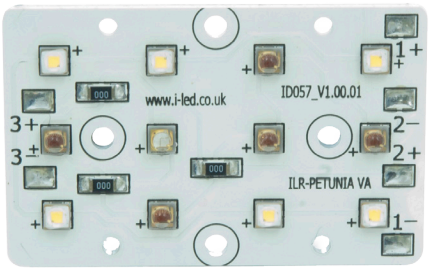
12 OSLON® SSL Petunia

ILR-OX12-XXXXXXXXXXXX-XC211-W2.

Product Overview



The Petunia range from ILS has been designed to work exclusively with the Petunia lens from LEDiL. This board has been designed specifically for plant light fixtures. There are four Petunia options designed to enhance the growth of plants. The spectrum type, span, and intensity all play key roles in vegetative cultivation and overall plant health. Each Petunia light engine has its own purpose and will benefit the development of growth depending on its output. The Petunia light engines use the latest OSLON®SSL ThinGan (UX:3)LEDs. OSRAM's latest power chip technology remains efficient even at the highest drive currents and with a low thermal resistance, it ensures cool running and a highly efficient product.

Applications

- Plant Lighting
- Greenhouses, Florist Shops & Exhibitions

Technical Features

- Petunias contain OSRAM Opto Semi OSLON® SSL 80 &150 LEDs with high efficacy
- Up to 50,000 Hour lifetime to 70% of original brightness
- Mounting holes using M3 screws allows easy installation
- Size (L x W x H): 46.5x30x4mm
- Secondary lens can be fitted
- Petunias can be linked together to produce longer chains
- Current range 100mA to 800mA

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

Important Information and Precautions

- The Petunia's LEDs, when powered up, are very bright. Thus it is advised that you do not look directly at them. Turn the Petunia away from you and do not shine into the eyes of others.
- Do not operate Petunia's with a Power Supply with unlimited current. Connection to constant voltage Power Supplies that are not current limited may cause the Petunia to consume current above the specified maximum and cause failure or irreparable damage.
- Petunia's, 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.

DATASHEET

LED Light for you powered by OSRAM CERTIFIED PARTNER

Intelligent LED Solutions, Unit 2, Berkshire Business Centre, Berkshire Drive, Thatcham, Berkshire, RG19 4EW
Telephone : +44 (0)1635 294606 Fax : +44 (0)1635 869200 Email: info@i-led.co.uk www.i-led.co.uk
A division of Intelligent Group Solutions Ltd

Product Options

General Purpose Petunia Parallel

ILS PART NUMBER	Number of LEDs	Colour	Colour Temp* (Degrees Kelvin)	Typical Wattage §		Forward Voltage	Flux † @350mA	Radiance Angle	Relevant OSRAM LED Data
				@350mA	@700mA				
ILR-OX12-6WM5HR1DB-PC211-W2.	1x5	Hyper Red	656nm	3.75 watts	7.35 watts	10 to 13 volts	<2000mW	80° (±40°)	LHCP7P
	2x6	Warm White	3000K	6.54 watts	13.02 watts	16.2 to 21 volts	<780 lm	150° (±75°)	LCWC-QDP.EC
	3x1	Deep Blue	455nm	1.09 watts	2.17 watts	2.7 to 3.5 volts	<630 mW	80° (±40°)	LDCQ7P

General Purpose Petunia Serial

ILS PART NUMBER	Number of LEDs	Colour	Colour Temp* (Degrees Kelvin)	Typical Wattage § @350mA	Forward Voltage	Flux † @350mA	Radiance Angle	Relevant OSRAM LED Data
ILR-OX12-6WM5HR1DB-SC211-W2.	1x5	Hyper Red	656nm	12.6 watts	33-42v	TBA	80° (±40°)	LHCP7P
	2x6	Warm White	3000K	12.6 watts	33-42v	TBA	150° (±75°)	LCWC-QDP.EC
	3x1	Deep Blue	455nm	12.6 watts	33-42v	TBA	80° (±40°)	LDCQ7P

General Purpose High Efficiency Petunia

The highest efficacy of µmol/J form the spectrum can be achieved by using the Hyper Red combined with some Deep Blue LEDs to maintain a reasonable ratio between the wavelengths.

ILS PART NUMBER	Number of LEDs	Colour	Colour (nm)	Typical Wattage §		Forward Voltage	Flux † @350mA	Radiance Angle	Relevant OSRAM LED Data
				@350mA	@700mA				
ILR-OX12-9HR3DB-SC211-WIR200.	9	Hyper Red	656nm	6.62 watts	13.23 watts	28.2V	3960mW	80°	LHCP7P
	3	Deep Blue	450nm	3.05 watts	6.09 watts	28.2V	1860mW	80°	LDCQ7P

Vegetative Growth Petunia

Designed especially for growth of the leafy green vegetable plants, the vegetative growth ratio is used to achieve fastest growth where visible assessment of plant health is not important

