IceLED Xtra Modular Active LED Cooler

Features & Benefits

- For spot and downlight designs from 3,000 to 10,000 lumen
- Thermal resistance Rth 0.46°C/W
- Modular design with mounting holes foreseen for direct mounting of a wide range of LED modules and COB's:
  - Zhaga Book 2 socketable LED engines Philips Fortimo TDLM, Tridonic Talexx Stark DLE twist, Megaman Teco,...
  - Zhaga book 3 Spot Light Modules Edison Edilex, Tridonic Talexx Stark SLE, Philips Fortimo SLM, VS Luga Shop,...
  - Zhaga Book 5 socketable LED engines GE Infusion
  - Zhaga Book 6 socketable LED engines Toshiba E-Core
  - Bridgelux Vero 13, Vero 18 and Vero 29
  - Edison Opto Edipower II HM/HR/HS/HV/SD series
  - Philips Lumileds Luxeon COB's 1204, 1205 and 1208
  - Vossloh Schwabe Luga Industrial
- Diameter 99mm - Height 55mm
- High lifetime design > 60Khrs (L 10 life time @40°C)
- Warranty 5 years

Order Information

Zhaga · BRIDGELUX · CITIZEN Micro HumanTech · EDISON · GE Lighting · LUSTROUS Green Technology of Lighting · PHILIPS sense and simplicity · PHILIPS LUMILEDS · ProLight Opto Technology Corporation · TRIDONIC enlightening your ideas · VOSSLOH SCHWABE

Example : IceLED Xtra 550

IceLED Xtra	1

1 Height (mm)
Overall height top to bottom
(Fan height 25mm)
IceLED 550 - 55mm

IceLED Xtra is designed in this way that you can mount LED modules from various manufacturers on the same LED cooler

Simple mounting with self tapping screws

Recommened screw force 6lb/in

Screws are avaliable from MechaTronix

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IceLED Xtra Modular Active LED Cooler

Product Details

Model n°	IceLED Xtra 550
Dimension (mm)*1	ø99 x h55
Fan Voltage (Vdc)*2	12
Fan Speed (RPM)	1500
Noise @ 1m (dBA)	<21
Weight (gr)	266
Thermal Resistance (°C/W)*3	0.46
Power Pd (W)*4	109
Heat Sink Material	AL6063-T5

*1 3D files are avaliable in ParaSolid, STP and IGS on request

*2 The fan requires a constant voltage power source of 12Vdc, 50mA

*3 The thermal resistance Rth is determined with a calibrated heat source of 30mm x 30mm central placed on the heat sink, Tamb 40° and an open environment. Reference data @ heat sink to ambient temperature rise Ths-amb 50°C
The thermal resistance of a LED cooler is not a fix value and will vary with the applied dissipated power Pd

*4 Dissipated power Pd. Reference data @ heat sink to ambient temperature rise Ths-amb 50°C
The maximal dissipated power needs to be verified in function of required case temperature Tc or junction temperature Tj and related to the estimated ambient temperature where the light fixture will be placed
Please be aware the dissipated power Pd is not the same as the electrical power Pe of a LED module

To calculate the dissipated power please use the following formula: Pd = Pe x (1-ηL)
Pd - Dissipated power
Pe - Electrical power
ηL = Light effciency of the LED module

Notes:

- MechaTronix reserves the right to change products or specifications without prior notice.
- Mentioned models are an extraction of full product range.
- For specific mechanical adaptations please contact MechaTronix.

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IceLED Xtra Modular Active LED Cooler

Mounting Options

The IceLED Xtra active LED coolers are standard foreseen from a variety of mounting holes which allow direct mounting of LED engines, COB's and secondary optics on the LED heat sink.

In this way mechanical afterwork and related costs can be avoided, and lighting designers can standardize their designs on a limited number of LED coolers.

Below you find an overview of LED modules and COB's which standard fit on the IceLED Xtra cooler.

The IceLED Xtra is probably the most complete standard active LED cooler with regards to mounting possibilities of Zhaga compatible LED modules. Besides Zhaga LED modules, we have foreseen a wide range of mounting holes covering the latest generation of LED engines and COB's which you find today on the market.

For more details about the required mounting holes and thermal results for your specific LED brand and model, please refer to the brand LED cooler datasheets under "Brand Products" and the brand LED cooler overview under the "Download" menu.

