

Working Together for a Greener Society

Future of Power Electronics and the Earth



LED Selection Guide

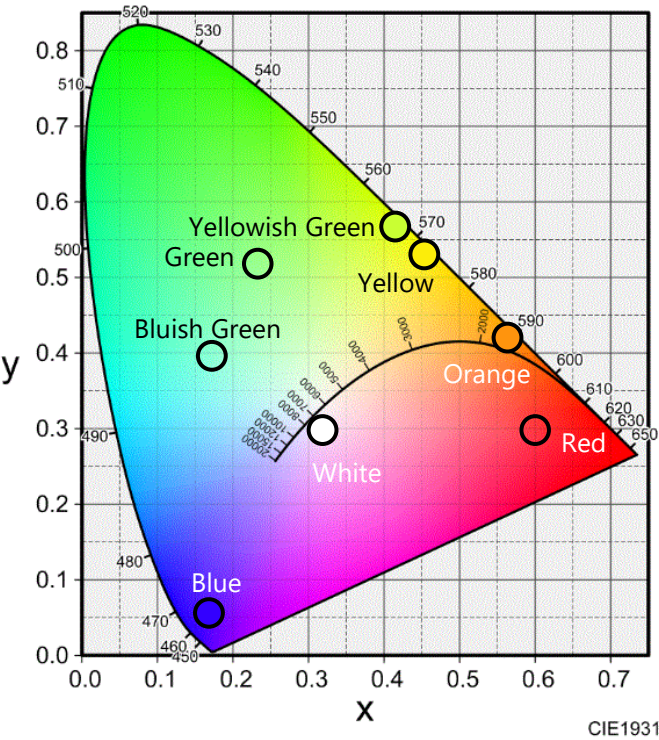
- ◆ General-purpose Chip LEDs
- ◆ Through-hole LEDs
- ◆ Food Lighting LEDs
- ◆ Ultra-high CRI LEDs
- ◆ Ultra-high Brightness LEDs
- ◆ Infrared LED

All information in this guide is as of the date of publication. Please make sure that you are using the latest version of the guide. If you need more product information, please refer to our data sheets.

<https://www.sanken-ele.co.jp/en>

Standard Products

We have a product lineup of LEDs with wide-range chromaticities.
The following tables help you select LEDs optimal for your application (e.g., indicators, switches, and automotive interiors).



Package Example



Selection Guide

| Color Range | Package | Page |
|------------------------------------|------------------------------|--|
| Blue | 3528 2835 1608 | P.5 |
| Bluish Green to Green to Yellow | 3528 3014 1608 | P.6 |
| Orange to Red | 3528 3014 2538 1608 | P.7 P.8 |
| White | 3528 2835 1608 | P.9 |

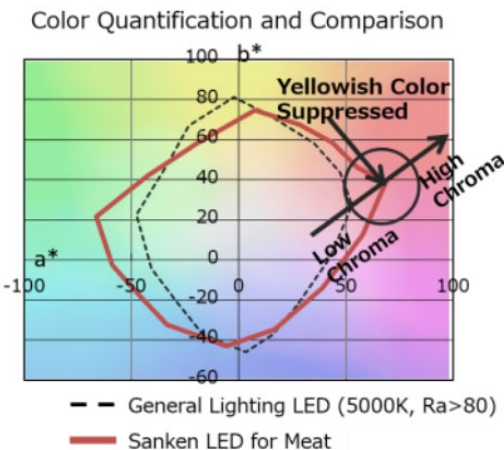
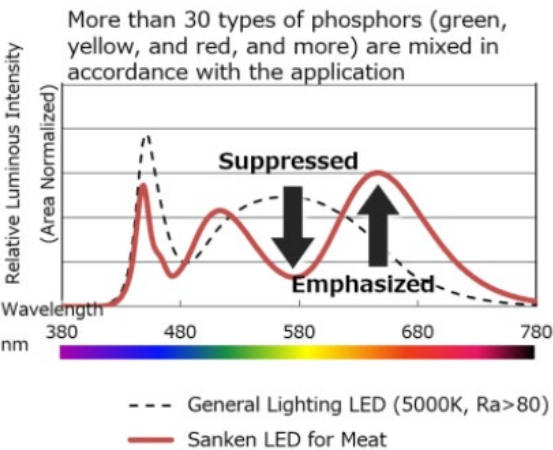
Custom Products

If our standard products do not have the color you want, spectrum-level customization is available.
Various approaches will be taken so that you can compare samples, such as color quantification or visual confirmation. We can offer you a “custom light” suitable for your application.

Orders are subject to certain conditions, including mass production quantities and specifications.
Please do not hesitate to contact us for more information.

Inquiry Form: <https://www.semicon.sanken-ele.co.jp/en/contact/form/>

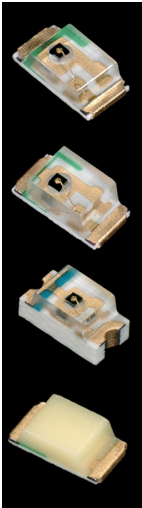
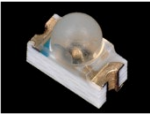
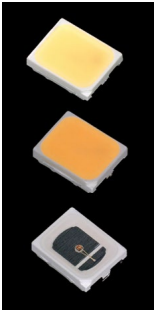
Example Customization: Redness Emphasized, Yellowness Suppressed



Color Chart for General-purpose Chip LEDs




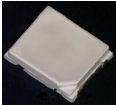



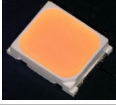


You can select the product by package type and color.
Color tuning may also be available for the colors not listed in the color chart. If you have any questions or requests, please contact us on our website ([Inquiry Form](#)).

