DATASHEET

Oslon high bright LEDs from Osram

OSRAM Opto Semiconductors

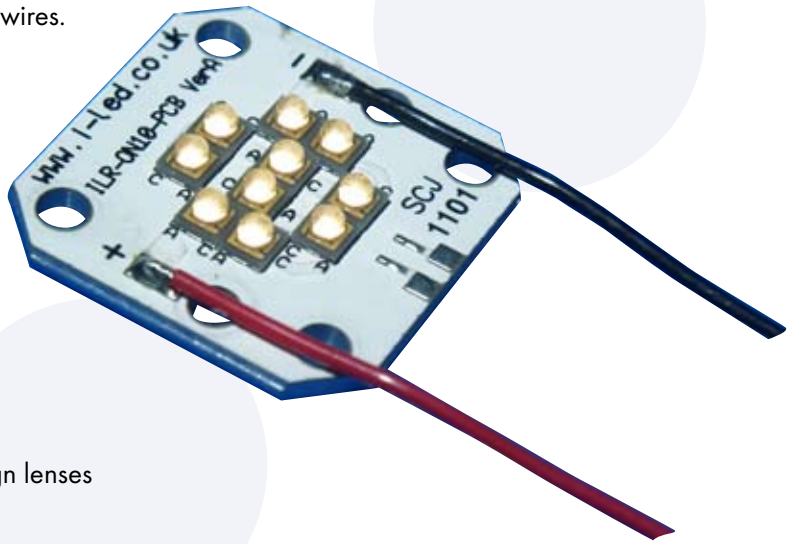
Intelligent LED Solutions

Oslon10 Cluster White

ILR-ON10-xxxx-SC201-xx series

Product Overview

At the heart of each Oslon10 Cluster are ten Osram Opto Semiconductors' Oslon LEDs which give very high light output. Oslon10 Clusters are compact very powerful LED engines built on aluminum substrates for optimal thermal management. Available with and without connecting wires.



Applications

- General Lighting
- High Intensity Task Lighting
- Compact Flood Lighting
- Downlighters
- Retail and Entertainment Lighting

Technical Features:

- Contain 10 Osram Oslon LEDs with integral resign lenses
- 80° (± 40°) beam pattern
- Up to 100,000 Hour lifetime to 70% of original brightness (L70/B50)
- M3 clearance mounting holes allows easy installation with screws
- Size (L x W x H) : 25.0 x 25.0 x 3.85 mm
- Available with or without 200mm connecting wires
- Current range 100 mA to 1 amp

Important Information and Precautions

- The Oslon10 Cluster's LEDs, when powered up, is very bright thus it is advised that you do NOT look directly at it. Turn the Oslon10 Cluster away from you and do not shine into the eyes of others.
- Oslon10 Clusters will overheat in operation if not attached to a suitable heat-sink. Over heating can cause failure or irreparable damage.
- Do not operate Oslon10 Clusters with power supplies with unlimited current. Connection to constant voltage power supplies that are not current limited may cause the Oslon10 Cluster to consume current above the specified maximum and cause failure or irreparable damage.
- Oslon10 Cluster, when operated, can reach high temperatures thus there is risk of injury if they are touched.

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LED Light for you powered by OSRAM
CERTIFIED PARTNER

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Product Options

ILS PART NUMBER	Colour	CCT*	LED Current 350 mA†				LED Current 700 mA†				Radiance Angle	Relevant LED Data
			Luminous Flux*		Voltage Range	LED Power	Luminous Flux*		Voltage Range	LED Power		
			Min	Typ			Min	Typ				
ILR-ON10-ULWH-SC201.	Cool White	6000-6500K	979 lms	1035 lms	27.5v - 39.0v	11.2w	1665 lms	1760 lms	29.0v - 41.3v	23.1w	80° / ± 40°	LUW CP7P
ILR-ON10-NUWH-SC201.	Neutral White	4000K	824 lms	908 lms	27.5v - 39.0v	11.2w	1400 lms	1544 lms	29.0v - 41.3v	23.1w	80° / ± 40°	LCW CP7P
ILR-ON10-WMWH-SC201.	Warm White	3000K	718 lms	908 lms	27.5v - 39.0v	11.2w	1221 lms	1544 lms	29.0v - 41.3v	23.1w	80° / ± 40°	LCW CP7P

*Due to the special conditions of the manufacturing processes of LED 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.
† Brightness values are measured during a current pulse of typical 25 ms, with an internal reproducibility of +/- 8 % and an expanded uncertainty of +/- 11 % (acc. to GUM with an expansion factor of k = 3).

