

# TSLC 6 UV LED 24V Strips

IHS-Xx06-Sxxx-SC211-WIR200. Series

## Product Overview

At the heart of each N3535 UV 6 Strip are 6 compact, high quality and reliable TSLC N3535 1-chip UV LEDs, with primary 55 or 125 degree lens, featuring high radiometric power density and design flexibility. The UV 6 strip range is suited to demanding industrial and horticultural applications and features a vertical chip structure on a patented metal alloy substrate, offering advances in optical output and high thermal conductivity. UV 6 Strips are compact, powerful LED light sources built on aluminium substrates for optimal thermal management.



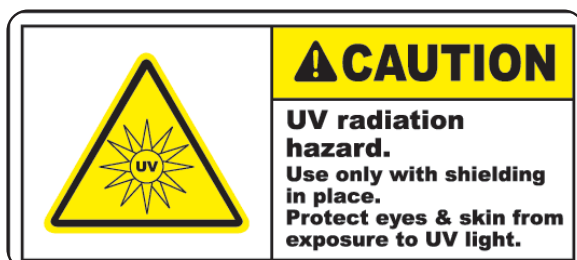
## Applications

- Horticultural Lighting
- Polymer Curing
- Ink Curing
- Counterfeit Detection
- Aquarium Lighting
- Medical and DNA Sequencing
- Inspection Equipment

## Technical Features

- N3535 6 Strips contain 6 1-chip UV LEDs with integral 55 or 125 degree silicone lens
- Mounting holes for M3 screws allows easy installation
- Size (L x W x H): 300mm x 20mm x 5mm
- Matching Power Supplies available - check options in Power Supply section
- N3535 UV 6 Strips can be linked together to produce longer chains
- Brightness adjustable by external dimming gear
- Single input voltage. Each board has own regulation built-in
- Operation with 24VDC Power Supply

\*This datasheet should be read in conjunction with the relevant TSLC data on the LED used.



These products generate UV radiation which can cause skin damage and conjunctivitis to humans and animals within a short time. The skin and eyes must be fully protected against exposure. You should be aware that UV radiation does not eliminate harmful non-degradable substances such as heavy metals or pesticides. Assume IEC62471 Risk Group 3.

## Important Information and Precautions

- The N3535 6 UV Strip LED, when powered up, is very bright. Thus it is advised that you do not look directly at it. Turn the N3535 6 UV Strip away from you and do not shine into the eyes of others.
- These devices emit high intensity UV/NUV light. Necessary precautions must be taken during operation. Do not look directly into the light or look through the optical system when in operation. Protective eyewear should be worn at all times during operation.
- Lens discolouration may occur with prolonged exposure to UV/NUV light. Lens material will need to be tested for UV/NUV light compatibility and durability.
- N3535 6 UV Strips will overheat in operation if not attached to a suitable Heatsink. Overheating can cause failure or irreparable damage.
- Do not operate N3535 6 UV Strips with a Power Supply with unlimited current. Connection to constant voltage Power Supplies that are not current limited may cause the N3535 6 UV Strip to consume current above the specified maximum and cause failure or irreparable damage.
- N3535 6 UV Strips, when operated, can reach high temperatures thus there is risk of injury if they are touched.
- DO NOT HOT PLUG ON LED SIDE OF POWER SUPPLY.
- DO NOT TOUCH or PUSH on the LED as this can cause irreparable damage.

## Product Options

IHS PART NUMBER	Peak Wavelength *		Typical Wattage at 350mA	Forward Voltage *	Minimum Radiometric Power (mW) at 350mA *	Radiance Angle	Relevant TSLC LED data
	min $\lambda_p$	max $\lambda_p$					
IHS-XO06-S380-SD111.	380nm	390nm	6.3W	24V	1920mW	125° ( $\pm 62.5^\circ$ )	N3535U-UNF1
IHS-XO06-S390-SD111.	390nm	400nm	6.3W	24V	2160mW	125° ( $\pm 62.5^\circ$ )	N3535U-UNF1
IHS-XO06-S400-SD111.	400nm	410nm	6.3W	24V	2400mW	125° ( $\pm 62.5^\circ$ )	N3535U-UNF1
IHS-XO06-S410-SD111.	410nm	420nm	6.3W	24V	2400mW	125° ( $\pm 62.5^\circ$ )	N3535U-UNF1
IHS-XN06-S380-SD111.	380nm	390nm	6.3W	24V	1920mW	55° ( $\pm 22.5^\circ$ )	N3535U-UNF1
IHS-XN06-S390-SD111.	390nm	400nm	6.3W	24V	2160mW	55° ( $\pm 22.5^\circ$ )	N3535U-UNF1
IHS-XN06-S400-SD111.	400nm	410nm	6.3W	24V	2400mW	55° ( $\pm 22.5^\circ$ )	N3535U-UNF1
IHS-XN06-S410-SD111.	410nm	420nm	6.3W	24V	2400mW	55° ( $\pm 22.5^\circ$ )	N3535U-UNF1

