse Forward Current | 逆方向電流(mA) Reverse Current | 動作温度(℃) Operating Temperature Range | 保存温度(℃) Storage Temperature Range |
|---|---|---|---|---|---|---|
| SDDW | 80 | 20 | 100※ | 120 | −35〜+85 | −40〜+100 |

※Duty 1/10 Pulse Width 10ms

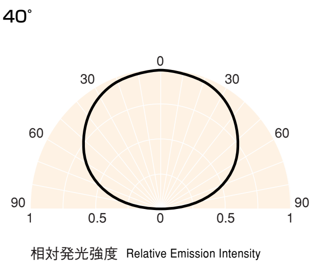
### ■電気的・光学的特性 Electro-Optical Characteristics

(Ta=25℃)

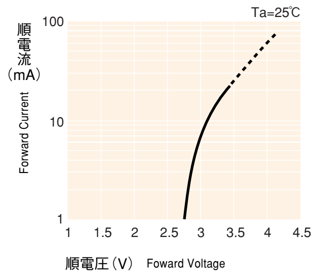
| 発光色 Emitting Color | 品 番 Part No. | 指向角 Typical Viewing Angle 2θ 1/2 | 基準電流(mA) Standard Current | 光度(mcd) Luminous Intensity | 順方向電圧(V) Forward Voltage | | 逆方向電流(mA) Reverse Current | 色度座標 Chromatic Coordinates | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Typ. | Typ. | Max. | Max.(Vr=1.0V) | | Min. | Typ. | Max. |
| 白 White | SDDW16051B1 | 140° | 5 | 80(140) | 2.85 | 3.2 | 120 | x= | 0.249 | 0.288 | 0.328 |
| | | | | | | | | y= | 0.229 | 0.279 | 0.330 |

*携帯電話画面で発光色をご覧いただけます。詳しくは3/4PのINDEXをご参照ください。*Emitting color can be seen on your cellular phone screen. For details, refer to INDEX on p.3 and p.4.
*光度の( )は、10mA時の参考値です。*Regarding luminous intensity, ( ) indicates reference value at 10 mA.

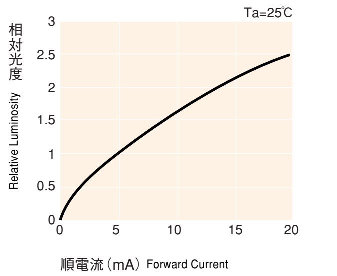
指向代表特性 Directional Pattern



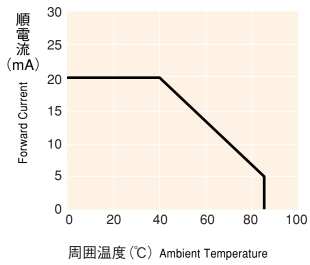

順電流-順電圧特性 Forward Current-Foward Voltage



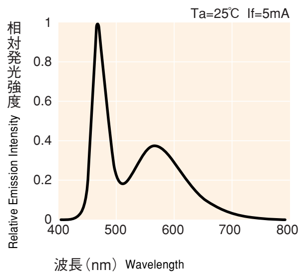

相対光度-順電流特性 Relative Luminosity-Forward Current




順電流-周囲温度特性 Forward Current-Ambient Temperature

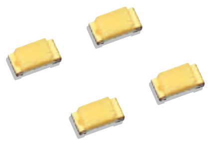



発光スペクトル Relative Emission Intensity-Wavelength



# 高演色(3波長)白色
3-Wavelength White

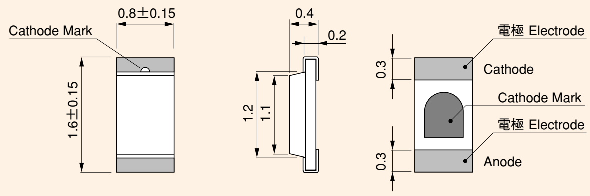
## SDDW



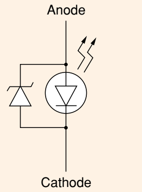
■特　長
白色発光(青色LED+赤・緑2波長蛍光体)
色温度5700〜15000K
超薄型チップLED (1.6X0.8Xt0.4)
静電気耐圧 ±2kV(Min.)

