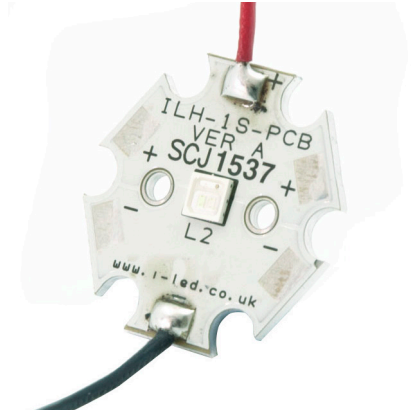


Duris S5 Colours 1 PowerStar 200mm Wires

ILH-S501-####-SC211-WIR200.

Product Overview

At the heart of each PowerStar is an Duris® S5 LED. Thanks to their extremely high colour efficacy and brightness, Duris® S 5 enables less LED usage and smaller PCB design. Complete portfolio with industrial standard footprint of 3 mm × 3 mm. Best in class flux with hot/cold factor (85 °C to 25 °C). PowerStars are compact, powerful LED light sources built on aluminium substrates for optimal thermal management. Available with 200mm wires as standard.



Applications

- Decorative Lighting
- Task Lighting
- Spot Lighting
- Downlighters
- Retail and Entertainment Lighting

Technical Features

- 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) : 20mm x 20mm x 3.85mm
- Available with 200mm connecting wires
- Secondary Lens can be fitted – check options in suitable Lens and Reflector section
- Suitable Heat Sinks available – check options in Heat Sink section
- Matching Power Supply available - check options in Power Supply section
- PowerStars can be linked together to produce longer chains
- Current range 10-200mA

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

Important Information and Precautions

- The PowerStar LEDs, when powered up are 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 PowerAnna's with a Power Supply with unlimited current. Connection to constant voltage Power Supplies that are not current limited may cause the PowerAnna to consume current above the specified maximum and cause failure or irreparable damage.
- PowerAnna'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

Product Options

ILS PART NUMBER	Colour*	Wavelength§	Typical Wattage @ 150mA	Forward Voltage	Flux † at 150mA	Radiance Angle	Relevant OSRAM LED Data
ILH-S501-AMER-SC211-WIR200.	Amber	610nm	0.94W	6.25V	45lm	120°	GA PSLR31.13
ILH-S501-DEBL-SC211-WIR200.	Deep Blue	450nm	0.94W	6.25V	420mW	120°	GD PSLR31.13
ILH-S501-RED1-SC211-WIR200.	Red	620nm	0.94W	6.25V	24lm	120°	GR PSLR31.13
ILH-S501-GREE-SC211-WIR200.	Green	540nm	0.94W	6.25V	170lm	120°	GT PSLR31.13

* 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

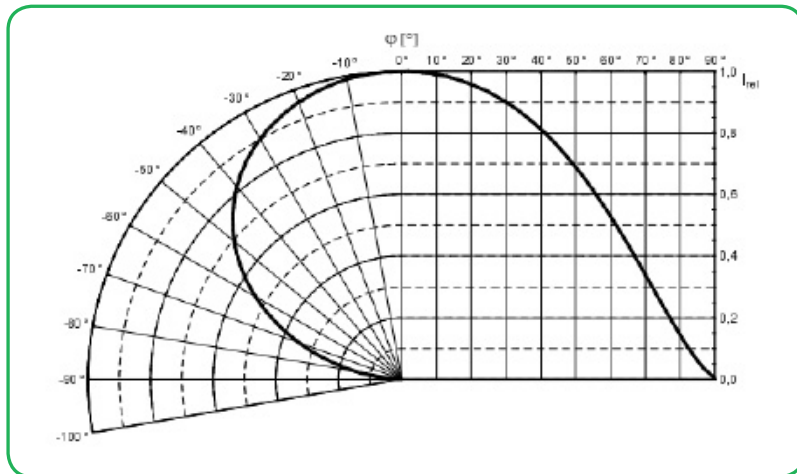
ILS PART NUMBER	Operating Temperature at Tc-Point [°C]*	Storage Temperature [°C]*	Forward Current per chip [mA]*	Reverse Voltage [Vdc]*
ILH-S501-AMER-SC211-WIR200.	70 °C max	- 40 to 110 °C	200mA	not designed for reverse voltage
ILH-S501-DEBL-SC211-WIR200.	70 °C max	- 40 to 110 °C	200mA	not designed for reverse voltage
ILH-S501-RED1-SC211-WIR200.	70 °C max	- 40 to 110 °C	200mA	not designed for reverse voltage
ILH-S501-GREE-SC211-WIR200.	70 °C max	- 40 to 110 °C	200mA	not designed for reverse voltage