| Package | Color | Dominant Wavelength /Chromaticity | Part Number | | | |
|--|--------------|--|----------------|---|--|---|
| | | | Low Brightness | Medium Brightness | High Brightness | Ultra-high Brightness |
| Flat Lens LED 1608  | Deep Red | 637 nm | | SECU1611C-N20 | | |
| | Red | 624 to 625 nm | SECU1205C-S | SECU1205C-NK | | |
| | | 622 nm | | SECU1211C20 | SECU1211C-NH20 | |
| | | 613 nm | | SECU1R11C-S20 | | |
| | Amber | 605 nm | SECU1805C-S | SECU1811C-S20 | SECU1811C-N20 | |
| | Light Amber | 597 nm | SECU1B07C | | | |
| | Orange | 589 to 592 nm | SECU1905C-S | SECU1911C-S20 | SECU1911C-N20 | |
| | Yellow | 571 nm | | SECU1711C-S20 | | |
| | Green | 563 nm | SECU1407C-TG | | | |
| | | 564 nm | SECU1411C-TG20 | | | |
| | Pure Green | 525 nm | | SECG1D07C-SD | | |
| | Bluish Green | 505 nm | | SECG1UB07YPT | | |
| | Blue | 465 nm | SECG1E07C-SD | SECG1E07C-PD | | |
| | White | x = 0.206 to 0.303 y = 0.244 to 0.380 | SECG1WH07YSDT3 | SECE1WA07YPT2 SECE1WC07YPDT SECG1WA07Y-SD SECG1WA07YSDT SECG1WD07YPD SECG1WV07YPD SECE1WCA1YSDT SECE1WBA1YPT | | |
| Dome Lens LED 1608  | Red | 622 nm | | | SECU1213C-N20 | |
| | Orange | 590 to 592 nm | | SECU1913C-SE8 | SECU1913C-N20 | |
| | Yellow | 570 nm | | SECU1713C-S | | |
| | Green | 564 nm | SECU1413C-TG20 | | | |
| | Blue | 461 nm | | SECG1E13CP | | |
| Flat LED 3528 3014  | Red | 652 nm (Peak Wavelength) | | | SEP161424T | |
| | | 622 nm | | SEP121404A | | |
| | | 620 nm | | | | SEP1P21L21DA |
| | | 613 nm | SECU1R0EC-SA | | | |
| | Amber | 611 nm | | SECU180EC-SA | | |
| | | 605 nm | | SEP181406A | SEP181404TA | SEP1P81L19DA |
| | Orange | 589 to 592 nm | SECU190EC-ST3A | SEP191404A | SEP1P91407DTA | SEP1P91L19DA |
| | Yellow | 568 to 570 nm | | | SEP1P71407DTA | SEP1P71L19DA |
| | Green | 527 nm | | SEP1D1402DT3A | SEP1D1419DTA | SEP1P41L19DA |
| | Pure Green | 521 nm | | | | SEP1D1L19DA |
| | Blue | 470 to 471 nm | | | SEP1E1404 SEP1E1404D | SEP1E1L21DA |
| | White | x = 0.267 to 0.344 y = 0.282 to 0.451 | SEP1WA1402-T3A | SEP1WP1446DTA | SEP1WB1410DA SEP1WB1433D SEP1WR1407DTA SEP1WB1433 | SEP1WA1L19DA SEP1WC1L19DTA SEP1WD1L21DA |

The high brightness flat LEDs for automotive interior are available.


■ LEDs for Automotive Interior: Blacked-out Panel

*Under development

| Package | Part Number | Color | Luminous Intensity | Chromaticity (x, y) | I _F (max.) | Remarks |
|---|---------------|------------|--------------------|---------------------|-----------------------|---|
| Flat LED 2835  | SEP1WA1L19DA* | White | 4300 mcd | 0.310, 0.315 | 80 mA | For Blacked-out Panel (→ P.16) |
| | SEP1WC1L19DTA | White | 3500 mcd | 0.267, 0.279 | 80 mA | |
|  | SEP1E1L21DA* | Blue | 3100 mcd | 0.126, 0.061 | 150 mA | |
|  | SEP1D1L19DA* | Pure Green | 4000 mcd | 0.173, 0.717 | 80 mA | |
|  | SEP1P41L19DA* | Green | 8400 mcd | 0.390, 0.580 | 80 mA | |
|  | SEP1P71L19DA* | Yellow | 7700 mcd | 0.440, 0.540 | 80 mA | |
|  | SEP1P91L19DA* | Orange | 5100 mcd | 0.580, 0.410 | 80 mA | |
|  | SEP1P81L19DA* | Amber | 3200 mcd | 0.640, 0.350 | 80 mA | |
|  | SEP1P21L21DA* | Red | 5100 mcd | 0.688, 0.309 | 240 mA | |

■ LEDs for Automotive Interior: In-vehicle Lighting

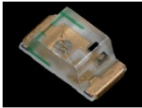


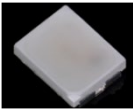

*Under development

| Package | Part Number | Color | Luminous Flux | Chromaticity (x, y) | I _F (max.) | Remarks |
|---|---------------|-------|---------------|---------------------|-----------------------|-------------------------|
| Flat LED 2835  | SEP1WD1L21DA* | White | 60 lm | 0.3447, 0.3553 | 240 mA | For In-vehicle Lighting |

Please visit our website and learn more about our LEDs.

