



散热器产业介绍

Heat Sink Industry Introduction

中电熊猫晶体科技有限公司



▶ 目录

contents

01

关于我们
About us

02

纳米碳喷涂散热器介绍
Nano carbon coating Heat Sink Introduction

03

应用和案例
Application cases



关于我们

About us





公司介绍

Company Profile



Established in 2015, CEC Panda's heatsink division specializes in nano carbon coating heat sink product manufacturing

中电熊猫晶体科技有限公司于2015年在廊坊产业园成立“纳米碳”散热器事业部，专门研发纳米碳散热技术，主要的产品有以铝、铜为基材的纳米碳喷涂散热器。

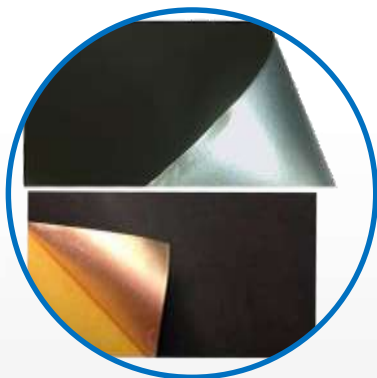


纳米碳喷涂散热器介绍

Nano carbon coating Heat Sink Introduction



产品介绍 Product Families



Coated
Aluminum and
copper films

纳米碳
铝铜箔系列



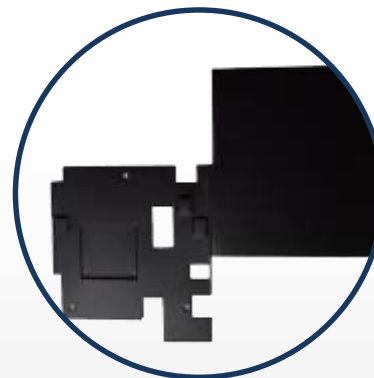
Coated
Aluminum and
copper plates

纳米碳
铝铜板系列



Costed Aluminum
Extrusion

纳米碳
铝挤系列



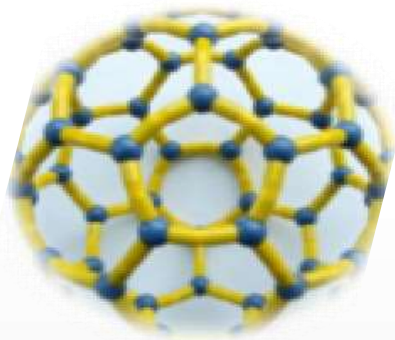
Customized
Shapes

纳米碳
异形系列



产品介绍

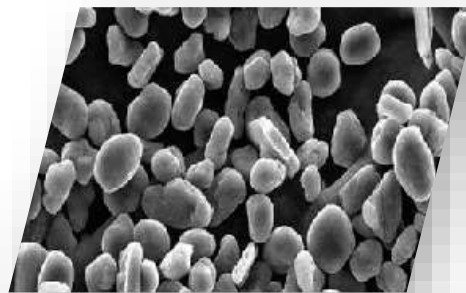
Product introduction



Carbon Nano capsules

纳米碳球

(一种外壳具有封闭多层石墨结构特征的多面体形碳簇)