ILS PART NUMBER	Number of LEDs	Colour	Colour (nm)	Typical Wattage §		Forward Voltage	Flux † @350mA	Radiance Angle	Relevant OSRAM LED Data
				@350mA	@700mA				
ILR-OX12-6HR6DB-SC211-WIR200.	6	Hyper Red	656nm	4.41 watts	8.82 watts	30.8V	3460mW	80°	LHCP7P
	6	Deep Blue	450nm	6.09 watts	12.18 watts	30.8V	3720mW	80°	LDCQ7P

Seedlings Petunia

A high blue content in the spectrum is recommend for growth of the seedlings

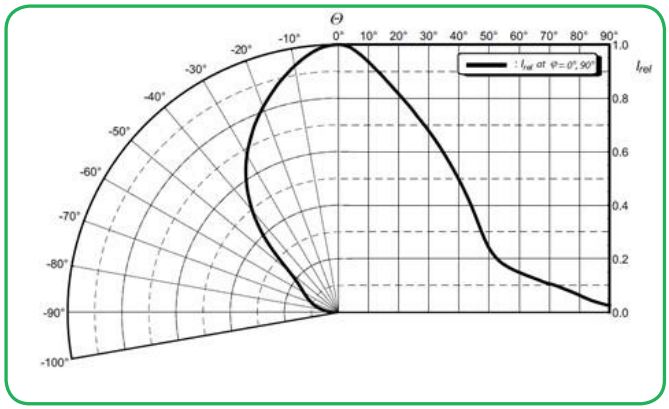
ILS PART NUMBER	Number of LEDs	Colour	Colour (nm)	Typical Wattage §		Forward Voltage	Flux † @350mA	Radiance Angle	Relevant OSRAM LED Data
				@350mA	@700mA				
ILR-OX12-3HR9DB-SC211-WIR200.	3	Hyper Red	656nm	2.21 watts	4.41 watts	32.4V	1230mW	80°	LHCP7P
	9	Deep Blue	450nm	9.14 watts	18.27 watts	32.4V	5580mW	80°	LDCQ7P

Minimum and Maximum Ratings

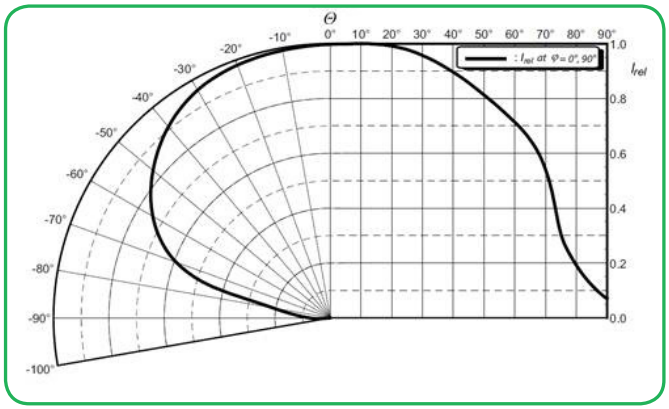
ILS PART NUMBER	Operating Temperature at Tc-Point [°C]*	Storage Temperature [°C]*	Forward Current per chip [mA]*	Reverse Voltage [Vdc]*
ILR-OX12-6WM5HR1DB-PC211-W2.	70°C max	- 40 to 110 °C	800mA max	not designed for reverse voltage
IILR-OX12-6WM5HR1DB-SC211-W2.	70°C max	- 40 to 110 °C	800mA max	not designed for reverse voltage
ILR-OX12-9HR3DB-SC211-WIR200.	70°C max	- 40 to 110 °C	800mA max	not designed for reverse voltage
ILR-OX12-6HR6DB-SC211-WIR200.	70°C max	- 40 to 110 °C	800mA max	not designed for reverse voltage
ILR-OX12-3HR9DB-SC211-WIR200.	70°C max	- 40 to 110 °C	800mA 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

