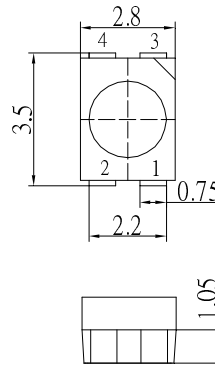
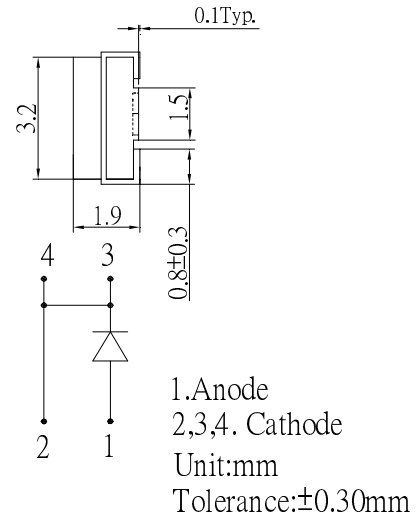


■Features

- High Luminous PLCC4 Power Top SMD LEDs
- 3.5x2.8x1.9mm Standard Directivity
- Long Lifetime Operation
- Superior Weather-resistance
- UV Resistant Epoxy

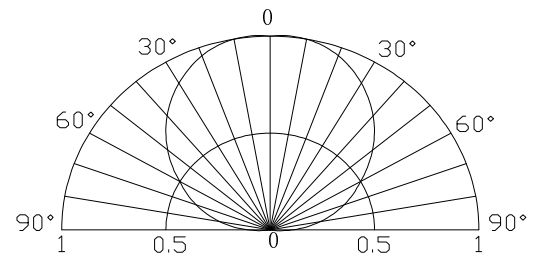
■Applications

- Automotive Dashboard Lighting
- Traffic Signal Lamp
- Back Lighting
- Other Lighting


■Outline Dimension

■Absolute Maximum Rating
(Ta=25°C)

| Item | Symbol | Value | Unit |
|----------------------------|-----------|------------|------|
| DC Forward Current | I_F | 50 | mA |
| Pulse Forward Current* | I_{FP} | 100 | mA |
| Reverse Voltage | V_R | 5 | V |
| Power Dissipation | P_D | 190 | mW |
| Operating Temperature | T_{opr} | -30 ~ +85 | °C |
| Storage Temperature | T_{stg} | -40~ +100 | °C |
| Lead Soldering Temperature | T_{sol} | 260°C/5sec | - |

*Pulse width Max.10ms Duty ratio max 1/10

■Directivity

■Electrical -Optical Characteristics
(Ta=25°C)

| Item | Symbol | Condition | Min. | Typ. | Max. | Unit |
|--------------------|-----------------|------------|------|------|------|------|
| DC Forward Voltage | V_F | $I_F=50mA$ | 3.0 | 3.3 | 3.8 | V |
| DC Reverse Current | I_R | $V_R=5V$ | - | - | 10 | μA |
| Domi. Wavelength | λ_D | $I_F=50mA$ | 465 | 470 | 475 | nm |
| Luminous Intensity | I_v | $I_F=50mA$ | 1120 | 1560 | - | mcd |
| 50% Power Angle | $2\theta_{1/2}$ | $I_F=50mA$ | - | 120 | - | deg |

*1 Tolerance of dominant wavelength is ±1nm

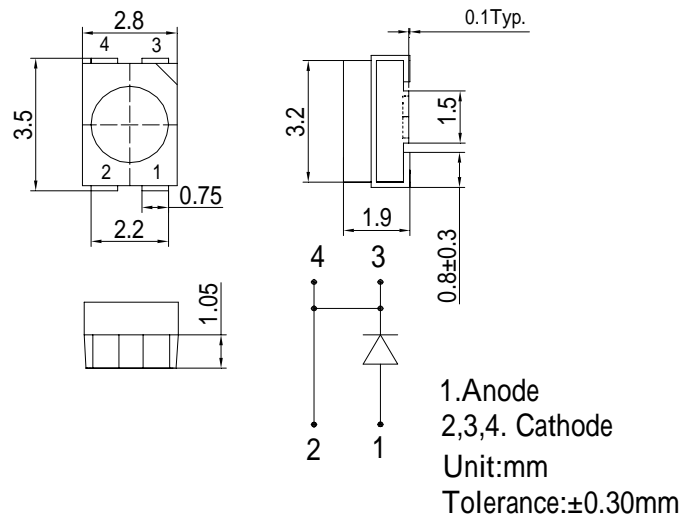
*2 Tolerance of luminous intensity is ±15%

