

OSLON®+ Square 27 LED PowerFlood Whites

ILF-0027-xxxx-SC211

Product Overview

At the heart of each PowerFlood are 27 OSLON® SSL Square ThinGan (UX:3) LEDs. OSLON® SSL can be driven up to 1000mA while OSRAM's latest power chip technology remains efficient even at the highest drive currents. A low thermal resistance of 7 K/W ensures cool running and a highly efficient product. PowerFloods are compact, powerful LED light sources built on aluminium substrates for optimal thermal management. Simple 'Plug and Play' with industry standard connectors.



Applications

- General lighting of all types
- Downlighters
- Floodlights
- Square, double D etc fluorescent replacement
- Domestic, amenity, architectural etc lighting

Technical Features

- Each: OSLON®+ Square 27 LED PowerFlood contains 27 OSLON® SSL Square ThinGan (UX:3) LEDs
- $\pm 60^\circ$ beam angles
- Up to 1,000 mA LED drive current
- Up to 70,000 hour lifetime to 70% of original brightness (L70/B50)
- 25 LEDs in main light section, 2 in separate section
- PowerFlood board size 180x180x7.1 max mm [includes connectors]
- 5mm clearance mounting holes allows installation with screws
- Connection with JST PH type connectors
- Connecting cables available from ILS
- Suitable Heat Sinks available – check options in Heat Sink section
- Matching Power Supply available - check options in Power Supply section

Important Information and Precautions

- The PowerFlood's LED, when powered up, is very bright. Thus it is advised that you do not look directly at it. Turn the PowerFlood away from you and do not shine into the eyes of others.
- PowerFloods will overheat in operation if not attached to a suitable Heat Sink. Over heating can cause failure or irreparable damage.
- Do not operate PowerFloods with a Power Supply with unlimited current. Connection to constant voltage Power Supplies that are not current limited may cause the PowerFlood to consume current above the specified maximum and cause failure or irreparable damage.
- PowerFloods, 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.

Product Options

ILS PART NUMBER	Colour	Colour Temp* (Degrees Kelvin)	Typical Wattage §		Forward Voltage	Flux † at 700mA	Radiance Angle	Relevant OSRAM LED Data
			at 350mA	at 700mA				
ILF-OO27-HWWH-SC211.	Hot White	2700K	29.43 watts	58.59 watts	72.9 to 94.5 volts	5940lm	120° (±60°)	LUWCQAR. EC
ILF-OO27-WMWH-SC211.	Warm White	3000K	29.43watts	58.59 watts	72.9 to 94.5 volts	5670lm	120° (±60°)	LCWCQAR. EC
ILF-OO27-NUWH-SC211.	Neutral White	4000K	29.43watts	58.59 watts	72.9 to 94.5 volts	6750lm	120° (±60°)	LLWCQAR. EC
ILF-OO27-STWH-SC211.	Street White	5700K	29.43 watts	58.59 watts	72.9 to 94.5 volts	8370lm	120° (±60°)	LUWCQAR
ILF-OO27-ULWH-SC211.	Cool White	6500K	29.43 watts	58.59 watts	72.9 to 94.5 volts	8370lm	120° (±60°)	LUWCQAR

* 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 700mA 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]*
ILF-OO27-HWWH-SC211.	70°C max	- 40 to 110°C	1,000mA max	not designed for reverse voltage
ILF-OO27-WMWH-SC211.	70°C max	- 40 to 110°C	1,000mA max	not designed for reverse voltage
ILF-OO27-NUWH-SC211.	70°C max	- 40 to 110°C	1,000mA max	not designed for reverse voltage
ILF-OO27-STWH-SC211.	70°C max	- 40 to 110°C	1,000mA max	not designed for reverse voltage
ILF-OO27-ULWH-SC211.	70°C max	- 40 to 110°C	1,000mA max	not designed for reverse voltage

