

SUNON®



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SUNON®

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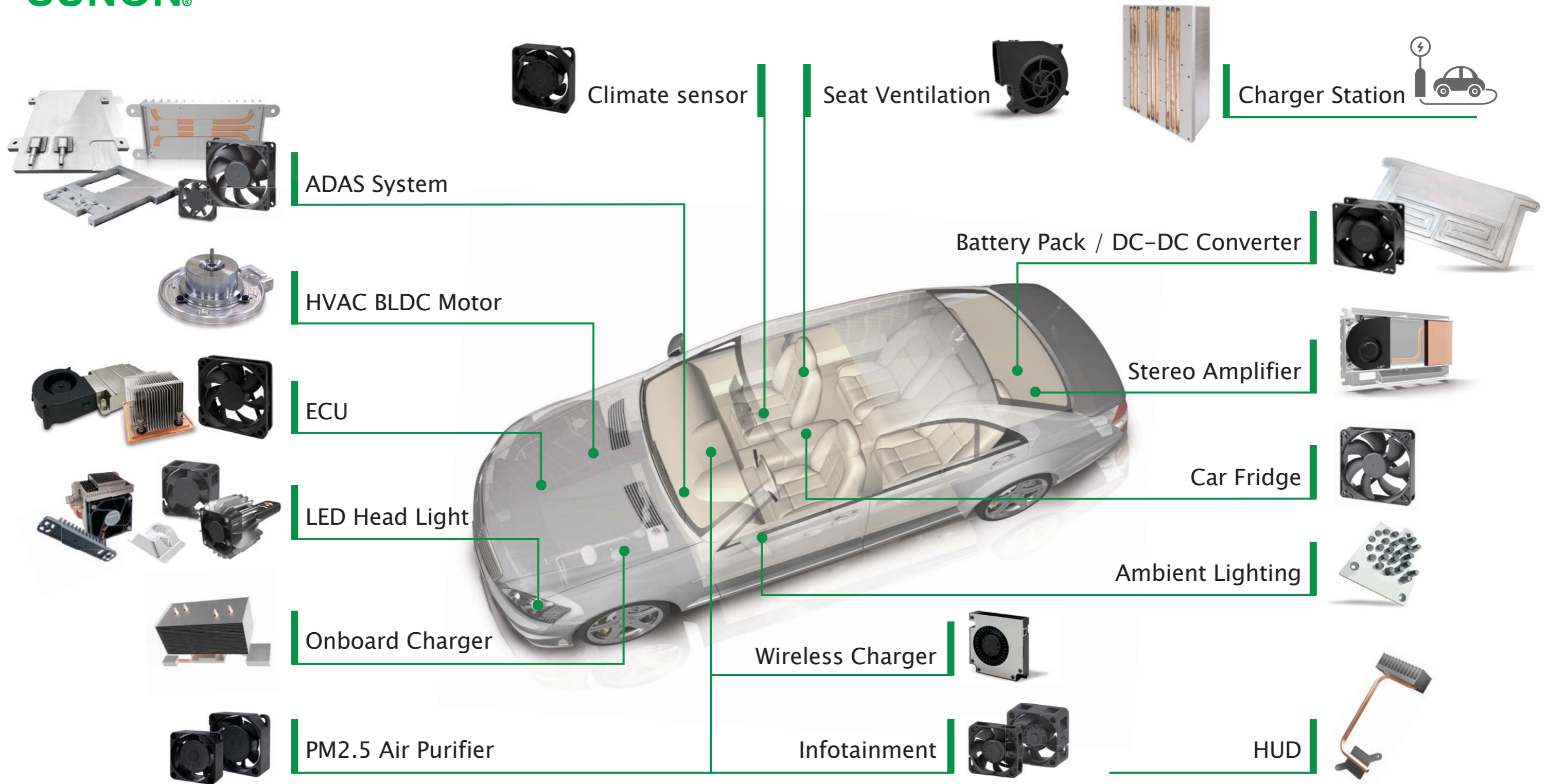


Thermal Solution  
**Automotive**

\*All products are RoHS compliant.

