SYNIOS® P2720

Product Overview
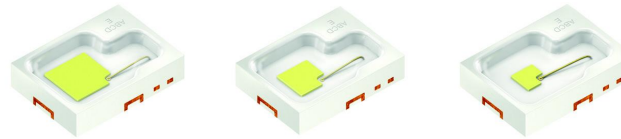
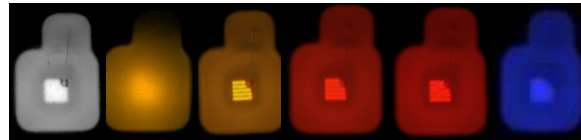**2018**

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SYNIOS® P2720 - One Footprint, One Family, Full Performance

- **3 Chip Classes**

- **6 Colors**

- **1 Footprint**

- **17 Products**

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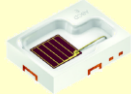Opto Semiconductors
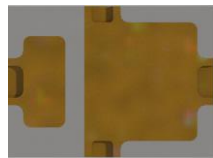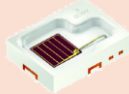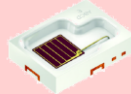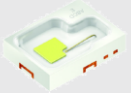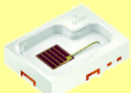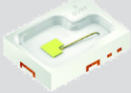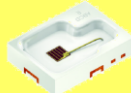
SYNIOS® P2720 - Features and Benefits

One Package = Endless Design Opportunities

Features	Benefits

• 3 chip classes –
  N = ¼ mm² (500 µm)
  Q = ½ mm² (750 µm)
  S = 1 mm²
	• Chip scalability within the same package allows the ability to select the brightness & provides more than the traditional scalability of varying drive current
	• Better performance / Cost-savings – LED performs more closely to its binned conditions providing less variability and more homogeneity
	• Power range 0.5 – 3.0 W
	• Ideally suited for light guide applications

• 6 colors available – blue, converted yellow, yellow, red, super-red, white with narrow white binning also available	• Ability to select the color needed for the application • Design flexibility using multiple colors in one footprint
• 1 footprint	• Ease of design using various brightness and colors with one very small footprint
• Compact size 2.00 x 2.75 x 0.60 mm³	• Ease of cluster • Compact & high reliable package
• Low thermal resistance (Rth)	• Runs cooler (enabling outstanding brightness) & easier thermal management
• High efficient chip and package design	• Offers optical flexibility and optimized performance
• Simple solder pad design	• Enables self-alignment to the solder pad @ soldering • Side wetting indicator after soldering

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SYNIOS® P2720 - Product Overview

Color

Version

Binning

K x D M L x 3 x . x x

Chip Class

Conversion Method

Color / Chip Class	Converted Colors			Saturated Colors			
	White	**White for HuD** (typ. Cx/Cy = 0.27/0.25)	**Converted Yellow**	**Blue**	**Yellow**	**Red**	**Super Red**
S 1mm²	KW DMLS31.SG		KY DMLS31.FY	*Not planned*	KY DMLS31.23	KR DMLS31.23	KS DMLS31.23
Q ½mm²	KW DMLQ31.SG		KY DMLQ31.FY	*Not planned*	KY DMLQ31.23	KR DMLQ31.23	KS DMLQ31.23
N ¼mm²	KW DMLN31.SG	KW DMLN32.SB	KY DMLN31.FY	KB DMLN31.13	KY DMLN31.23	KR DMLN31.23	KS DMLN31.23
	InGaN Technology				**InGaAlP Technology**		

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SYNIOS® P2720 - Key Characteristics

Legend	
	typ. brightness @ binning current
	typ. color coordinate / wavelength range
	Color bin range
	typ. real Rth
	max. current
	typ. voltage

These values are for information only. Please consult the <u>datasheets</u> for design questions.

	Converted Colors			Saturated Colors			
Color / Chip Class	KW DMLx31.SG — white	KW DMLx32.SB — white for HuD	KY DMLx31.FY — converted yellow	KB DMLx31.13 — blue	KY DMLx31.23 — yellow	KR DMLx31.23 — red	KS DMLx31.23 — super red
S $1mm^2$	242lm @ 700mA / 0.32/0.33 / ebvF46-fcbB46 / 7K/W / 1000mA / 3.0V		119lm @ 600mA / 0.57/0.42 / 5F / 7K/W / 700mA / 3.0V		100lm @ 700mA / 586-595nm / 4-6 / 9K/W (Si: 7K/W)* / 1000mA / 2.5V	120lm @ 700mA / 612-630nm / 2-6 / 9K/W (Si: 7K/W)* / 1000mA / 2.5V	86lm @ 700mA / 627-637nm / 6-8 / 9K/W (Si: 7K/W)* / 1000mA / 2.5V
Q $\frac{1}{2}mm^2$	113lm @ 350mA / 0.32/0.33 / ebvF46-fcbB46 / 10K/W / 700mA / 3.0V		54lm @ 300mA / 0.57/0.42 / 5F / 10K/W / 400mA / 3.0V		52lm @ 350mA / 586-595nm / 4-6 / 13K/W (Si: 10K/W)* / 500mA / 2.3V	65lm @ 350mA / 612-630nm / 2-6 / 13 K/W (Si: 10 K/W)* / 500mA / 2.3V	46lm @ 350mA / 627-637nm / 6-8 / 13K/W (Si: 10K/W)* / 500mA / 2.3V
N $\frac{1}{4}mm^2$	63lm @ 200mA / 0.32/0.33 / ebvF46-fcbB46 / 20K/W / 300mA / 3.0V	55lm @ 200mA / 0.27/0.25 / H5-P7 / 20K/W / 300mA / 3.0V	28lm @ 150mA / 0.57/0.42 / 5F / 20K/W / 200mA / 3.0V	9lm @ 200mA / 449-465nm / 3-6 / 20K/W / 300mA / 3.0V	33lm @ 200mA / 586-595nm / 4-6 / 30K/W / 250mA / 2.3V	32lm @ 200mA / 612-630nm / 2-6 / 30K/W / 250mA / 2.3V	22lm @ 200mA / 627-637nm / 6-8 / 30K/W / 250mA / 2.3V
	InGaN Technology				InGaAlP Technology		