Cross Section

- High heat transfer coefficient
- Durable
- Stable

纳米碳材料横剖面

导热系数高，长期使用，性能稳定



Development Lab and Equipment 实验设备



实验室全景



二次元测量仪



散热测试仪



散热仿真软件系统



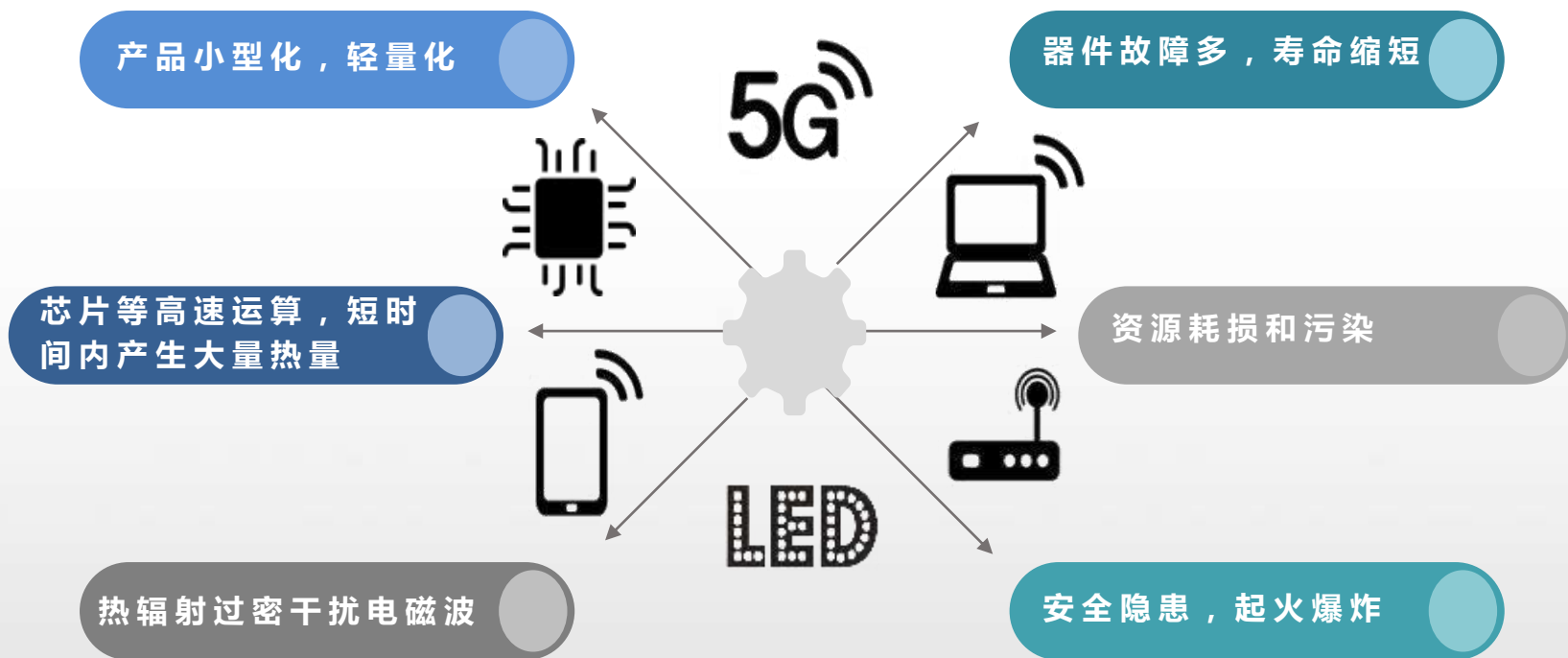
应用和案例

Application Cases



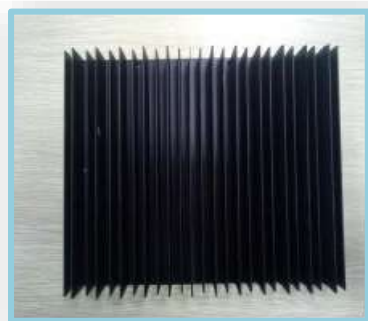


▶ 电子产品散热需求 Heat Sink Requirements





应用介绍 Applications



White Appliances
白电

黑电系列



Set-top Box, OTT , TV, Monitor
黑电

工控系列



Respirator, Photovoltaic
Inverter, Power Adapters,
Charging Piles



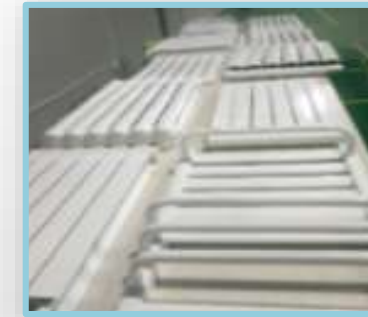
照明系列

LED



汽车电子系列

Automotive Applications



耐候性系列

Heaters, AC Cases



▶ 白电系列1

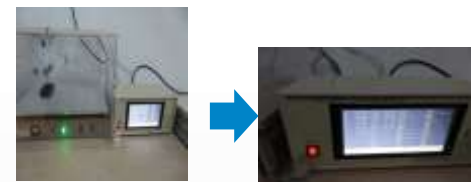
White Electronic Products 1



Traditional:
259*164*45mm



CEC Nano Carbon Extrusion
259*164*30mm



Type	Dimensions	Testing Temp °C	Heat Source Temp °C	Ambient Temp °C	Temp Raise °C	Coated?	Weight G	Weight Diff G	Temp Diff °C
AL Extrusion	259*164*45mm (Traditional)	140	136.9	35.2	101.7	否	1428	-498	+8.6
	259*164*30mm (CEC Parts)		129.0	35.9	93.1	是	930		

Conclusion : Weight Reduction: **35%**; Temperature: **8.6°C**.