■Features

- High Luminous PLCC4 Power Top SMD LEDs
- 3.5x2.8x1.9mm Standard Directivity
- Long Lifetime Operation
- Superior Weather-resistance
- UV Resistant Epoxy

■Applications

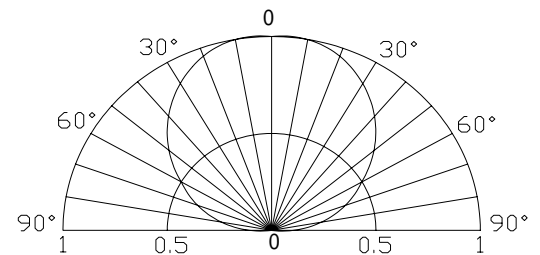
- Automotive Dashboard Lighting
- Traffic Signal Lamp
- Back Lighting
- Other Lighting

■Outline Dimension

■Absolute Maximum Rating

(Ta=25)

| Item | Symbol | Value | Unit |
|----------------------------|-----------|-----------|------|
| DC Forward Current | I_F | 50 | mA |
| Pulse Forward Current* | I_{FP} | 100 | mA |
| Reverse Voltage | V_R | 5 | V |
| Power Dissipation | P_D | 190 | mW |
| Operating Temperature | T_{opr} | -30 ~ +85 | |
| Storage Temperature | T_{stg} | -40~ +100 | |
| Lead Soldering Temperature | T_{sol} | 260 /5sec | - |

*Pulse width Max.10ms Duty ratio max 1/10

■Directivity

■Electrical -Optical Characteristics

(Ta=25)

| Item | Symbol | Condition | Min. | Typ. | Max. | Unit |
|--------------------|-----------------|------------|------|------|------|---------|
| DC Forward Voltage | V_F | $I_F=50mA$ | 3.0 | 3.3 | 3.8 | V |
| DC Reverse Current | I_R | $V_R=5V$ | - | - | 10 | μA |
| Domi. Wavelength | λ_D | $I_F=50mA$ | 520 | 525 | 530 | nm |
| Luminous Intensity | I_v | $I_F=50mA$ | 2180 | 3300 | - | mcd |
| 50% Power Angle | $2\theta_{1/2}$ | $I_F=50mA$ | - | 120 | - | deg |

 *1 Tolerance of dominant wavelength is $\pm 1nm$

 *2 Tolerance of luminous intensity is $\pm 15\%$

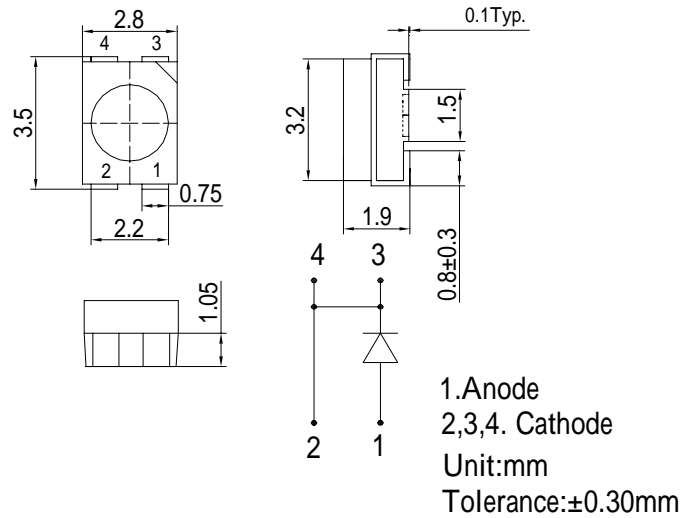
■Features

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- 3.5x2.8x1.9mm Standard Directivity
- Long Lifetime Operation
- Superior Weather-resistance
- UV Resistant Epoxy