Part Number Ordering Information for Oslon10 Clusters With and Without Wires

Colour	CCT Ref	Part Number No Wires	Part Number with 200mm Wires
Cool White	6000-6500K	ILR-ON10-ULWH-SC201.	ILR-ON10-ULWH-SC201-WIR200.
Neutral White	4000K	ILR-ON10-NUWH-SC201.	ILR-ON10-NUWH-SC201-WIR200.
Warm White	3000K	ILR-ON10-WMWH-SC201.	ILR-ON10-WMWH-SC201-WIR200.

Minimum and Maximum Ratings

ILS PART NUMBER	Operating Temperature at Tc-Point [°C]*	Storage Temperature [°C]*	Maximum Current	Surge current t ≤ 50 ms, D = 0.016, TS=25°C	Reverse Voltage [Vdc]*
All ILR-ON10 LED Engines	-20°C to +75°C	-30°C to +85°C	1,000 mA	2,000mA	Not Allowed

* Exceeding maximum ratings for operating and storage temperature will reduce expected life time or destroy the Oslon10 Cluster.
Exceeding maximum ratings for operating voltage will cause hazardous overload and will likely destroy the Oslon10 Cluster.
The temperature of the Oslon10 Cluster must be measured at the Tc-Point (located at the centre of the board) according to EN60598- 1 in a thermally constant status with a temperature sensor or a temperature sensitive label.

Typical Luminous Flux Estimates in Full Operation

These notes are included here to guide the user in determining the luminous flux of the ILR-ON10 LED Engines in practical use. In preparing the tables below we have referred to the relevant Osram Oslon LED data sheets which can be found at http://www.i-led.co.uk/Discrete_LED/LED/High_Bright_or_Power.html.

The luminous output of ILR-ON10 LED Engines is determined by the luminous output of the LEDs employed and the junction temperature of the LEDs used. LED light outputs in the table "Product Options" above are given with a LED junction temperature of 25°C and the pulse of 25 mS duration. This is done because Osram measure and bin the Oslon LEDs using that method of measurement. In practise the LEDs are run with direct current [DC] and the over prolonged periods and this causes the junction temperature to increase until it reaches a ultimate temperature. The ultimate temperature reached by the junction is determined by the effectiveness of the heat sink, ambient temperature and the current running through the LEDs. More information can be obtained about this by studying Osram application notes at http://catalog.osram-os.com/catalogue/catalogue.do;jsessionid=2B56DD66285C1D3171AA9050F4D37004?favOid=000000030002277b01e200b7&act=showBookmark. It is not possible in practice to measure the junction temperature but it is related to the current running though the LED and the temperature measured at the Tc point on the ILR-ON10 LED Engine when the system has reached thermal equilibrium. Please refer above for the maximum allowable operating temperature of the Tc point.

ILS presents the table below so you may know the estimated light output at different Tc point temperatures and LED currents. It should be used as a guide only as photometric measurements should be made on the lighting system to determine the actual light outputs.

