

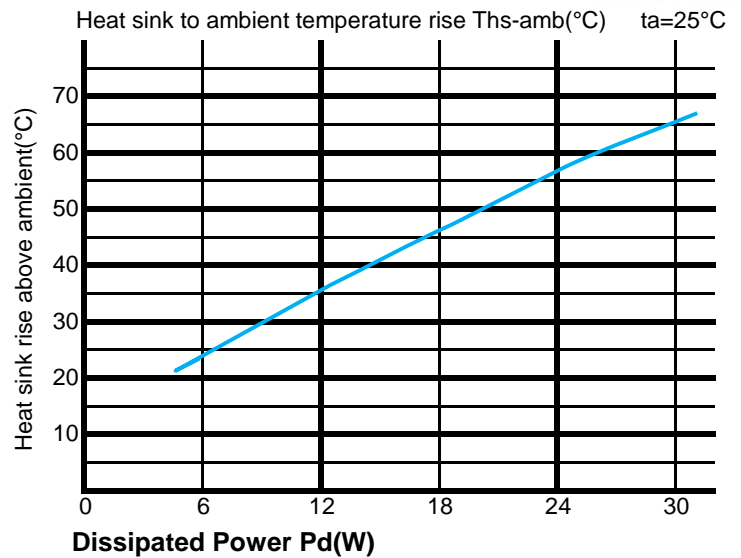
**GooLED** GooLED-86 Series  $\Phi$ 86mm Material AL1070 Pin Fin Heat Sinks Thermal Data

The thermal data table



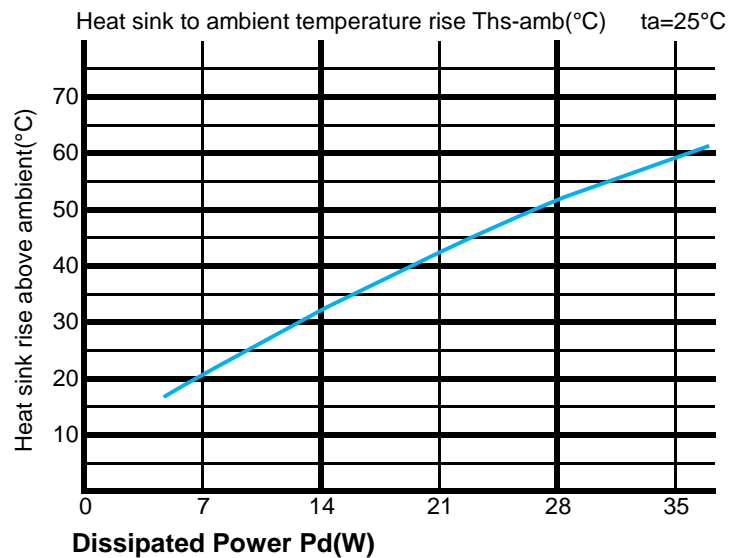
**GooLED-8630 thermal data**

Dissipated Power Pd(W)	Pd = Pe x (1-ηL)	Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		GooLED-8630	GooLED-8630
6		4	24
12		2.92	35
18		2.56	46
24		2.33	56
30		2.03	65



**GooLED-8650 thermal data**

Dissipated Power Pd(W)	Pd = Pe x (1-ηL)	Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		GooLED-8650	GooLED-8650
7		2.86	20
14		2.21	31
21		2	42
28		1.82	51
35		1.69	59



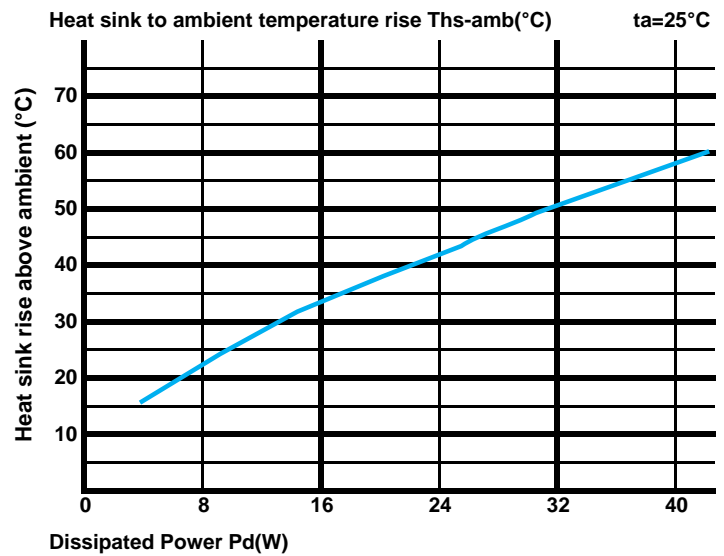
**GooLED** GooLED-86 Series  $\Phi$ 86mm Material AL1070 Pin Fin Heat Sinks Thermal Data

The thermal data table



GooLED-8665 thermal data

Dissipated Power Pd(W)	Pd = Pe x (1-ηL) 8.0 16.0 24.0 32.0 40.0	Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		GooLED-8665	GooLED-8665
	8.0	2.75	22.0
	16.0	2.13	34.0
	24.0	1.75	42.0
	32.0	1.56	50.0
	40.0	1.45	58.0



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

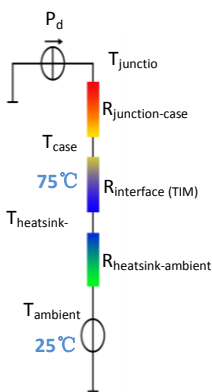
\*To calculate the dissipated power please use the following formula: Pd = Pe x (1-ηL).

Pd - Dissipated power ; Pe - Electrical power ; ηL = Light efficiency 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:  $\theta = (Ths - Ta) / Pd$

$\theta$  - 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<sub>junction-case</sub>, the thermal resistance of the TIM outside the package is R<sub>interface (TIM)</sub> [°C/W], the thermal resistance with the heat sink is R<sub>heatsink-ambient</sub> [°C/W], and the ambient temperature is T<sub>ambient</sub> [°C].

\*Thermal resistances outside the package R<sub>interface (TIM)</sub> and R<sub>heatsink-ambient</sub> can be integrated into the thermal resistance R<sub>case-ambient</sub> at this point. Thus, the following formula is also used:

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