Ultra-high Brightness LEDs
https://www.semicon.sanken-ele.co.jp/en/guide/high_intensity_led.html

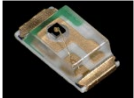

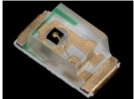
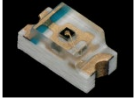
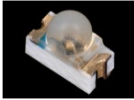
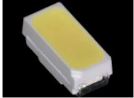


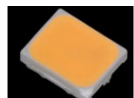
*Under development

| Package L×W×H (mm) | Part Number | Color | Forward Voltage (V) | luminous Intensity (mcd) | Chromaticity X, Y | Measurement Condition (mA) | Light Dispersion Angle/ Viewing Angle (deg) | Power Dissipation (mW) |
|---|--------------|-------|---------------------------|--------------------------------|----------------------|----------------------------------|---|------------------------------|
| 1.6×0.8×0.7  | SECG1E07C-SD | Blue | 3.1 | 50 | — | 10 | 150 | 108 |
| | SECG1E07C-PD | Blue | 3.1 | 88 | — | 10 | 140 | 105 |
| 1.6×0.8×1.5  | SECG1E13CP | Blue | 2.9 | 329 | — | 10 | 50 | 99 |
| 3.5×2.8×1.2  | SEP1E1404 | Blue | 3.3 | 550 | — | 20 | 120 | 120 |
| 3.5×2.8×1.2  | SEP1E1404D | Blue | 3.1 | 550 | — | 20 | 120 | 108 |
| 2.8×3.5×0.7  | SEP1E1L21DA* | Blue | 2.9 | 3100 | — | 100 | 120 | 540 |

*Under development


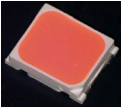
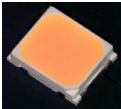
| Package L×W×H (mm) | Part Number | Color | Forward Voltage (V) | Luminous Intensity (mcd) | Chromaticity X, Y | Measurement Condition (mA) | Light Dispersion Angle/ Viewing Angle (deg) | Power Dissipation (mW) |
|---|----------------|-----------------|---------------------------|--------------------------------|----------------------|----------------------------------|--|------------------------------|
| 1.6×0.8×0.7  | SECG1D07C-SD | Pure Green | 2.9 | 170 | — | 10 | 150 | 111 |
| 1.6×0.8×0.7  | SECG1UB07YPT | Bluish Green | 2.7 | 120 | — | 5 | 160 | 99 |
| 1.6×0.8×0.7  | SECU1407C-TG | Green | 2.0 | 15 | — | 10 | 130 | 75 |
| 1.6×0.8×1.1  | SECU1711C-S20 | Yellow | 2.1 | 96 | — | 20 | 130 | 72 |
| | SECU1411C-TG20 | Green | 2.1 | 30 | — | 20 | 130 | 72 |
| 1.6×0.8×1.5  | SECU1713C-S | Yellow | 2.1 | 300 | — | 20 | 60 | 100 |
| | SECU1413C-TG20 | Green | 2.1 | 75 | — | 20 | 60 | 100 |
| 3.5×2.8×1.2  | SEP1P71407DTA | Yellow | 3.1 | 800 | 0.430, 0.545 | 10 | 120 | 111 |
| 3.5×2.8×1.2  | SEP1D1402DT3A | Green | 3.0 | 325 | — | 10 | 120 | 105 |
| | SEP1D1419DTA | Green | 2.45 | 1000 | — | 10 | 120 | 90 |
| 2.8×3.5×0.7  | SEP1P71L19DA* | Yellow | 2.9 | 7700 | 0.440, 0.540 | 50 | 120 | 288 |
|  | SEP1D1L19DA* | Pure Green | 2.9 | 4000 | — | 50 | 120 | 288 |
|  | SEP1P41L19DA* | Green | 2.9 | 8400 | 0390, 0580 | 50 | 120 | 288 |

*Under development

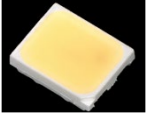
| Package L×W×H (mm) | Part Number | Color | Forward Voltage (V) | luminous Intensity (mcd) | Chromaticity X, Y | Measurement Condition (mA) | Light Dispersion Angle/ Viewing Angle (deg) | Power Dissipation (mW) |
|--|----------------|----------------|---------------------------|--------------------------------|----------------------|----------------------------------|--|------------------------------|
| 1.6×0.8×0.55   | SECU1205C-NK | Red | 2.0 | 150 | — | 10 | 130 | 75 |
| | SECU1205C-S | Red | 1.9 | 45 | — | 10 | 130 | 75 |
| | SECU1805C-S | Amber | 1.9 | 50 | — | 10 | 130 | 75 |
| | SECU1905C-S | Orange | 1.9 | 40 | — | 10 | 130 | 75 |
| 1.6×0.8×0.7  | SECUB07C | Light Amber | 1.95 | 90 | — | 10 | 150 | 111 |
| 1.6×0.8×1.1  | SECU1611C-N20 | Deep Red | 2.0 | 204 | — | 20 | 140 | 72 |
| | SECU1211C-NH20 | Red | 2.0 | 450 | — | 20 | 140 | 84 |
| | SECU1211C20 | Red | 2.0 | 181 | — | 20 | 120 | 84 |
| | SECU1R11C-S20 | Red | 2.0 | 160 | — | 20 | 140 | 72 |
| | SECU1811C-N20 | Amber | 2.0 | 430 | — | 20 | 140 | 72 |
| | SECU1811C-S20 | Amber | 2.0 | 145 | — | 20 | 140 | 72 |
| | SECU1911C-N20 | Orange | 2.0 | 401 | — | 20 | 140 | 72 |
| | SECU1911C-S20 | Orange | 2.0 | 190 | — | 20 | 140 | 72 |
| 1.6×0.8×1.5  | SECU1213C-N20 | Red | 2.1 | 1000 | — | 20 | 60 | 100 |
| | SECU1913C-N20 | Orange | 2.1 | 1100 | — | 20 | 60 | 100 |
| | SECU1913C-SE8 | Orange | 2.1 | 470 | — | 20 | 60 | 100 |
| 3.0×1.4×1.2  | SECU1R0EC-SA | Red | 2.0 | 200 | — | 20 | 120 | 75 |
| | SECU180EC-SA | Amber | 2.0 | 200 | — | 20 | 120 | 75 |
| | SECU190EC-ST3A | Orange | 2.0 | 45 | — | 20 | 120 | 75 |
| 3.5×2.8×1.2  | SEP181404TA | Amber | 2.0 | 600 | — | 20 | 120 | 81 |
| 3.5×2.8×1.2  | SEP121404A | Red | 2.1 | 600 | — | 20 | 120 | 78 |
| | SEP181406A | Amber | 2.0 | 245 | — | 20 | 120 | 75 |
| | SEP191404A | Orange | 2.0 | 630 | — | 20 | 120 | 75 |
| 3.5×2.8×1.2  | SEP1P91407DTA | Orange | 3.2 | 1500 | 0.562, 0.432 | 20 | 120 | 111 |