Zhaga book 2 socketable LED engines

Zhaga Interface Specification Book 2 defines the interfaces of a type-A LED light engine (socketable with integrated control gear). The LED light engine has a round drum shape with maximum dimensions of 70.2 mm diameter and 45 mm height. It has a circular light-emitting surface with a typical diameter of 59 mm and a PHJ65d type base.

Zhaga Book 2 compliant LED engines *1

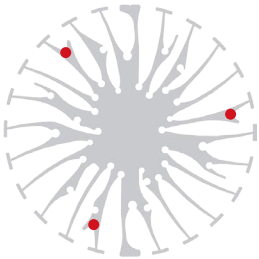
- Megaman Teco
- Philips Fortimo TDLM
- Tridonic Talexx Stark DLE twist

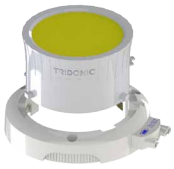
Mounting

- Direct mounting of the LED holder PHJ65d with 3 self tapping screws M3 x 10mm
  Mounting of the LED engine by twist and lock operation
  Green indicator marks

*1 This list is a non-binding overview of avaliable Zhaga book 2 LED engines at press

Zhaga





Zhaga Book 3 Spot Light Modules

Zhaga Interface Specification Book 3 defines the interfaces of a type-D LED light engine (non-socketable LED module with separate electronic control gear). The LED light engine LLE has a round disc shape with a maxium height of 7.2 mm and a typical diameter of 50 mm. It is suitable for spot-lighting and other applications that benefit from a small, circular source. Book 3 specifies a circular light-emitting surface (LES) that can have a range of diameters, namely 9 mm, 13.5 mm, 19 mm and 23 mm.

Zhaga book 3 compliant LED Spot Light modules *1

- Edison Edilex SLM
- Osram PrevaLED
- Philips Fortimo SLM
- Tridonic Talexx Stark SLE
- Vexica Lumaera
- Vossloh Schwabe Luga Shop

*1 This is a non-binding overview of available Zhaga book 3 LED modules at press

Zhaga Book 3 mounting through the use of LED holders and connectors

With the use of Zhaga Book 3 mechanical compatible LED holders, a wide variety of LED COB's can be mounted in the same way on these LED coolers.
Zhaga Book 3 compatiable LED holders can be found from BJB, Tyco Electronics Connectivity (TE), Molex, AAG Stucchi and Ideal.

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Ice LED Xtra Modular Active LED Cooler

Mounting Options

Zhaga Book 5 socketable LED engines

Zhaga Interface Specification Book 5 defines the interfaces of a type-B LED light engine (socketable LED module with separate electronic control gear).

Zhaga Book 5 compliant LED engines *1

- GE Infusion LED modules M1000, M1500, M2000, M3000, M4500 and NPM

*1 This is a non-binding overview of avaliable Zhaga Book 5 LED modules at press.

Mounting

- Direct mounting of the LED collar with 4 self tapping screws M4 x 6mm
  Mounting of the LED engine by twist and lock operation
  Green indicator marks

Zhaga

Zhaga Book 6 socketable LED engines

Zhaga Interface Specification Book 6 defines the interfaces of a type-A LED light engine (socketable with integrated control gear).

Zhaga Book 6 compliant LED engines *1

- Toshiba E-Core LED Light Engine LED LEV11 and LEV16

*1 This is a non-binding overview of available Zhaga Book 6 LED modules at press

Mounting

- Direct mounting of the LED holder GH76p with 3 self tapping screws M3 x 10mm
  Mounting of the LED engine by twist and lock operation
  Green indicator marks

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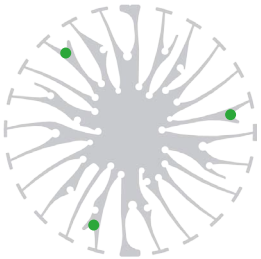


Zhaga Book 3 Spot Light Modules – continued

LED COB's for which Zhaga book 3 LED holders are available

- Bridgelux ES rectangular LED array
- Citizen CitiLED CL-L030, CL-L032, CL-L040, CL-L042
- Cree XLamp CXA18xx, CXA25xx, CXA30xx
- Edison Opto HM16 and HM30
- LG Lighting MCP 10-24W
- Osram Soleriq E30
- Philips Lumileds Luxeon 1204, 1205 and 1208, Luxeon K12 and K16
- Prolight Opto PABA 10-50W
- Sharp Mega Zenigata and Tiger Zenigata
- Tridonic Talexx Stark LES 17