■Applications

- Automotive Dashboard Lighting
- Traffic Signal Lamp
- Back Lighting
- Other Lighting

■Outline Dimension



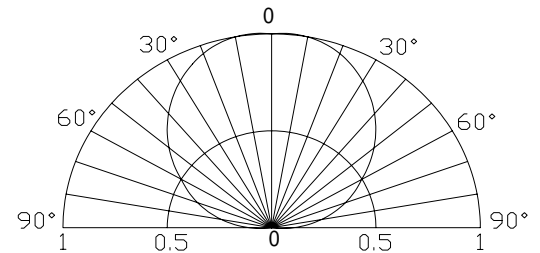
■Absolute Maximum Rating

(Ta=25)

| Item | Symbol | Value | Unit |
|----------------------------|-----------|------------|------|
| DC Forward Current | I_F | 50 | mA |
| Pulse Forward Current* | I_{FP} | 120 | mA |
| Reverse Voltage | V_R | 5 | V |
| Power Dissipation | P_D | 190 | mW |
| Operating Temperature | T_{opr} | -30 ~ +85 | |
| Storage Temperature | T_{stg} | -40 ~ +100 | |
| Lead Soldering Temperature | T_{sol} | 260 /5sec | - |

*Pulse width Max.10ms , Duty ratio max 1/10

■Directivity



Electrical -Optical Characteristics

(Ta=25)

| Item | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---------------------------|-----------------|------------|------|------|------|---------|
| DC Forward Voltage | V_F | $I_F=50mA$ | 3.0 | 3.3 | 3.8 | V |
| DC Reverse Current | I_R | $V_R=5V$ | - | - | 10 | μA |
| Luminous Intensity* | I_v | $I_F=50mA$ | 2180 | 3000 | - | mcd |
| Chromaticity Coordinates* | x | $I_F=50mA$ | - | 0.45 | - | |
| | y | $I_F=50mA$ | - | 0.41 | - | |
| 50% Power Angle | $2\theta_{1/2}$ | $I_F=50mA$ | - | 120 | - | deg |

 *1 Tolerance of chromaticity coordinates is $\pm 10\%$

 *2 Tolerance of luminous intensity is $\pm 15\%$

■Features

- High Luminous PLCC4 Power Top SMD LEDs
- 3.5x2.8x1.9mm Standard Directivity
- Superior Weather-resistance
- UV Resistant Epoxy
- Water Clear Type

■Applications

- Signage and channel letter
- Decorating and entertainment lighting
- Architectural lighting
- Outdoor/Indoor applications
- Backlighting/Other Lighting

■Absolute Maximum Rating

(Ta=25 °C)

| Item | Symbol | Value | Unit |
|----------------------------|-----------------|-----------|------|
| DC Forward Current | I _F | 70 | mA |
| Pulse Forward Current* | I _{FP} | 120 | mA |
| Reverse Voltage | V _R | 5 | V |
| Power Dissipation | P _D | 182 | mW |
| Operating Temperature | Topr | -30 ~ +85 | |
| Storage Temperature | Tstg | -40~ +100 | |
| Lead Soldering Temperature | Tsol | 260 /5sec | - |

*Pulse width Max.10ms Duty ratio max 1/10

■Electrical -Optical Characteristics

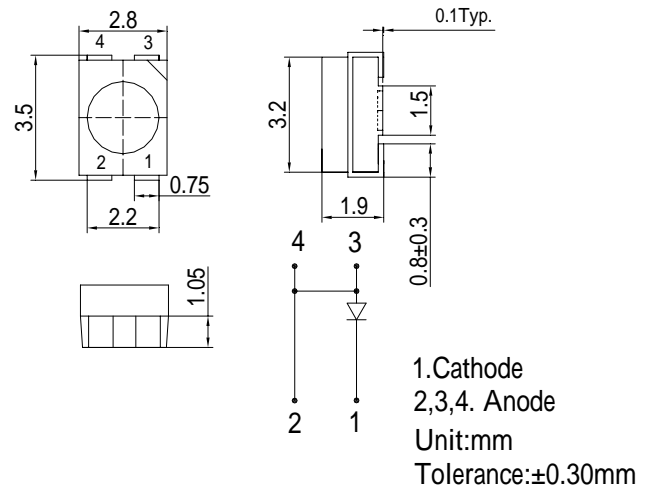
(Ta=25 °C)

