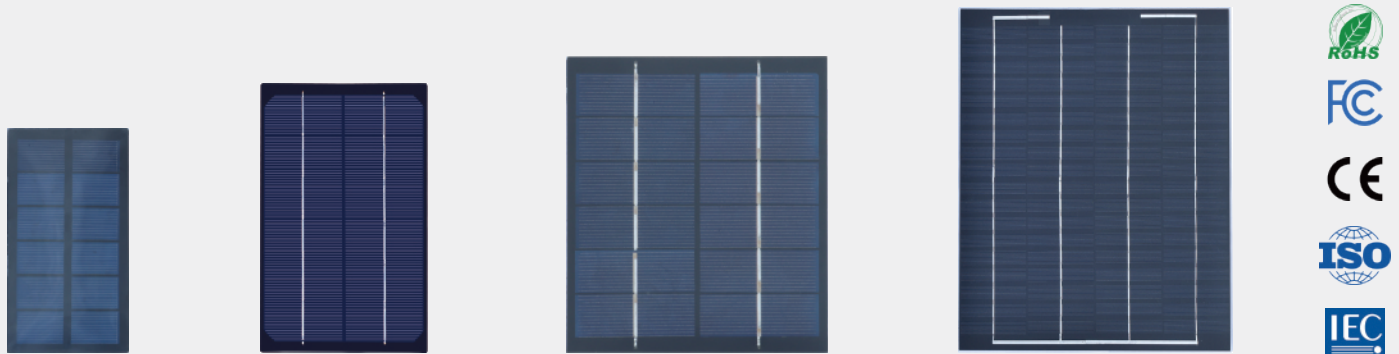


Keruft_Mini P Series-PCB Laminated Solar Modules

Keruft_Mini P 系列-PCB 层压太阳能组件



Why choose Keruft_Mini P Series-PCB Laminated Solar Modules?

PCB Laminated Solar Module is one kind of solar panel but in a different package. Through cutting solar cells into small pieces to meet different voltage and current requirements, and then encapsulating the solar cells with EVA, PET, ETFE, etc. It has the characteristics of impact resistance, corrosion resistance, etc., and is not affected by rain and snow. We offer multiple voltages of solar modules for you to choose from. Solar Modules can link together in parallel or series to speed up the rate of charge to max the voltage power to match the storage battery of your DIY solar products. Solar Modules are certified by FCC, RoHS, CE, ISO, IEC to ensure safety, reliability, high quality, energy-saving, and environmental protection.

为什么选择 Keruft_Mini P 系列-PCB 层压太阳能组件？

PCB层压太阳能组件是一种太阳能电池板，但封装方式不同。通过将太阳能电池片切割成小块，以满足不同的电压和电流要求，然后使用EVA、PET、ETFE等对太阳能电池片进行封装，具有抗冲击、耐腐蚀等特点，不受雨雪影响。我们提供多种电压的太阳能电池板供您选择。太阳能模块可以根据实际使用需求并联或串联在一起，以加快充电速度，达到最大充电效率，从而与太阳能DIY产品相匹配。太阳能组件通过FCC、RoHS、CE、ISO、IEC认证，以确保安全可靠，品质优良，并且节能环保。

☆ Features 特征

[High-Quality]

High-efficiency solar panels, provide enough power for supporting products. Unique craftsmanship is used to make the components look beautiful. High-strength anti-deformation PCB board, durable, impact-resistant, effectively extending the service life.

【高品质】

高效太阳能电池板，为配套产品提供足够的电力。采用独特的工艺，使组件外形美观。高强度抗变形PCB板，坚固耐用，抗冲击，有效延长使用寿命。



[Experience the fun of DIY]



Fit for preliminary study experiment with solar energy, also fit for the customer to do a variety of products available, such as solar lawn light, solar landscape lights, solar mobile charger, solar flashlight, and a variety of small solar toys.

【体验DIY的乐趣】

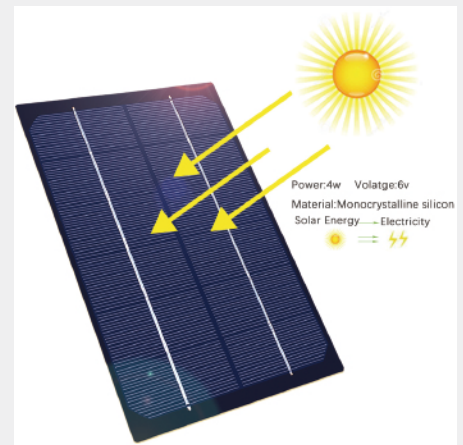
适合太阳能初步学习实验，也适合客户做各种产品，如太阳能草坪灯、太阳能景观灯、太阳能手机充电器、太阳能手电筒等小型太阳能玩具。

[Education]

Solar panels are devices that directly convert solar radiation into electrical energy, perfect for scientific experiment projects. Use this solar module to power ancillary equipment with free green energy from the sun.

