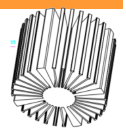
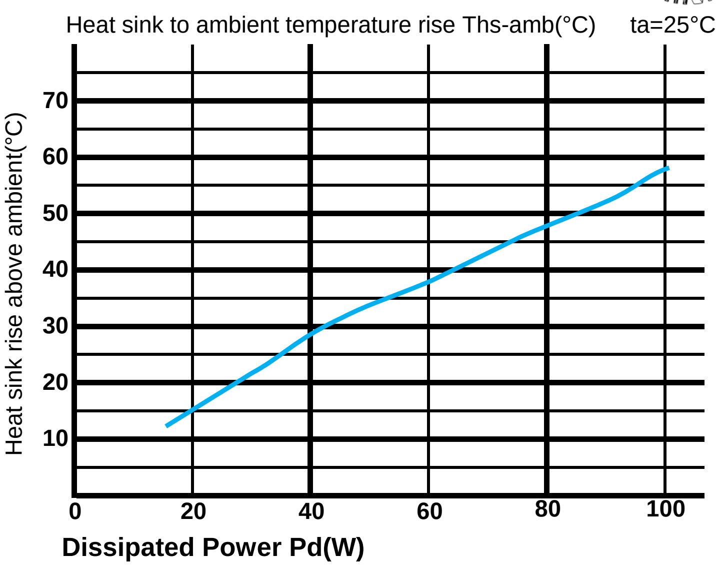
SimpoLED *SimpoLED-160 Series Φ160mm Material AL6063-T5 COB Star Heat Sinks Thermal Data*

The thermal data table



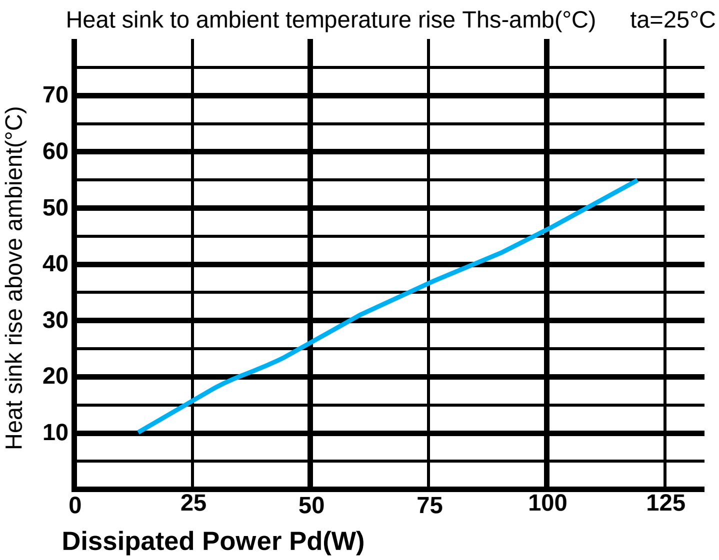
SimpoLED-16080 thermal data

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-16080	SimpoLED-16850
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

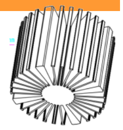


SimpoLED-160100 thermal data

Pd = Pe x (1-ηL)		Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°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

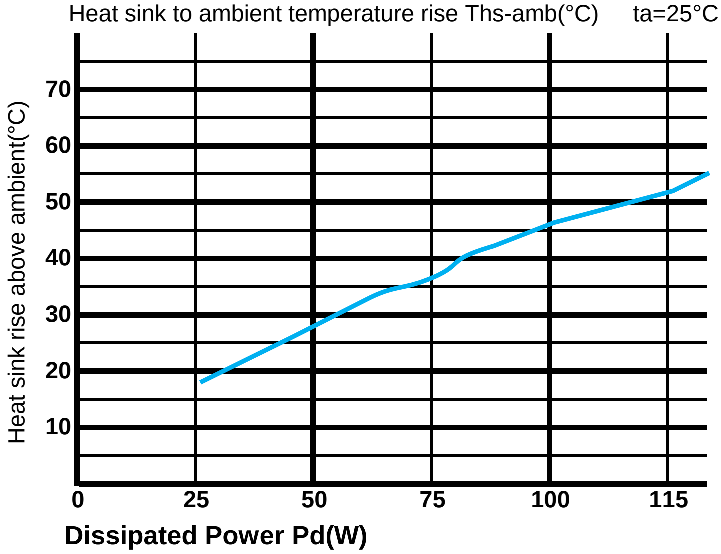


The thermal data table



SimpoLED-160150 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-160150	SimpoLED-160150
Dissipated Power Pd(W)	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.

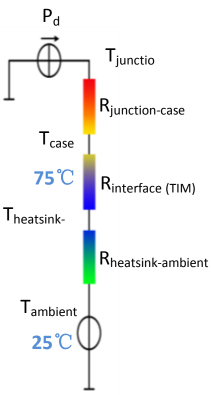
*To calculate the dissipated power please use the following formula: Pd = Pe x (1-ηL).

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:

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

Tel:+86-769-39023131
E-fax:+86-(020)28819702 ext:22122
Email:sales@mingfatech.com
Http://www.heatsinkled.com
Http://www.mingfatech.com