Mounting

- Direct mounting with 2 self tapping screws M3 x 10mm
  Green indicator marks

Reflector ring

- This optional ring can be mounted on top of the Edison Opto EdiLex spot light module and provides in this way an easy plug-and-play attachment of various reflectors.
- Mounting with 3 self tapping screws M3 x 10mm
  Red indicator marks

Zhaga

Edison Opto LED Modules

Edison Opto EdiPower II SD series

Model names 15W-24W

- EdiPower II SD 2PSD15WW01P0200
- EdiPower II SD 2PSD24WW01P0200

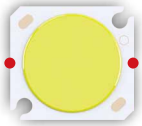
Mounting

- Direct mounting with 2 self tapping screws M3 x 6mm side holes
  Red indicator marks

Model names 40W-50W

- EdiPower II SD 2PSD40NW05P03001
- EdiPower II SD 2PSD50NW05P03001

EDISON



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Mounting Options

Bridgelux LED Modules

Bridgelux Vero 13 LED Module

Model names

- Vero 13 BXRC-27E2000-C-xx
- Vero 13 BXRC-27G2000-C-xx
- Vero 13 BXRC-27H2000-C-xx
- Vero 13 BXRC-30E2000-C-xx
- Vero 13 BXRC-30G2000-C-xx
- Vero 13 BXRC-30H2000-C-xx
- Vero 13 BXRC-35E2000-C-xx
- Vero 13 BXRC-40E2000-C-xx
- Vero 13 BXRC-50C2000-C-04

Mounting

- Direct mounting with 2 self tapping screws
  M3 x 10mm
  Red indicator marks

Bridgelux Vero 18 LED Module

Model names

- Vero 18 BXRC-27E4000-F-xx
- Vero 18 BXRC-27G4000-F-xx
- Vero 18 BXRC-27H4000-F-xx
- Vero 18 BXRC-30E4000-F-xx
- Vero 18 BXRC-30G4000-F-xx
- Vero 18 BXRC-30H4000-F-xx
- Vero 18 BXRC-35E4000-F-xx
- Vero 18 BXRC-40E4000-F-xx
- Vero 18 BXRC-50C4000-F-04

Mounting

- Direct mounting with 2 self tapping screws
  M3 x 10mm
  Red indicator marks

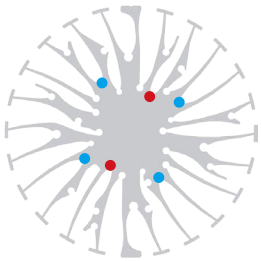
Bridgelux Vero 29 LED Module

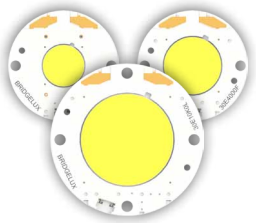
Model names

- Vero 29 BXRC-27E10K0-L-xx
- Vero 29 BXRC-27G10K0-L-xx
- Vero 29 BXRC-30E10K0-L-xx
- Vero 29 BXRC-30G10K0-L-xx
- Vero 29 BXRC-35E10K0-L-xx
- Vero 29 BXRC-40E10K0-L-xx
- Vero 29 BXRC-50C10K0-L-04

Mounting

- Direct mounting with 4 self tapping screws
  M3 x 10mm
  Blue indicator marks





Edison Opto LED Modules EdiPower II SD series – continued

Mounting

- Direct mounting with 2 self tapping screws
  M3 x 6mm side holes
  Green indicator marks
- Direct mounting with 2 self tapping screws
  M3 x 6mm corner holes
  Blue indicator marks

Edison Opto EdiPower II HS-HV series

Model names 15W-24W

- EdiPower II HS 2PHV15CW06P02001
- EdiPower II HS 2PHV15NW05P02001
- EdiPower II HS 2PHV15WW03P02001
- EdiPower II HS 2PHV24CW06P02001
- EdiPower II HS 2PHV24NW05P02001
- EdiPower II HS 2PHV24WW03P02001

Mounting

- Direct mounting with 2 self tapping screws
  M3 x 6mm side holes
  Red indicator marks

Edison Opto EdiPower II HR

Model names 13W

- EdiPower II HR 2PHR13CW11P02001
- EdiPower II HR 2PHR13NW11P02001
- EdiPower II HR 2PHR13WW05P02001

Mounting

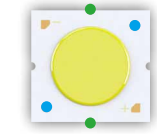
- Direct mounting with 2 self tapping screws
  M3 x 6mm side holes
  Red indicator marks