\*Radiometric power is measured with an accuracy of  $\pm 10\%$

\*The forward voltage is measured with an accuracy of  $\pm 0.2V$

\*The peak/dominant wavelength is measured with an accuracy of  $\pm 1nm$

## Micromoles

IHS PART NUMBER	Par* ( $\phi p$ ) [ $\mu\text{mol/s}$ ]	PPF/W* [ $\mu\text{mol/J}$ ]	BPF/W** ( $\phi p, b$ ) [ $\mu\text{mol/s}$ ]		BPF/W**
	Typ	Typ	Min	Max	Typ
IHS-XO06-S380-SD111.	0.33	6.19	0.22	0.23	3.38
IHS-XO06-S390-SD111.	2.04	7.14	1.33	1.41	4.43
IHS-XO06-S400-SD111.	6.77	8.17	4.92	4.78	5.63
IHS-XO06-S410-SD111.	7.94	8.34	6.74	5.80	6.03
IHS-XN06-S380-SD111.	0.33	6.19	0.22	0.23	3.38
IHS-XN06-S390-SD111.	2.04	7.14	1.33	1.41	4.43
IHS-XN06-S400-SD111.	6.77	8.17	4.92	4.78	5.63
IHS-XN06-S410-SD111.	7.94	8.34	6.74	5.80	6.03

Note: [\*] Includes wavelengths between 400 and 700 nm  
 Note: [\*\*] Includes wavelengths between 280 and 800 nm

## Minimum and Maximum Ratings

IHS PART NUMBER	Operating Temperature at Tc-Point [ $^{\circ}\text{C}$ ]*	Storage Temperature [ $^{\circ}\text{C}$ ]*	Forward Current per chip [mA]*	Reverse Voltage [Vdc]*
IHS-XO06-S380-SD111.	70 $^{\circ}\text{C}$ max	-40 $^{\circ}\text{C}$ - 125 $^{\circ}\text{C}$	350mA	Not designed to be driven in reverse bias
IHS-XO06-S390-SD111.	70 $^{\circ}\text{C}$ max	-40 $^{\circ}\text{C}$ - 125 $^{\circ}\text{C}$	350mA	Not designed to be driven in reverse bias
IHS-XO06-S400-SD111.	70 $^{\circ}\text{C}$ max	-40 $^{\circ}\text{C}$ - 125 $^{\circ}\text{C}$	350mA	Not designed to be driven in reverse bias
IHS-XO06-S410-SD111.	70 $^{\circ}\text{C}$ max	-40 $^{\circ}\text{C}$ - 125 $^{\circ}\text{C}$	350mA	Not designed to be driven in reverse bias
IHS-XN06-S380-SD111.	70 $^{\circ}\text{C}$ max	-40 $^{\circ}\text{C}$ - 125 $^{\circ}\text{C}$	350mA	Not designed to be driven in reverse bias
IHS-XN06-S390-SD111.	70 $^{\circ}\text{C}$ max	-40 $^{\circ}\text{C}$ - 125 $^{\circ}\text{C}$	350mA	Not designed to be driven in reverse bias
IHS-XN06-S400-SD111.	70 $^{\circ}\text{C}$ max	-40 $^{\circ}\text{C}$ - 125 $^{\circ}\text{C}$	350mA	Not designed to be driven in reverse bias
IHS-XN06-S410-SD111.	70 $^{\circ}\text{C}$ max	-40 $^{\circ}\text{C}$ - 125 $^{\circ}\text{C}$	350mA	Not designed to be driven in reverse bias

\* Exceeding maximum ratings for operating and storage temperature will reduce expected life time or destroy the LED module. Exceeding maximum ratings for operating voltage will cause hazardous overload and will likely destroy the LED module. The temperature of the LED module must be measured at the Tc-Point according to EN60598-1 in a thermally constant status with a temperature sensor or a temperature sensitive label.



## TSLC N3535 UV 6 Strips Lens and Reflector Options

LEDiL precision-engineered Lenses and Reflectors allow for rapid deployment of all types of light fixtures, including street lights, wall-wash, high-bay, sconces, emergency beacons, parking garage/low-bay, MR and AR downlights, and dock lights. Precision-engineered for maximum efficiency and durability, LEDiL Lenses and Reflectors are released alongside the latest product releases from our LED suppliers. You select the best LED for the application; choose LEDiL and you're selecting the best optical solution as well.



