

# UV-TECHNOLOGY

UV LEDs | UV Modules

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and other system components

passion.experience.reliability.





Uwe Fischer (managing director), Tanja Hollfelder (managing and training director),  
Georg Fischer (managing director)



## Who we are ...

For almost 70 years, we have been one of the leading design-in distributors for electronic components and systems. At five locations in Germany with a total of 65 employees.



Headquarters:  
Weisdorf



Branch Office:  
Ahrensburg



Offices:  
Berlin, Dortmund, Munich



## ... and what we do

As a traditional and family-owned company, we work exclusively with renowned and leading manufacturers. Our focus is on individual consulting as well as solutions and custom-fit products for our customers. Because only when our customers are 100% satisfied we have done a good job.



You can also find us here



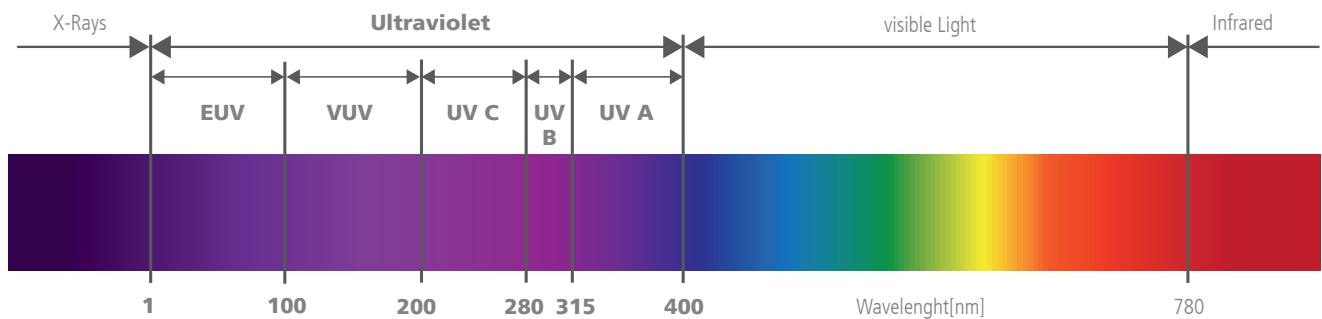
# UV Basics

## Ultraviolet Radiation

Ultraviolet radiation (UV) is part of our environment and is generated by the sun. The UV radiation or the UV light, applied in certain wavelengths, has effects on humans and the environment, it offers an enrichment and improvement of the quality of life. The natural ultraviolet radiation can be reproduced by innovative LED technologies and environmentally friendly.

<b>EUV*</b>	(Extrem UV)	10 – 100nm
<b>VUV*</b>	(Vakuum UV)	100 – 200nm
<b>UV-C</b>	(UV-C radiation)	200 – 280nm
<b>UV-B</b>	(UV-B radiation)	280 – 315nm
<b>UV-A</b>	(UV-A radiation)	315 – 400nm/420nm

\* EUV and VUV only spreads under vacuum



## Applications

At the beginning of the 20th century, there were only a manageable number of UV applications. Today, UV technology has found its way into many areas such as industry and consumer end-uses.

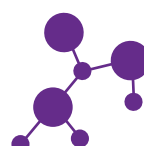
In the following you will get an overview of the established and standardized UV application areas:



**Sun simulation**  
UV-A, -B



**Deodorization**  
UV-A



**Oxidation**  
UV-A



**Horticulture**  
UV-A, -B



**Analysis & Sensors**  
UV-A, -B, -C



**Light therapy**  
UV-A, -B



**Bonding | Curing | Drying**  
UV-A



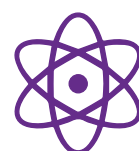
**Disinfection | Sterilization**  
UV-C



**Photochemistry**  
UV-A, -B, -C



**Fluorescence**  
UV-A, -B, -C



**Research**  
UV-A, -B, -C

# UV-LED Manufacturer

Brief introduction Seoul Semiconductor | Seoul Viosys | SETi

Seoul Semiconductor (SSC) is one of the world's leading LED manufacturers and, according to the latest market report, number 4 in the international LED market. SSC produces a wide range of different LED technologies and offers special technologies such as nPola and Acrich.

With more than 10,000 patents worldwide, SSC secures its technological lead. SSC is the reliable partner for LED applications in automotive, general lighting, signal and backlight applications.

Seoul Viosys is one of the leading manufacturers of UV LEDs, UV sensors and UV modules. The UV LEDs are available in the UV-A, UV-B and UV-C range (275nm - 405nm) and in Z5, CA3535, AAP, 3030, 3528 and TO-39 packages.

SETi's focus is particularly on the low wavelengths <365nm. SETi develops, manufactures and sells UV LED products under the UVTOP® brand as well as customized LED products and solutions under the UVCLEAN® brand.