■Features
White light (Blue LED+2-wavelength<red and green>phosphor)
Color temperatures 5700〜15000K
Ultra-thin chip LED (1.6X0.8Xt0.4)
ESD tolerance : ±2kV(Min.)

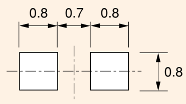
外形寸法図 Dimensions




回路図 Circuit Diagram




推奨はんだ付けパターン Recommended soldering patterns




・指示なき寸法公差 / ±0.1mm　・Tolerance without directions / ±0.1mm　(単位 unit / mm)

■絶対最大定格 Absolute Maximum Ratings　(Ta=25℃)

| シリーズ Series | 許容損失(mW) Power Dissipation | 順方向電流(mA) DC Forward Current | パルス順方向電流(mA) Peak Pulse Forward Current | 逆方向電流(mA) Reverse Current | 動作温度(℃) Operating Temperature Range | 保存温度(℃) Storage Temperature Range |
|---|---|---|---|---|---|---|
| SDDW | 80 | 20 | 100※ | 120 | −35〜+85 | −40〜+100 |

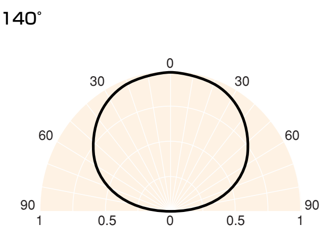
※Duty 1/10 Pulse Width 10ms

■電気的・光学的特性 Electro-Optical Characteristics　(Ta=25℃)

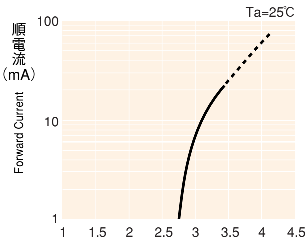
| 発光色 Emitting Color | 品番 Part No. | 指向角 Typical Viewing Angle 2θ 1/2 | 基準電流(mA) Standard Current | 光度(mcd) Luminous Intensity | 順方向電圧(V) Forward Voltage | | 逆方向電流(mA) Reverse Current | 色度座標 Chromatic Coordinates | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Typ. | Typ. | Max. | Max.(Vr=1.0V) | | Min. | Typ. | Max. |
| 白 White | SDDW16041B1 | 140° | 5 | 23(40) | 2.85 | 3.2 | 120 | x= | 0.257 | 0.292 | 0.328 |
| | | | | | | | | y= | 0.251 | 0.304 | 0.358 |

*携帯電話画面で発光色をご覧いただけます。詳しくは3/4PのINDEXをご参照ください。 *Emitting color can be seen on your cellular phone screen. For details, refer to INDEX on p.3 and p.4.
*光度の( )は、10mA時の参考値です。 *Regarding luminous intensity, ( ) indicates reference value at 10 mA.