Orange, Red

*Under development

| Package L×W×H (mm) | Part Number | Color | Forward Voltage (V) | luminous Intensity (mcd) | Chromaticity X, Y | Measurement Condition (mA) | Light Dispersion Angle/ Viewing Angle (deg) | Power Dissipation (mW) |
|---|---------------|--------|---------------------------|--------------------------------|----------------------|----------------------------------|--|------------------------------|
| 2.8×3.5×0.7  | SEP1P21L21DA* | Red | 2.9 | 5100 | 0.688, 0.308 | 150 | 120 | 864 |
|  | SEP1P81L19DA* | Amber | 2.9 | 3200 | 0.640, 0.350 | 50 | 120 | 288 |
|  | SEP1P91L19DA* | Orange | 2.9 | 5100 | 0.580, 0.410 | 50 | 120 | 288 |




*Under development

| Package L×W×H (mm) | Part Number | Color | Forward Voltage (V) | luminous Intensity (mcd) | Chromaticity X, Y | Measurement Condition (mA) | Light Dispersion Angle/ Viewing Angle (deg) | Power Dissipation (mW) |
|---|----------------|-------|---------------------------|--------------------------------|----------------------|----------------------------------|---|------------------------------|
| 1.6×0.8×0.7  | SECE1WA07YPT2 | White | 2.8 | 49 | 0.273, 0.281 | 5 | 140 | 108 |
| | SECE1WC07YPDT | White | 2.8 | 150 | 0.3041, 0.3803 | 10 | 160 | 108 |
| | SECG1WA07Y-SD | White | 3.0 | 95 | 0.284, 0.269 | 5 | 160 | 108 |
| | SECG1WA07YSDT | White | 3.2 | 110 | 0.303, 0.318 | 10 | 160 | 111 |
| | SECG1WD07YPD | White | 2.8 | 120 | 0.280, 0.273 | 5 | 160 | 108 |
| | SECG1WV07YPD | White | 3.2 | 240 | 0.245, 0.244 | 10 | 160 | 108 |
| | SECG1WH07YSDT3 | White | 2.8 | 28 | 0.2064, 0.3008 | 10 | 160 | 102 |
| 1.6×0.8×1.1  | SECE1WCA1YSDT | White | 3.2 | 110 | 0.250, 0.256 | 10 | 160 | 111 |
| | SECE1WBA1YPT | White | 2.8 | 200 | 0.267, 0.246 | 10 | 160 | 90 |
| 3.5×2.8×1.2  | SEP1WA1402-T3A | White | 3.0 | 190 | 0.275, 0.295 | 10 | 120 | 105 |
| | SEP1WB1410DA | White | 3.2 | 2500 | 0.315, 0.310 | 20 | 120 | 148 |
| | SEP1WB1433 | White | 3.2 | 2400 | 0.301, 0.292 | 20 | 120 | 140 |
| | SEP1WB1433D | White | 3.0 | 2400 | 0.301, 0.292 | 20 | 120 | 140 |
| | SEP1WP1446DTA | White | 3.0 | 500 | 0.2900, 0.2815 | 10 | 120 | 108 |
| | SEP1WR1407DTA | White | 3.2 | 2400 | 0.3200, 0.3090 | 20 | 120 | 148 |
| 2.8×3.5×0.7   | SEP1WA1L19DA* | White | 2.9 | 4300 | 0.310, 0.315 | 30 | 120 | 288 |
| | SEP1WC1L19DTA | White | 2.90 | — | 0.2667, 0.2793 | 30 | 120 | 280 |
| | SEP1WD1L21DA* | White | 2.9 | — | 0.3447, 0.3553 | 150 | 120 | 864 |

Through-hole LEDs






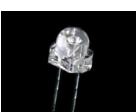



We have a wide range of through-hole LEDs in various colors.
You can select the product by package type (φ3 mm round, φ3 mm inverted cone type, and φ5 mm round) according to your application.



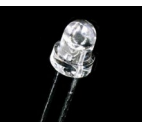
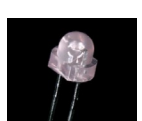