4 Production Sites, 6 R&D Labs, >3.000 employees, 3 billion LEDs/month

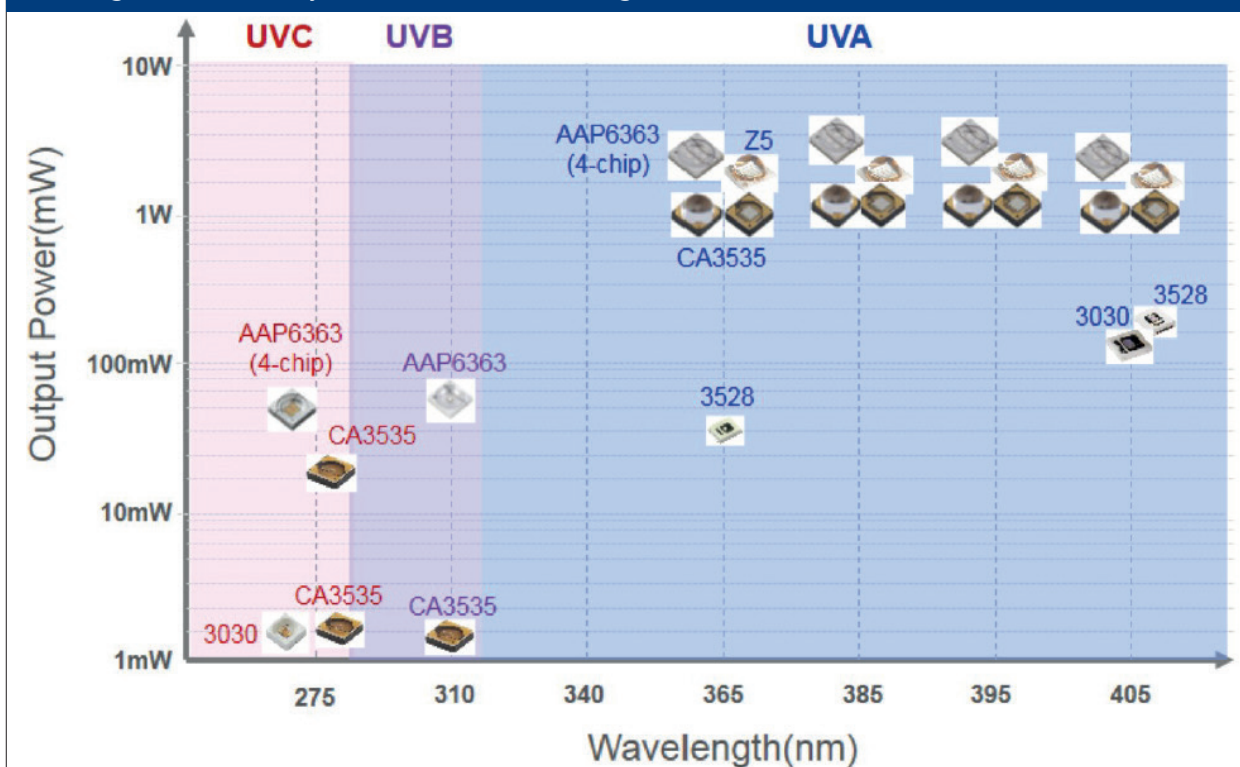




## Business areas of the parent company Seoul Semiconductor

Lighting	Blu & Mobile	Automotive	UV	NB
 <ul style="list-style-type: none"> <li>• Compact Design</li> <li>• Energy Savings</li> <li>• Custom Modules</li> </ul> 	 <ul style="list-style-type: none"> <li>• Slim Design</li> <li>• Excellent Image Quality</li> <li>• Custom Modules</li> </ul> 	 <ul style="list-style-type: none"> <li>• High Reliability</li> <li>• Custom Color</li> <li>• Custom Modules</li> </ul> 	 <ul style="list-style-type: none"> <li>• Full range wavelength</li> <li>• World 1<sup>st</sup> UVB/C</li> <li>• Various applications</li> </ul>  <div style="text-align: center;">   <b>SEOULVIOSYS</b>    <small>SENSOR ELECTRONIC TECHNOLOGY, INC.</small> </div>	 <ul style="list-style-type: none"> <li>• Micro LED</li> <li>• IR / VCSEL</li> <li>• Sensor Module</li> </ul> 

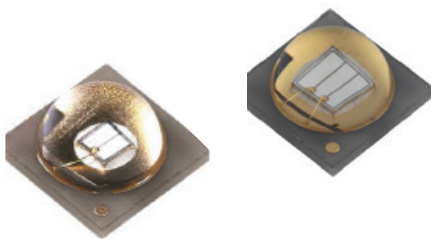
## Coverage of Seoul Viosys and SETi in the UV range



# UV-A

Near UV | Wavelength: 365nm - 420nm | Photon energy: 3.15 - 3.94 eV

UV-A (near UV) penetrates glass and transparent polymers, it is also colloquially called "black light". Possible applications of the UV-A LED are in particular the curing of inks, coatings, varnishes and adhesives, as well as light therapy (e.g., for the medical treatment of depression). In addition, UV LEDs of the UV-A spectrum are also used for checking the authenticity of banknotes, documents and forensic purposes.

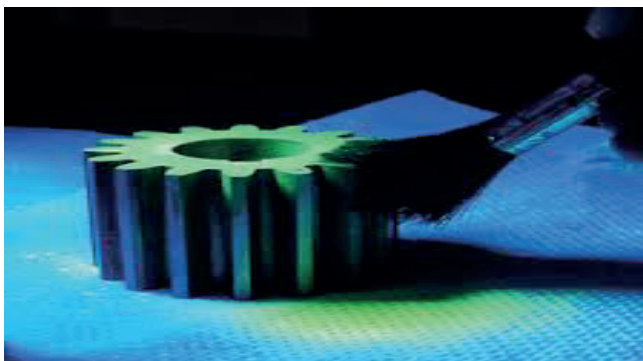


## Z5 (3535)

Dimensions: 3,5mm x 3,5mm x 2,0mm  
Very high optical radiation efficiency  
Excellent efficiency ( $\geq 50\%$ )

Part No.	Wavelength [nm]	Lens	Vf typ. [V]	If typ. [mA]	Po typ. [mW]	Beam angle [deg.]			
CUN66A1B	365	Silicone Dome	3.6	500	1000	120			
CUN86A1B	385		3.5		1200				
CUN96A1B	395						1250		
CUN06A1B	405							1160	
CUN26A1B	420								1000
CUN66A1G	365		3.7	1850					
CUN86A1G	385				3.6		2150		
CUN96A1G	395							3.5	
CUN06A1G	405								2050
CUN66A1F	367		3.6	420					

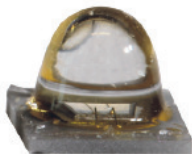
Typical applications: UV curing printing | coating | photocatalyst | counterfeit detection/security |  
Fluorescence analysis | Material testing



The luminescence of a substance after exposure to energy is summarized under the term luminescence excitation.

A subarea of luminescence excitation is the irradiation of substances with UV light. If the substance only glows during the irradiation, it is called UV fluorescence excitation. If the glow lasts beyond this time, it is also referred to as phosphorescence.