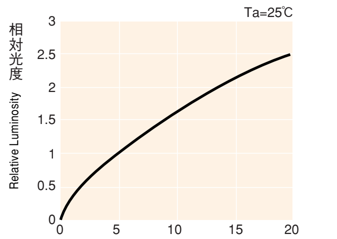
指向代表特性 Directional Pattern



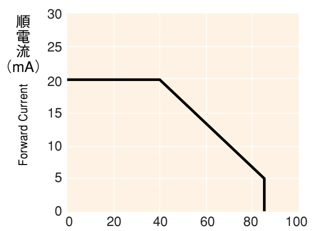

順電流-順電圧特性 Forward Current-Foward Voltage



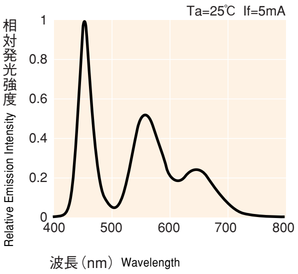

相対光度-順電流特性 Relative Luminosity-Forward Current




順電流-周囲温度特性 Forward Current-Ambient Temperature



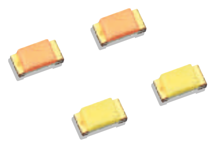

発光スペクトル Relative Emission Intensity-Wavelength



# パステルカラー

Pastel Color

## SDD□



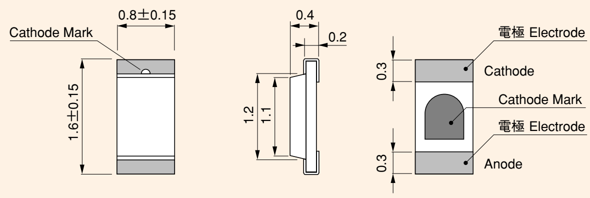
■特 長

超薄型チップLED
(1.6×0.8×t0.4)
静電気耐圧 ±2kV (Min.)

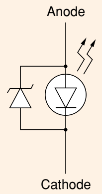
■Features

Ultra-thin chip LED
(1.6×0.8×t0.4)
ESD tolerance : ±2kV (Min.)

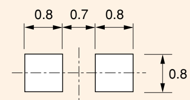
**外形寸法図** Dimensions




**回路図** Circuit Diagram




**推奨はんだ付けパターン** Recommended soldering patterns




・指示なき寸法公差 / ±0.1mm ・Tolerance without directions / ±0.1mm (単位 unit / mm)

### ■絶対最大定格 Absolute Maximum Ratings

(Ta=25℃)

| シリーズ Series | 許容損失 (mW) Power Dissipation | 順方向電流 (mA) DC Forward Current | パルス順方向電流 (mA) Peak Pulse Forward Current | 逆方向電流 (mA) Reverse Current | 動作温度 (℃) Operating Temperature Range | 保存温度 (℃) Storage Temperature Range |
|---|---|---|---|---|---|---|
| SDD□ | 80 | 20 | 100※ | 120 | −35〜+85 | −40〜+100 |

※Duty 1/10 Pulse Width 10ms

### ■電気的・光学的特性 Electro-Optical Characteristics

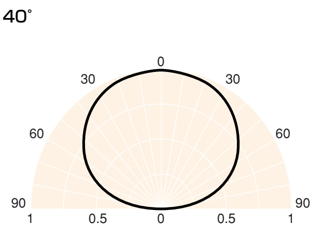
(Ta=25℃)

| 発光色 Emitting Color | 品 番 Part No. | 指向角 Typical Viewing Angle 2θ 1/2 | 基準電流 (mA) Standard Current | 光度 (mcd) Luminous Intensity | 順方向電圧 (V) Forward Voltage | | 逆方向電流 (mA) Reverse Current | 色度座標 Chromatic Coordinates | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Typ. | Typ. | Max. | Max.(Vr=1.0V) | | Min. | Typ. | Max. |
| アザレア Azalea | SDDA16051A1 | 140° | 5 | 19 (35) | 2.85 | 3.2 | 120 | x= | 0.490 | 0.540 | 0.590 |
| | | | | | | | | y= | 0.215 | 0.267 | 0.320 |
| 黄色 Yellow | SDDY16051A1 | | | 44 (75) | | | | x= | 0.467 | 0.499 | 0.532 |
| | | | | | | | | y= | 0.439 | 0.468 | 0.497 |

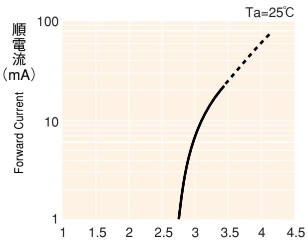
*携帯電話画面で発光色をご覧いただけます。詳しくは3/4PのINDEXをご参照ください。 *Emitting color can be seen on your cellular phone screen. For details, refer to INDEX on p.3 and p.4.
*光度の ( ) は、10mA時の参考値です。 *Regarding luminous intensity, ( ) indicates reference value at 10 mA.