| Package | Color | Dominant Wavelength/ Chromaticity | Lens Color | Part Number | Type |
|---|----------------------|--------------------------------------|------------------|-------------------------------------|--|
| <div>φ3 mm Round</div> <div></div> | Deep Red | 639.0 nm | Clear | SELU2610C-S | |
| | | | | SELU6614C-S | Wide viewing angle, no LED-to-PCB clearance required |
| | Red | 624.0 nm | Clear | SELU2210C-S | |
| | | | Diffused, Red | SELU6214R-S | Wide viewing angle, no LED-to-PCB clearance required |
| | Amber | 605.0 nm | Clear | SELU2810C-S | |
| | | 607.0 nm | | SELU6814C-S | Wide viewing angle, no LED-to-PCB clearance required |
| | Orange | 590.0 nm | Diffused, Orange | SELU2910D-S | |
| | | | Clear | SELU6914C-S | Wide viewing angle, no LED-to-PCB clearance required |
| | Green | 563.5 nm | Clear | SELU2410C-TG | |
| | | 562.0 nm | Diffused, Green | SELU6414G-S | Wide viewing angle, no LED-to-PCB clearance required |
| | Pure Green | 525.0 nm | Clear | SELG6D14C-SD | Wide viewing angle, no LED-to-PCB clearance required |
| | Blue | 460.0 nm | Clear | SELS6E14C-D | Wide viewing angle, no LED-to-PCB clearance required |
| | | 465.0 nm | Clear | SELG2E10C-S | |
| | | | | SELG6E10C-S20 | No LED-to-PCB clearance required |
| White | x = 0.310, y = 0.320 | Clear | SELG2WA10C-S | | |
| | x = 0.300, y = 0.295 | | SELS6WA10CT2 | No LED-to-PCB clearance required | |
| <div>φ3 mm Inverted Cone Type</div> <div></div> | Red | 624.0 nm | Clear | SELU6213C-S | No LED-to-PCB clearance required |
| <div>φ5 mm Round</div> <div></div> | Orange | 590.0 nm | Clear | SELU1910CXM-S | Wide viewing angle |
| | Yellow | 573.0 nm | Clear | SELU1710CXM-S | Wide viewing angle |
| | Green | 563.0 nm | Clear | SELU1410CXM-TG | Wide viewing angle |
| | White | x = 0.275, y = 0.265 | Clear | SELS1WA62CMKTT2 | |

Through-hole LEDs

Blue, Green, Yellow



| Package | Part Number | Color | Lens Color | Forward Voltage (V) | Luminous Intensity (mcd) | Dominant Wavelength (nm) Chromaticity X, Y | Measurement Condition (mA) | Type |
|---|----------------|------------|-----------------|---------------------|--------------------------|---|----------------------------|--|
| φ3 mm Round     | SELG2E10C-S | Blue | Clear | 3.3 | 800 | 465.0 | 20 | — |
| | SELG6E10C-S20 | Blue | Clear | 3.3 | 550 | 465.0 | 20 | No LED-to-PCB clearance required |
| | SELS6E14C-D | Blue | Clear | 2.9 | 600 | 460.0 | 20 | Wide viewing angle, no LED-to-PCB clearance required |
| | SELG6D14C-SD | Pure Green | Clear | 3.3 | 1800 | 525.0 | 20 | Wide viewing angle, no LED-to-PCB clearance required |
| φ3 mm Round   | SELU2410C-TG | Green | Clear | 2.1 | 300 | 563.5 | 20 | — |
| | SELU6414G-S | Green | Diffused, Green | 2.1 | 30 | 562.0 | 20 | Wide viewing angle, no LED-to-PCB clearance required |
| φ5 mm Round  | SELU1410CXM-TG | Green | Clear | 2.1 | 200 | 563.0 | 20 | Wide viewing angle |
| | SELU1710CXM-S | Yellow | Clear | 2.1 | 550 | 573.0 | 20 | Wide viewing angle |

| Package | Part Number | Color | Lens Color | Forward Voltage (V) | Luminous Intensity (mcd) | Dominant Wavelength (nm) Chromaticity X, Y | Measurement Condition (mA) | Type |
|---|---------------|----------|------------------|---------------------|--------------------------|---|----------------------------|--|
| φ3 mm Round     | SELU2610C-S | Deep Red | Clear | 2.0 | 300 | 639.0 | 20 | — |
| | SELU6614C-S | Deep Red | Clear | 2.0 | 150 | 639.0 | 20 | Wide viewing angle, no LED-to-PCB clearance required |
| | SELU2210C-S | Red | Clear | 2.0 | 350 | 624.0 | 20 | — |
| | SELU6214R-S | Red | Diffused, Red | 2.0 | 150 | 624.0 | 20 | Wide viewing angle, no LED-to-PCB clearance required |
| φ3 mm Inverted Cone  | SELU6213C-S | Red | Clear | 2.0 | 30 | 624.0 | 20 | No LED-to-PCB clearance required |
| φ3 mm Round     | SELU2810C-S | Amber | Clear | 2.0 | 400 | 605.0 | 20 | — |
| | SELU6814C-S | Amber | Clear | 2.0 | 230 | 607.0 | 20 | Wide viewing angle, no LED-to-PCB clearance required |
| | SELU2910D-S | Orange | Diffused, Orange | 2.0 | 300 | 590.0 | 20 | — |
| | SELU6914C-S | Orange | Clear | 2.0 | 180 | 590.0 | 20 | Wide viewing angle, no LED-to-PCB clearance required |
| φ5 mm Round  | SELU1910CXM-S | Orange | Clear | 2.0 | 450 | 590.0 | 20 | Wide viewing angle |

| Package | Part Number | Color | Lens Color | Forward Voltage (V) | Luminous Intensity (mcd) | Chromaticity X, Y | Measurement Condition (mA) | Type |
|--|-----------------|-------|------------|---------------------|--------------------------|-------------------|----------------------------|----------------------------------|
| <div>φ3 mm Round</div> <div></div> <div></div> | SELG2WA10C-S | White | Clear | 3.3 | 3000 | 0.310, 0.320 | 20 | — |
| | SELS6WA10CT2 | White | Clear | 2.9 | 5000 | 0.300, 0.295 | 20 | No LED-to-PCB clearance required |
| <div>φ5 mm Round</div> <div></div> | SELS1WA62CMKTT2 | White | Clear | 2.9 | 7000 | 0.275, 0.265 | 20 | — |

LEDs to Offer Natural Color Appearance of Foods More than Ever

To make various foods look appetizing, we have verified our LEDs' lights through optical and biochemical approaches.