## Z5N (3535)



Dimensions: 3,5mm x 3,5mm x 2,8mm

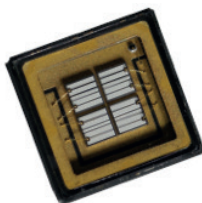
Narrow Beam angle 45° bzw. 65°

Excellent efficiency ( $\geq 50\%$ )

Part No.	Wavelength [nm]	Lens	Vf typ. [V]	If typ. [mA]	Po typ. [mW]	Beam angle [deg.]
CUN66B1B	365	Silicone Dome „Narrow“	3.6	500	1,000	45
CUN86B1B	385		3.5		1,200	
CUN96B1B	395				1,250	
CUN06B1B	405				1,160	
CUN26B1B	420				1,000	
CUN66B1G	365		3.7	1.000	1,850	65
CUN86B1G	385		3.6		2,150	
CUN96B1G	395		3.5		2,100	
CUN06B1G	405				2,050	

Typical applications: UV curing printing | coating | photocatalyst | counterfeit detection/security |  
Fluorescence analysis | Material testing

## CA6868



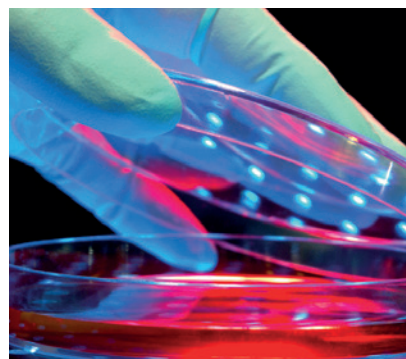
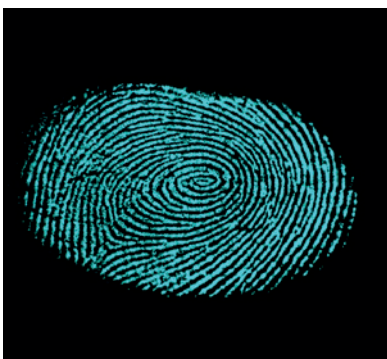
Dimensions: 6.8mm x 6.8mm x 1.0mm

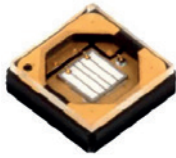
Up to 7W optical radiation power

Low thermal resistance

Part No.	Wavelength [nm]	Lens	Vf typ. [V]	If typ. [mA]	Po typ. [mW]	Beam angle [deg.]
CUN6HF4A	365	Glas "Flat"	3.7	3.000	4.300	115
CUN9HF4A	395		3.5		5.300	

Typical applications: UV curing printing | coating | photocatalyst | counterfeit detection/security |  
Fluorescence analysis | Material testing





## CA3535

Dimensions: 3.5mm x 3.5mm x 1.1mm  
Low thermal resistance  
Very high optical radiation power

Part No.	Wavelength [nm]	Lens	Vf typ. [V]	If typ. [mA]	Po typ. [mW]	Beam angle [deg.]
CUN4GF1B	345	Glas "Flat"	1.4	250	40	120
CUN6GF1A	365		3.7	1.000	1,400	115
CUN8GF1A	385		3.6		1,650	
CUN9GF1A	395		3.5		1,700	
CUN0GF1A	405		3.6		1,600	

Typical applications: UV curing printing | coating | photocatalyst | counterfeit detection/security |  
Fluorescence analysis | Material testing



## CA3535N

Dimensions: 3.5mm x 3.5mm x 2.5mm  
Narrow radiation angle of approx. 60°  
Low thermal resistance

Part No.	Wavelength [nm]	Lens	Vf typ. [V]	If typ. [mA]	Po typ. [mW]	Beam angle [deg.]
CUN6GB1A	365	Glas Dome	3.7	1.000	1,400	62,5
CUN8GB1A	385		3.6		1,650	
CUN9GB1A	395		3.6		1,700	
CUN0GB1A	405		3.4		1,630	

Typical applications: UV curing printing | coating | photocatalyst | counterfeit detection/security |  
Fluorescence analysis | Material testing



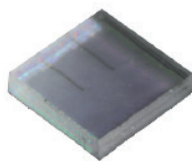
## 3528

Dimensions: 3,5mm x 2,8mm x 0,7mm  
Mid-Power UV-A

Part No.	Wavelength [nm]	Lens	Vf typ. [V]	If typ. [mA]	Po typ. [mW]	Beam angle [deg.]
CUN6LF1C	365	Silicone	3.6	50	40	120

Typical applications: UV curing printing | coating | photocatalyst | counterfeit detection/security |  
Fluorescence analysis | Material testing



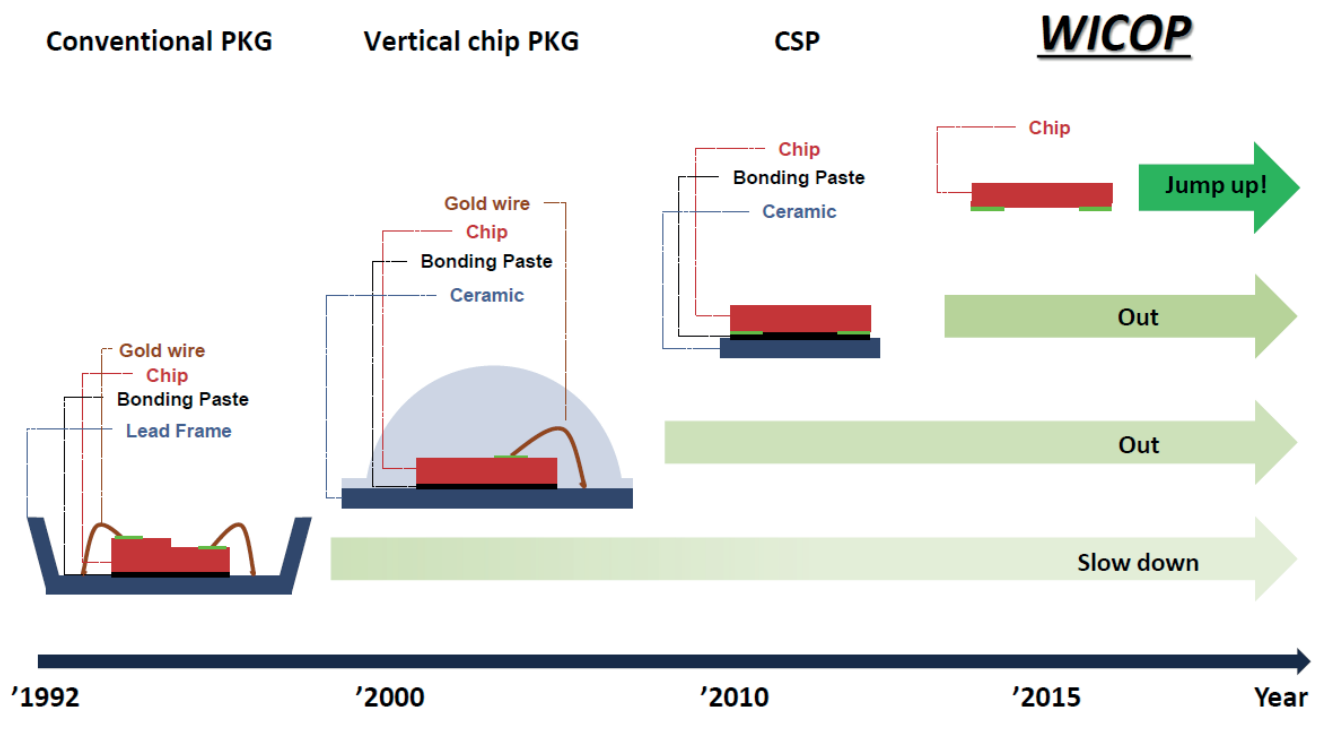


## WICOP

Dimensions: 1.1mm x 1.1mm x 0.25mm

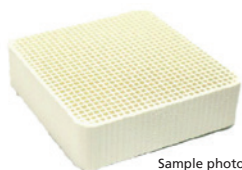
Highest design flexibility

No package, solderable directly to board, lowest Rth values



Part No.	Wavelength [nm]	Lens	Vf typ. [V]	If typ. [mA]	Po typ. [mW]	Beam angle [deg.]
NM-V1111-EB-405	405	without	3.4	500	900	140

