

Dynamic Ceramic Converter

Enabler for High Luminance Light Sources

Version August 2024

Dynamic Ceramic Converter – Enabling high luminance for your laser pumped phosphor light sources

SCHOTT dynamic converters provide high irradiance and superior luminance, offering high reliability for digital projectors.

Thanks to these new materials, laser projectors offer reliable performance, specifically in terms of brightness and color that remains constant over time. There is no need to change bulbs, which significantly lowers the total cost of ownership and energy costs. In addition, they do not require a warm-up period and are free of any environmentally harmful mercury.

Since this component is a pure, inorganic phosphor material, it exhibits a high temperature stability and outstanding heat conductivity. This leads to superior efficiency and reliability, which makes SCHOTT's Ceramic Converters a unique solution on the market.

The basis for this is an ingenious, reproducible production process that delivers reliable, quality-tested products. To cover the complete color gamut for digital projection, SCHOTT Ceramic Converter components are available in either yellow or green ceramic phosphor material.

In addition, SCHOTT has the processing capability to manufacture customized products including sub assemblies for various applications.

Advantages

Your brighter solution from SCHOTT is based on:

- Inorganic material for a long lifetime performance:
 - High temperature stability
 - Good heat conductivity
 - High Efficacy
 - Superior irradiance limit
- Fit to color gamut

Services

- Simulation support to identify optimal material or material combination for specific customer designs
- Ability to design to customer needs in size and color

Contact our experts anytime to discuss your personal product needs – together we will find your perfect solution!

Applications

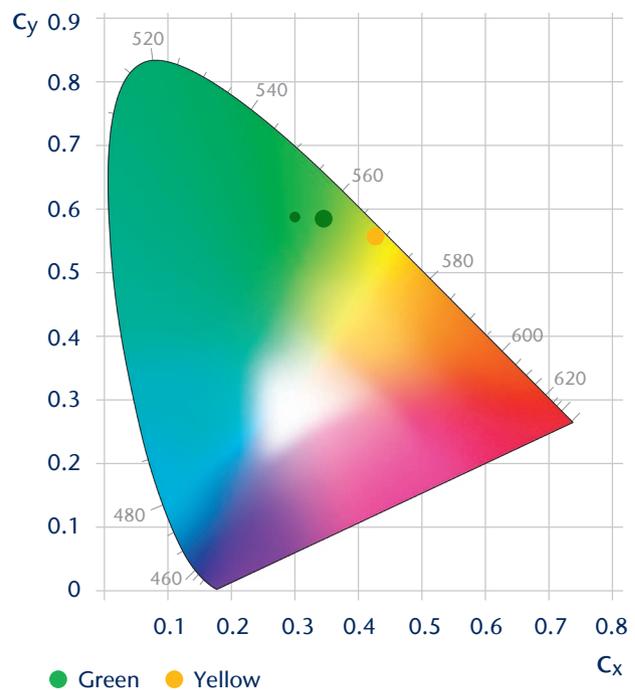
- Phosphor wheel for digital projection
- Specialty lighting such as spotlights and search lights
- High luminance light sources for microscopy, machine vision and general lighting

Supply Forms

SCHOTT manufactures ceramic phosphor converters for digital projection

- from two standard materials such as yellow and green and
- in various standard geometries.

Customized geometries and materials are available on request.



Color coordinates of green and yellow ceramic converter material in the CIE 1931/2° color space

Technical details

Yellow (225 μm* thickness, polished ring or ring segment)

Optical specifications	Yellow SYA35 NEW	Yellow SYB35	Yellow SYC35 NEW	Yellow SWA40 NEW
Conversion efficacy [lm/W]	310 ± 20	325 ± 15	315 ± 15	260 ± 20
Emission color coordinates c_x	0.413 ± 0.01	0.417 ± 0.005	0.432 ± 0.005	0.410 ± 0.01
Emission color coordinates c_y	0.561 ± 0.01	0.560 ± 0.005	0.549 ± 0.005	0.562 ± 0.01

