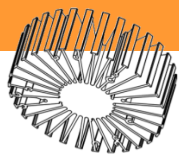
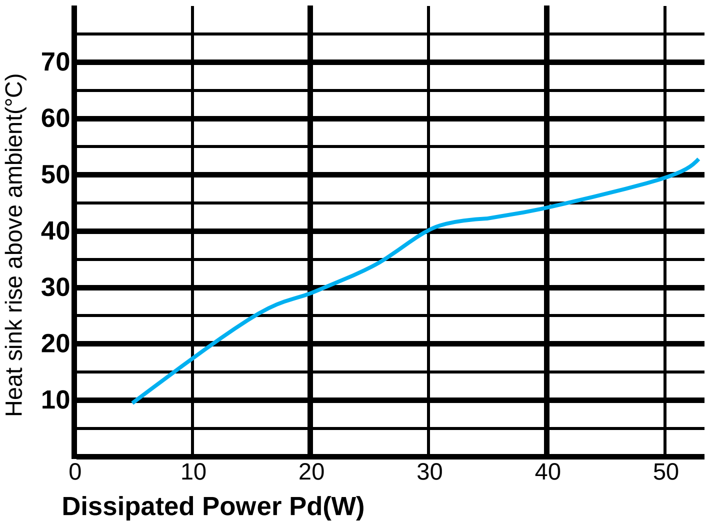
SimpoLED **SimpoLED-135 Modular Passive LED Star Heat Sink Φ135mm**



The thermal data table

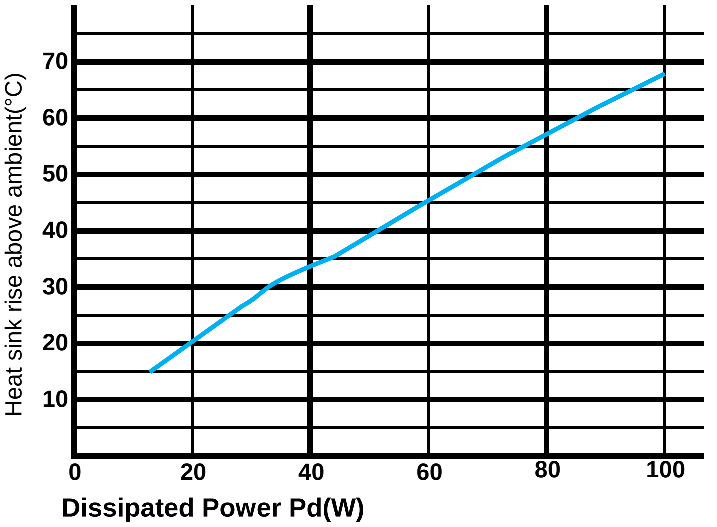
SimpoLED-13540 (XSA-311)thermal data

Pd = Pe x (1-ηL)		Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		SimpoLED-13540	SimpoLED-13540
Dissipated Power Pd(W)	15	1.8	27.0
	20	1.5	30.0
	25	1.4	35.0
	30	1.4	40.8
	35	1.2	42.0
	40	1.1	46.0
	45	1.1	49.5
	50	10.8	54.0



SimpoLED-13550 thermal data

Pd = Pe x (1-ηL)		Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		SimpoLED-13550	SimpoLED-13550
Dissipated Power Pd(W)	15	1.20	18.0
	30	1.00	30.0
	45	0.90	40.5
	60	0.82	49.2
	75	0.71	53.3
	90	0.68	61.2



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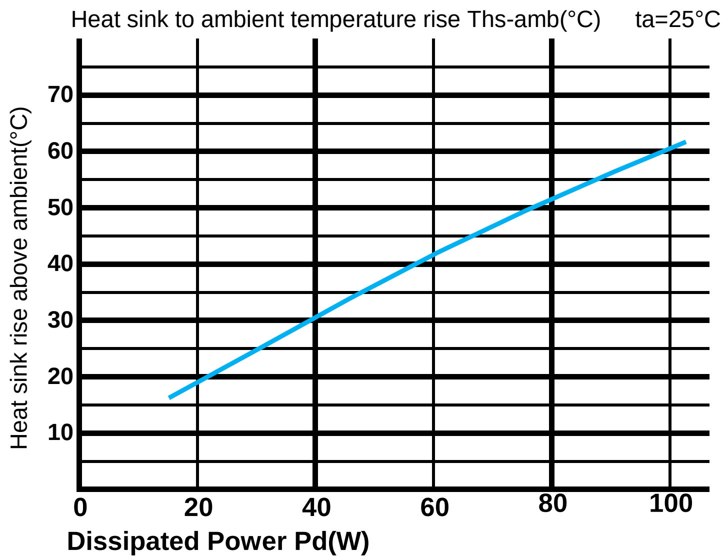
SimpoLED SimpoLED-135 Series Φ135mm Material AL6063-T5 COB Star Heat Sinks Thermal Data

The thermal data table

SimpoLED-13580 thermal data

Pd = Pe x (1-ηL)		Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		SimpoLED-13580	SimpoLED-13580
Dissipated Power Pd(W)	15	0.92	13.8
	30	0.88	26.4
	45	0.80	36.0
	60	0.75	45.0
	75	0.69	51.8
	90	0.59	53.1



* Please be aware the dissipated power Pd is not the same as the electrical power Pe of a LED module.

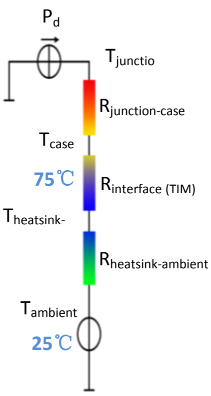
*To calculate the dissipated power please use the following formula: Pd = Pe x (1-ηL).

Pd - Dissipated power ; Pe - Electrical power ; ηL = Light effciency of the LED module;

*The aluminum substrate side of the package outer shell is thermally connected to the heat sink via TIM (Thermal interface material).

MingFa 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 resistance is a heat property and a measurement of a temperature difference by which an object or material resists a heat flow.

Geometric shapes are different, the thermal resistance is different. Formula: θ =(Ths−Ta)/Pd

θ - Thermal Resistance [°C/W] ; Ths - Heatsink temperature ; Ta - Ambient temperature ;

*The thermal resistance between the junction section of the light-emitting diode and the aluminum substrate side of the package outer shell is $R_{junction\text{-}case}$, the thermal resistance of the TIM outside the package is $R_{interface\ (TIM)}$ [°C/W], the thermal resistance with the heat sink is $R_{heatsink\text{-}ambient}$ [°C/W], and the ambient temperature is $T_{ambient}$ [°C].

*Thermal resistances outside the package $R_{interface\ (TIM)}$ and $R_{heatsink\text{-}ambient}$ can be integrated into the thermal resistance $R_{case\text{-}ambient}$ at this point.Thus, the following formula is also used:

$T_{junction}=(R_{junction\text{-}case}+R_{case\text{-}ambient})\cdot Pd+T_{ambient}$

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