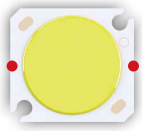
Model names 24W-35W

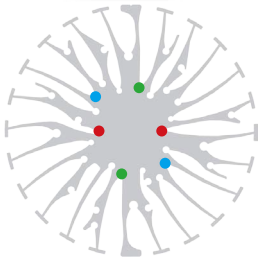
- EdiPower II HR 2PHR24CW11P03001
- EdiPower II HR 2PHR24NW11P03001
- EdiPower II HR 2PHR24WW05P03001
- EdiPower II HR 2PHR35CW11P03001
- EdiPower II HR 2PHR35NW11P03001
- EdiPower II HR 2PHR35WW05P03001

Mounting

- Direct mounting with 2 self tapping screws
  M3 x 6 mm side holes
  Green indicator marks
- Direct mounting with 2 self tapping screws
  M3 x 6 mm corner holes
  Blue indicator marks







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IceLED Xtra Modular Active LED Cooler

Mounting Options

Lustrous LED COB's

LUSTROUS
Green Technology of Lighting

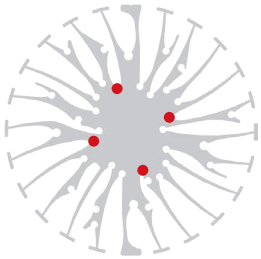
Lustrous Lustron X5 - DX5 - TX5 - XL5

Model names

- Lustron X5 L510CLCNBA
- Lustron X5 L510CLIGBA
- Lustron X5 L510MWCNBA
- Lustron X5 L510MWIGBA
- Lustron X5 L510NWCNDA
- Lustron X5 L510NWIGDA
- Lustron DX5 L520CLHWBA
- Lustron DX5 L520MWHWBA
- Lustron DX5 L520NWHWDA
- Lustron TX5 L530CLPMBA
- Lustron TX5 L530MWPMBA
- Lustron TX5 L530NWPMDA
- Lustron XL5 L540CLPDBA
- Lustron XL5 L540MWPDBA
- Lustron XL5 L540NWPDDA

Mounting

- Direct mounting with 4 self tapping screws
  M2.5 x 10mm
  Red indicator marks



Prolight Opto LED COB's

ProLight Opto
Technology Corporation

PABA LED COB series

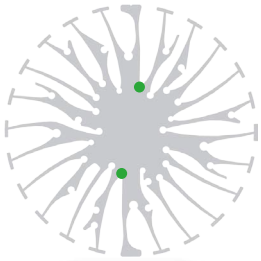
Model names

- PABA-10Fxx-xxxx
- PABA-15Fxx-xxxx
- PABA-22xxx-xxxx
- PABA27xxx-xxxx
- PABA35xxx-xxxx
- PABA50xxx-xxxx

Mounting

- With Zhaga Book 3 LED holder
  Green indicator marks
  BJB spotlight connector 47.319.2040

In case you want to mount the COB's directly to the LED heat sink without the use of a LED holder, please use ModuLED 9950, ModuLED 9980, IceLED 450, IceLED 550 or ModuLED Nano standard LED coolers.



Philips Lumileds

PHILIPS
LUMILEDS

Luxeon COB 1204 - 1205 - 1208

Model names

- Luxeon COB LHC1-2780-1204
- Luxeon COB LHC1-3080-1204
- Luxeon COB LHC1-3090-1204
- Luxeon COB LHC1-4080-1204
- Luxeon COB LHC1-5080-1204
- Luxeon COB LHC1-2780-1205
- Luxeon COB LHC1-3080-1205
- Luxeon COB LHC1-3090-1205
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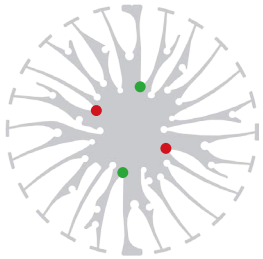
- Luxeon COB LHC1-5080-1205
- Luxeon COB LHC1-2780-1208
- Luxeon COB LHC1-3080-1208
- Luxeon COB LHC1-3090-1208
- Luxeon COB LHC1-4080-1208
- Luxeon COB LHC1-5080-1208

Mounting

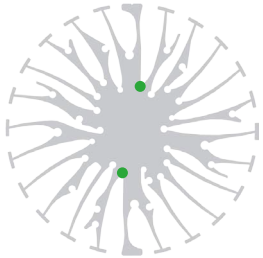
- Direct mounting with 2 self tapping screws
  M3 x 6 mm
  Red indicator marks
- With Zhaga Book 3 LED holder
  Green indicator marks
  BJB spotlight connector 47.319.2010
  Tyco Electronics Z50 low profile holder 2213130-1
  Tyco Electronics Z50 holder with optic attachment 2213130-2