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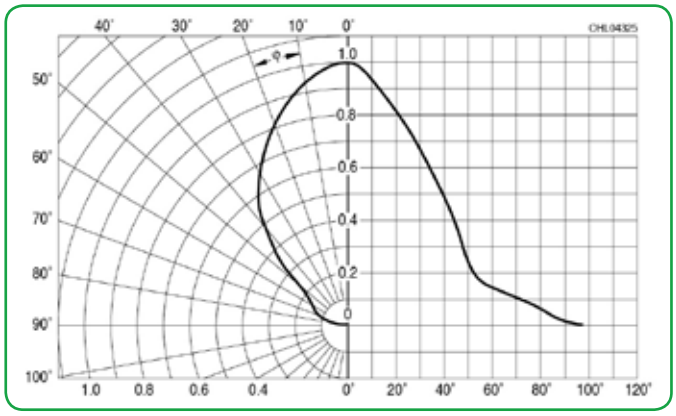
Typical Luminous Flux Estimates in Full Operation [see notes above]

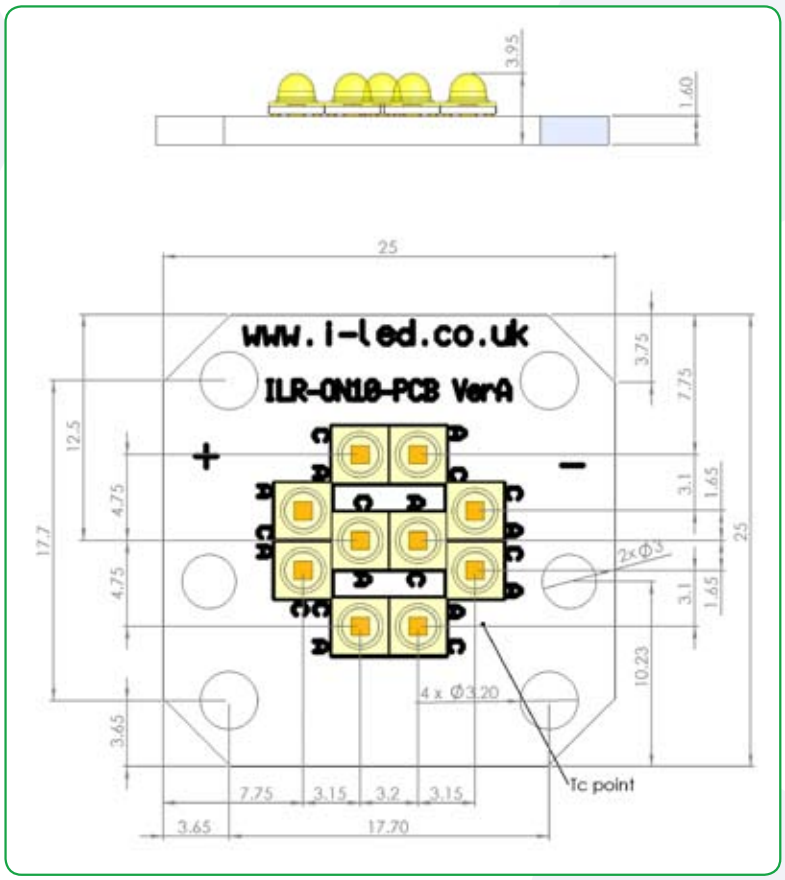
LED Current	350 mA				500 mA				700 mA			
Tc Point Temperature	40°C	50°C	60°C	70°C	40°C	50°C	60°C	70°C	40°C	50°C	60°C	70°C
ILH-ON10-ULWH-SC201.	984 lms	963 lms	942 lms	921 lms	1328 lms	1286 lms	1258 lms	1230 lms	1606 lms	1554 lms	1520 lms	1486 lms
ILH-ON10-NUWH-SC201.	863 lms	845 lms	826 lms	808 lms	1165 lms	1128 lms	1104 lms	1079 lms	1409 lms	1364 lms	1334 lms	1304 lms
ILH-ON10-WMWH-SC201.	863 lms	845 lms	826 lms	808 lms	1165 lms	1128 lms	1104 lms	1079 lms	1409 lms	1364 lms	1334 lms	1304 lms

