OSLON® Square 4 HighBay Whites

IHB-OG04-xxxx-SC221-WIR200.

Product Overview

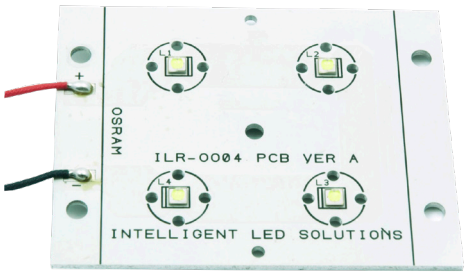
At the heart of each HighBay are 4 OSLON® Square LEDs. OSRAM's latest power chip technology remains efficient even at the highest drive currents. A low thermal resistance of 7K/W ensures cool running and a highly efficient product. The 4 HighBay has also been designed to work in conjunction with a HighBay 2x2 Lens from LEDiL, however additional mounting holes have been drilled in to the PCB to allow the use of other LEDiL lens such as TINA2s and HEIDI. Available with 200mm wires as standard.

Examples of how unique wavelengths can help with plant growth:

Colour Combination	Works For
Deep Blue + Hyper Red	Leafy greens such as lettuce and basil
Deep Blue + Hyper Red + Far Red	Leafy greens such as basil and aids in seed germination, stem elongation and leaf expansion
Deep Blue + Hyper Red + Yellow + Green	Flowering plants where biomass is the goal
True Green	Needed for leafs to get their green colour
White	Whites are added when the end application has no daylight, and these products offer the only source of useable wavelengths.

Applications

- Horticultural Lighting
- Retail and Entertainment Lighting
- Decorative Lighting
- General Lighting
- HighBay Lighting



Technical Features

- OSLON® Square HighBay contains 4 OSLON® Square LEDs with integral 120 degree silicone resin lenses
- 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): 50mm x 65mm x 3.85mm
- Available with 200mm connecting wires
- Secondary Lens can be fitted – check suitable options in Lens and Reflector section
- Suitable Heatsink available – check options in Heatsink section
- Suitable Power Supplies available - check options in Power Supply section
- Suitable Thermal Interface Material available – check options in Thermal Interface Material section
- HighBays can be linked together to produce longer chains
- Current range 200mA to 2000mA*

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

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Important Information and Precautions

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

IHS PART NUMBER	Colour	Typical Wattage § at 700mA	Forward Voltage	Flux † at 700mA	Radiance Angle	Relevant OSRAM LED Data
IHB-OG04-HW90-SC221-WIR200.	Hot White (2700K)	8.0W	2.7-3.2V	720lm	±60 (120°)	GWCSSRMX.PM
IHB-OG04-WM80-SC221-WIR200.	Warm White (3000K)	8.0W	2.7-3.2V	1040lm	±60 (120°)	GWCSSRMX.PM
IHB-OG04-NU80-SC211-WIR200.	Neutral White (4000K)	8.0W	2.7-3.2V	1080lm	±60 (120°)	GWCSSRMX.PM
IHB-OG04-ST80-SC221-WIR200.	Street White (5700K)	8.0W	2.7-3.2V	1160lm	±60 (120°)	GWCSSRMX.PM
IHB-OG04-UL70-SC221-WIR200.	Ultra White (6500K)	8.0W	2.7-3.2V	1120lm	±60 (120°)	GWCSSRMX.PM

*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

Micromoles

IHS Part Number	PAR (400-700nm)	Photon Flux (240-790nm)	DIN5031-10 (400-725nm)	McCree (400-700nm)	McCree (300-800nm)
IHB-OG04-HW90-SC221-WIR200.	11.76umol/s	12.88umol/s	7.88YPF umol/s	10.52YPF umol/s	10.72YPF umol/s
IHB-OG04-WM80-SC221-WIR200.	14.76umol/s	15.88umol/s	9.68YPF umol/s	13.16YPF umol/s	13.40YPF umol/s
IHB-OG04-NU80-SC211-WIR200.	15.44umol/s	16.00umol/s	10.08YPF umol/s	13.52YPF umol/s	13.64YPF umol/s
IHB-OG04-ST80-SC221-WIR200.	15.84umol/s	16.56umol/s	10.52YPF umol/s	13.56YPF umol/s	13.68YPF umol/s
IHB-OG04-UL70-SC221-WIR200.	17.64umol/s	18.12umol/s	11.76YPF umol/s	14.88YPF umol/s	15.00YPF umol/s