Typical applications: UV curing printing | coating | photocatalyst



## PCF Products

Ceramic honeycombs with titanium dioxide coating for photocatalysis applications with UV-A LED

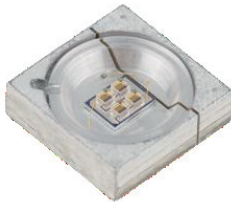
Part No.	PCF0F5010T	PCF333308T	PCF5555410TC	PCF752508T	PCF100408T
Dimensions [B x L x H] [Ø x H]	Ø50 x 10	33 x 33 x 8	55 x 55 x 10	75 x 25 x 8	100 x 40 x 8

# UV-B

Near UV | Wavelength: 280nm - 340nm | Photon energy: 3.94 - 4.43 eV

UV-B (medium UV) influences the human body and is used, for example, in phototherapy (dermatological treatment of skin diseases) and promotes the formation of Vitamin D in the human body.

Another field of application is the irradiation of plants. Here, UV radiation of very specific wavelengths contributes to a better development of the plant and to an increase in yields.



## AAP63

Dimensions: 6.3mm x 6.3mm x 1.4mm  
Durable aluminum housing  
Low thermal resistance

Part No.	Wavelength [nm]	Lens	Vf typ. [V]	If typ. [mA]	Po typ. [mW]	Beam angle [deg.]
CUD1AF4D	310	Glas "Flat"	5.5	600	30	118

Typical applications: Fluorescence spectroscopy | Horticulture | Dermatology | Vitamin D production



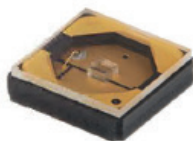
## TO39

Dimensions: TO-Can 9Ø Series  
Hermetically sealed in a metal  
Glass welded housing sealed

Part No.	Wavelength [nm]	Lens	Vf typ. [V]	If typ. [mA]	Po typ. [mW]	Beam angle [deg.]
TUD19B1B	310	Ball	6.0	30	0.6	7
TUD19H1B		Dome			0.5	7
TUD19F1B		"Flat"			0.7	120
TUD49H1A	340	Dome	3.8	20	1.5	5.1
TUD49F1A		"Flat"			2.5	120

Typical applications: Horticulture | Sensors | Biochemical analysis | UV curing

## CA3535



Dimensions: 3.5mm x 3.5mm x 1.1mm  
Low thermal resistance  
Very high optical radiation power

Part No.	Wavelength [nm]	Lens	Vf typ. [V]	If typ. [mA]	Po typ. [mW]	Beam angle [deg.]
CUD1GF1A	310	Glas "Flat"	6.0	150	7	120

Typical applications: Fluorescence spectroscopy | Horticulture | Dermatology | Vitamin D production



The forward-looking technology of vertical farming, also known as indoor farming, can reduce dependence on export nations and create jobs in the country.

The pioneer of vertical farming is Japan, where the first vertical farm using LED lighting has been in operation in a 2,300m<sup>2</sup> factory building for almost two years.

Now, blue and red LEDs are still increasingly used, but it has now become clear that UV rays have a positive effect on plant growth.



# UV-C

Far UV | Wavelength: 255nm - 280nm | Photon energy: 4.43 - 12.4 eV

UV-C (far UV) is very short-wave and high-energy and is used for air and water disinfection in, among other things in medical and other areas requiring special protection against germs and bacteria, used.

UV-C light effectively destroys the DNA of microorganisms and is strongly bactericidal. UV-C light with wavelengths below 100nm is called extreme ultraviolet (EUV, XUV).



## AAP63

Dimensions: 6,3mm x 6,3mm x 1,4mm  
Langlebiges Aluminiumgehäuse  
Geringer thermischer Widerstand

Part No.	Wavelength [nm]	Lens	Vf typ. [V]	If typ. [mA]	Po typ. [mW]	Beam angle [deg.]
CUD8AF1C	275	Glas "Flat"	5.6	30	3.3	120
CUD8AF4D			5.9	600	60	

Typical applications: Germ reduction / disinfection | Fluorescence spectroscopy | Chemical and biology Analysis

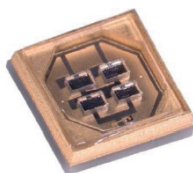


## CA3535

Dimensions: 3.5mm x 3.5mm x 1.1mm  
Low thermal resistance

Part No.	Wavelength [nm]	Lens	Vf typ. [V]	If typ. [mA]	Po typ. [mW]	Beam angle [deg.]
CUD7GF1A	275	Glas "Flat"	5.6	30	3	120
CUD7GF1B	275		6.5	100	11.5	
CUD7GF2B	275		7.3	350	30	

Typical applications: Germ reduction / disinfection | Fluorescence spectroscopy | Chemical and biology Analysis



## 5050

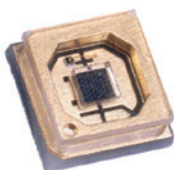
Dimensions: 5.0mm x 5.0mm x 1.1mm

Low thermal resistance

Very high optical radiation power

Part No.	Wavelength [nm]	Lens	Vf typ. [V]	If typ. [mA]	Po typ. [mW]	Beam angle [deg.]
CUD73F4A	275	Glas "Flat"	12	300	65	125
CUD73F4A/100					100	

Typical applications: Germ reduction / disinfection | Fluorescence spectroscopy | Chemical and biology Analysis



## C3535

Dimensions: 3.50mm x 3.50mm x 1.1mm

Low thermal resistance

Very high optical radiation power

Part No.	Wavelength [nm]	Lens	Vf typ. [V]	If typ. [mA]	Po typ. [mW]	Beam angle [deg.]
CUD72F1C	275	Glas "Flat"	6.6	350	45	125

