OSLON® Square 6 LED Strips

IHS-OG06-XXXX-SD221.

Product Overview

At the heart of each Strip are 6 OSLON® SSL Square LEDs. OSLON® SSL Hyper Red LED can be driven up to 1000mA and Deep Blue LED can be driven up to 2000mA. While OSRAM's latest power chip technology remains efficient even at the highest drive currents. A low thermal resistance of 7K/W ensures cool running and a highly efficient product. Simple Plug & Play feature utilising industry standard connectors.

Examples of how unique wavelengths can help with plant growth:

Colour Combination	Works For
Deep Blue + Hyper Red	Leafy greens such as lettuce and basil
Deep Blue + Hyper Red + Far Red	Leafy greens such as basil and aids in seed germination, stem elongation and leaf expansion
Deep Blue + Hyper Red + Yellow + Green	Flowering plants where biomass is the goal

Applications

- Horticultural Lighting
- Retail and Entertainment Lighting
- Decorative Lighting
- General Lighting

Technical Features

- OSLON® SSL Square Strips contain OSLON® SSL Square LEDs with integral 120 degree silicone resin Lens
- Up to 100,000 Hour lifetime to 70% of original brightness
- Mounting holes using M3 screws allows easy installation
- Size (L x W x H): 300mm x 20mm x 7mm
- Brightness adjustable by external dimming gear
- Single input voltage. Each board has own regulation built-in
- Operation with 24VDC Power Supply
- Secondary Lens can be fitted – check options in suitable Lens and Reflector section
- Suitable Heatsinks available – check options in Heatsink section
- Matching Power Supply available - check options in Power Supply section
- Strips can be linked together to produce longer chains

*This datasheet should be read in conjunction with the relevant OSRAM Opto Semiconductors data on the LED used

Important Information and Precautions

- The LEDs, when powered up, are very bright. Thus it is advised that you do not look directly at it. Turn the Strip away from you and do not shine into the eyes of others.
- Strips will overheat in operation if not attached to a suitable Heatsink. Over heating can cause failure or irreparable damage.
- 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	Colour	Wavelength*	Forward Voltage §	Flux † at 350mA	Radiance Angle	Relevant OSRAM LED Data
IHS-OG06-DEBL-SD221.	Deep Blue	455nm	24 volts	3900mW	120° (±60°)	GD CSSRM2.14
IHS-OG06-HYRE-SD221.	Hyper Red	660nm	24 volts	2475mW	120° (±60°)	GH CSSRM3.24
IHS-OG06-HYRE-SD231.	Hyper Red	660nm	10.8 volts	2880mW	120° (±60°)	GH CSSRM4.24

*Due to the special conditions of the manufacturing processes of LEDs, the typical data of technical parameters can only reflect statistical figures and do not necessarily correspond to the actual parameters of each single product which could differ from the typical data.
§ Tolerance +/- 10%
† Measured with 20mS 350mA pulse at 25˚c

Minimum and Maximum Ratings

IHS Part Number	Operating Temperature at Tc-Point [˚C]*	Storage Temperature [˚C]*	Forward Current per chip [mA]*	Reverse Voltage [Vdc]*
IHS-OG06-DEBL-SD221.	70˚C max	- 40 to 110˚C	2,000mA max	not designed for reverse voltage
IHS-OG06-HYRE-SD221.	70˚C max	- 40 to 110˚C	1,000mA max	not designed for reverse voltage
IHS-OG06-HYRE-SD231.	70˚C max	- 40 to 125˚C	1,000mA max	not designed for reverse voltage

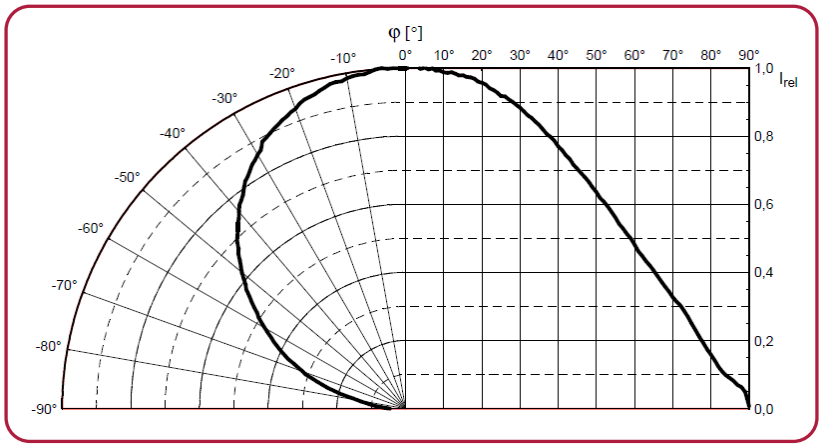
* Exceeding maximum ratings for operating and storage temperature will reduce expected life time or destroy the LED module. Exceeding maximum ratings for operating voltage will cause hazardous overload and will likely destroy the LED module. The temperature of the LED module must be measured at the Tc-Point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

