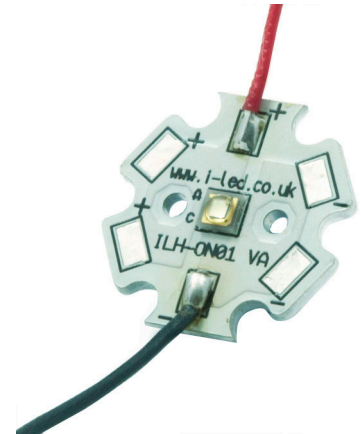


# SIGNAL OSLOM 1 PowerStar

ILH-SO01-####-SC2#1-WIR200.

## Product Overview

At the heart of each PowerStar is an OSLOM<sup>®</sup> Signal ThinGan (UX:3) LED. OSLOM<sup>®</sup> SSL can be driven up to 1000mA. OSLOM Signal LEDs support cutting edge traffic light designs with a significantly reduced number of LEDs per signal. The tiny ceramic-based high-performance package from Osram Opto Semiconductors sets new standards in terms of electro-optical efficiency even at high temperatures, including a high-efficiency yellow LED with a ceramic converter. OSLOM<sup>®</sup> Signal is available in various colours and performance classes.



## Applications

- Emergency Marker
- Traffic Marker
- Aftermarket Auto
- Signalling
- Marker Lights
- Working Lights

## Technical Features

- PowerStars contain OSRAM Opto OSLOM<sup>®</sup> Signal LEDs
- Up to 50,000 hour lifetime to 70% of original brightness
- Mounting holes using M3 screws allows easy installations
- Size (LxWxH): 20mm x20mm x3.85mm
- Available with or without 200mm connecting wires
- Secondary lens can be fitted
- PowerStars can be linked together to produce longer chains
- Current range 30mA to 1000mA

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

## Important Information and Precautions

- The PowerStar's LED, when powered up, is very bright. Thus it is advised that you do not look directly at it. Turn the PowerStar away from you and do not shine into the eyes of others
- Do not operate the PowerStar with a Power Supply with unlimited current. Connection to constant voltage Power Supplies that are not current limited may cause the PowerStar to consume current above the specified maximum and cause failure or irreparable damage.
- PowerStar's, when operated, can reach high temperatures thus there is a risk of injury if they are touched
- DO NOT HOT PLUG ON LED SIDE OF THE POWER SUPPLY
- DO NOT TOUCH or PUSH on the LED as this might cause irreparable damage.

## Product Options

ILS PART NUMBER	Colour	Dominant Wavelength *	Typical Wattage §	Forward Voltage	Flux † at 350mA	Radiance Angle	Relevant OSRAM LED Data
			at 350mA				
ILH-SO01-SIBL-SC211-WIR200.	Signal Blue	465nm	0.98W	2.75-3.5 volts	28lm	120° (±60°)	LBCRBP
ILH-SO01-SICB-SC211-WIR200.	Converted Blue	x/y=0.16/0.12	1.03W	2.75-3.5 volts	45lm	120° (±60°)	LCBCRBP
ILH-SO01-SIVG-SC211-WIR200.	Verde Green	505nm	1.14W	2.75-3.5 volts	61lm	120° (±60°)	LVCQBP
ILH-SO01-SITG-SC211-WIR200.	True Green	528nm	1.16W	2.75-3.5 volts	82lm	120° (±60°)	LTCLBP
ILH-SO01-SIYL-SC201-WIR200.	Yellow	590nm	0.79W	2.00-2.60 volts	33lm	120° (±60°)	LYCKBP
ILH-SO01-SICY-SC211-WIR200.	Converted Yellow	x/y=0.57/0.42	1.03W	2.75-3.50 volts	71lm	120° (±60°)	LCYCLBP
ILH-SO01-SIRE-SC201-WIR200.	Red	625nm	0.75W	2.00-2.60 volts	61lm	120° (±60°)	LJ CKBP
ILH-SO01-SIWH-SC211-WIR200.	White	x/y=0.33/0.33	1.03W	2.75-3.50 volts	112lm	120° (±60°)	LUWCRBP

\* 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%

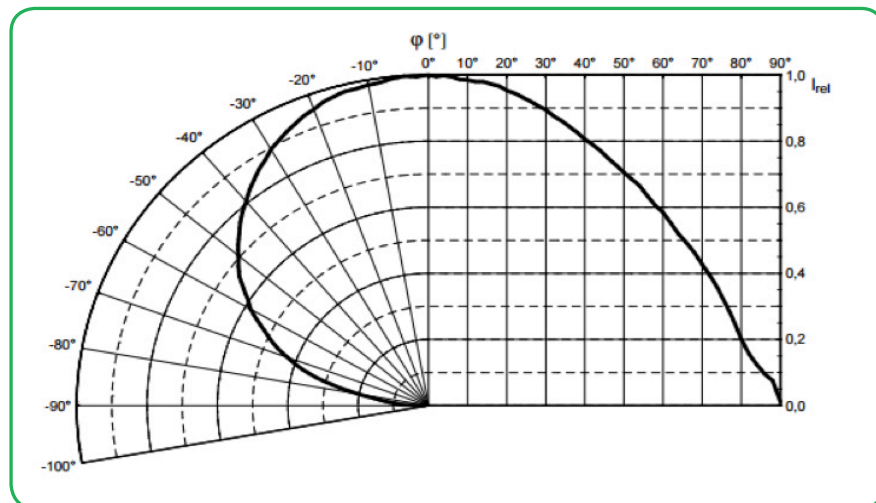
† Measured with 20mS 350mA pulse at 25 °c