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

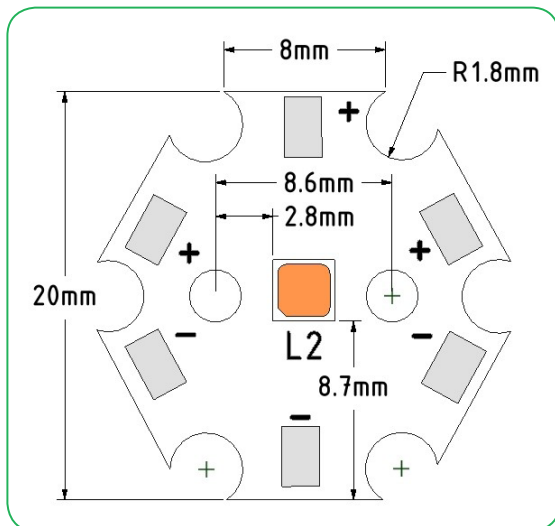
Exceeding maximum ratings for operating voltage will cause hazardous overload and is likely to destroy the LED module.

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.

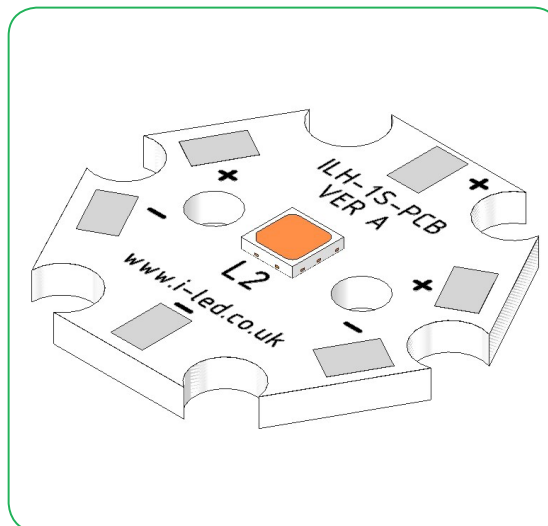
Radiation of single LED



Technical Drawing



3D Drawing



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

Duris S5 Colours 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.



LEDiL Part Number	Duris S5 Colour Beam Angle	Mounting Type
FCA13329_BILLIE-A	Asymmetric	Pin + Glue
FN13888_BILLIE-A	Asymmetric	Pin + Glue
FCA14295_BILLIE-B	Asymmetric	Pin + Glue
CP12946_LARISA-WW-CLIP8	50	Pin
CP12947_LARISA-WW-CLIP16	50	Pin
CP12940_LARISA-M-CLIP8	34	Pin
CP12941_LARISA-M-CLIP16	34	Pin
CP12942_LARISA-O-CLIP8	26+41	Pin
CP12943_LARISA-O-CLIP16	26+41	Pin
CP15308_LARISA-WW-PIN	50	Pin
CP15309_LARISA-RZ-PIN	32	Pin
CP12944_LARISA-W-CLIP8	41	Pin
CP12945_LARISA-W-CLIP16	41	Pin
CP13665_LARISA-RZ-CLIP8	32	Pin
CP13666_LARISA-RZ-CLIP16	32	Pin
CP12413_LOS-D	14	Pin
CP12414_LOS-M	24	Pin
CP12415_LOS-O-90	14+42	Pin
FA11204_TINA-O	40+17	Pin + Glue
FA11205_TINA-D	17	Pin + Glue
FA11206_TINA-M	29	Pin + Glue
CA12375_TINA2-D	17	Pin + Glue
CA12376_TINA2-SS	25	Pin + Glue
CA12377_TINA2-M	29	Pin + Glue
CA12379_TINA2-O	41+17	Pin + Glue
C13253_TINA2-R-CLIP16	76	Clips
FA11826_TINA3-WWW	80	Pin + Glue