Luxeon K12 - K16

Model names

- Luxeon K12 LXK8-PW27-0012A
- Luxeon K12 LXK8-PW30-0012A
- Luxeon K12 LXK8-PW35-0012
- Luxeon K12 LXK8-PW40-0012A
- Luxeon K12 LXK8-PW50-0012
- Luxeon K12 LXK9-PW27-0012
- Luxeon K12 LXK9-PW30-0012
- Luxeon K12 LXK8-PW27-0012
- Luxeon K12 LXK8-PW30-0012
- Luxeon K12 LXK8-PW40-0012
- Luxeon K16 LXK8-PW27-0016A
- Luxeon K16 LXK8-PW30-0016A
- Luxeon K16 LXK8-PW35-0016A



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Mounting Options

Vossloh Schwabe LED Modules

Vossloh Schwabe Luga Shop

Model names

- Luga Shop 2013 WU-M-461, WU-M-462, WU-M-464
- Luga Shop 2013 HiCRI WU-M-461, WU-M-462, WU-M-464 HiCRI
- Luga Shop 2000-4000 lm WU-M-431, WU-M-432
- Luga Shop High CRI 1800-5000 lm - WU-M-431, WU-M-432

Mounting

- Direct mounting with 2 self tapping screws M3 x 10mm
  Green indicator marks

In case you want to use the Vossloh Schwabe Luga Shop modules :

- Luga Shop 2013 - HE 5000 lm MU-M-466
- Luga Shop 2013 - HE 5000 lm - HiCRI WU-M-466
- Luga Shop FOOD WU-M-437
- Luga Shop 5500 lm WU-M-437
- Luga Shop High CRI 1800-5000 lm - WU-M-437

Please use ModuLED 9950, ModuLED 9980, IceLED 450, IceLED 550 standard LED coolers.

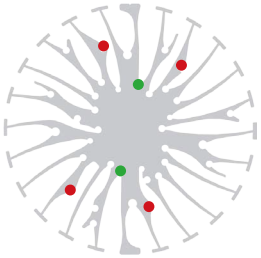
Vossloh Schwabe Luga Industrial

Model names

- Luga Industrial WU-M-443-3000K
- Luga Industrial WU-M-443-4000K
- Luga Industrial WU-M-443-5000K

Mounting

- Direct mounting with 4 self tapping screws M3 x 10mm
  Red indicator marks



Philips Lumileds Luxeon K12 - K16 – continued

Model names

- Luxeon K16 LXK8-PW40-0016A
- Luxeon K16 LXK8-PW50-0016
- Luxeon K16 LXK9-PW27-0016
- Luxeon K16 LXK9-PW30-0016
- Luxeon K16 LXK8-PW27-0016
- Luxeon K16 LXK8-PW30-0016
- Luxeon K16 LXK8-PW40-0016

Mounting

- With Zhaga Book 3 LED holder
  Green indicator marks
  BJB spotlight connector 47.319.2070

COB's with a small LES area through use of external LED holder BJB

Specifically for COB's with a small LES area, BJB has developed a new range of LED spotlight connectors which standard fit on the MechaTronix LED coolers

Model names

- Citizen CitiLED COB CL-L020 - LC-L022
  BJB Spotlight connector 47.319.6060
- Cree COB CXA 13xx series
  BJB Spotlight connector 47.319.6101
- Cree COB CXA 1507 - CXA 1512
  BJB Spotlight connector 47.319.6120
- Edison Opto COB HM05 - HM09
  BJB Spotlight connector 47-319-6060
- Lextar COB Nimbus 1500
  BJB Spotlight connectors 47.319.6110
- Osram COB Soleric S13 - X13
  BJB Spotlight connectors 47.319.6110
- Tridonic Talexx Stark COB SLE LES 10
  BJB Spotlight connector 47.319.6060

Mounting

- Direct mounting with 2 self tapping screws M3 x 10mm
  Red indicator marks

To determine the mounting holes you need, please use the corresponding flip chart on www.led-heatsink.com/download, or request a hard copy flip chart with easy to use transparant overlays.

MechaTronix recommends the use of a high thermal conductive interface between the LED module and the LED cooler.