ORDER COLOR その他の色につきましては、別途ご相談ください。
Please consult separately about other colors.

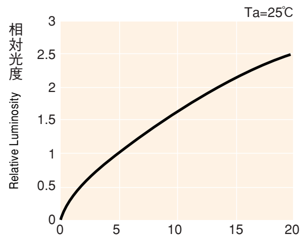
**指向代表特性** Directional Pattern



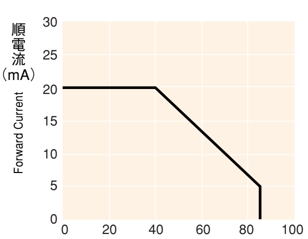

**順電流-順電圧特性** Forward Current-Foward Voltage



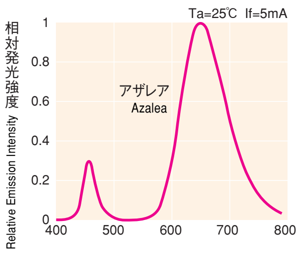

**相対光度-順電流特性** Relative Luminosity-Forward Current

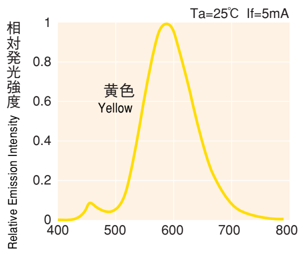



**順電流-周囲温度特性** Forward Current-Ambient Temperature




**発光スペクトル** Relative Emission Intensity-Wavelength



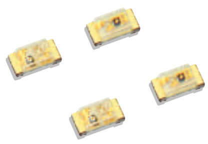



# 1608CHIP

# 単 色

## Mono Color

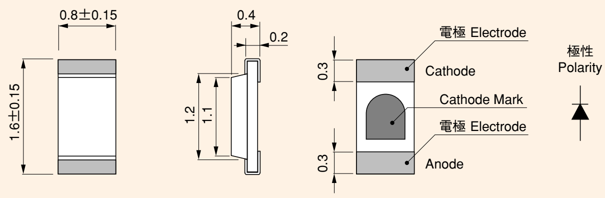
## SDD□/SDCR



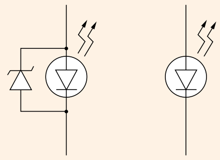
■特　長
超薄型チップLED
(1.6×0.8×t0.4)
静電気耐圧 ±2kV(Min.)

■Features
Ultra-thin chip LED
(1.6×0.8×t0.4)
ESD tolerance : ±2kV(Min.)

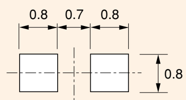
外形寸法図 Dimensions




回路図 Circuit Diagram




推奨はんだ付けパターン Recommended soldering patterns




・指示なき寸法公差 / ±0.1mm　・Tolerance without directions / ±0.1mm　(単位 unit / mm)

### ■絶対最大定格 Absolute Maximum Ratings

(Ta=25℃)

| シリーズ Series | 許容損失(mW) Power Dissipation | 順方向電流(mA) DC Forward Current | パルス順方向電流(mA) Peak Pulse Forward Current | 逆方向電流(mA) Reverse Current | 逆方向電圧(V) Reverse Voltage | 動作温度(℃) Operating Temperature Range | 保存温度(℃) Storage Temperature Range |
|---|---|---|---|---|---|---|---|
| SDD□ | 80 | 20 | 100※ | 120 | — | −35〜+85 | −40〜+100 |
| SDCR | | 30 | | — | 5 | | |