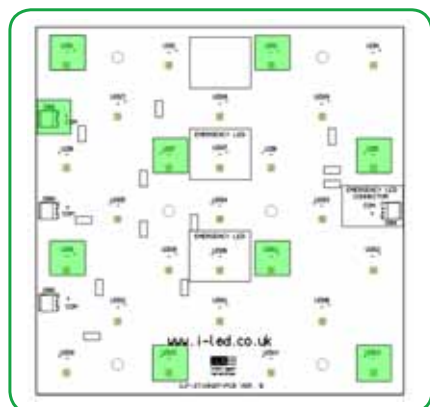
* Exceeding maximum ratings for operating and storage temperature will reduce expected life time or destroy the LED module.

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.

Connecting the LEDs

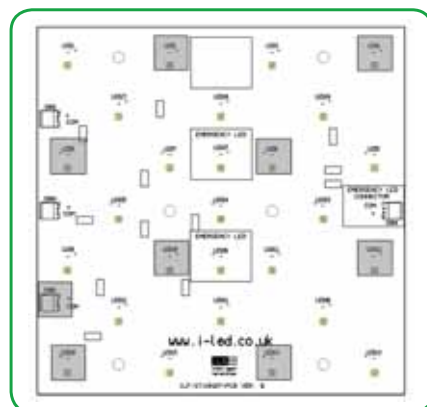
LEDs connected to CON1



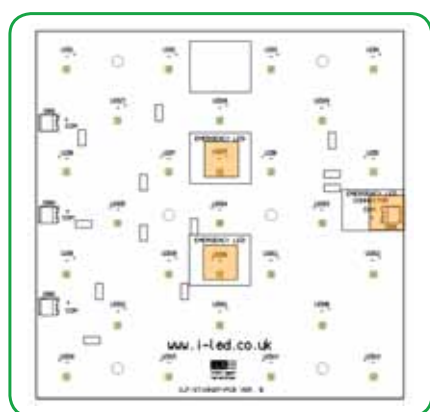
LEDs connected to CON2



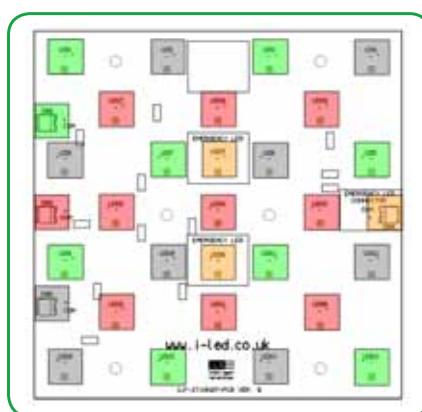
LEDs connected to CON3



LEDs connected to CON4 - Emergency

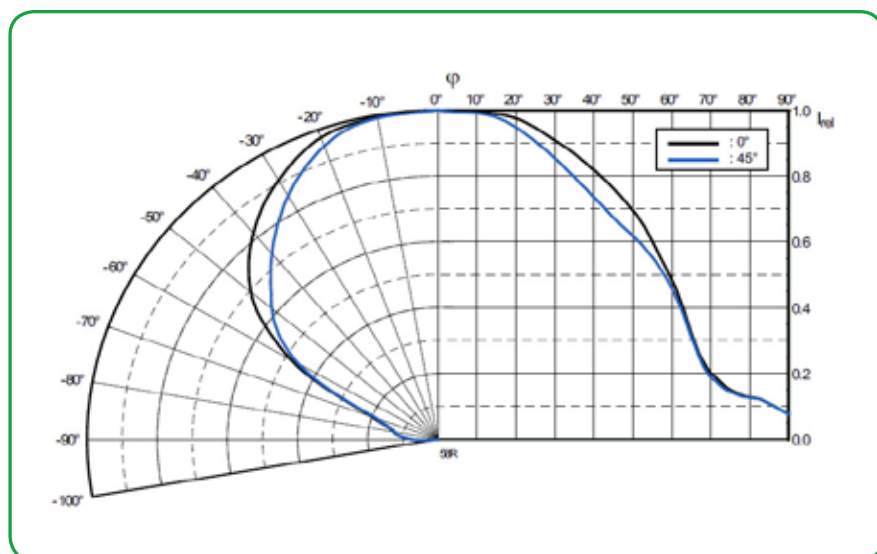


Connecting all main light LEDs together



Radiation of single LED

ILF-0027 Types



Technical drawing of the ILF-ST-0N27-PCB VER. B, showing a top-down view of the PCB layout. The drawing includes dimensions (180mm x 180mm), component locations (LED1-LED27, COM1, COM2, COM3, COM4), and a central area labeled "EMERGENCY LED". The drawing is dated 15/01/2015 and includes the website www.i-led.co.uk.

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OSLON®Square+ 27 PowerFlood 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 we do not have any Lens or Reflectors for these products.

OSLON®Square+ 27 PowerFlood Heat Sink Options

ILS has recently introduced 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-280X190X50MM-BLK	ILA-HSINK-270X216X83MM-BLK	ILA-HSINK-230X250X100MM-BLK	ILA-HSINK-210X200X25MM-BLK	ILA-HSINK-220X190X50MM-BLK	ILA-HSINK-250X200X15MM-BLK	ILA-HSINK-250X200X25MM-BLK
Dragon 72 Flood	350mA					N/A	N/A	N/A	N/A
	700mA					N/A	N/A	N/A	N/A
	1000mA					N/A	N/A	N/A	N/A
Oslon 72 Flood	350mA					N/A	N/A	N/A	N/A
	700mA					N/A	N/A	N/A	N/A
	1000mA					N/A	N/A	N/A	N/A
