

Featured Products



The industry's first* to obtain CUDO certification in the compact 1608 (0603) size

Special Wavelength Blue-Green LEDs Ideal for Color Universal Design Applications

SMLD12E2N1W (Blue Green) /SMLD12E3N1W (Cyan)

* ROHM June 2020 study

Note: () indicates inches

- ROHM succeeded in developing special wavelength blue-green LEDs (λ_D :496nm/505nm) by leveraging a vertically integrated production system (from the element fabrication stage) together with ROHM's strength in thorough quality control
- Certified by the NPO Color Universal Design Organization (CUDO)
- Adopts a new resin to achieve longer life and higher mountability



Color Universal Design

The way colors inherently appear (color vision) can be classified into 5 main types, each with different characteristics. Color vision can also change due to illness or old age.

The concept of applying the effective and thoughtful use of color to convey information in a variety of applications including services, products, facilities, buildings, different environments in consideration of people with different types of color vision is called Color Universal Design (CUD*).

*CUD: Color Universal Design

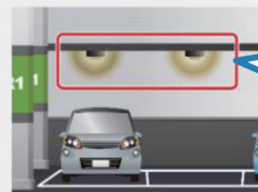


The CUD mark can be displayed on printed materials and products certified by the NPO Color Universal Design Organization.

Color Universal Design is required due to differences in color vision

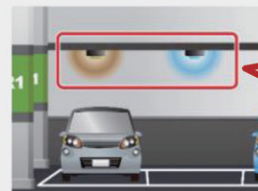
How a P-Type/D-Type Colorblind Person Sees Parking Lot Occupancy (Empty/Full) Indicator Lamps

- When using a red/green color scheme



Difficult to distinguish from a distance since the colors look similar

- When using an orange/blue green color scheme



Color Universal Design makes the different colors easily discernable

Color Universal Design Optimized for P-Type/D-Type Colorblindness

Application Example 1:
Blue Green:
SMLD12E3N1W
Yellow: SML-D15YW

Application Example 2:
Blue Green:
SMLD12E2N1W
Orange: SML-D15DW



Battery ON/OFF

Warning Lamps in Industrial Equipment

Lineup

1608 (0603) size Special Wavelength LEDs

Part No.	Emitting Color	Emission Wavelength λ_c (nm)	Brightness I_v (mcd)	Forward Voltage V_f (V)	Forward Current I_f (mA)	AEC-Q102	Package (mm)
New SMLD12E3N1W	Blue Green (Cyan)	496	85	2.9	5	Yes *: Products with (C) in the part number	1.6×0.8 (t=0.55)
New SMLD12E2N1W	Blue Green	505	120				

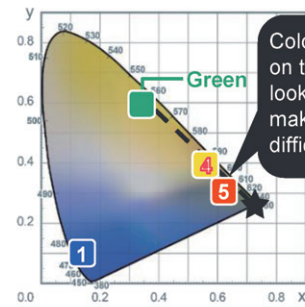
1608 (0603) LEDs (Combine with Special Wavelength LEDs to Achieve Optimum Color Universal Design)

Part No.	Emitting Color	Emission Wavelength λ_c (nm)	Brightness I_v (mcd)	Forward Voltage V_f (V)	Forward Current I_f (mA)	AEC-Q102	Package (mm)
SMLD12BN1W	Blue	470	40	2.9	5	Yes *: Products with (C) in the part number	1.6×0.8 (t=0.55)
SML-D15YW	Yellow	590	224	2.1	20		
SML-D15DW	Orange	605		2.0			

Optimum Color Scheme for Color Universal Design Applications

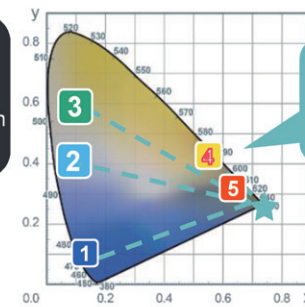
How P-Type Color Vision Sees Colors

● When using a standard green LED



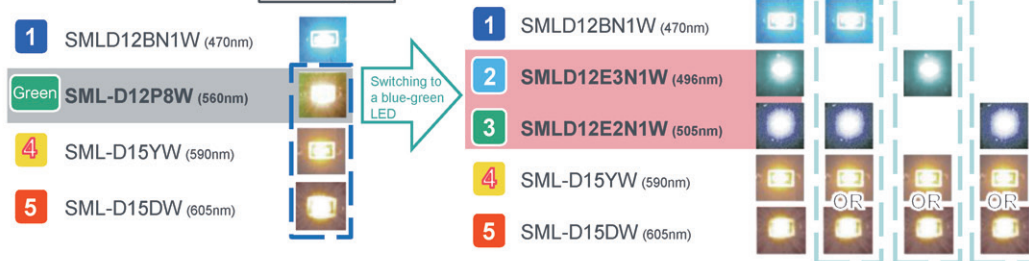
Color combinations on the dotted line look the same, making discrimination difficult

● When using ROHM's new blue-green LED



Color patterns ① to ③ not on the same dotted line are easily identifiable

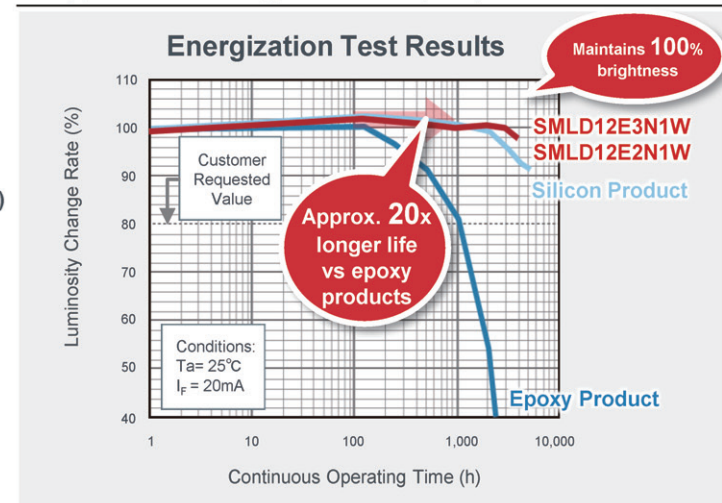
LED Images



Although the SMLD12E2N1W and SMLD12E3N1W are certified by the Color Universal Design Organization, color universal design is achieved using color schemes (patterns), so please use them in combination with other products.

Also, please note that since the color representation may change depending on the set configuration, color universal design cannot be guaranteed.

Approx. 20x longer life vs epoxy resin



25x higher mold strength compared with silicon resin

