

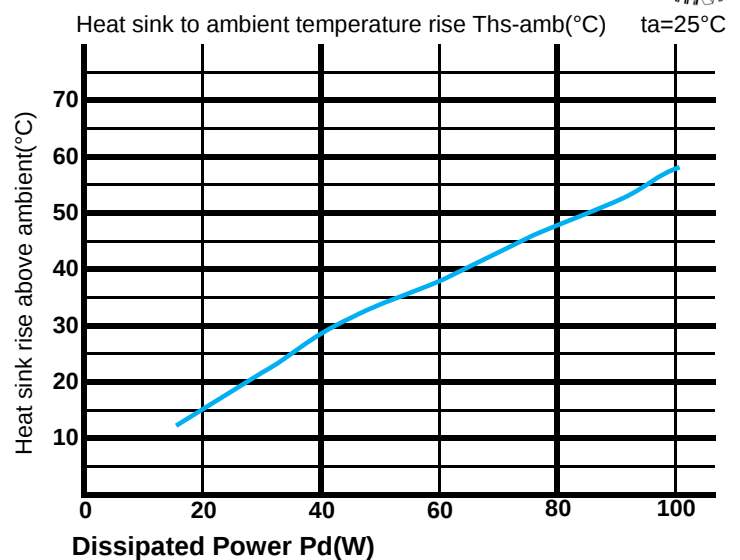


SimpoleD SimpoLED-160 Series $\Phi 160\text{mm}$ Material AL6063-T5 COB Star Heat Sinks Thermal Data

The thermal data table

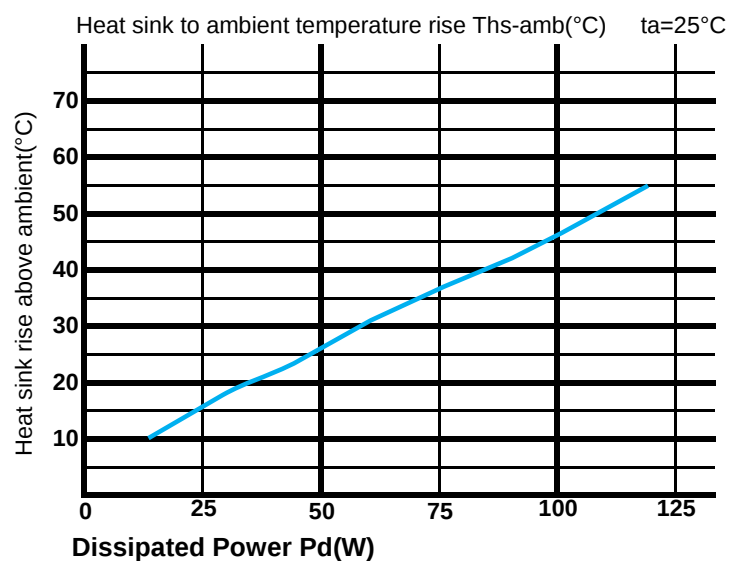
SimpoleD-16050 thermal data

Pd = Pe x (1- η L)		Heat sink to ambient thermal resistance Rhs-amb ($^{\circ}\text{C}/\text{W}$)	Heat sink to ambient temperature rise Ths-amb ($^{\circ}\text{C}$)
		SimpoleD-16050	SimpoleD-16050
Dissipated Power Pd(W)	15	0.92	13.8
	30	0.83	24.9
	45	0.78	35.1
	60	0.70	42.0
	75	0.65	48.8
	90	0.60	54.0
	100	0.55	55.0



SimpoleD-160100 thermal data

Pd = Pe x (1- η L)		Heat sink to ambient thermal resistance Rhs-amb ($^{\circ}\text{C}/\text{W}$)	Heat sink to ambient temperature rise Ths-amb ($^{\circ}\text{C}$)
		SimpoleD-160100	SimpoleD-160100
Dissipated Power Pd(W)	15	0.64	9.6
	30	0.56	16.8
	45	0.52	23.4
	60	0.50	30.0
	75	0.48	36.0
	90	0.46	41.4
	100	0.48	48.0





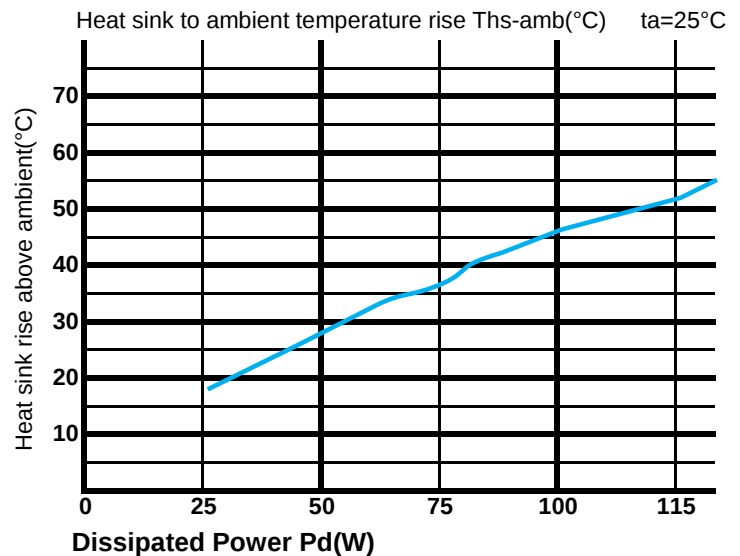
SimpoleD SimpoLED-160 Series $\Phi 160\text{mm}$ Material AL6063-T5 COB Star Heat Sinks Thermal Data

The thermal data table



SimpoLED-160150 thermal data

Dissipated Power Pd(W)	Pd = Pe x (1- η L)	Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		SimpoLED-160150	SimpoLED-160150
25		0.56	14.0
45		0.53	24.0
60		0.50	30.0
75		0.47	35.0
90		0.44	40.0
100		0.43	43.0
120		0.42	50.0



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

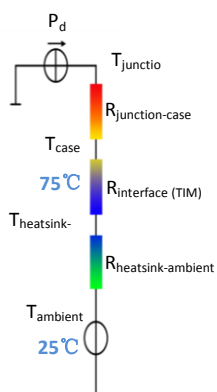
*To calculate the dissipated power please use the following formula: $P_d = P_e \times (1 - \eta_L)$.

Pd - Dissipated power ; Pe - Electrical power ; η_L = 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: $\theta = (T_{\text{hs}} - T_a) / P_d$

θ - Thermal Resistance [°C/W] ; T_{hs} - Heatsink temperature ; T_a - 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 $R_{\text{junction-case}}$, the thermal resistance of the TIM outside the package is $R_{\text{interface (TIM)}}$ [°C/W], the thermal resistance with the

heat sink is $R_{\text{heatsink-ambient}}$ [°C/W], and the ambient temperature is T_{ambient} [°C].

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

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