Micromoles

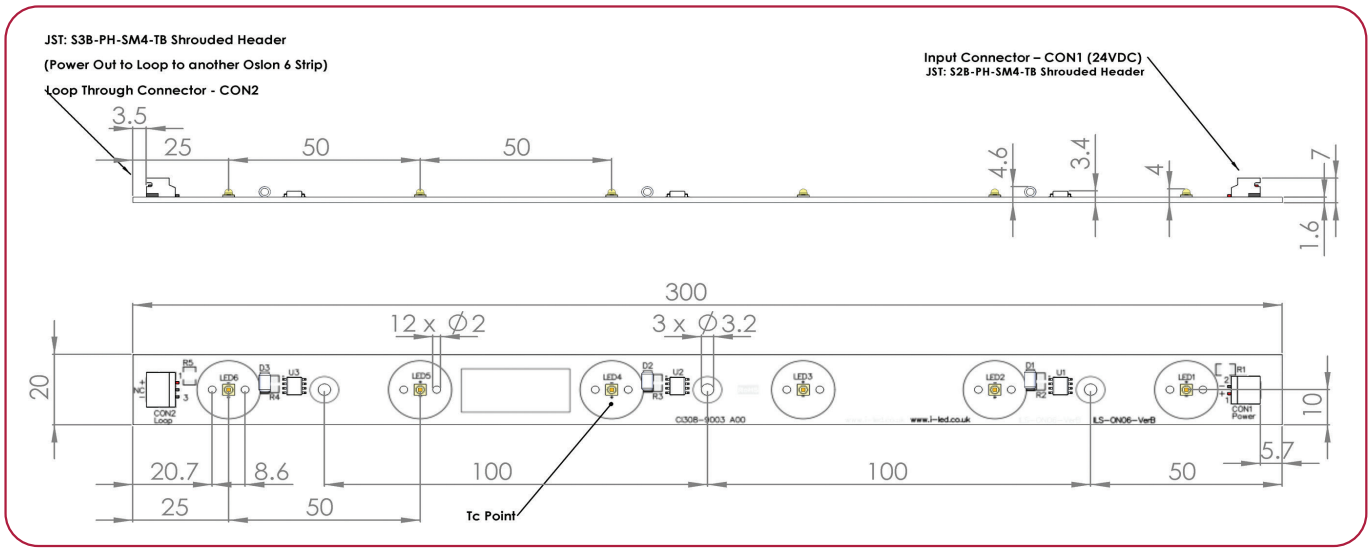
IHS Part Number	Radiant Power(ϕ_E)[mW]		PPF (ϕ_p) [µmol/s]		PPF/W [µmol/J]		BPF ($\phi_{p,b}$) [µmol/s]		BPF/W [µmol/J]	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
IHS-OG06-DEBL-SD221.	7260	7800	27.24	29.28	13.44	14.4	27.36	29.4	13.5	14.46
IHS-OG06-HYRE-SD221.	4950	5340	27.00	29.16	18.66		27.00	29.16	18.66	
IHS-OG06-HYRE-SD231.	5760	5970	31.44	32.64	22.86		31.26	32.76	22.98	

† Measured with 20mS 700mA pulse at 25˚c

Radiation of single LED



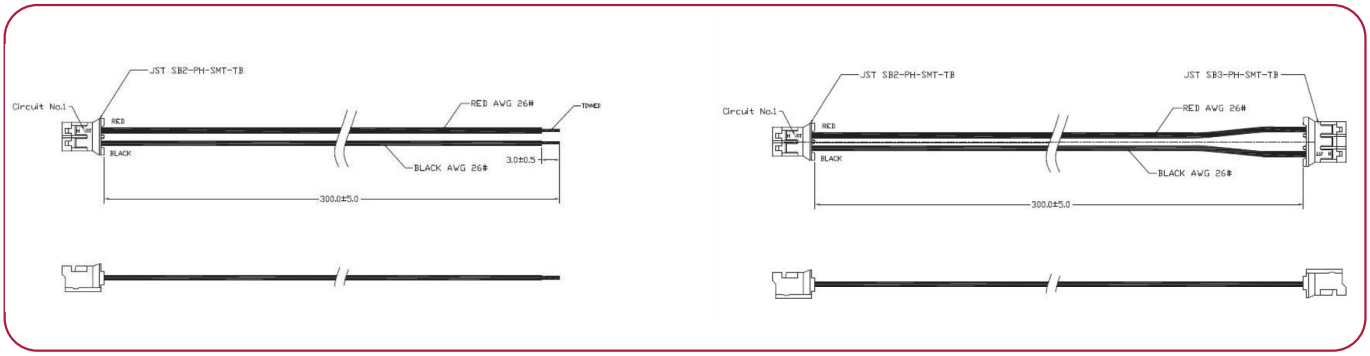
Technical Drawing



3D drawing files are available on request from IHS. Please call or email

Cables

CAB-ILS-GD06-INPUT	For input into all Dragon, OSLON® and Stanley coins and strips.
CAB-ILS-GD06-LINK	For linking 2 Dragon, OSLON® and Stanley coins and strips.



OSLON® SSL Square 6 LED Strip 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.