| Item | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---------------------|-------------------|----------------------|------|------|------|------|
| DC Forward Voltage | V _F | I _F =70mA | 2.0 | 2.3 | 2.6 | V |
| DC Reverse Current | I _R | V _R =5V | - | - | 10 | μA |
| Domi. Wavelength* | λ _D | I _F =70mA | 619 | 624 | 629 | nm |
| Luminous Intensity* | I _v | I _F =70mA | 2180 | 2800 | - | mcd |
| 50% Power Angle | 2θ _{1/2} | I _F =70mA | - | 120 | - | deg |

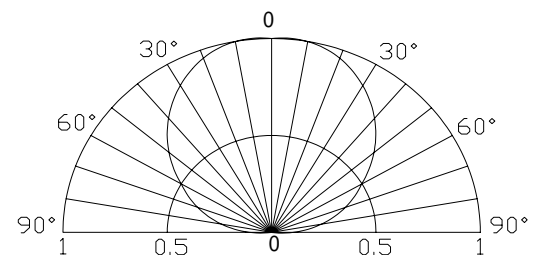
*1 Tolerance of dominant wavelength is ±1nm

*2 Tolerance of luminous intensity is ±15%

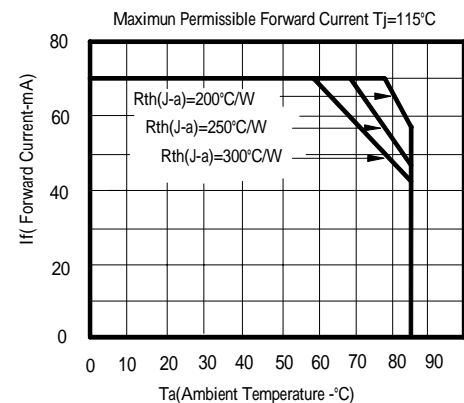
■Outline Dimension



■Directivity



Maximum Forward DC Current

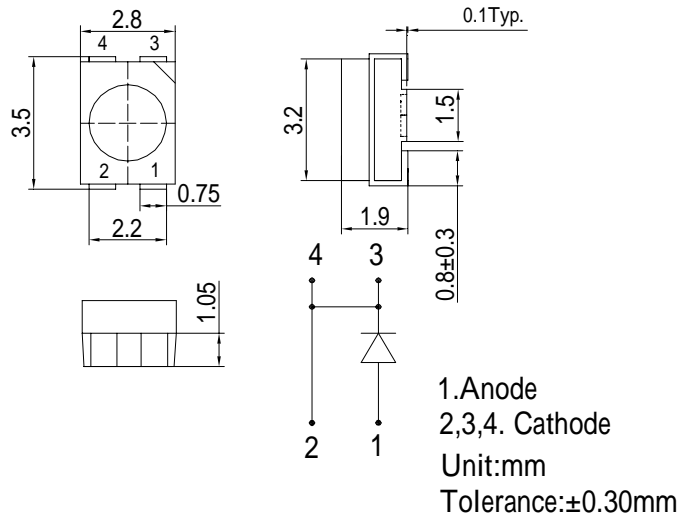


■Features

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- Long Lifetime Operation
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■Applications

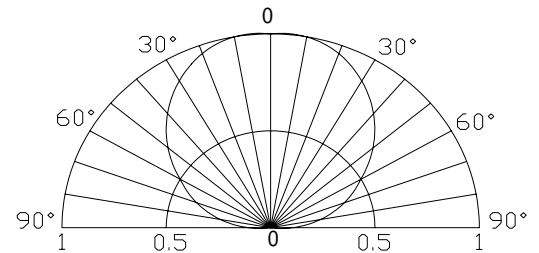
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- Traffic Signal Lamp
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■Outline Dimension