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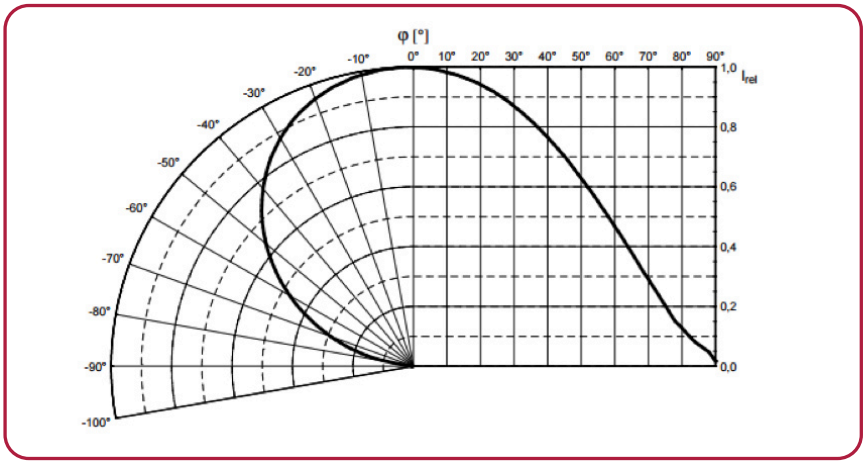
Minimum and Maximum Ratings

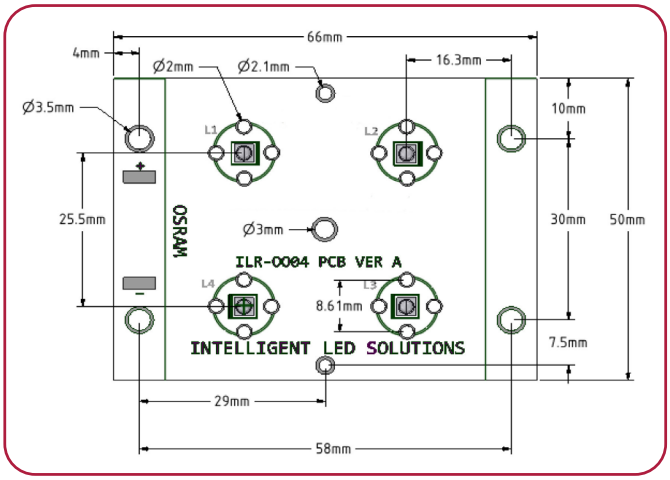
IHS PART NUMBER	Operating Temperature at Tc-Point [°C]*	Storage Temperature [°C]*	Forward Current per chip [mA]*	Reverse Voltage [Vdc]*
IHB-OG04-HW90-SC221-WIR200.	-40 ... 125 (°C)	-40 ... 125 (°C)	2000mA	Not designed for reverse voltage
IHB-OG04-WM80-SC221-WIR200.	-40 ... 125 (°C)	-40 ... 125 (°C)	2000mA	Not designed for reverse voltage
IHB-OG04-NU80-SC211-WIR200.	-40 ... 125 (°C)	-40 ... 125 (°C)	2000mA	Not designed for reverse voltage
IHB-OG04-ST80-SC221-WIR200.	-40 ... 125 (°C)	-40 ... 125 (°C)	2000mA	Not designed for reverse voltage
IHB-OG04-UL70-SC221-WIR200.	-40 ... 125 (°C)	-40 ... 125 (°C)	2000mA	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.

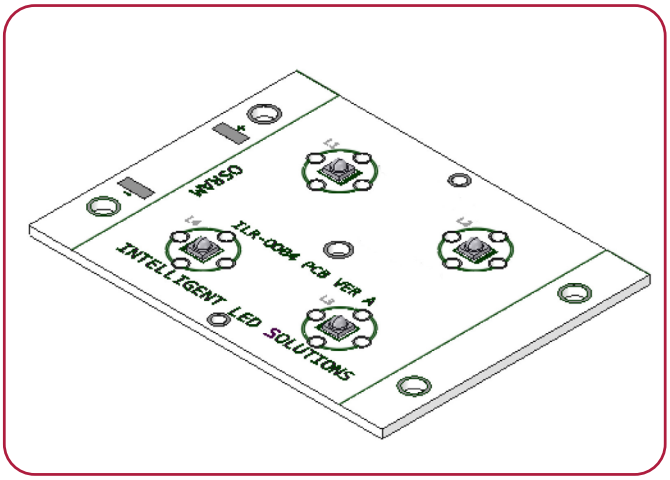
Radiation of single LED



Technical Drawing



3D Drawing



DATASHEET

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OSLON® Square LED 4 HighBay 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.