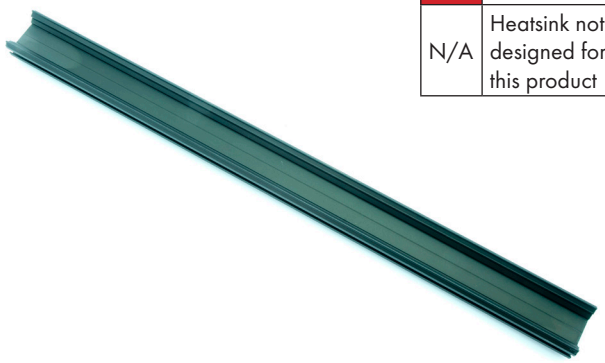
ILS Part Number	Beam	Diameter	Height	Family	FWHM	Colour	Fastening
C13155_EMERALD-A	O	21.6	6.9	Emerald	156+86	clear	glue, pin
CA13156_EMERALD-A	O	21.6	7.3	Emerald	152+76	clear	tape, pin
CA11264_HEIDI-D	D	21.6	11.7	Heidi	+/- 5	clear	pin, tape
CA11265_HEIDI-M	M	21.6	11.7	Heidi	+/- 13	clear	tape, pin
CA11266_HEIDI-O	O	21.6	11.7	Heidi	52+13	clear	pin, tape
CA11267_HEIDI-O-90	O-90	21.6	12.1	Heidi	15+51	clear	tape, pin
CA11268_HEIDI-W	W	21.6	11.7	Heidi	32	clear	pin, tape
CA11663_HEIDI-RS	RS	21.6	11.7	Heidi	10	clear	pin, tape
CA12242_HEIDI-SS	SS	21.6	11.7	Heidi	+/- 7	clear	tape, pin
CA13631_G2-LAURA-O-P	O	21.6 x 21.6	13.1	Laura	39+12	white	tape, pin
CA16435_LXP2-SS-WAS	Asymmetric	20	13.6	Leila	13	black	tape
CA14505_G2-LXP2-RS2-P	RS2	21.8	14.7	Leila	+/- 2.5	black	pin, tape
CA14507_G2-LXP2-D-P	D	21.8	14.7	Leila	+/- 7	black	tape, pin
CA14509_G2-LXP2-M-P	M	21.8	14.7	Leila	+/- 12	black	tape, pin
FP13028_LISA2-M-PIN	M	9.9	6.8	Lisa	+/- 13	black	glue, pin
FP13030_LISA2-M-CLIP	M	9.9	6.8	Lisa	+/- 13	black	glue, clips
CA12377_TINA2-M	M	16	9.5	Tina	33 + 13	black	tape, pin
CA12379_TINA2-O	O	16	9.5	Tina	32+16	black	tape, pin
FA11208_TINA-RS	RS	16.1	9.5	Tina	+/- 5.5	black	tape, pin
FA11209_TINA-D	D	16.1	9.4	Tina	+/- 7.5	black	tape, pin
CA12346_TINA2-RS	RS	16.1	9.5	Tina	+/- 7	white	tape
CA12347_TINA2-D	D	16.1	9.5	Tina	+/- 7.5	white	tape
CA12426_TINA3-W	W	16.1	6.9	Tina	+/- 20.5	white	tape, pin
C13253_TINA2-R-CLIP16	WW	16.1	10.1	Tina	+/- 37.5	clear	clips

OSLON® SSL Square 6 LED Strip Heatsink Options

IHS has a series of Aluminium Alloy Heat sinks to be used with our standard range of Strips and PowerClusters. 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.

	Operates under the recommended IHS junction temperature
	Operates under the recommended LED maximum junction temperature
	Not suitable for use
N/A	Heatsink not designed for use with this product

IHS Product	Current	No Heatsink, in free air	ILA-EXTRUSION-02-0315X40-BLK.
OSLON 6+ Strips	350mA		



OSLON® SSL Square Gen 3 6 LED Strip Power Supply Options

IHS has a comprehensive range of standard Power Supplies. The table below shows forward voltage of each LED driver please consult the product options table to find the forward voltage of the PowerStar used.

Additional Power Supplies are being introduced so please call us or check our website for the latest offering.

IHS Driver Part No.	Rating	Forward Voltage	Number of LED Strips	
IZV024-018F-0067A-SA	18W	24 Volts	1-2	
IZV024-045F-9066C-SA	45W	24 Volts	1-5	
IZV024-040M-9767C-SAL	40W	24 Volts	1-4	
IZV024-060M-9767C-SAL	60W	24 Volts	1-7	

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 TIM in three options – double sided adhesive, single sided adhesive and non adhesive.

Product	Non Adhesive	Single Sided Adhesive	Double Sided Adhesive
300x20mm Strip	ILA-TIM-STRIP-300x20-0A	ILA-TIM-STRIP300x20-1A	ILA-TIM-STRIP-300x20-2A.

Other sizes are available, including customised parts

Assembly Information

- The mounting of the OSLON® SSL Square 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 OSLON® SSL Square 6 Strip.
- The OSLON® SSL Square 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.