※Duty 1/10 Pulse Width 10ms

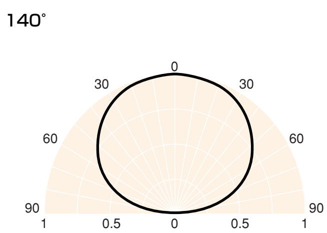
### ■電気的・光学的特性 Electro-Optical Characteristics

(Ta=25℃)

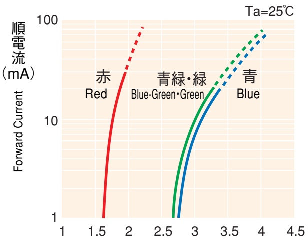
| | 発光色 Emitting Color | 品 番 Part No. | 指向角 Typical Viewing Angle 2θ 1/2 | 基準電流(mA) Standard Current | 光度(mcd) Luminous Intensity Typ. | 順方向電圧(V) Forward Voltage Typ. | 順方向電圧(V) Forward Voltage Max. | 逆方向電流(mA) Reverse Current Max.(Vr=1.0V) | 逆方向電流(μA) Reverse Current Max.(Vr=5.0V) | ドミナント波長(nm) Dominant Wavelength Min. | Typ. | Max. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10mA品 | 青色 Blue | SDDB16000A1 | 140° | 10 | 37 | 3.1 | 3.5 | 120 | — | 460 | 470 | 480 |
| | 青緑色 Blue-Green | SDDC16000A1 | | | 85 | 3.0 | | | | 490 | 500 | 510 |
| | 緑色 Green | SDDG16000A1 | | | 218 | | | | | 520 | 530 | 540 |
| | 赤色 Red | SDCR16000A1 | | | 45 | 1.8 | 2.3 | — | 50 | 611 | 621 | 631 |
| 5mA品 | 青色 Blue | SDDB16001A1 | 140° | 5 | 18 | 2.85 | 3.0 | 120 | — | 460 | 470 | 480 |
| | 青緑色 Blue-Green | SDDC16001A1 | | | 42 | | | | | 490 | 500 | 510 |
| | 緑色 Green | SDDG16001A1 | | | 109 | | | | | 520 | 530 | 540 |

*携帯電話画面で発光色をご覧いただけます。詳しくは3/4PのINDEXをご参照ください。 *Emitting color can be seen on your cellular phone screen. For details, refer to INDEX on p.3 and p.4.