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SYNIOS® P2720 - Applications

Suggested Applications

- Signal and symbol luminary

- Entertainment stage and studio lighting

- Interior and exterior automotive lighting

- Working lights

- Bicycle lights

- Full color displays / Video Walls

- Road signs / Variable Message Signs (VMS)

- Indoor and outdoor architectural lighting

- Coupling into light guides

- Decorative lighting

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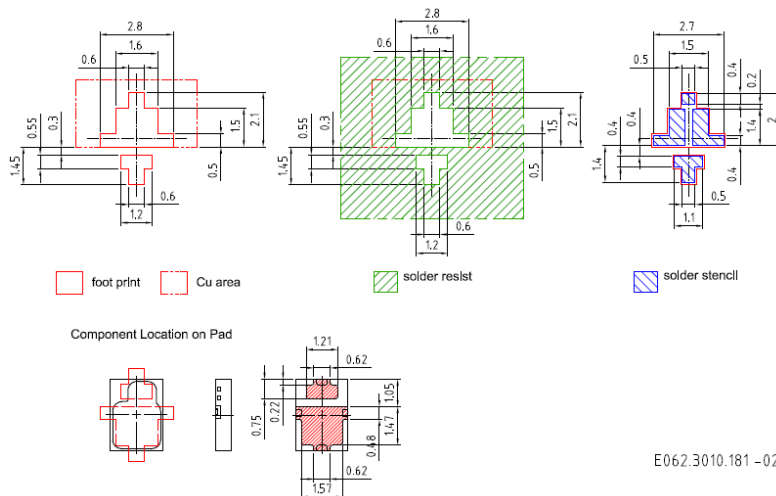Opto Semiconductors

SYNIOS® P2720 - Ratings and Package
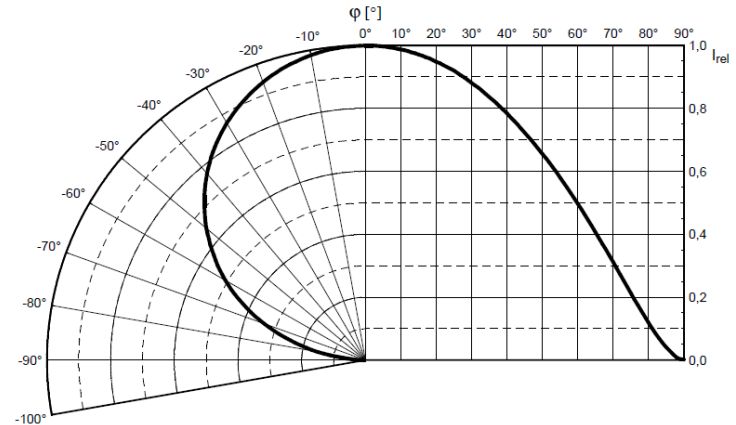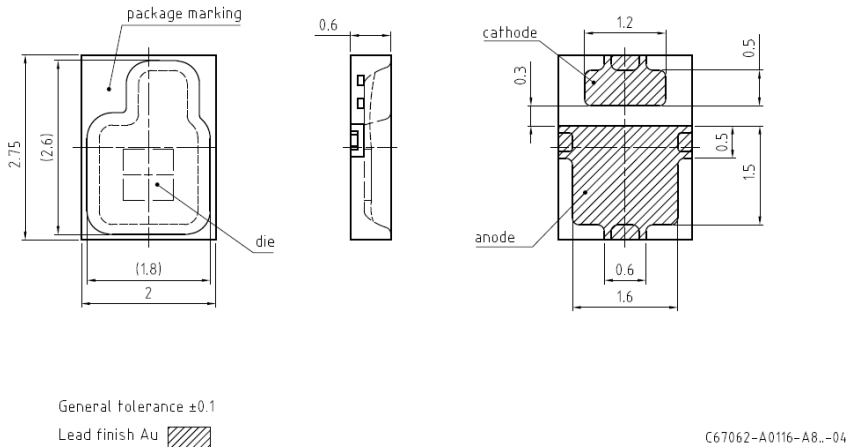
Maximum Ratings

- Operating temperature range T_{OP}: -40 ... 125 °C
- Junction temperature (T_J): 150 °C
- ESD withstand voltage: 2kV

Optical & mechanical characteristics

- Beam angle: Lambertian Emitter (120°)

Thank you!

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