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## Validation – Mechanical / Environmental

Test items will be defined per customer test/validation plan

- Thermal Shock Test
- Mechanical Shock Test
- Durability Test
- Salt Foggy Test
- Drop Test
- IP Protection
- Corrosion Protection
- Acoustic Quality
- G6.3 Compliant Balancing

## Validation - Electrical

Test items will be defined per customer test/validation plan

- Locked-Rotor Protection
- Over/Under Voltage
- Over Current
- Over Temperature
- Local Interconnect Network (LIN)
- PWM Control
- Current Limiter
- ESD Protection
- Short Circuit Resistance
- Back EMF Design
- EMI/EMC Shield
- Inverse Polarity Protection

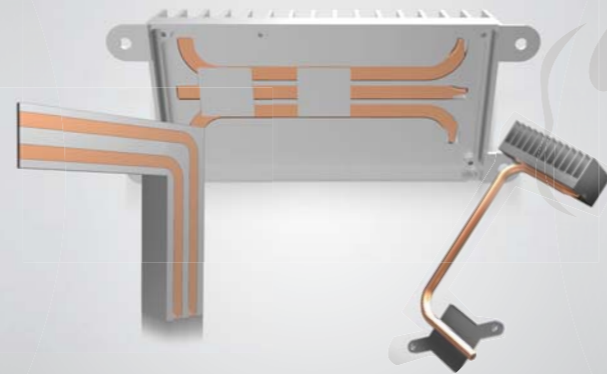
# Sunon Offers Heat Dissipation Total Solution Technology and Services

- Satisfy High Safety & Security Standard
- Conform to Eco-friendly Requirement
- Realize Artificial Intelligence Technology
- Over 20 years Cooperation with Worldwide Automobile Manufacturers

**With** 40 years of experience, Sunon has been focused on the research and development of core motor technologies and cooling to the advantage of a vast customer base with a wide variety of systems, applications and requirements. Sunon is proud of its' cooling problem-solving abilities, utilizing state-of-the-art equipment and innovative techniques to tailor-make optimized cooling systems for our clients' latest applications. From function, accessory shape and cost, to perception about commodity experience, Sunon has been paying careful attention to meet clients' particular goals and requirements.



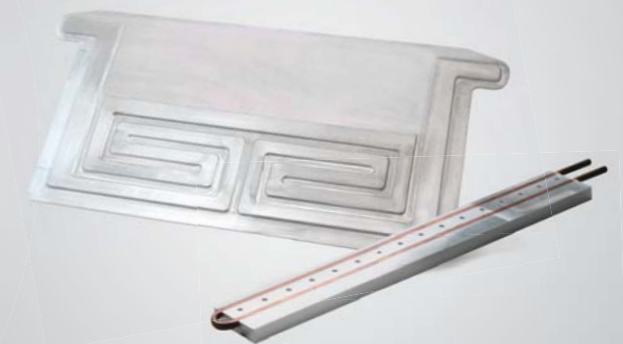
~20W



50W



200W



1000W~

## Heat Sink+Fan

- Economic design solution
- Minature module size
- Efficient heat dissipation

Application LED Head light  
 Material AL heatsink+Heat pipe+Fan  
 TDP 20W  
 Size D30x84mm

## Heat Pipe

- Overcome space limitation
- Efficient heat transfer
- Flexible design feasibility

Application HUD, onboard charger...

## Total Solution

- Efficient cooling solution
- Optimized module weight
- Shorten and simplify the purchasing process

Application Stereo Amplifier, ADAS System, ECU

## Cold Plate

- High Power Density
- High performance design
- Multi heat source cooling solution

Application Battery Pack

\* If you need special specification. Please contact Sunon sales.  
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# Axial Fan

- AEC-Q100/Q200
- AEC-Q100
- Non AEC-Q



Remark : Spec. & size only for reference, please contact sales for further enquiry.  
Production sample's available for request.