■Absolute Maximum Rating

(Ta=25)

| Item | Symbol | Value | Unit |
|----------------------------|-----------------|-----------|------|
| DC Forward Current | I _F | 50 | mA |
| Pulse Forward Current* | I _{FP} | 120 | mA |
| Reverse Voltage | V _R | 5 | V |
| Power Dissipation | P _D | 190 | mW |
| Operating Temperature | Topr | -30 ~ +85 | |
| Storage Temperature | Tstg | -40~ +100 | |
| Lead Soldering Temperature | Tsol | 260 /5sec | - |

*Pulse width Max.10ms , Duty ratio max 1/10

■Directivity

Electrical -Optical Characteristics

(Ta=25)

| Item | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---------------------------|-------------------|----------------------|------|------|------|------|
| DC Forward Voltage | V _F | I _F =50mA | 3.0 | 3.3 | 3.8 | V |
| DC Reverse Current | I _R | V _R =5V | - | - | 10 | μA |
| Luminous Intensity* | I _v | I _F =50mA | 3000 | 4000 | - | mcd |
| Chromaticity Coordinates* | x | I _F =50mA | - | 0.27 | - | |
| | y | I _F =50mA | - | 0.28 | - | |
| 50% Power Angle | 2θ _{1/2} | I _F =50mA | - | 120 | - | deg |

*1 Tolerance of chromaticity coordinates is ±10%

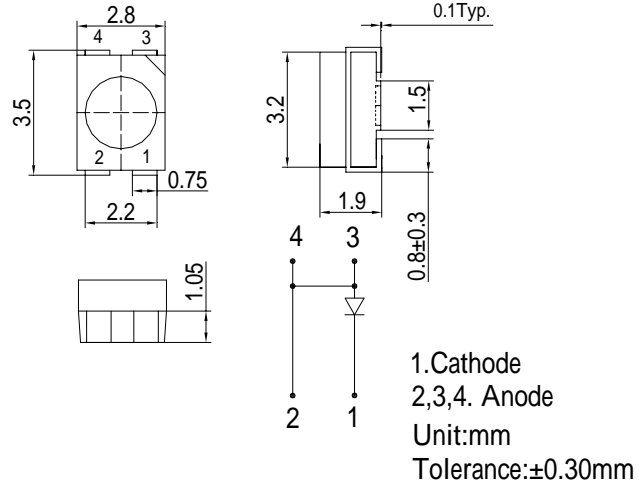
*2 Tolerance of luminous intensity is ±15%

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■Applications

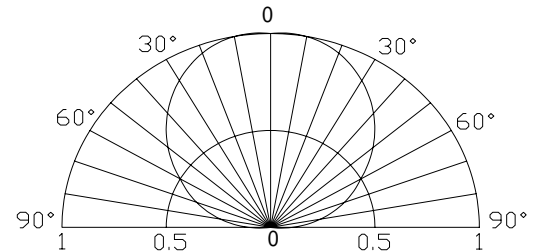
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(Ta=25 °C)

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| Pulse Forward Current* | I _{FP} | 120 | mA |
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■Directivity

■Electrical -Optical Characteristics

(Ta=25 °C)

| Item | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---------------------|-------------------|----------------------|------|------|------|------|
| DC Forward Voltage | V _F | I _F =70mA | 2.0 | 2.3 | 2.6 | V |
| DC Reverse Current | I _R | V _R =5V | - | - | 10 | μA |
| Domi. Wavelength* | λ _D | I _F =70mA | 585 | 590 | 595 | nm |
| Luminous Intensity* | I _v | I _F =70mA | 2180 | 2800 | - | mcd |
| 50% Power Angle | 2θ _{1/2} | I _F =70mA | - | 120 | - | deg |

*1 Tolerance of dominant wavelength is ±1nm

*2 Tolerance of luminous intensity is ±15%

Maximum Forward DC Current