Radiation of single LED



Dimensional Drawings

Without wires



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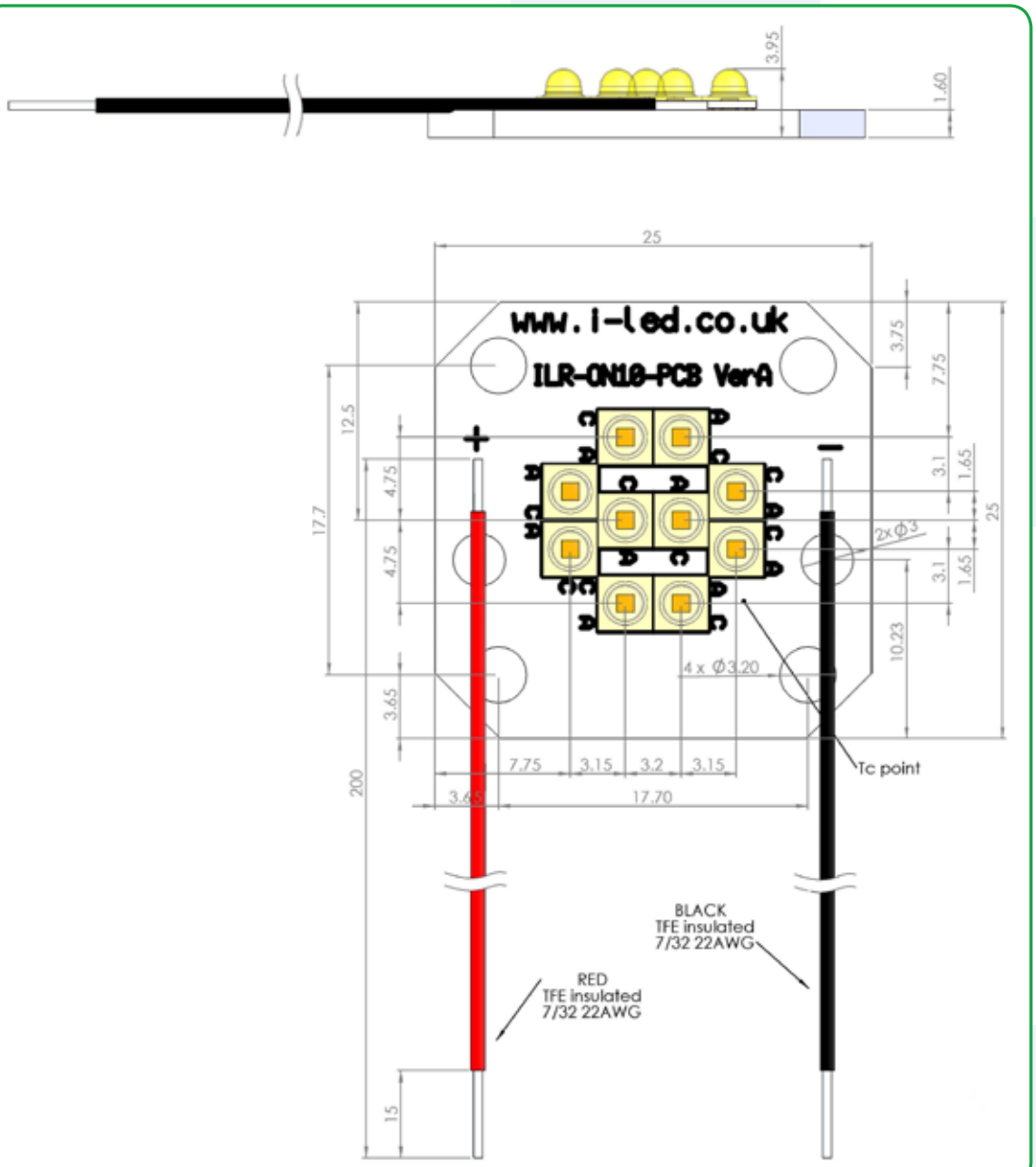
Dimensional Drawings

With wires



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

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Assembly Information

- The mounting of the Oslon10 Clusters 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 Oslon10 Clusters.
- The Oslon10 Clusters, 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, 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 point 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.

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.

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