Our LEDs will bring out visual attractiveness of the following foods without losing their true colors.

Meat

General-purpose white LED



LED for meat



- ✓ Makes redness more vivid
- ✓ Provides more natural-looking colors; emphasizes redness in meat but yields natural whiteness in fat

Fresh Fish and Produce

General-purpose white LED



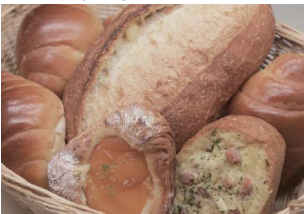
LED for fresh fish and produce



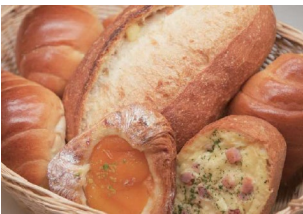
- ✓ Makes bluefish scales (silver white) look more vivid as well as red-fleshed fish
- ✓ Provides whiteness in packing trays and showcases
- ✓ Makes fruits and vegetables look more vibrant and fresh

Delicatessen Food

General-purpose white LED



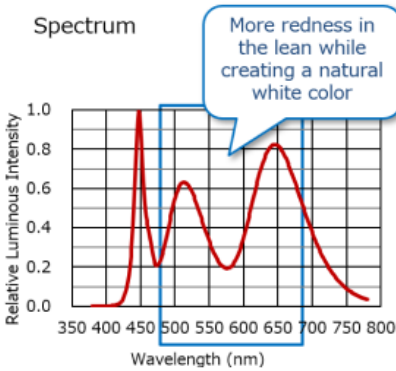
LED for delicatessen food



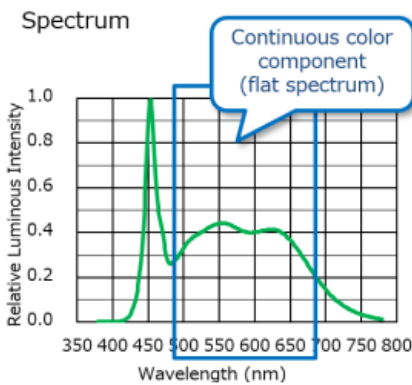
- ✓ Makes breads look more fluffy and fried foods look more crispy
- ✓ Contains many color components from yellow to red, thus enhancing the contrasts of browned portions

Example

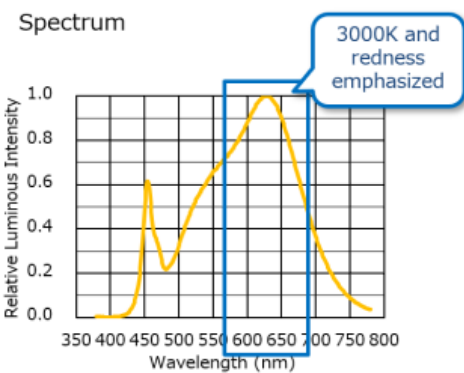
Meat



Fresh Fish and Produce



Delicatessen Food



LEDs to Deliver High Quality Lighting

The SEP1A series are high color rendering LED devices that have performance quality defined by not only the average color rendering index, Ra, but also the special color rendering index, Ri. By using our LED devices, you can realize lighting equipment with the same performance as color rendering AAA fluorescent lamps commonly used for color evaluation.

Features

- High color rendering to faithfully reproduce true colors
Ra = 95 (typ.), Ri = 90 (typ.)
- High luminous efficacy
- Unique technology to improve the trade-off between color rendering and luminous efficacy
- Near-natural but discoloration-proof light
- Ideal color rendering for color evaluation
- Ultra-high color rendering but high efficiency

General White LED



SEP1A Series



Unlike general white LED lighting, colors such as yellow, orange, and light blue appear in the same manner as AAA fluorescent lamp lighting.

Applications

- Household lighting, office lighting, commercial lighting (e.g., ceiling lights, downlights, indirect lighting)
- Inspection lighting, evaluation lighting (e.g., textile, printing, and manufacturing industries)
- Shooting light sources (e.g., floodlights, ring lights)



Package



L×W×H: 2.8×3.5×0.7 mm
Bare lead frame: Pb-free
Highly heat-dissipating: $\theta_{(J-S)} = 25 \text{ }^{\circ}\text{C/W}$

Selection Guide to Ultra-high CRI LEDs

| Part Number | Forward Voltage V_F (Typ.) | Luminous Flux Φ_v (Typ.) | Luminous Efficacy η (Typ.) | Color Temperature CCT (Typ.) | Average Color Rendering Index Ra (Typ.) | Special Color Rendering Index Ri (Typ.) |
|--------------|------------------------------|-------------------------------|---------------------------------|------------------------------|---|---|
| SEP1AQ1L92LL | 2.71 V | 19.6 lm | 145 lm/W | 5000 K* | $\geq 95^*$ | $\geq 90^*$ |
| SEP1AQ1L92SS | 2.81 V | | 140 lm/W | | | |

* When the SEP1AQ1L92LL and the SEP1AQ1L92SS mounted in pairs.

Please visit our website to learn more about our ultra-high CRI LEDs.
https://www.semicon.sanken-ele.co.jp/en/guide/high_color_rendering_led.html

Suitable for Black-out Design for Automotive Interiors

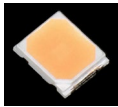
The SEP1xx1L series are ultra-high brightness LEDs that achieve not only high reliability but also high efficiency and high-brightness for automotive interiors. Above all, this series is ideal for backlights using blacked-out instrument panels with low light transmission rates. The new LED devices achieve industry-leading* ultra-high brightness by combining our new technologies: a structure with high heat dissipation, reflector resin with high heat/light resistance, and an LED chip with high heat resistance.

* Based on our survey about SEP1WC1L19DTA as of May 2025.