Typical applications: Germ reduction / disinfection | Fluorescence spectroscopy | Chemical and biology Analysis



## 3030

Dimensions: 3.5mm x 3.5mm x 1.1mm

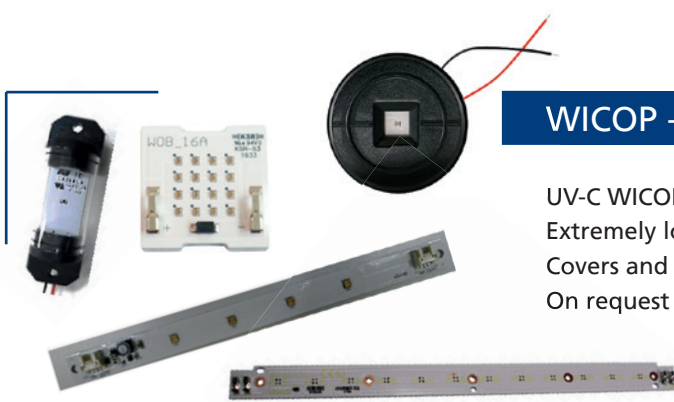
Low thermal resistance

Very high optical radiation power

Part No.	Wavelength [nm]	Lens	Vf typ. [V]	If typ. [mA]	Po typ. [mW]	Beam angle [deg.]
CUD7QF1A	275	Silicone "Flat"	5.6	20	2	125

Typical applications: Germ reduction / disinfection | Fluorescence spectroscopy | Chemical and biology Analysis





## WICOP - COB Module

UV-C WICOP Arrays

Extremely low thermal resistance  $R_{th}$

Covers and secondary optics for radiation control.

On request also with other wavelengths in UV-C and UV-B

Part No.	Wavelength [nm]	Dimensions [mm]	Lens	V <sub>f</sub> typ. [V]	I <sub>f</sub> typ. [mA]	P <sub>o</sub> typ. [mW]
CMD-FSC-COGA	275	20 x 20	none	31	800	300
CMD-FBC-AR4A		199 x 15		12	200	40
CMD-T5C-CO1A		54 x Ø16		6	100	7.5
CMW-FCC-C01A		Ø		6,5	100	7
XMD-FBC-LLCA	275	281 x 19.2	none	24	450	207
XMD-FBC-LLOA					900	414
XMD-FBC-LLVA					1,800	828

Typical applications: Germ reduction / disinfection | Fluorescence spectroscopy | Chemical and biology Analysis



## TO39

Dimensions: TO-Can 90 Series

Hermetically sealed in a metal

Glass welded housing sealed

Part No.	Wavelength [nm]	Lens	V <sub>f</sub> typ. [V]	I <sub>f</sub> typ. [mA]	P <sub>o</sub> typ. [mW]	Beam angle [deg]
TUD69B1B	265	Ball	6.0	30	0.7	7
TUD69H1B		Dome			0.6	7
TUD69F1B		"Flat"			0.8	120
TUD79B1B	275	Ball	6.0	30	0.9	7
TUD79H1B		Dome			0.6	7
TUD79F1B		"Flat"			1.0	120
TUD89B1B	285	Ball	6.0	30	0.8	7
TUD89H1B		Dome			0.7	7
TUD89F1B		"Flat"			0.9	120
TUD99B1B	295	Ball	6.0	30	0.6	7
TUD99H1B		Dome			0.5	7
TUD99F1B		"Flat"			0.8	120

Typical applications: Sensors | Fluorescence spectroscopy | Chemical and biology Analysis

## Secondary optics and reflectors

The amount of light that UV LEDs generate can be bundled more effectively with the help of the right optics. This can lead to an increased radiation output on the desired area and reduce the time required for the exposure with the same dosage. By using different LED clusters with compatible lenses, the performance of the luminaire can be easily scaled for different purposes.

In the course of further developments, specifically for applications in the UV-C range - in contrast to quartz glass optics - specific silicone optics are already available as a standard.



### NMO-VIOLETTA

#### CA3535 Flat | WICOP

Material: Silicone  
 Mounting: Stainless steel mounting frame, potting, sealing in sandwich construction  
 Accessories: Mounting frame stainless steel NMO-VIOLETTA-FRAME

Part No.	Beam angle Typ. [°]	Housing size l x b (Ø) x h [mm]	Max. Cluster Size	Suitable for	IP protection
NMO-VIOLETTA-S	15	21.7 x 21.7 x 6.51	Single LED	UV-A UV-B UV-C	yes
NMO-VIOLETTA-W	60				



### NMO-JENNY

#### AAP6363 | CA6868 | 5050 | CA3535 Flat | WICOP

Material: Silicone  
 Mounting: Pin, Jenny-Y with Tape

Part No.	Beam angle Typ. [°]	Housing size l x b (Ø) x h [mm]	Max. Cluster Size	Suitable for	IP protection
NMO-JENNY-CY	104 (Batwing)	35 x 35 x 11.5	Ø 11mm LES	UV-A UV-B UV-C	no
NMO-JENNY-20	20	35 x 35 x 14.5			
NMO-JENNY-40	40	35 x 35 x 15			
NMO-JENNY-60	60	35 x 35 x 13.4			