### Minimum and Maximum Ratings

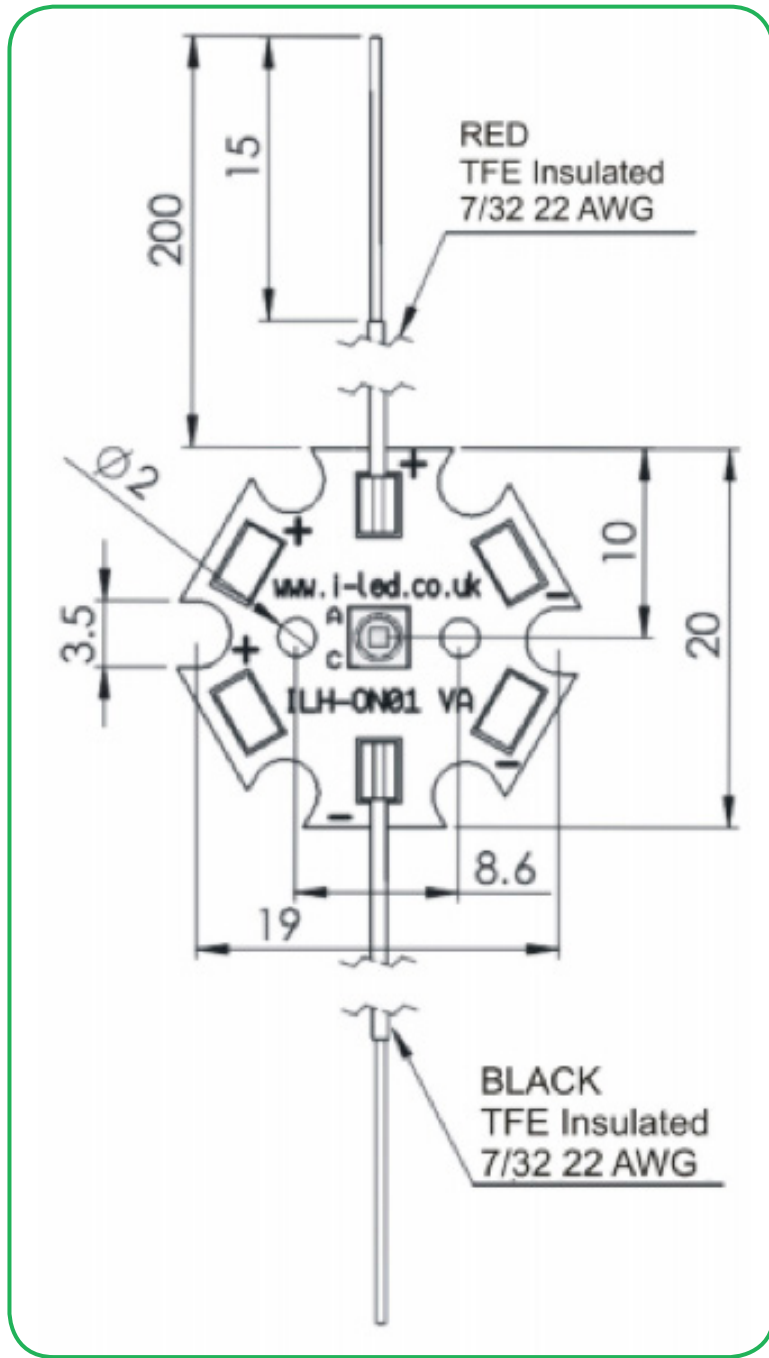
ILS PART NUMBER	Operating Temperature at Tc-Point [°C]*	Storage Temperature [°C]*	Forward Current per chip [mA]*	Reverse Voltage [Vdc]*
ILH-SO01-SIBL-SC201-WIR200.	70 °C max	- 40 to 110 °C	1,000mA max	not designed for reverse voltage
ILH-SO01-SICB-SC201-WIR200.	70 °C max	- 40 to 110 °C	1,000mA max	not designed for reverse voltage
ILH-SO01-SIVG-SC201-WIR200.	70 °C max	- 40 to 110 °C	1,000mA max	not designed for reverse voltage
ILH-SO01-SITG-SC201-WIR200.	70 °C max	- 40 to 110 °C	1,000mA max	not designed for reverse voltage
ILH-SO01-SIYL-SC201-WIR200.	70 °C max	- 40 to 110 °C	1,000mA max	not designed for reverse voltage
ILH-SO01-SICY-SC201-WIR200.	70 °C max	- 40 to 110 °C	1,000mA max	not designed for reverse voltage
ILH-SO01-SIRE-SC201-WIR200.	70 °C max	- 40 to 110 °C	1,000mA max	not designed for reverse voltage
ILH-SO01-SIWH-SC201-WIR200.	70 °C max	- 40 to 110 °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.