Duris S5 Colours 1 PowerStar 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. More versions will be introduced over the coming months and we are also happy to manufacture custom Heat Sinks to your request.

ILS Product	Current	ILA-HSINK-STAR-50X20MM.	ILA-HSINK-STAR-50X40MM.	ILA-HSINK-STAR-50X60MM.	ILA-HSINK-STAR-50X80MM.	ILA-HSINK-CLUSTER-70X70X55MM.	ILA-HEATSINK-CLUSTER-78X46X25MM.
Duris S5 1 Star	150mA						

	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



Duris S5 Colours 1 PowerStar Power Supply Option

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 Types

ILS Driver Part Number	Rating Watts	Output	IP Rating	Output Volts	PF	Dimming	
IZC015-005F-0067C-QA	5	150mA	IP67	20-33	0.6	NO	
IZC035-005F-0067C-QA	5	350mA	IP67	2-12	0.6	NO	
IZC070-005F-0067C-QA	5	700mA	IP67	2-5	0.6	NO	
IZC035-008F-5065C-SA	8	350mA	IP65	3-36	0.5	NO	
IZC070-008F-5065C-SA	8	700mA	IP65	3-12	0.5	NO	
IZCXXX-012T-8000-SA	12	350mA - 1050mA	IP20	2-27	0.8	YES	
IZC035-017F-0067A-SA	17	350mA	IP67	6-48	0.6	NO	

ILS Driver Part Number	Rating Watts	Output	IP Rating	Output Volts	PF	Dimming	
IZC035-018T-9500A-SX	18	350mA	IP20	15-52	1	Triac	
IZC050-018T-9500A-SX	18	500mA	IP20	9-36	1	Triac	
IZC070-018T-9500A-SX	18	700mA	IP20	6-26	1	Triac	
IZC035-035F-9067C-QA	35	350mA	IP67	40-50	0.9	NO	
IZC070-035F-0067C-SA	35	700mA	IP67	9-48	0.6	NO	
IZC105-035F-9067C-QA	35	1.05A	IP67	16-32	0.9	NO	
IZC045-040A-9266C-SA	40	450mA	IP66	30-89	0.9	0-10 v	
IZC105-040A-0067C-QA	40	1.05A	IP67	24-40	0	0-10 v	
IZC070-050A-9267C-SA	50	700mA	IP67	24-72	0.9	0-10 v	
IZC050-060F-9067C-QA	60	500mA	IP67	40-110	0.9	NO	
IZC105-060F-9067C-QA	60	1.05A	IP67	30-60	0.9	NO	
IZC140-060F-9067C-QA	60	1.4A	IP67	20-42	0.9	NO	
IZC070-075A-9267C-SA	75	700mA	IP67	54-108	0.9	0-10 v	
IZC140-075F-9067A-QAL	75	1400mA	IP67	30-53	0.9	NO	

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
Star	ILA-TIM-STAR-OA	ILA-TIM-STAR-1A	ILA-TIM-STAR-2A

Other sizes are available, including customised parts

Assembly Information

- The mounting of the Duris S5 1+ PowerStar 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 Duris S5 1+ PowerStars.
- The Duris S5 1+ PowerStars, 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 ILS

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