## NMO-VIOLET

Specially designed for UV-C linear module XMD-FBC-LLxx  
**CA3535 Flat | WICOP**

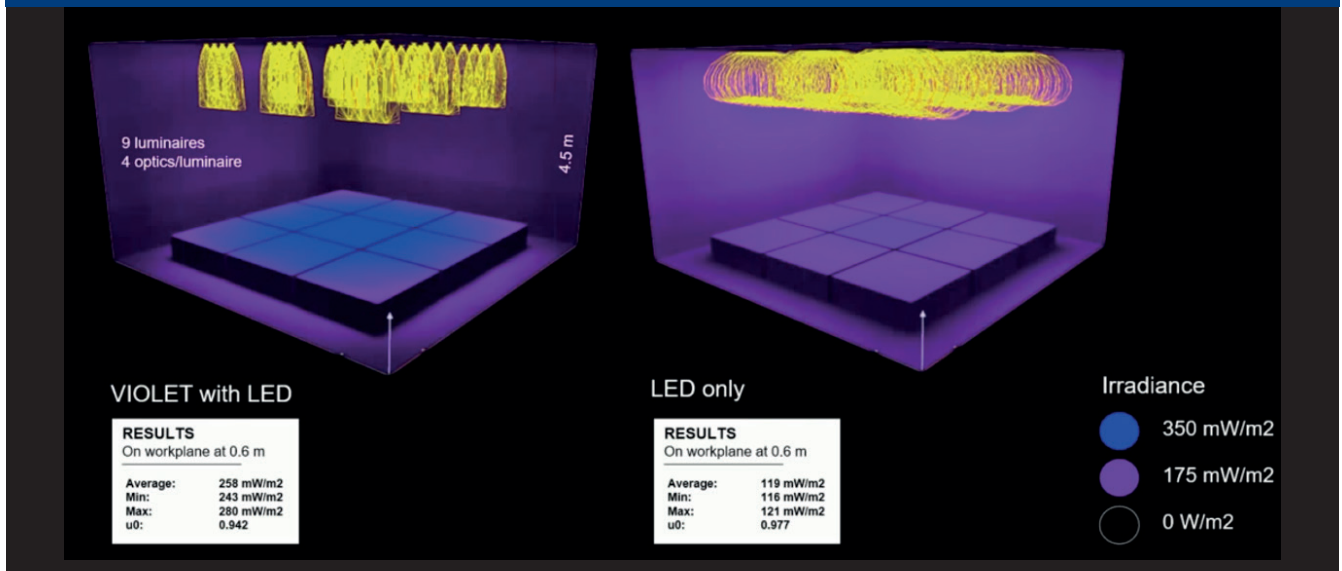
Material: Silicone

Mounting: Screws

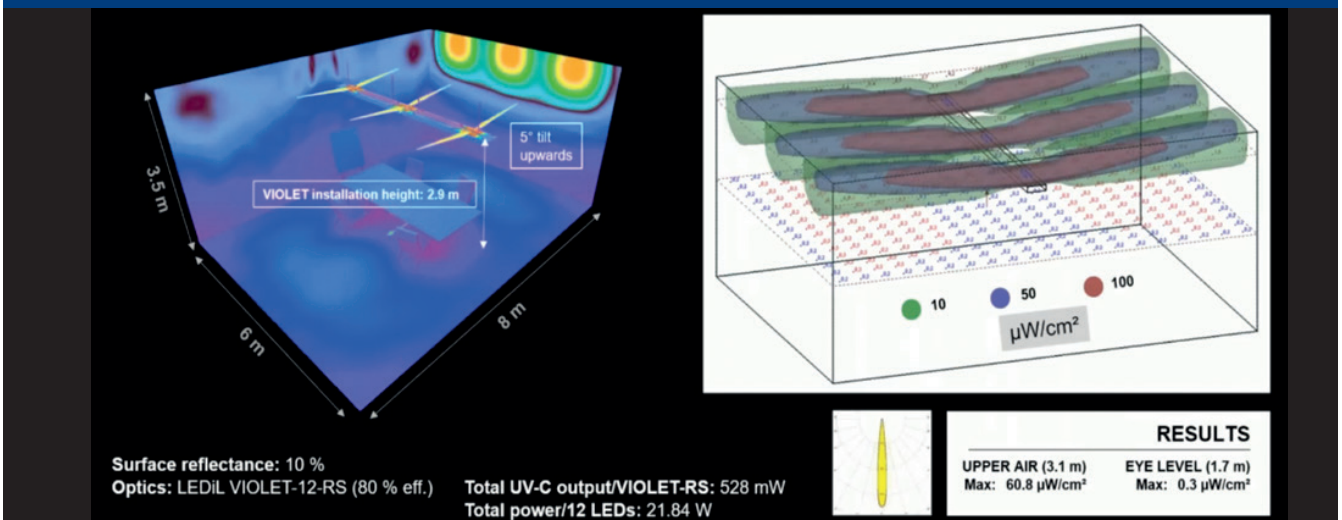
Accessories: Mounting frame stainless steel NMO-VIOLET-12X1-FRAME

Part No.	Beam angle Typ. [°]	Housing size l x b (Ø) x h [mm]	Max. Cluster Size	Suitable for	IP protection
NMO-VIOLET-12X1-S	20	294.8 x 41.6 x 8.8	Multi Array	UV-A UV-B UV-C	66 67
NMO-VIOLET-12X1-RS	10				
NMO-VIOLET-12X1-W	60				

### Surface disinfection NMO-VIOLET-12X1-S vs. single LEDs without additional optics



### Air disinfection with NMO-VIOLET-12X1-RS





## NMO-ROSE-UV

**AAP6363 | CA6868 | 5050 | CA3535 Flat | Z5 (3535) | WICOP**

Material: Silicone  
Mounting: Pin or Tape  
Accessories: Holder NMO-G2-ROSE-LT-HLD, Tape NMO-ROSE-TAPE

Part No.	Beam angle Typ. [°]	Housing size l x b (Ø) x h [mm]	Max. Cluster Size	Suitable for	IP protection
NMO-ROSE-UV-SS	14	21.6 x 21.6 x 12.9	Single LED	UV-A UV-B	no
NMO-ROSE-UV-M	25				
NMO-ROSE-UV-STELA-HB-WWW	40				



## NMO-ZORYA-SC

**AAP6363 | CA6868 | 5050 | CA3535 Flat  
Z5 (3535) | Z5N (3535) | WICOP**

Material: Silicone  
Mounting: Adhesive or metal ring

Part No.	Beam angle Typ. [°]	Housing size l x b (Ø) x h [mm]	Max. Cluster Size	Suitable for	IP protection
NMO-ZORYA-SC	75	Ø 56 x 26.7	Ø 24mm LES	UV-A UV-B UV-C	no



## NMO-SAKURA-70

**AAP6363 | CA6868 | 5050 | CA3535 Flat | WICOP**

Material: Silicone  
Mounting: Installation adapter NMO-SAKURA-ADAPTER-1

Part No.	Beam angle Typ. [°]	Housing size l x b (Ø) x h [mm]	Max. Cluster Size	Suitable for	IP protection
NMO-SAKURA-70-S	15	Ø 70 x 33.3	Ø 22mm LES	UV-A	no
NMO-SAKURA-70-M	25				
NMO-SAKURA-70-W	36				



## NMO-STELLA

**AAP6363 | CA6868 | 5050 | CA3535 Flat | WICOP**

Material: Silicone  
Mounting: Screws  
Accessories: Mounting ring NMO-STELLA-FRAME  
für NMO-STELLA-HB