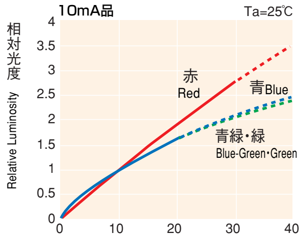
指向代表特性 Directional Pattern

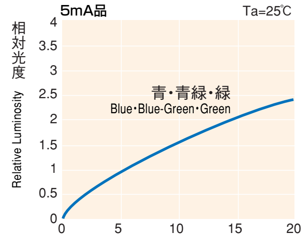



順電流-順電圧特性 Forward Current-Foward Voltage

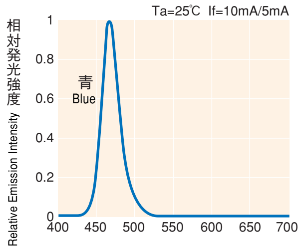


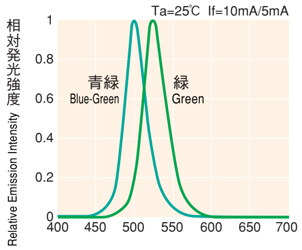

相対光度-順電流特性 Relative Luminosity-Forward Current

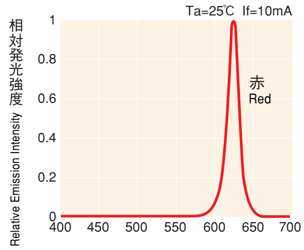


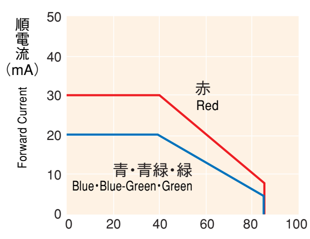

発光スペクトル Relative Emission Intensity-Wavelength



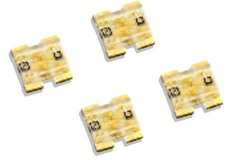

順電流-周囲温度特性 Forward Current-Ambient Temperature



# RGB 3色発光(3 in 1)

RGB Full Color

## SDDF



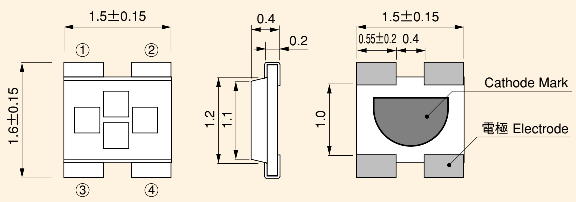
■特　長
- 超薄型マルチチップLED(1.6×1.5×t0.4)
- 赤・緑・青のフルカラー
- 静電気耐圧 ±2kV(Min.)

■Features
- Ultra-thin chip LED(1.6×1.5×t0.4)
- Full Color (Red,Green,Blue)
- ESD tolerance : ±2kV(Min.)

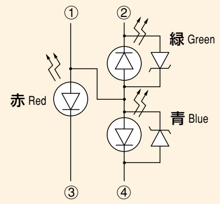
Pb free

RoHS compliant

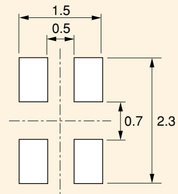
**外形寸法図** Dimensions




**回路図** Circuit Diagram




**推奨はんだ付けパターン** Recommended soldering patterns




・指示なき寸法公差 / ±0.1mm　・Tolerance without directions / ±0.1mm　(単位 unit / mm)

### ■絶対最大定格 Absolute Maximum Ratings

(Ta=25℃)

| 発光色 Emitting Color | シリーズ Series | 許容損失(mW) Power Dissipation | 順方向電流(mA) DC Forward Current | パルス順方向電流(mA) Peak Pulse Forward Current | 逆方向電流(mA) Reverse Current | 逆方向電圧(V) Reverse Voltage | 動作温度(℃) Operating Temperature Range | 保存温度(℃) Storage Temperature Range |
|---|---|---|---|---|---|---|---|---|
| 青色 Blue | SDDF | 70 | 20 | 80※ | 120 | — | −35～＋85 | −40～＋100 |
| 緑色 Green | | | | | | | | |
| 赤色 Red | | | 30 | | — | 5 | | |

●2色以上点灯した場合の許容損失は、105mW以内です。When two or more color LEDs are on, power dissipation is 105mW or less.　※Duty 1/10 Pulse Width 10ms

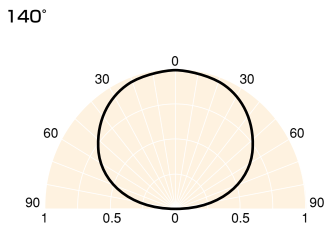
### ■電気的・光学的特性 Electro-Optical Characteristics

(Ta=25℃)

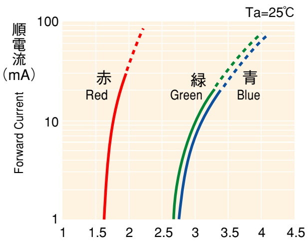
| | 発光色 Emitting Color | 品 番 Part No. | 指向角 Typical Viewing Angle 2θ 1/2 | 基準電流(mA) Standard Current | 光度(mcd) Luminous Intensity | 順方向電圧(V) Forward Voltage | | 逆方向電流(mA) Reverse Current | 逆方向電流(μA) Reverse Current | ドミナント波長(nm) Dominant Wavelength | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Typ. | Typ. | Max. | Max.(Vr=1.0V) | Max.(Vr=5.0V) | Min. | Typ. | Max. |
| 10mA品 | 青色 Blue | SDDF02000A1 | 140° | 10 | 60 | 3.1 | 3.5 | 120 | — | 460 | 470 | 480 |
| | 緑色 Green | | | | 180 | 3.0 | 3.5 | | | 515 | 525 | 535 |
| | 赤色 Red | | | | 60 | 1.8 | 2.3 | — | 50 | 611 | 621 | 631 |
| 5mA品 | 青色 Blue | SDDF02001A1 | 140° | 5 | 30 | 2.85 | 3.0 | 120 | — | 460 | 470 | 480 |
| | 緑色 Green | | | | 90 | | | | | 515 | 525 | 535 |
| | 赤色 Red | | | | 30 | 1.7 | 2.2 | — | 50 | 611 | 621 | 631 |