Features

- Ultra-high brightness
- Automotive-grade qualified
- Thermally enhanced surface-mount package
- ESD-protection Zener diode include
- No light-scattering sheet or lens embossing required

Package



Standard Size for Automotive
L×W×H: 2.8×3.5×0.7 mm

Applications

For automotive interior applications such as:

- Blacked-out instrument panel display with low light transmission
- Footlight and other lighting equipment



Selection Guide to Ultra-high Brightness LEDs

*Under development

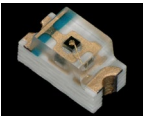
| Part Number | Color | Luminous Intensity (I _F) | Chromaticity (x, y) | I _F (Max.) |
|---------------|------------|--------------------------------------|---------------------|-----------------------|
| SEP1WA1L19DA* | White | 4300 mcd (30 mA) | 0.310, 0.315 | 80 mA |
| SEP1WC1L19DTA | | 3500 mcd (30 mA) | 0.267, 0.279 | 80 mA |
| SEP1E1L21DA* | Blue | 3100 mcd (100 mA) | 0.126, 0.061 | 150 mA |
| SEP1D1L19D* | Pure Green | 4000 mcd (50 mA) | 0.173, 0.717 | 80 mA |
| SEP1P41L19DA* | Green | 8400 mcd (50 mA) | 0.390, 0.580 | 80 mA |
| SEP1P71L19DA* | Yellow | 7700 mcd (50 mA) | 0.440, 0.540 | 80 mA |
| SEP1P91L19DA* | Orange | 5100 mcd (50 mA) | 0.580, 0.410 | 80 mA |
| SEP1P81L19DA* | Amber | 3200 mcd (50 mA) | 0.640, 0.350 | 80 mA |
| SEP1P21L21DA* | Red | 5100 mcd (150 mA) | 0.688, 0.309 | 240 mA |

Please visit our website to learn more about our ultra-high brightness LEDs.

https://www.semicon.sanken-ele.co.jp/en/guide/high_intensity_led.html

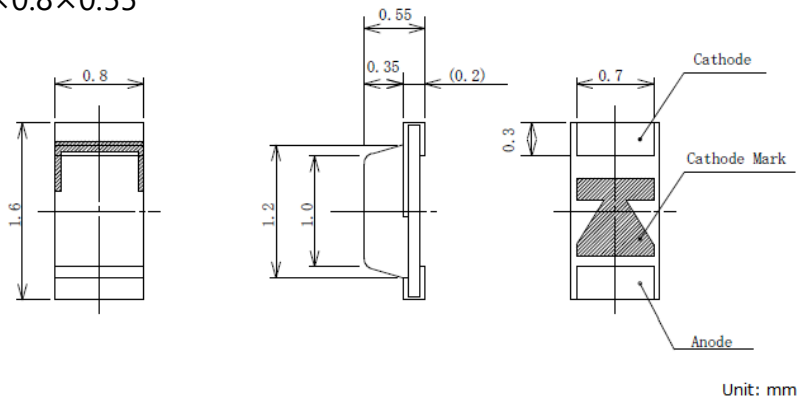
We offer the infrared LED with a peak wavelength of 850 nm.
The surface mount type package is available.
Our infrared LED is suitable for sensors, infrared light sources, and infrared communication.

Infrared LED

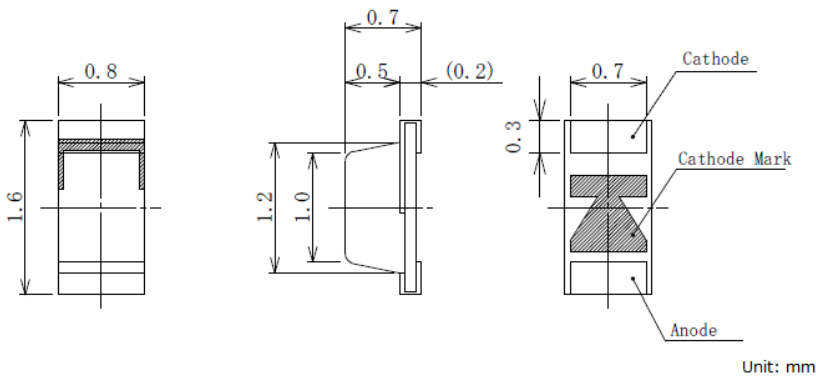
| Package | Part Number | Forward Voltage (V) | Radiation Intensity I_e (mW/sr) | Peak Wavelength λ_p (nm) | Measurement Condition | Type |
|--|-------------|---------------------|--------------------------------------|-------------------------------------|-----------------------|------|
| L×W×H: 1.6×0.8×1.1 mm  | SECU1G11C-N | 1.6 | 4.2 | 850 | $I_F = 50 \text{ mA}$ | — |

The physical dimensions listed below are typical examples.
For the physical dimensions of each product, please refer to the corresponding data sheet.