Part No.	Beam angle Typ. [°]	Housing size l x b ( Ø ) x h [mm]	Max. Cluster Size	Suitable for	IP protection
NMO-STELLA-HB	75	Ø 90 x 19.5	Ø 30mm LES	UV-A UV-B	yes
NMO-STELLA-FRESNEL	25	Ø 85 x 23		UV-A UV-B UV-C	
NMO-STELLA-HB-WWW	100				

**KHATOD®**  
LENSES FOR POWER LED



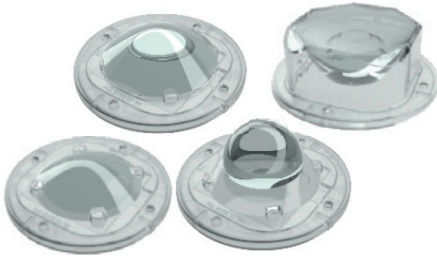
## NMO-KESQ2145

**AAP6363 | CA6868 | 5050 | CA3535 Flat  
Z5 (3535) | Z5N (3535) | WICOP**

Material: Silicone  
Mounting: Tape

	Part No.	Beam angle Typ. [°]	Housing size l x b (Ø) x h [mm]	Max. Cluster Size	Suitable for	IP protection
Operation in far field @1000mm	NMO-KESQ2145MESR	25	21.6 x 21.6 x 12.9	Single LED	UV-A UV-B UV-C	no
	NMO-KESQ2145NASR	8				
	NMO-KESQ2145WISR	40				
Operation in near field <100mm	NMO-KESQ2145FC25SR	25 @ 7mm	21.6 x 21.6 x 12.9	Single LED	UV-A UV-B UV-C	no
	NMO-KESQ2145FC50SR	50 @ 8mm				
	NMO-KESQ2145FC100SR	100x25 @ 100mm				





## NMO-PLL2056 | NMO-PLL2087

**AAP6363 | CA6868 | 5050 | CA3535 Flat  
Z5 (3535) | Z5N (3535) | WICOP**

Material: Silicone

Mounting: Aluminum Fixing Ring (NMO-KEL2056ALU) with screws

Part No.	Beam angle Typ. [°]	Housing size l x b (Ø) x h [mm]	Max. Cluster Size	Suitable for	IP protection
NMO-PLL2056SR77	60	Ø 85.1 x 24	23mm x 23mm LES	UV-A UV-B UV-C	yes
NMO-PLL2056SR99	45	Ø 85.1 x 35.3			
NMO-PLL2056SR88	90	Ø 85.1 x 16.8			
NMO-PLL2056SR88	25	Ø 85.1 x 33.8			



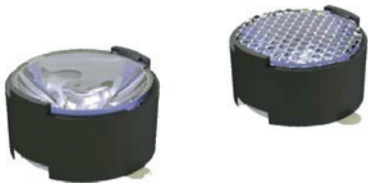
## NMO-PLL2102

**AAP6363 | CA6868 | 5050 | CA3535 Flat  
Z5 (3535) | Z5N (3535) | WICOP**

Material: Silicone

Mounting: Screws

Part No.	Beam angle Typ. [°]	Housing size l x b (Ø) x h [mm]	Max. Cluster Size	Suitable for	IP protection
NMO-PLL2102UWUV	117 x 140	172.98 x 71.38 x 36.07	500 mm x 30 mm LES	UV-A	yes



## NMO-KESQ1169

**AAP6363 | CA6868 | 5050 | CA3535 Flat  
Z5 (3535) | Z5N (3535) | WICOP**

Material: Silicone

Mounting: Tape

Part No.	Beam angle Typ. [°]	Housing size l x b (Ø) x h [mm]	Max. Cluster Size	Suitable for	IP protection
NMO-KESQ1169NAUV	12	21.7 x 11.4	Single LED	UV-A UV-B UV-C	no
NMO-KESQ1169WIUV	30				
NMO-KESQ1169ELUV	19 x 54				



## NMO-PLL120002SR

**AAP6363 | CA6868 | 5050 | CA3535 Flat  
Z5 (3535) | Z5N (3535) | WICOP**

Material: Silicone  
Mounting: Screws

Part No.	Beam angle Typ. [°]	Housing size l x b (Ø) x h [mm]	Max. Cluster Size	Suitable for	IP protection
NMO-PLL210002SR	150	173 x 71.4 x 8.47	12 x Einzel LED	UV-A UV-B UV-C	yes



## NMO-PPL2091

**AAP6363 | CA6868 | 5050 | CA3535 Flat  
Z5 (3535) | Z5N (3535) | WICOP**

Material: PMMA UV  
Mounting: Screws

Part No.	Beam angle Typ. [°]	Housing size l x b (Ø) x h [mm]	Max. Cluster Size	Suitable for	IP protection
NMO-PLL2091EWUV	27x100°	283 x 39.9 x 10.3	1S Linear 282mm	UV-A	no
NMO-PLL2091UWUV	84x100°				
NMO-PLL2091WIUV	54x100°				
NMO-PLL2091EWIPUV	27x100°				yes
NMO-PLL2091UWIPUV	84x100°				
NMO-PLL2091WIIPUV	54x100°				

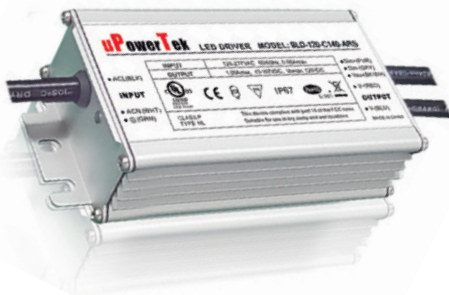


# Power supplies

for UV LED applications

Efficient LED power supplies at the highest level from well-known manufacturers. Our range includes constant current LED drivers, LED power supplies with constant voltage as well as LED power supplies that combine CV + CC. Whether programmable, dimmable, waterproof or with Dali, 6-800W: We provide you with the LED power supply that is precisely tailored to your requirements. Last but not least, we offer you controls and the right accessories for your LED power supply.