▶ 白电系列2

White electronic products 2



原方案165*80*75mm



CEC纳米碳铝挤164*80*33mm



Type	Dimensions	Testing °C	Heat Source Temp °C	Ambient °C	Temp Raise °C	Carbon Coated?	Weight G	Weight Diff G	Temp Diff °C
AL Extrusion	165*80*75mm (原方案)	100	96.3	47.1	49.2	否	669	-239	+0.7
	164*80*33mm (CEC纳米碳铝挤)		92.5	44	48.5	是	430		

Conclusion : Weight Reduction: **36%**; Temperature: **0.7°C**.



▶ 白电系列3

White electronic products 3



原方案 60*58*6.5mm



CEC纳米碳铝挤 60*58*6.5mm



Type	Dimensions	Testing Power	Source °C	Ambient Temp °C	Temp Raise °C	Carbon Coated?	Weight G	Weight Diff G	Temp Diff °C
AL Extrusion	60*58*6.5mm (原方案)	5w	80.1	37.3	42.8	否	15.23	+0.5	+7.6
	60*58*6.5mm (CEC纳米碳铝挤)		73.2	38	35.2	是	15.73		

Conclusion : Weight Reduction: ~0%; Temperature: **7.6°C**.



▶ 黑电系列1 Black electronic products 1



原方案 55.5*20.5*1.5mm



CEC纳米碳铝挤56.1*20.0*1.0mm



Type	Dimensions	Testing Power	Source °C	Ambient Temp °C	Temp Raise °C	Carbon Coated?	Weight G	Weight Diff G	Temp Diff °C
铝挤	55.5*20.5*1.5mm (原方案)	2w	65	25.7	39.3	否	4.6	-1.8	+3.9
	56.1*20.0*1.0mm (CEC纳米碳铝挤)		62	26.6	35.4	是	2.8		

Conclusion : Weight Reduction: **~40%**; Temperature: **3.9°C**.



▶ 黑电系列2 Black electronic products 2



原方案 58*48*7.5mm



CEC纳米碳铝挤 58*48*7.5mm



Type	Dimensions	Testing Power	Source °C	Ambient Temp °C	Temp Raise °C	Carbon Coated?	Weight G	Weight Diff G	Temp Diff °C
AL Extrusion	58*48*7.5mm (原方案)	3w	68.7	28.1	40.6	否	24.5	+0.5	+10.2
	58*48*7.5mm (CEC纳米碳铝挤)		58.9	27.5	30.4	是	25		

Conclusion : Weight Reduction: ~0%; Temperature: **10.2°C**.



▶ 黑电系列3 Black electronic products 3



原方案 25*25*3mm



CEC纳米碳铝挤 25*25*3mm



Type	Dimensions	Testing Power	Source °C	Ambient Temp °C	Temp Raise °C	Carbon Coated?	Weight G	Weight Diff G	Temp Diff °C
铝挤	25*25*3mm (原方案)	3w	109.9	40.2	69.7	否	3.1	+0.1	+8.1
	25*25*3mm (CEC 纳米碳铝挤)		101.9	40.2	61.6	是	3.2		

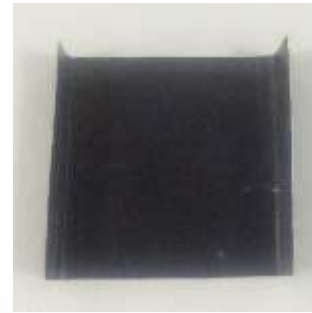
Conclusion : Weight Reduction: ~0%; Temperature: **8.1°C**.



▶ 黑电系列4 Black electronic products 4



原方案 35*35*7.5mm



CEC纳米碳铝箔 35*35*0.2mm

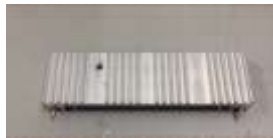


Type	Dimensions	Testing Power	Source °C	Ambient Temp °C	Temp Raise °C	Carbon Coated?	Weight G	Weight Diff G	Temp Diff °C
AL Extrusion	35*35*7.5mm (原方案)	4.5w	91.8	34	57.8	否	13.37	-12	+2.8
	35*35*0.2mm (CEC纳米碳铝箔)		90.2	35.2	55	是	1.33		

Conclusion : Weight Reduction: **90%**; Temperature: **2.8°C**.