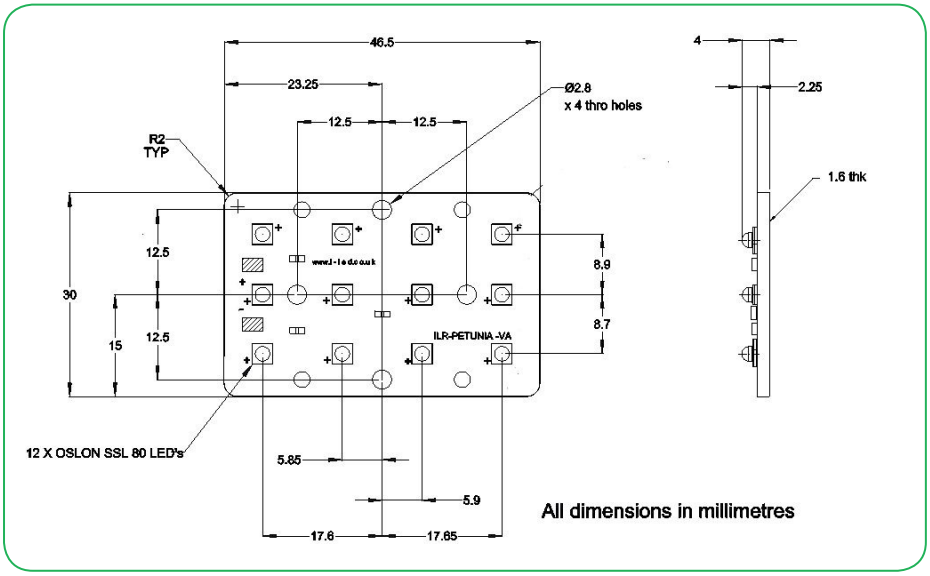


Red and Blue LEDs

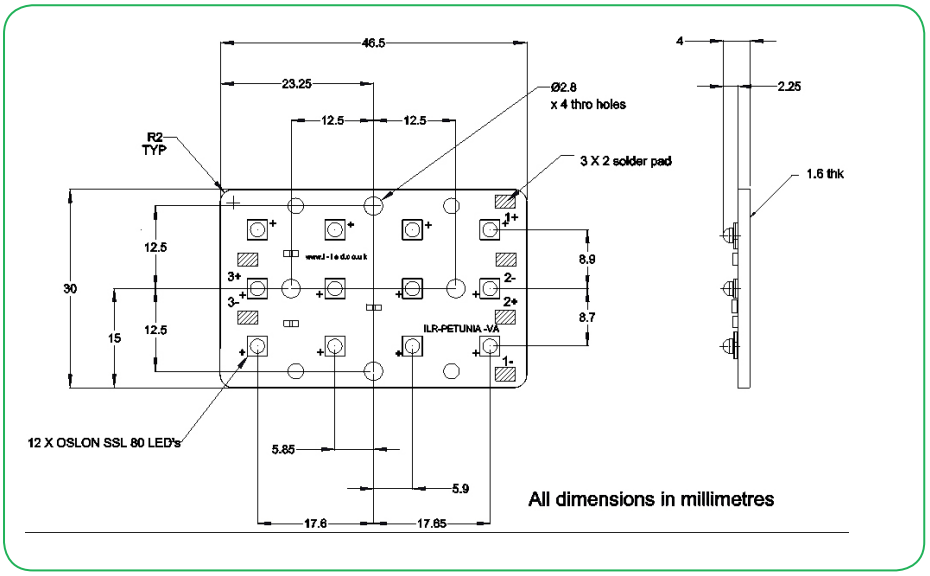


White LEDs

Technical Drawing for All in Series Petunia PCB



Technical Drawing for Parallel Petunia PCB



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

12 Multi OSLON® SSL Petunia Lens

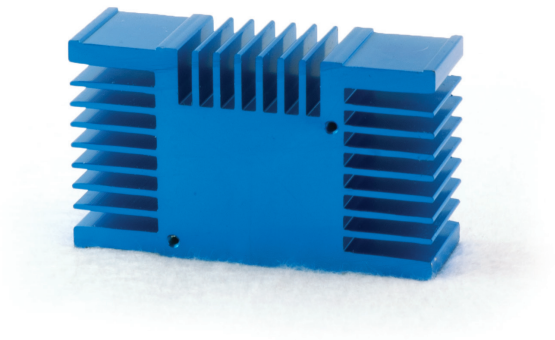
	OSLON+ 80	OSLON+ 150	
ILS Part Number	**Beam Angle (FWHM)**	**Beam Angle (FWHM)**	**Mounting Type**
C12528_PETUNIA	28	28	PIN

12 Multi OSLON® SSL Petunia PCB Heat Sink Options

ILS has recently introduced a series of Aluminium Alloy Heat Sinks to be used with our standard range of Petunia. 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 heatsink in free air	ILA-HEATSINK-STAR-50X20MM.	ILA-HEATSINK-STAR-50X40MM.	ILA-HEATSINK-STAR-50X60MM.	ILA-HEATSINKSTAR-50X80MM.	ILA-HEATSINK-CLUSTER-70X70X55MM.	ILA-HEATSINK-CLUSTER-78X46X25MM.
Oslon 12 LED Petunia	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		



12 Multi OSLON® SSL Petunia 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.

ILS Driver Part No.	Rating	Current	OSLON® 12 Petunia	
IZC035-017F-0067A-SA	17	350mA	1	
IZC035-018T-9500A-SA	18	350mA dim	1	
IZC035-035F-9067C-QA	35	350mA	2	
IZC070-035F-0067C-SA	35	700mA	1	
IZC045-040A-9266C-SA	40	450mA dim	1	
IZC105-040A-0067C-QA	42	1050mA	1	
IZC070-050A-9267C-SA	50	700mA	2	
IZC050-060F-9067C-QA	60	500mA	1	
IZC105-060F-9067C-QA	60	1050mA	1	
IZC070-075A-9267C-SA	75	700mA dim	2	

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
OSLON 12 Petunia	ILA-TIM-PETUNIA-0A	ILA-TIM-PETUNIA-1A	ILA-TIM-PETUNIA-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 Petunia.
- The Petunia, as manufactured, has no conformal coating and therefore offers 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: 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.