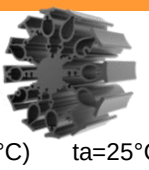
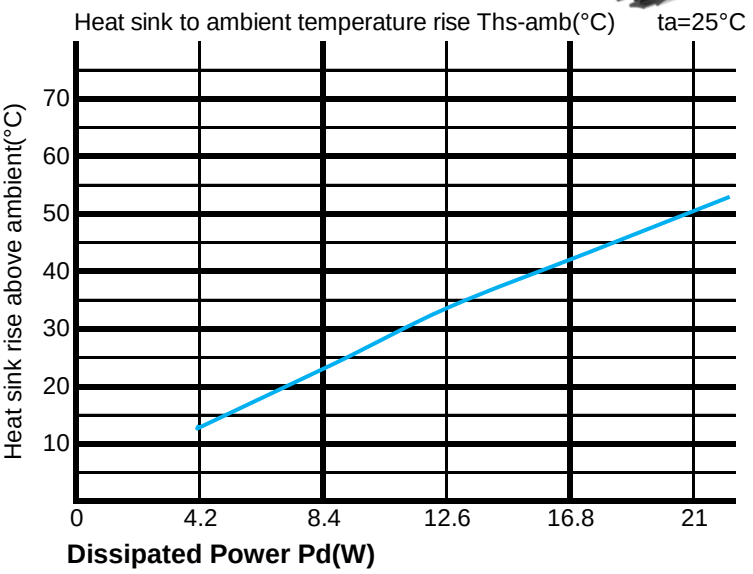
FanLED **FanLED96 Series Φ96mm Material AL6063-T5 COB Star Heat Sinks Thermal Data**

The thermal data table



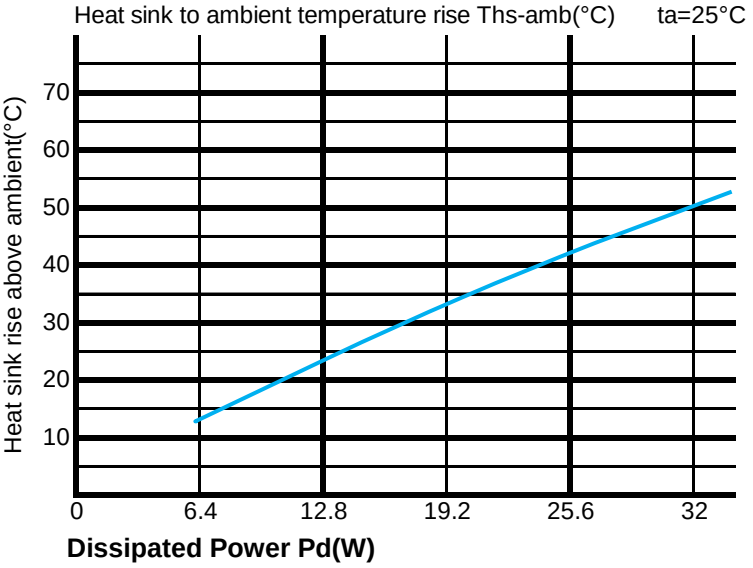
Fan-9620 thermal data

Pd = Pe x (1-ηL)		Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		FanLED-9620	FanLED-9620
Dissipated Power Pd(W)	4.2	3.1	14
	8.4	2.7	24
	12.6	2.5	34
	16.8	2.3	42
	21	2.2	50.5



Fan-9650 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)
		FanLED-9650	FanLED-9650
Dissipated Power Pd(W)	6.4	1.9	14
	12.8	1.7	24
	19.2	1.5	33.5
	25.6	1.4	42
	32	1.3	50



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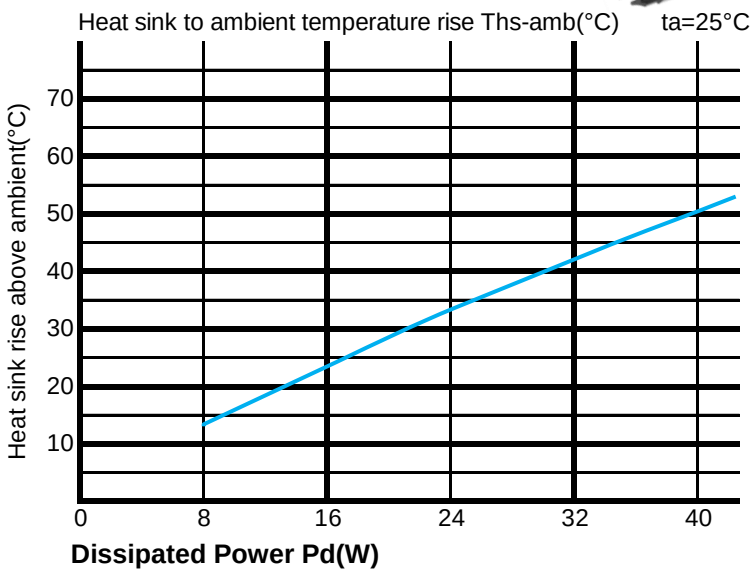
FanLED **FanLED-96 Series Φ96mm Material AL6063-T5 COB Star Heat Sinks Thermal Data**

The thermal data table

Fan-9680 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)
		FanLED-9680	FanLED-9680
Dissipated Power Pd(W)	8	1.5	14
	16	1.3	24
	24	1.2	34
	32	1.1	42
	40	1	50



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

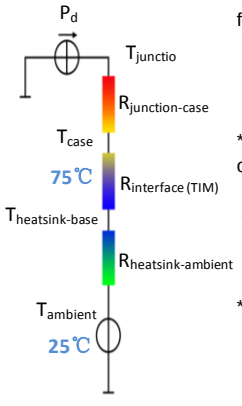
*To calculate the dissipated power please use the following formula: Pd = Pe x (1-ηL).

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 $R_{junction-case}$, the thermal resistance of the TIM outside the package is $R_{interface\ (TIM)}$ [°C/W], the thermal resistance with the heat sink is $R_{heatsink-ambient}$ [°C/W], and the ambient temperature is $T_{ambient}$ [°C].

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

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

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