＊携帯電話画面で発光色をご覧いただけます。詳しくは3/4PのINDEXをご参照ください。＊Emitting color can be seen on your cellular phone screen. For details, refer to INDEX on p.3 and p.4.

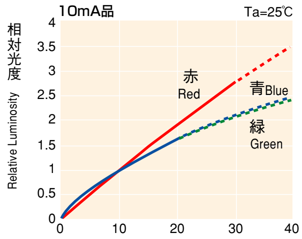
**指向代表特性** Directional Pattern

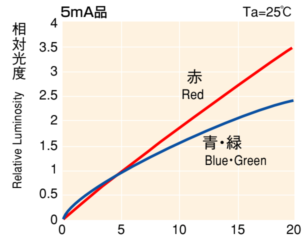



**順電流-順電圧特性** Forward Current-Foward Voltage

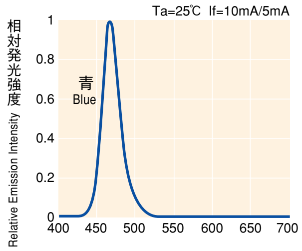


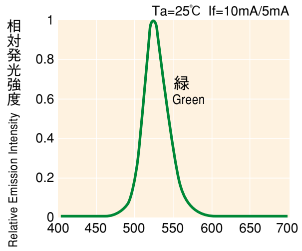

**相対光度-順電流特性** Relative Luminosity-Forward Current

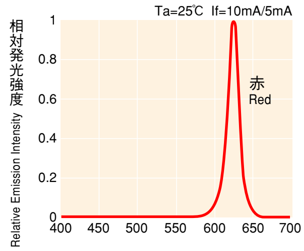


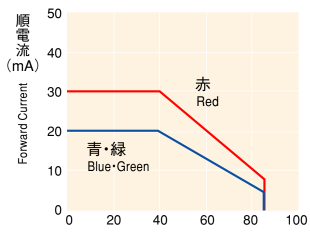

**発光スペクトル** Relative Emission Intensity-Wavelength




**順電流-周囲温度特性** Forward Current-Ambient Temperature



# 車載向け

For Automotive

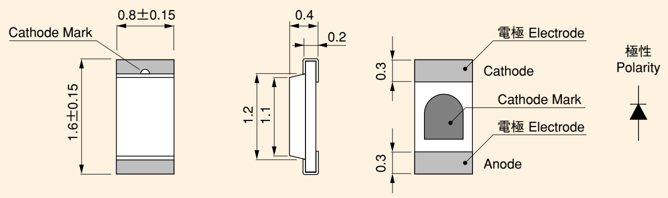
## SKD□ NEW PRODUCTS

■特　長
- 車載向高信頼性
- 超薄型チップLED
- (1.6×0.8×t0.4)
- 静電気耐圧 ±2kV(Min.)

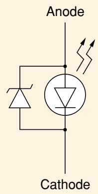
■Features
- High reliability for automotive equipment
- Ultra-thin chip LED
- (1.6×0.8×t0.4)
- ESD tolerance : ±2kV(Min.)