IHS PART NUMBER	Beam	Size	Height	Family	FWHM	Material	Colour	Fastening
C12361_HB-2X2-W	Wide	50x50mm	8.5mm	High Bay	50°	PMMA	Clear	Glue, Pin, Screw
C13232_HB-2X2-WW	Wide	50x50mm	8.5mm	High Bay	65°	PMMA	Clear	Glue, Pin, Screw
C13605_HB-2X2-RW	Wide	50x50mm	8.5mm	High Bay	50°	PMMA	Clear	Glue, Pin, Screw
C13749_HB-2X2-O	Oval	50x50mm	8.5mm	High Bay	20°+115°	PMMA	Clear	Glue, Pin, Screw
C14607_HB-2X2-M	Medium	50x50mm	8.5mm	High Bay	25°	PMMA	Clear	Glue, Pin, Screw
C14724_HB-2X2-WWW	Wide	50x50mm	8.5mm	High Bay	100°	PMMA	Clear	Glue, Pin, Screw
C14729_HB-2X2-RS-PC	Spot	50x50mm	8.5mm	High Bay	10°	PC	Clear	Glue, Pin, Screw
C15925_HB-2X2-ON	Oval	50x50mm	8.5mm	High Bay	15°+50°	PMMA	Clear	Glue, Pin, Screw
C16855_HB-2X2-M-PC	Medium	50x50mm	8.5mm	High Bay	25°	PC	Clear	Glue, Pin, Screw
C12360_STRADA-2X2-DNW	Soft Wide	50x50mm	11.3mm	Strada	Asymmetric	PMMA	Clear	Glue, Pin, Screw
C13499_STRADA-2X2-CY	Batwing	50x50mm	11.3mm	Strada	Asymmetric	PMMA	Clear	Glue, Pin, Screw
C13858_STRADA-2X2-XW	Extra Wide	50x50mm	11.3mm	Strada	Asymmetric	PMMA	Clear	Glue, Pin, Screw
CA11264_HEIDI-D	Diffused Spot	22mmØ	11.9mm	Heidi	10°	PMMA	Clear	Tape, Pin
CA11265_HEIDI-M	Medium	22mmØ	11.9mm	Heidi	25°	PMMA	Clear	Tape, Pin
CA11266_HEIDI-O	Oval	22mmØ	11.9mm	Heidi	50°x11°	PMMA	Clear	Tape, Pin
CA11268_HEIDI-W	Wide	22mmØ	11.9mm	Heidi	32°	PMMA	Clear	Tape, Pin
CA11663_HEIDI-RS	Spot	22mmØ	11.9mm	Heidi	8°	PMMA	Clear	Tape, Pin
CA12242_HEIDI-SS	Smooth Spot	22mmØ	11.9mm	Heidi	15°	PMMA	Clear	Tape, Pin
CA12426_TINA3-W	Wide	16mmØ	6.9mm	TINA3	40°	PMMA+PC	White	Tape, Pin
CA12427_TINA3-WW	Wide	16mmØ	6.9mm	TINA3	55°	PMMA+PC	White	Tape, Pin
FA11870_TINA3-WWW	Wide	16mmØ	6.9mm	TINA3	70°	PMMA+PC	White	Tape, Pin
FA11870_TINA3-OO	Oval	16mmØ	6.9mm	TINA3	60°+40°	PMMA+PC	White	Tape, Pin
FA11902_TINA3-W	Wide	16mmØ	6.9mm	TINA3	40°	PMMA+PC	White	Tape, Pin
FA11905_TINA3-S	Spot	16mmØ	6.9mm	TINA3	13°	PMMA+PC	White	Tape, Pin

