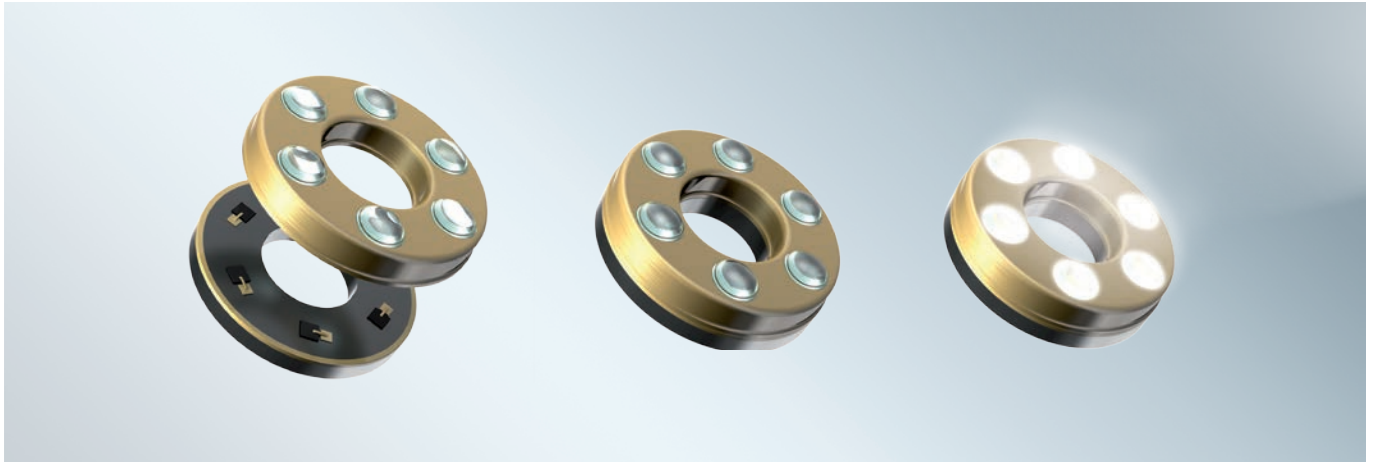


SCHOTT Solidur® Ring LED

The world's first fully autoclavable, ring-shaped HB LED for Medical and Dental Devices



Product Information

Solidur® Ring LED is the world's first hermetic and thus autoclavable, ring-shaped High Brightness (HB) LED.

Gastight and robust | Owing to its gas-tight housing based on inorganic, non-aging materials, the Ring LED is extremely robust, resistant to chemicals, corrosion and pressure – even at varying temperatures.

Sterilizable | This makes the Solidur® Ring LED a highly reliable light source, performing efficiently over a long period of time and over many autoclaving cycles.

Light without shadow | Due to its ring shape, this LED module truly provides illumination without shadow.

Applications

The Ring LED is for applications in medical lighting, especially for medical devices that need autoclaving. Typical applications include endoscopes, laparoscopes, intraoral cameras, UV curing devices, surgical equipment and many more.

For medical device designers | With the sterilizable Solidur® Ring LED, medical engineers can develop devices with the light source directly at the tip of the instrument. The Ring LED may even allow the device designer to develop stand-alone devices by integrating light source and its energy supply, e.g. battery, into the instrument. This simplifies the entire system, makes it more robust and could even eliminate the need for cables. Self-sufficient instrument designs create moving space for doctors during operations and eases overall handling of the device.

For doctors | As a result, doctors can bring the light source close to the patient and significantly increase the illumination of a difficult-to-reach area during surgical operations or medical check-ups. At the same time, the design in ring-shape prevents shadows from disturbing the view.



Surgical instruments



Cameras



Mirrors



Ophthalmoscopes



UV devices

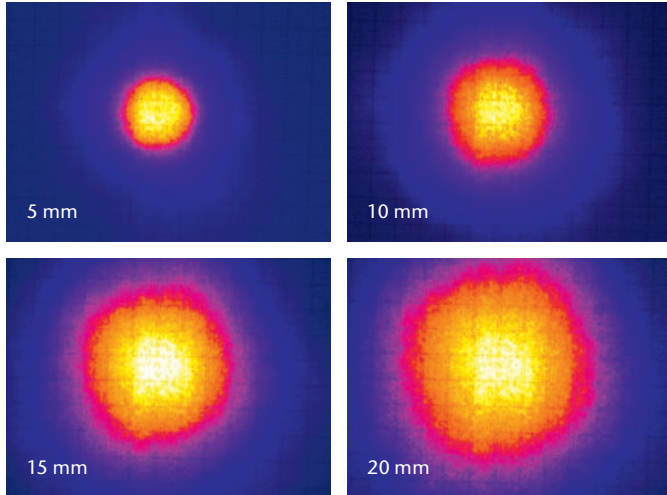


Endoscopes/Laparoscopes

SCHOTT
glass made of ideas

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Homogeneous spot illumination in different distances to the Ring LED

Features

- Color temperature C_T : 3000-6000K (warm, neutral to cold white)
- Color rendering index R_a : 65-92
- Forward current I_F : typ. <700 mA
- Luminous flux ϕ_V : typ. 10-200 lm at 20-200 mA (design depending)
- Colored LEDs upon request
- Forward voltage V_F : typ. 3.4V at $I_F = 150$ mA
- Viewing angle: Full Width Half Maximum (FWHM) Θ_V : typ. 60–130°
- Layout for multi chips
- Size: $\varnothing \geq 8$ mm
- Height: > 2 mm
- Lens material: refractive index $1.5 < n < 1.84$

Advantages

- The Ring LED can be adapted to your application and requirements:
 - Choose your light color
 - Define your colour temperature and CRI
 - Define your radiation pattern
 - Customize your optical properties like luminous flux, radiation pattern and lens
 - Different colors and wavelength can be combined within one LED module
 - Autoclavable, highly reliable light source
- Ring-shaped
- Good thermal management
- Non-aging glass lens

Technical Concept

- SMD package with metal cap
- Inorganic, non-aging materials
- Multi-chip package
- High corrosion robustness
- Low thermal resistance
- Available as white light LED or colored LED



Customized white light and color temperature

About SCHOTT Electronic Packaging

SCHOTT is an international technology group with more than 130 years of experience in the areas of specialty glasses and materials.

More than 600 scientists and engineers are working for and with SCHOTT customers all over the world, while setting the pace by developing new, cutting edge technologies for the requirements of today and tomorrow.

The SCHOTT Group with a workforce of about 15,400 employees maintains close proximity to its customers with manufacturing and sales units in 35 different countries.

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