工控系列1 Industrial control products 1



原方案85*25*8.85mm



CEC纳米碳铝挤60*26.5*5mm



Type	Dimensions	Testing Power	Source °C	Ambient Temp °C	Temp Raise °C	Carbon Coated?	Weight G	Weight Diff G	Temp Diff °C
AL Extrusion	85*25*8.85mm (原方案)	3w	72.4	28.9	43.5	否	20.4	-9.6	+1.1
	60*26.5*5mm (CEC纳米碳铝挤)		74.3	28.6	45.7	是	10.8		

Conclusion : Weight Reduction: **47%**; Temperature: **1.1°C**。



工控系列2 Industrial control products 2



原方案 125*95*30mm



CEC纳米碳铝挤125*95*30mm



Type	Dimensions	Testing Power	Source °C	Ambient Temp °C	Temp Raise °C	Carbon Coated?	Weight G	Weight Diff G	Temp Diff °C
AL Extrusion	125*95*30mm (原方案)	24°C	73.5	28.3	45.2	否	433.5	+3	+16.9
	125*95*30mm (CEC纳米碳铝挤)		62.7	34.4	28.3	是	436.5		

Conclusion : Weight Reduction: ~0%; Temperature: **16.9°C.**



工控系列3 Industrial control products 3



原方案 45*29*10mm



CEC纳米碳铝挤 45*29*10mm



Type	Dimensions	Testing Power	Source °C	Ambient Temp °C	Temp Raise °C	Carbon Coated?	Weight G	Weight Diff G	Temp Diff °C
AL Extrusion	45*29*10mm (原方案)	5w	118.8	45.5	73.3	否	15.65	+0.9	+13.1
	45*29*10mm (CEC纳米碳铝挤)		106.4	46.2	60.2	是	16.55		

Conclusion : Weight Reduction: ~0%; Temperature: **13.1°C**.



▶ 照明系列 Lighting products



原方案



CEC纳米碳涂层



Type	Dimensions	Testing Power	Source °C	Ambient Temp °C	Temp Raise °C	Carbon Coated?	Weight G	Weight Diff G	Temp Diff °C
铝挤	原方案：阳极氧化	19w	100.8	27.3	73.5	否	121.5	+1	+3.7
	CEC纳米碳铝挤		98.2	28.4	69.8	是	122.5		

Conclusion : Weight Reduction: ~0%; Temperature: **3.7°C**。



汽车电子系列 Car electronic products



原方案



CEC纳米碳涂层



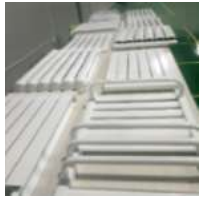
Type	Dimensions	Testing Power	Source °C	Ambient Temp °C	Temp Raise °C	Carbon Coated?	Weight G	Weight Diff G	Temp Diff °C
AL Extrusion	75*56*1.6mm (原方案)	5w	91.2	33.9	57.3	否	10.0	+0.5	+5.4
	75*56*1.6mm (CEC纳米碳铝挤)		79.4	27.5	51.9	是	10.5		

Conclusion : Temperature: 3.7°C. Traditional Option requires insulation heat transfer plate. CEC parts operates at 250°C/500 Hours and 5000V/1 Min.



Weather resistance Products

耐候性系列



原方案



CEC纳米碳涂层



Type	Color	Heat Dissipated	w/column	Carbon Coated?	Diff in # of Columns
Colum Shape Heat Sink	Traditional	w/column ▲ t=6 4.5	188	No	+52
	CEC Solution		136	Yes	

Conclusion : # of Column used: -52



▶ Customers and Partner 主要合作伙伴





▶ Contact with us 联系我们

For U.S. Customers

800 Woodfield Road, STE 107, Schaumburg, IL 60173

847-217-6070, eric@plg-online.com



南京中电熊猫晶体科技有限公司

地址：南京市经济技术开发区新港大道56号

Tel: 0086-25-85238371 Fax: 0086-25-85320830



廊坊中电熊猫晶体科技有限公司

地址：河北省廊坊市经济技术开发区景明道CEC廊坊工业园

Tel: 0086-316-6079316 FAX : 0086-316-6071384



深圳中电熊猫晶体科技有限公司

地址：深圳市宝安区福永街道大洋路11号华丰物流产业园3栋5楼

Tel: 0086-755-27376644 FAX: 0086-755-29973340



期待合作

Looking Forward to Meeting Your Temperature Control Challenges!