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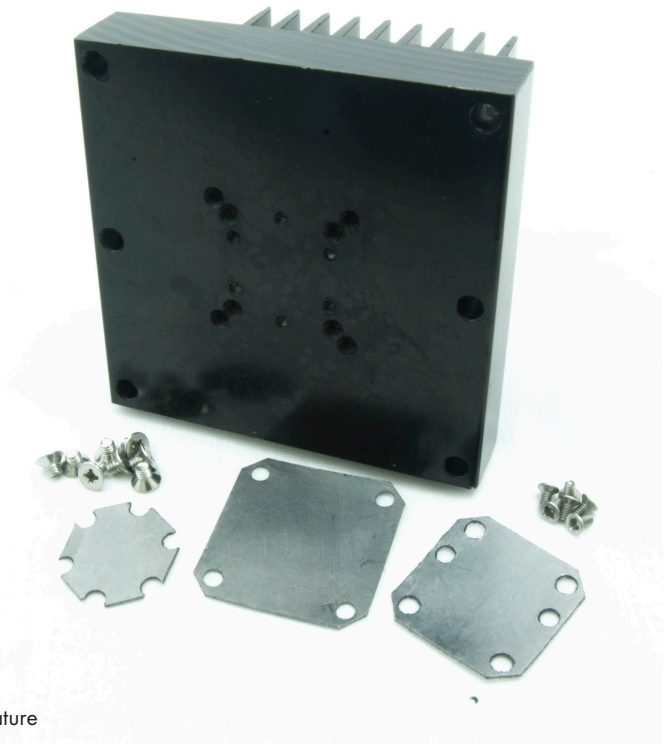
OSLON® Square LED 4 HighBay Heatsink Options

IHS has a series of Aluminium Alloy Heatsinks to be used with our standard range of Strips, PowerStars and PowerClusters. These Heatsinks 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 Heatsinks to your request.

IHS Product	Drive Current	No Heatsink, in free air	ILA-HSINK-70X70X55MM
OSLON 4 HighBay	350mA		
	500mA		
	700mA		
	1050mA		
	1400mA		
	1800mA		
	2000mA		



Key

- Operates under the recommended IHS junction temperature
- Operates under the recommended LED maximum junction temperature
- Not suitable for use
- Heatsink not designed for use with this product

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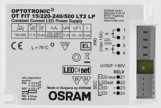
OSLON® Square 4 HighBay Power Supply Options

IHS has a comprehensive range of standard Power Supplies. The table below shows forward voltage of each LED driver please consult the product options table to find the forward voltage of the HighBay used.

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

IHS Driver Part No.	Rating (W)	Constant Current Output	Forward Voltage	
IZC035-008F-5065C-SA	8W	350mA	3-36V	
IZC035-017F-0067A-SA	17W	350mA	6-48V	
IZC035-018T-9500A-SX	18W	350mA	15-52V	
IZC050-018T-9500A-SX	18W	500mA	9-36V	
IZC070-018T-9500A-SX	18W	700mA	6-26V	
IZC070-035F-0067C-SA	35W	700mA	9-48V	
IZC045-040A-9266C-SA	40W	450mA	30-89V	
IZC095-040M-9067C-SAL	40W	950mA	25.2-42V	
IZCVAR-040M-9020C-SAL	40W	350mA, 500mA, 600mA, 700mA, 900mA, 1050mA	350mA 2-100V, 500mA 2-80V, 600mA 2-67V, 700mA 2-57V,900mA 2-45V, 1050mA 2-40V	
OT-FIT-30/220-240/700-CS-G2	30W	500-700mA	23-42V	
OT-FIT-40/220-240/1A0-LT2-LP	40W	500-1050mA	15-50V	
OTE-10/220-240/700-PC	10W	700mA	7-14V	

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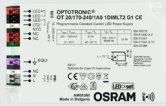
IHS Driver Part No.	Rating (W)	Constant Current Output	Forward Voltage	
OTi-DALI-10/220-240/700-NFC	10W	150-700mA	2.5-45V	
OTi-DALI-50/220...240/1A4-LT2-FAN-NFC	50W	600-1400mA	15-54V	
OT-20/170-240/800-4DIMLT2-G2-CE	20W	200-1050mA	10-38V	

Thermal Interface Material Options

IHS 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 Heatsink.

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

Product	Non Adhesive	Single Sided Adhesive	Double Sided Adhesive
2x2 HighBay	ILA-TIM-HB-66X50MM-0A	ILA-TIM-HB-66X50MM-1A	ILA-TIM-HB-66X50MM-2A

Other sizes are available, including customised parts

Assembly Information

- The mounting of the OSLON® Square HighBay has to be on a metal Heatsink.
- 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.

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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 OSLON® Square HighBay.
- The OSLON® Square HighBays, 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 IHS

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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