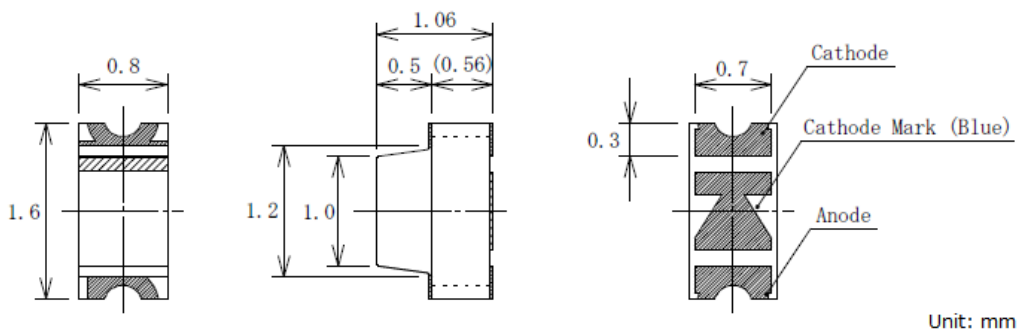
L×W×H: 1.6×0.8×0.55



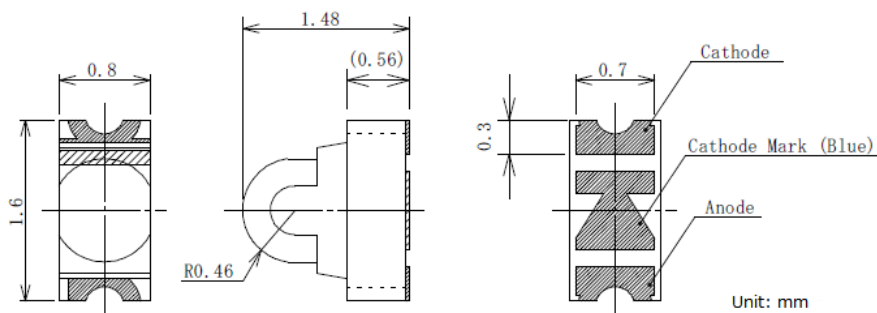
L×W×H: 1.6×0.8×0.7



L×W×H: 1.6×0.8×1.1

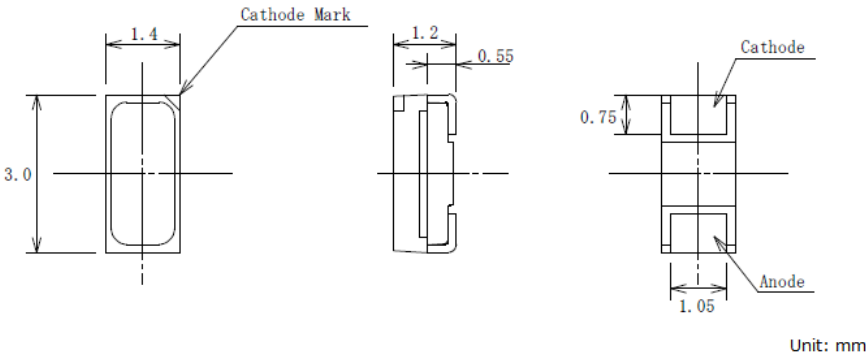


L×W×H: 1.6×0.8×1.5 (Dome-shaped)

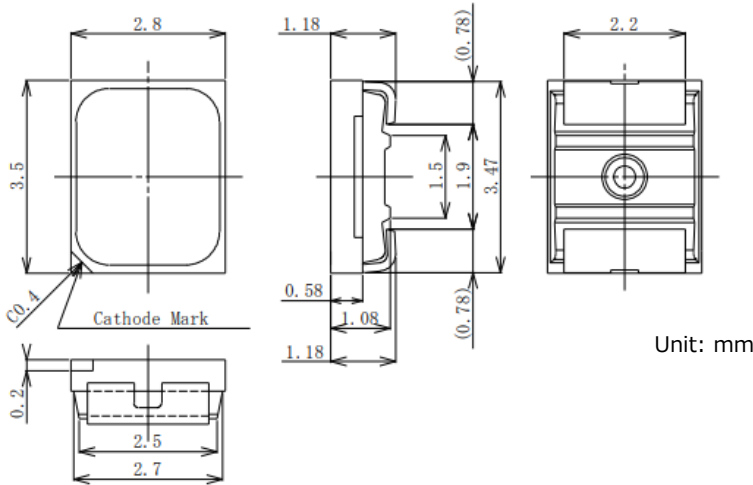


The physical dimensions listed below are typical examples.
For the physical dimensions of each product, please refer to the corresponding data sheet.

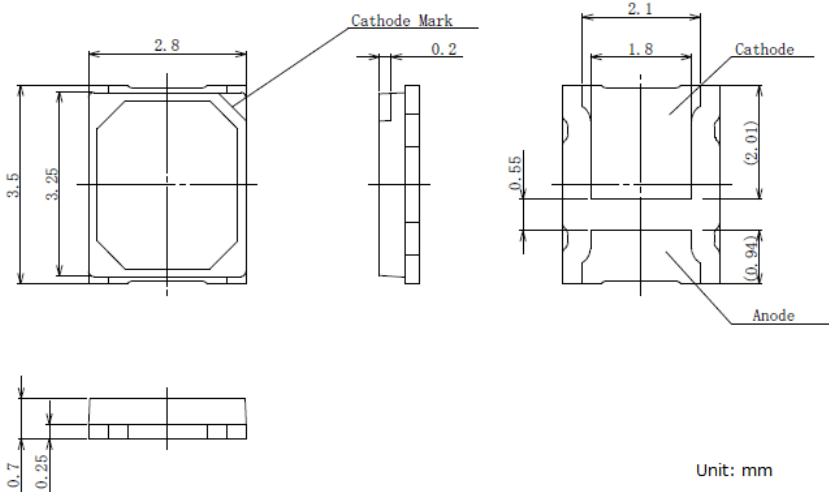
L×W×H: 3.0×1.4×1.2



L×W×H: 3.5×2.8×1.2



L×W×H: 2.8×3.5×0.7



For the physical dimensions of each product, please refer to the corresponding data sheet.

Unit: mm

Unit: mm

Unit: mm

Unit: mm

The physical dimensions listed below are typical examples.
For the physical dimensions of each product, please refer to the corresponding data sheet.

| | |
|------------------------------------|--|
| <p>φ5 mm Round</p> <p>Unit: mm</p> | <p>φ5 mm Round, Wide Viewing Angle</p> <p>Unit: mm</p> |
| | |

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