Ordering Code	Beam	Diameter	Height	Family	FWHM	Material Lens	Material Holder	Fastening
FCA15007_G2-ROSE-UV-SS	SS	21.6x21.6mm	12.9mm	ROSE UV	14	Silicone	PC	Tape
FCA15008_G2-ROSE-UV-M	M	21.6x21.6mm	12.9mm	ROSE UV	25	Silicone	PC	Tape
FCA15009_G2-ROSE-UV-W	W	21.6x21.6mm	12.9mm	ROSE UV	40	Silicone	PC	Tape







## TSLC C3535 UV 6 Strips Heatsink Options

IHS has a series of Aluminium Alloy Heatsinks to be used with our standard range of Strips. These Heatsinks are supplied with fixing screws for the light engine and for fixing to a base plate. They also come with Thermal Interface Material (TIM) attached to the top surface. More versions will be introduced over the coming months and we are also happy to manufacture custom Heatsinks to your request.



## Power Supply Options

IHS has a comprehensive range of standard Power Supplies. The table below shows the total number of IHS products each Power Supply can drive. Additional Power Supplies are being introduced so please call us or check our website for the latest offering.

IHS Driver Part No.	Rating	IP Rating	Dimming	
IZV024-018F-0067A-SA	18W	IP67	NO	
IZV024-045F-9066C-SA	45W	IP67	NO	
IZV024-040M-9767C-SAL	40W	IP67	0-10V, PWM Signal or Resistance	
IZV024-060M-9767C-SAL	60W	IP67	0-10V, PWM Signal or Resistance	
IZV024-090M-9767C-SAL	90W	IP67	0-10V, PWM Signal or Resistance	
IZV024-120M-9767C-SAL	120W	IP67	0-10V, PWM Signal or Resistance	

## Thermal Interface Material Options

IHS have produced a range of High-performance, cost effective Thermal Interface Materials to match perfectly their standard products. Our product fills the air pockets between the two surfaces, forming a continuous layer to conduct heat away from the LED to the Heatsink. IHS offer our TIM in three options – double sided adhesive, single sided adhesive and non-adhesive.

Product	Non Adhesive	Single Sided Adhesive	Double Sided Adhesive
300mm Strip	ILA-TIM-STRIP-300x20-0A	ILA-TIM-STRIP-300x20-1A	ILA-TIM-STRIP-300x20-2A

Other sizes are available, including customised parts

## Assembly Information

- The mounting of the TSLC N3535 UV 6 Strip has to be on a metal Heatsink.
- In order to optimise the thermal management, the metal surface needs to be clean (dirt and oil free) and planar for the best contact with the LED module. A thermal grease or heat transfer material is highly recommended.

## Safety Information

- The LED module itself and all its components must not be mechanically stressed.
- Assembly must not damage or destroy conducting paths on the circuit board.
- The mounting of the module is carried out by attaching it at the mounting holes. Metal mounting screws must be insulated with synthetic washers to prevent circuit board damage and possible short circuiting.
- To avoid mechanical damage to the connecting cables, the boards should be attached securely to the intended substrate. Heavy vibration should be avoided.
- Observe correct polarity!
- Depending on the product, incorrect polarity will lead to emission of red or no light. The module can be destroyed!
- Pay attention to standard ESD precautions when installing the TSLC N3535 UV 6 Strip.
- The TSLC N3535 UV 6 Strips, as manufactured, have no conformal coating and therefore offer no inherent protection against corrosion.
- Damage by corrosion will not be accepted as a materials defect claim. It is the user's responsibility to provide suitable protection against corrosive agents such as moisture and condensation and other harmful elements.
- For outdoor usage, a housing is definitely required to protect the board against environmental influences. The design of the housing must correspond to the IP standards in the application. It is also the responsibility of the user to ensure any housings or modifications keep the Tc junction temperature to within stated ranges.
- To also ease the luminaire/installation approval, electronic control gear for LED or LED modules should carry the CE mark and be ENEC certified. In Europe the declarations of conformity must include the following standards: CE: EC 61374-2-13, EN 55015, IEC 61547 and IEC 61000-3-2 - ENEC: 61374-2-13 and IEC/EN 62384.
- The evaluation of eye safety occurs according to the standard IEC 62471:2006 ("photobiological safety of lamps and lamp systems"). Within the risk grouping system of this CIE standard, the LED specified in this data sheet falls into the class "moderate risk" (exposure time 0.25s). Under real circumstances (for exposure time, eye pupils, observation distance), it is assumed that no endangerment to the eye exists from these devices. As a matter of principle, however, it should be mentioned that intense light sources have a high secondary exposure potential due to their blinding effect. As is also true when viewing other bright light sources (e.g. headlights), temporary reduction in visual acuity and afterimages can occur, leading to irritation, annoyance, visual impairment and even accidents, depending on the situation.

## For further information please contact IHS

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.