Pb free
RoHS compliant

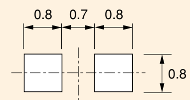
### 外形寸法図 Dimensions




### 回路図 Circuit Diagram




### 推奨はんだ付けパターン Recommended soldering patterns




・指示なき寸法公差 / ±0.1mm　・Tolerance without directions / ±0.1mm　(単位 unit / mm)

### ■絶対最大定格 Absolute Maximum Ratings

(Ta=25℃)

| シリーズ Series | 許容損失(mW) Power Dissipation | 順方向電流(mA) DC Forward Current | パルス順方向電流(mA) Peak Pulse Forward Current | 逆方向電流(mA) Reverse Current | 動作温度(℃) Operating Temperature Range | 保存温度(℃) Storage Temperature Range |
|---|---|---|---|---|---|---|
| SKD□ | 80 | 20 | 100※ | 120 | −40～+95 | −40～+105 |

※Duty 1/10 Pulse Width 10ms

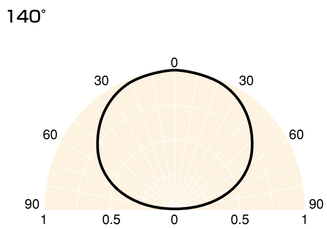
### ■電気的・光学的特性 Electro-Optical Characteristics

(Ta=25℃)

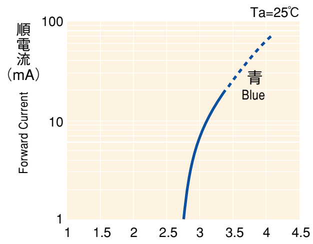
| 発光色 Emitting Color | 品 番 Part No. | 指向角 Typical Viewing Angle 2θ 1/2 | 基準電流(mA) Standard Current | 光度(mcd) Luminous Intensity | 順方向電圧(V) Forward Voltage | | 逆方向電流(mA) Reverse Current | ドミナント波長(nm) Dominant Wavelength | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Typ. | Typ. | Max. | Max.(Vr=1.0V) | Min. | Typ. | Max. |
| 青色 Blue | SKDB16001A1 | 140° | 5 | 18 | 2.85 | 3.0 | 120 | 460 | 470 | 480 |
| 緑色 Green | SKDG16001A1 | | | 109 | | | | 520 | 530 | 540 |

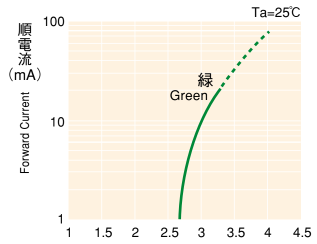
＊携帯電話画面で発光色をご覧いただけます。詳しくは3/4PのINDEXをご参照ください。 ＊Emitting color can be seen on your cellular phone screen. For details, refer to INDEX on p.3 and p.4.

### 指向代表特性 Directional Pattern

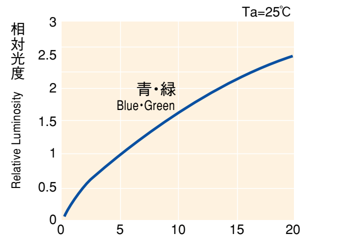



### 順電流−順電圧特性 Forward Current−Foward Voltage

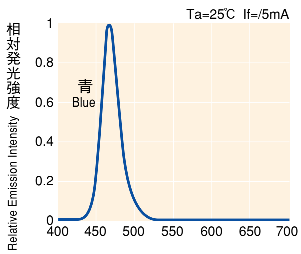


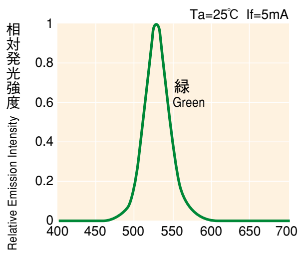




### 相対光度−順電流特性 Relative Luminosity−Forward Current




### 発光スペクトル Relative Emission Intensity−Wavelength




### 順電流−周囲温度特性 Forward Current−Ambient Temperature