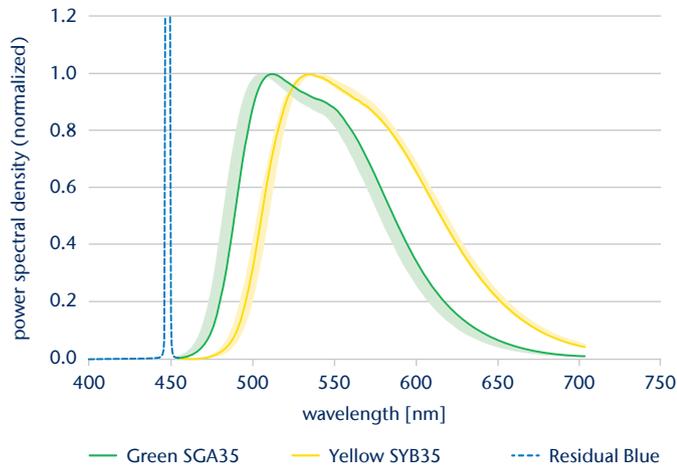
Green (225 μm* thickness, polished ring or ring segment)

Optical specifications	Green SGA35	Green SGB35 NEW	Green SGF35 NEW	Green SGG35 NEW	Shifted Green GGB35 NEW
Conversion efficacy [lm/W]	330 ± 20	320 ± 20	280 ± 20	250 ± 20	325 ± 20
Emission color coordinates c_x	0.337 ± 0.005	0.330 ± 0.01	0.324 ± 0.01	0.320 ± 0.01	0.300 ± 0.01
Emission color coordinates c_y	0.591 ± 0.005	0.588 ± 0.01	0.584 ± 0.01	0.580 ± 0.01	0.588 ± 0.01

Emission spectrum defined by the power spectral density > 465 nm.
Efficacy specified for emission spectrum.
Efficacy and color coordinates measured with 60° incident angle of blue laser (449.5 nm) at low laser power.
Emission is detected in normal direction.

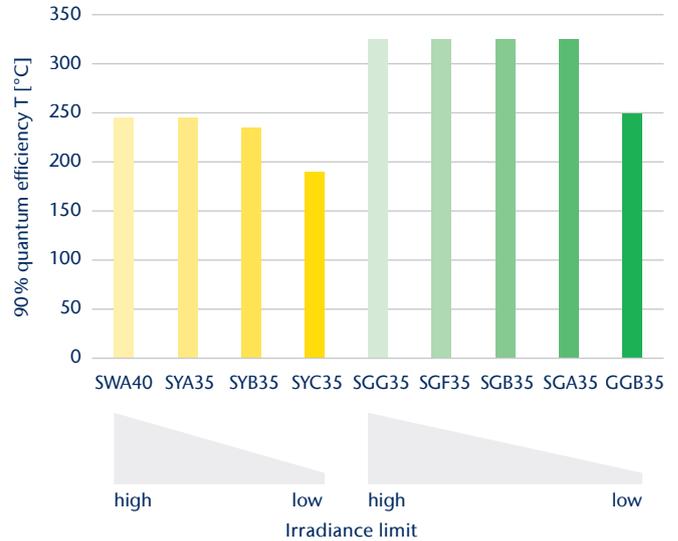
Anti-reflection coating on request.
Details on spectra and drawings on request.
For safety reasons operation above 250°C is not recommended.

Emission spectrum



Range shows different materials including SYA35, SYB35, SYC35, SWA40 and SGA35, SGB35, SGF35, SGG35, GGB35 and others.

90% QE relative to room temperature



Outer Diameter mm*	Inner Diameter mm*
88	74
64	50
49	35
35	25

Surface quality is specified with
– surface roughness (R_a) smaller than 0.1 μm and
– maximum size of surface defects (scratch/dig) is 60/40 according to MIL-PRF-13830B

* Tolerances apply and are available upon request.



More details see webpage:
schott.com/ceramic-converter



[schott.com](https://www.schott.com)

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