Oslon 27 Flood	350mA		N/A	N/A	N/A			N/A	N/A
	700mA		N/A	N/A	N/A			N/A	N/A
Stanley 3J/6J 27 Flood	350mA		N/A	N/A	N/A			N/A	N/A
	700mA		N/A	N/A	N/A			N/A	N/A
Oslon 17 Flood	350mA		N/A	N/A	N/A	N/A	N/A		
	700mA		N/A	N/A	N/A	N/A	N/A		

OSLON®Square+ 27 PowerFlood Power Supply

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.

ILS Driver Part No.	Rating	Current	Oslon17 Flood	Oslon27/ SJ27 Flood	Dragon72/ Oslon72 Flood	
IZC045-040A-9266C-SA	40W	450 mA dim	1			
IZC070-050A-9267C-SA	50W	700 mA dim	1			
IZC070-075A-9267C-SA	75W	700 mA dim	1	1		
OT 42/220-240/500 E	42W	500mA	1	1		
OT 42/220-240/350 E	42W	350mA	1	1		
IZV048-150F-9566C-SA	150W	48 volts			1	

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
Dragon 72 Flood	ILA-TIM-72FL-235X170-0A	ILA-TIM-72FL-235X170-1A	ILA-TIM-72FL-235X170-2A
Oslon 72 Flood	ILA-TIM-72FL-235X170-0A	ILA-TIM-72FL-235X170-1A	ILA-TIM-72FL-235X170-2A
Oslon 27 Flood	ILA-TIM-27FL-180X180-0A	ILA-TIM-27FL-180X180-1A	ILA-TIM-27FL-180X180-2A
Stanley 3J/6J 27 Flood	ILA-TIM-27FL-180X180-0A	ILA-TIM-27FL-180X180-1A	ILA-TIM-27FL-180X180-2A
Oslon 17 Flood	ILA-TIM-17FL-215X194-0A	ILA-TIM-17FL-215X194-1A	ILA-TIM-17FL-215X194-2A

Other sizes are available, including customised parts

Assembly Information

- The mounting of the OSLO[®]Square+ 27 PowerFlood has to be on a metal Heat Sink.
- 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 OSLO[®]Square+ 27 PowerFloods.
- The OSLO[®]Square+ 27 PowerFloods, 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 T_c 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 ILS

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