### Radiation of single LED



Technical Drawing with cables (mm)



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

OSLON Signal 1 PowerStar 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.

Currently there are not any lens or reflector options for the OSLON Signal PowerStar.

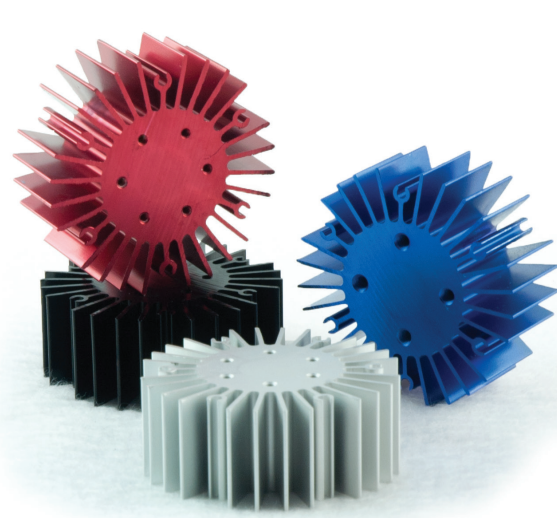


### OSLON Signal 1 PowerStar Heat Sink Options

ILS has a series of Aluminium Alloy Heat Sinks to be used with our standard range of PowerStars and PowerClusters. These Heat Sinks 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. Available in Black, Red, Silver and Blue colour variants. More versions will be introduced over the coming months and we are also happy to manufacture custom Heat Sinks to your request.

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

ILS Product		No Heat Sink, in free air	ILA-HSINK-STAR-50X20MM	ILA-HSINK-STAR-50X40MM	ILA-HSINK-STAR-50X60MM	ILA-HSINK-STAR-50X80MM	ILA-HSINK-78X46X25MM	ILA-HSINK-70X70X55MM
OSLON Signal 1 PowerStar	350mA							
	700mA							
	1000mA							
OSLON Signal 4 PowerStar	350mA							
	700mA							
	1000mA							
OSLON Signal 9 PowerStar	350mA							
	700mA							
	1000mA							
OSLON Signal 16 PowerCluster	350mA							
	700mA							
	1000mA							







**OSLON Signal PowerStar Power Supply Options**

ILS has a comprehensive range of standard Power Supplies. The table below shows the total number of ILS products each Power Supply can drive.

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

ILS Driver Part No.	Rating	Current	Output Voltage	Dimming	Suggested Number of Stars per LED Driver*	
IZC015-005F-0067C-QA	5	150mA	20-33	No	7-11	
IZC035-005F-0067C-QA	5	350mA	2-12	No	1-4	
IZC070-005F-0067C-QA	5	700mA	2-5	No	1	
IZC035-008F-5065C-SA	8	350mA	3-36	No	1-12	
IZC070-008F-5065C-SA	8	700mA	3-12	No	1-4	
IZC035-012T-8000A-SA	12	350mA	2-34	No	1-11	
IZC035-017F-0067A-SA	17	350mA	6-48	No	2-16	
IZC035-018T-9500A-SA	18	350mA	15-52	Triac	5-17	
IZC050-018T-9500A-SA	18	500mA	9-36	Triac	3-12	
IZC070-018T-9500A-SA	18	700mA	6-26	Triac	2-8	
IZC035-035F-9067C-QA	35	350mA	40-80	No	13-26	
IZC070-035F-0067C-SA	35	700mA	9-48	No	3-16	

ILS Driver Part No.	Rating	Current	Output Voltage	Dimming	Suggested Number of Stars per LED Driver*	
IZC045-040A-9266C-SA	40	450mA	30-89	0-10	10-29	
IZC070-050A-9267C-SA	50	700mA	24-72	0-10 PWM	8-24	
IZC050-060F-9067C-QA	60	500mA	40-110	No	14-36	
IZC070-075A-9267C-SA	75	700mA	54-108	No	18-36	

### Thermal Interface Material Options

ILS 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 Heat Sink.

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

Product	Non Adhesive	Single Sided Adhesive	Double Sided Adhesive
<b>OSLON Signal Star</b>	ILA-TIM-STAR-OA	ILA-TIM-STAR-1A	ILA-TIM-STAR-2A

Other sizes are available, including customised parts

### Assembly Information

- 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 Star.
- The PowerStar, 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, 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 housing 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: EC61374-2-13, 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 ILS

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