Either thermal grease, a thermal pad or a phase change thermal pad thickness 0.1-0.15mm is recommended.

Thermal pads or phase change thermal pads can be pre-applied from MechaTronix.

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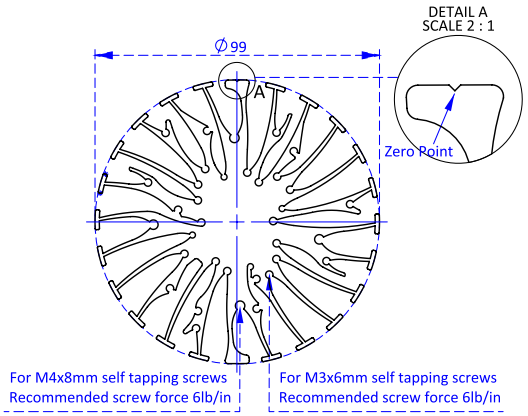
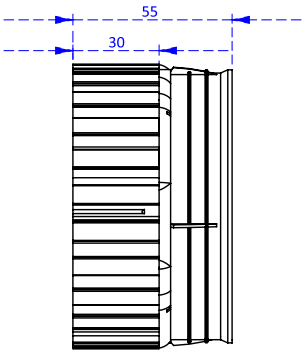
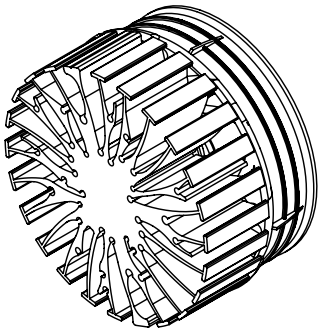
IceLED Xtra Modular Active LED Cooler

Drawings & Dimensions



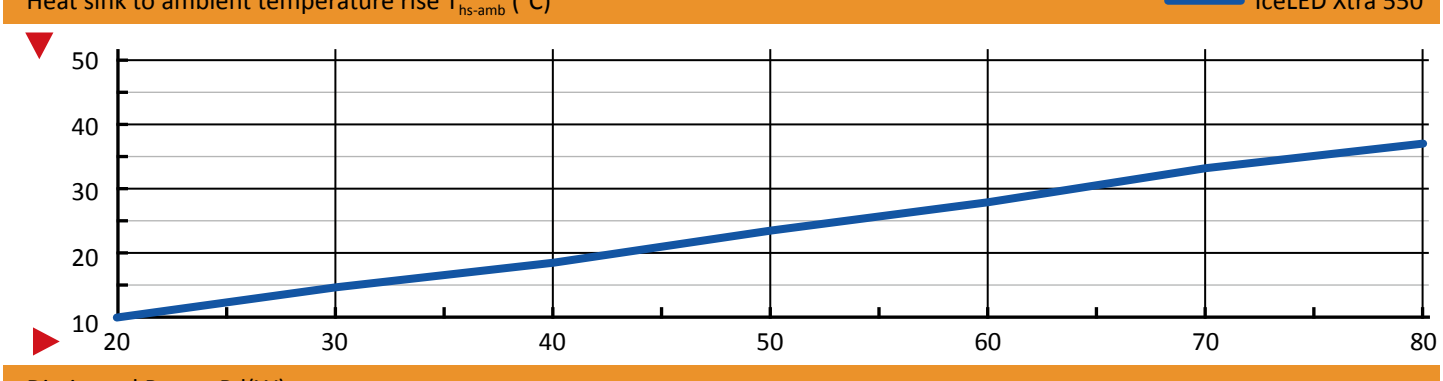


Example: IceLED Xtra 550



Thermal Data

Pd = Pe x (1-ηL)			LED Light efficiency, ηL (%)			Heat sink to ambient thermal resistance $R_{hs\text{-}amb}$ (°C/W)	Heat sink to ambient temperature rise $T_{hs\text{-}amb}$ (°C)
			17%	20%	25%	IceLED Xtra 550	IceLED Xtra 550
Dissipated Power Pd(W)	20	Electrical Power Pe(W)	24.1	25.0	26.7	0.50	10
	25		30.1	31.3	33.3	0.49	12
	30		36.1	37.5	40.0	0.49	15
	35		42.2	43.8	46.7	0.49	17
	40		48.2	50.0	53.3	0.48	19
	50		60.2	62.5	66.7	0.48	24
	60		72.3	75.0	80.0	0.47	28
	70		84.3	87.5	93.3	0.47	33
	80		96.4	100.0	106.7	0.47	37



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