## uPowerTek



### LED driver (NFC and intelligent)

For rugged environments IP 67

- Working temperatures from -40 to +70°C
- High noise immunity
- Various dimming functions from DALI, 0-10V, PWM, Time and 3 in 1 with 12Vaux
- contactless NFC programmable
- Compensation of aging of LED modules through pre-programmable current increase (Constant Lumen Output)
- ENEC and UL

## Enedo



### NFC programmable LED driver

- less heat generation, optimized assemblies
- UL and ENEC approvals
- DALI 2.0 certified
- very compact design
- comply with low voltage and EMC directives
- Engineering made in Europe

## Anway electric



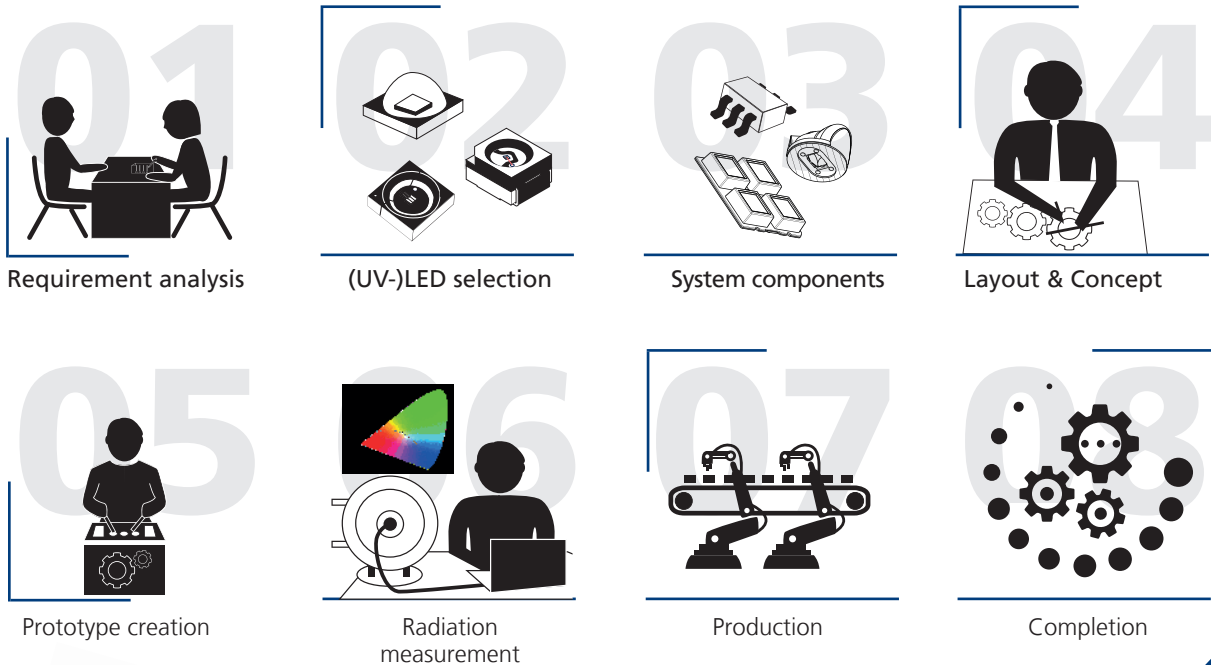
### Flicker-free

- Compact design
- Flicker-free
- Desktop (3W-30W) and plug-in power supplies (10W-75W)
- GS, CE, EMC and ENEC certification
- With constant voltage 12V / 24V or as constant current device
- TRIAC and switch dimming function
- customized solutions
- Intelligent LED Driver (IoT)

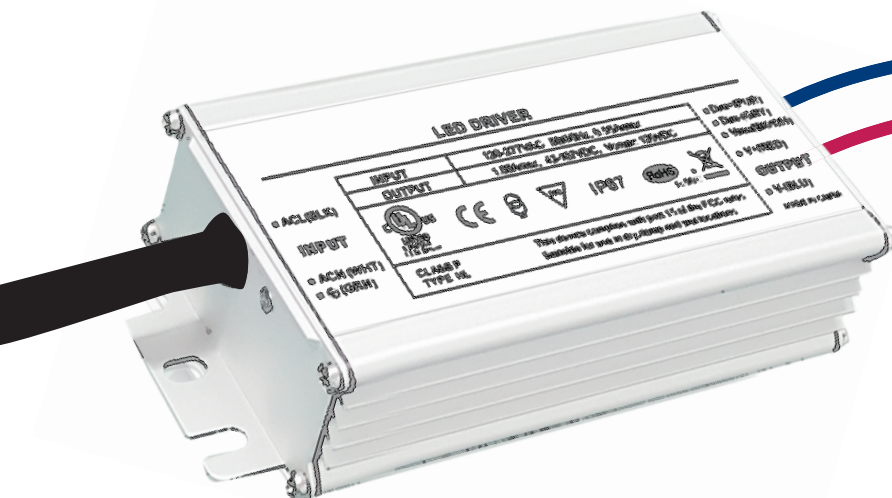
# UV LED system solutions

Customized solutions or design-in solutions

The same applies to our customers in the same way as no two people are alike. Every customer has their own ideas and criteria that are particularly important to him / her. To such demands We offer you customized UV applications based on your individual requirements. In the UV area in particular, solutions are often sought alongside the standard in order to optimize processes and to be one step ahead of the competition. Regardless of whether it is a matter of adapting a standard product or a completely new development, we support you from the idea to series production - everything is made in Germany.



Customized according to your requirements.



Power Supply

- Wavelengths from 255nm - 405nm
- Everything is tailored exactly to your requirements
- Samples and series production

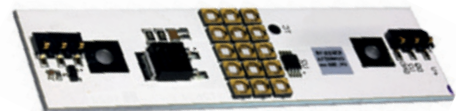
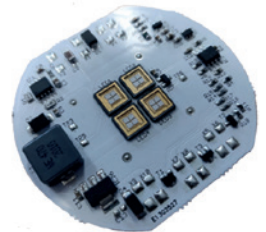
LED Bauform

On-Board  
Elektronik

Leiterplatten-  
material

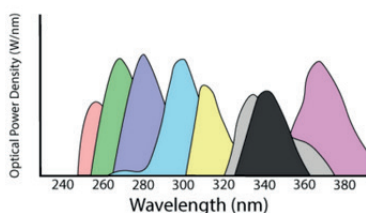
Beispiele von realisierten  
UV-LED-Modul-Projekten

Connectors  
Cable assembly



## Customized solutions

Professional UV application development



Regardless of which wavelength ranges are required in your UV application, from UV to UV-Vis to UV-Vis-IR, all UV wavelengths are possible in one housing. The wave range can be determined individually.

Example: Spectroscopy

### Multi-wavelength LEDs

Sensor Electronic Technology, Inc offers multi-wavelength (UV, UV-Vis & UV-Vis-IR) or Multichip LEDs, Transmitter and Receiver (Feedback Control LEDs) in the same package and much more...







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