## Axial Fan

size (mm)	Model	Bearing	Rated Voltage (V)	Operating Voltage Range (V)	Rated Current (mA)	Fan Speed (RPM)	Max. Air Flow (CFM) (m <sup>3</sup> /min)		Static Pressure (inch-H <sub>2</sub> O) (mm-H <sub>2</sub> O)		Noise (dB(A)) 1M	Operating Temp. (°C)
40X40X10	AF40100VX	Vapo	5	4.5 ~ 5.5	120	8000	7.5	0.212	0.21	5.334	30.7	-40 ~ +90
40X40X10	AF40101VX	Vapo	12	6 ~ 14	65	8000	7.5	0.212	0.21	5.334	30.7	-40 ~ +90
40X40X10	MF40101V1	Vapo	12	6 ~ 13.8	78	7700	8.2	0.232	0.18	4.572	31.0	-20 ~ +90
40X40X10	EF40101B1	2 Ball	12	6 ~ 13.8	67	7200	7.9	0.224	0.18	4.572	28.0	-40 ~ +90
40X40X10	HA40101V4	Vapo	12	8~14	31	5000	5.4	0.153	0.09	2.286	19.3	-20 ~ +85
40X40X20	AF40200VX	Vapo	5	4.5 ~ 5.8	180	8600	11	0.311	0.31	7.874	30.5	-40 ~ +90
40X40X20	AF40201VX	Vapo	12	6 ~ 14	76	8600	11	0.311	0.31	7.874	30.5	-40 ~ +90
40X40X20	MF40201V1	Vapo	12	6 ~ 13.8	58	7000	8.5	0.241	0.22	5.588	27.4	-20 ~ +85
40X40X20	PF40201B1	2 Ball	13.5	6 ~ 16	180	13000	14	0.396	0.79	20.066	46.5	-40 ~ +105
50X50X15	EF50151B1	2 Ball	12	6 ~ 13.8	78	5500	11.9	0.337	0.19	4.826	36.3	-40 ~ +90
60X60X15	MF60151V3	Vapo	12	4.5~13.8	52	3800	18.4	0.521	0.08	2.032	25.0	-20 ~ +85
60X60X25	EF60252B3	2 Ball	24	12 ~ 27.6	25	3000	13.9	0.394	0.08	2.032	20.0	-40 ~ +90
80X80X25	MF80250V4	Vapo	5	3 ~ 5.5	105	2000	23.7	0.671	0.07	1.778	20.4	-20 ~ +85
80X80X25	EF80251B1	2 Ball	12	3.5 ~ 13.8	122	3200	39.2	1.110	0.16	4.064	33.6	-10 ~ +85
80X80X25	EF80251B2	2 Ball	12	3.5~13.8	95	2900	34.5	0.977	0.13	3.302	31.1	-10 ~ +85
92X92X25	PF92251B4	2 Ball	12	6~13.8	70	2400	36.9	1.044	0.10	2.540	27.9	-40 ~ +90

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# Blower

- AEC-Q100/Q200
- AEC-Q100
- Non AEC-Q



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Production sample's available for request.

## Blower

size (mm)	Model	Bearing	Rated Voltage (V)	Operating Voltage Range (V)	Rated Current (mA)	Fan Speed (RPM)	Max. Air Flow (CFM) (m <sup>3</sup> /min)		Static Pressure (inch-H <sub>2</sub> O) (mm-H <sub>2</sub> O)		Noise (dB(A)) 1M	Operating Temp. (°C)
40X40X10	AF40101VX	Vapo	12	8 ~ 16	78	6000	2.8	0.079	0.46	11.511	27.6	-40 ~ +85
50X50X15	MF50150V3	Vapo	5	4.5 ~ 5.5	108	3300	2.7	0.076	0.21	5.334	25.3	-20 ~ +85
50X50X15	MF50151V2	Vapo	12	6 ~ 13.8	54	4000	3.4	0.096	0.37	9.398	33.2	-20 ~ +85
75X75X30	PF75301B1	2 Ball	12	10.2~12	500	4500	17.6	0.498	0.86	21.844	50.0	-40 ~ +85
97X95X33	PF97331B1	2 Ball	12	8.5~16	1650	5600	46.2	1.308	3.21	81.534	61.4	-40 ~ +90
100X98X25	AFA0251B1	2 Ball	13.5	9~16	520	3800	18.4	0.521	0.86	21.848	52.3	-40 ~ +85
120X120X32	PFC0321B1	2 Ball	12	9~13.8	700	2800	37.5	1.062	1.00	25.400	56.0	-40 ~ +90

## LED Head Lamp

size (mm)	Model	Bearing	Rated Voltage (V)	Operating Voltage Range (V)	Rated Current (mA)	Fan Speed (RPM)	Max. Air Flow (CFM) (m <sup>3</sup> /min)		Static Pressure (inch-H <sub>2</sub> O) (mm-H <sub>2</sub> O)		Noise (dB(A)) 1M	Operating Temp. (°C)
40X40X20	PF40201B1	2 Ball	13.5	6 ~ 16	180	13000	14	0.396	0.79	20.066	46.5	-40 ~ +105

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# Miscellaneous

- AEC-Q100/Q200
- AEC-Q100
- Non AEC-Q



LED Head Lamp