【教育】

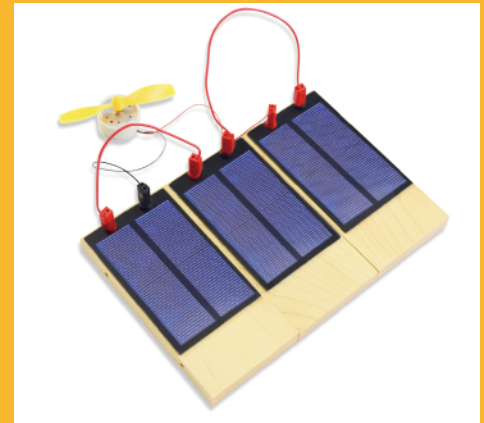
太阳能电池板是将太阳辐射直接转化为电能的装置，是科学实验项目的完美装置。使用这款太阳能模块，利用来自太阳的免费绿色能源为配套设备提供充足电力。



☆ Application 应用

To build your own powered models, solar toys, solar lights, solar displays, charging small DC batteries. DIY solar products application: Solar Lawn Lamp, Solar Wall Lamp, Solar Art Craft, Solar Toy, Solar Radio, Solar Aluminum Flashlight, Solar Powerbank Charger, Solar Mini Water Pump, etc.

打造自己的动力模型、太阳能玩具、太阳能灯、太阳能显示器、给小型直流电池充电。DIY太阳能产品应用：太阳能草坪灯、太阳能壁灯、太阳能工艺品、太阳能玩具、太阳能收音机、太阳能铝手电筒、太阳能移动电源充电器、太阳能迷你水泵等。



Solar panel-laminated with PCB series

PCB层压太阳能板

Electrical parameter | STC 电性能参数 (0.09W~0.8W)

Rated Power 功率输出	Pmax(W)	0.09	0.2	0.42	0.8
Model No. 产品型号	/	PG-PCB-M0.09	PG-PCB-M0.2	PG-PCB-M0.42	PG-PCB-M0.8
Cell type 电池片类型	/	Mono	Mono	Mono	Mono
Operating Voltage 最大功率点的工作电压	Vmp(V)	4.5	2	7	2
Operating Current 最大功率点的工作电流	Imp(A)	0.02	0.1	0.06	0.4
Open Circuit Voltage 开路电压	Voc(V)	5.4	2.4	8.4	2.4
Short Circuit Current 短路电流	Isc(A)	0.022	0.11	0.066	0.44
Performance Tolerance 功率公差	(%)	±5%	±5%	±5%	±5%
Boundary dimension 外形尺寸	mm	50*30*2.8	50*50*2.8	80*50*1.6	120*62*3

Electrical parameter | STC 电性能参数 (1.5W~3W)

Rated Power 功率输出	Pmax(W)	1.5	2	2.8	3
Model No. 产品型号	/	PG-PCB-M1.5	PG-PCB-M2	PG-PCB-M2.8	PG-PCB-P3
Cell type 电池片类型	/	Mono	Mono	Mono	Poly
Operating Voltage 最大功率点的工作电压	Vmp(V)	9	16	18	7
Operating Current 最大功率点的工作电流	Imp(A)	0.166	0.125	0.155	0.25
Open Circuit Voltage 开路电压	Voc(V)	10.8	19.2	21.6	8.4
Short Circuit Current 短路电流	Isc(A)	0.183	0.1375	0.17	0.275
Performance Tolerance 功率公差	(%)	±5%	±5%	±5%	±5%
Boundary dimension 外形尺寸	mm	133.2*75.2*2.8	165*96*2.5	350*60*2.8	110*110*3

Electrical parameter | STC 电性能参数 (4W~6W)

Rated Power 功率输出	Pmax(W)	4	5	5.5	6
Model No. 产品型号	/	PG-PCB-M4	PG-PCB-M5	PG-PCB-M5.5	PG-PCB-M6
Cell type 电池片类型	/	Mono	Mono	Mono	Mono
Operating Voltage 最大功率点的工作电压	Vmp(V)	6	6	15	13
Operating Current 最大功率点的工作电流	Imp(A)	0.666	0.833	0.366	0.461
Open Circuit Voltage 开路电压	Voc(V)	7.2	7.2	18	15.6
Short Circuit Current 短路电流	Isc(A)	0.733	0.916	0.403	0.507
Performance Tolerance 功率公差	(%)	±5%	±5%	±5%	±5%
Boundary dimension 外形尺寸	mm	210*135*2.8	270*175*3	317.7*127*2.8	500*86*3

Electrical parameter | STC 电性能参数 (6.5W~10W)

Rated Power 功率输出	Pmax(W)	6.5	6.5	10	10
Model No. 产品型号	/	PG-PCB-M6.5	PG-PCB-P6.5	PG-PCB-M10	PG-PCB-P10
Cell type 电池片类型	/	Mono	Poly	Mono	Poly
Operating Voltage 最大功率点的工作电压	Vmp(V)	18	18	18	18
Operating Current 最大功率点的工作电流	Imp(A)	0.361	0.361	0.555	0.555
Open Circuit Voltage 开路电压	Voc(V)	21.6	21.6	21.6	21.6
Short Circuit Current 短路电流	Isc(A)	0.397	0.397	0.61	0.61
Performance Tolerance 功率公差	(%)	±5%	±5%	±5%	±5%
Boundary dimension 外形尺寸	mm	280*180*3	305*152*3	260*230*2.5	340*220*3

*以上为我们公司的一部分太阳能板的规格及型号。我们可以根据客户要求设计及定制。

*It's a part of the specifications and models of the solar panels. We can design and provide products according to customer's demand.

Structural performance 结构性能

Solar cell 太阳能电池片	125 /156 /161 /166 Mono 156Poly
Surface 面板	PET/TPT/ETFE
Backsheet 背板	fiberglass board
Output Interface 输出接口	bonding pad / wire / terminal

Temperature characteristics 温度特性

Standard Test Conditions 电池标称工作温度 (NOTC)	45±2°C
Short Circuit Current Temp 温度系数 (Sic)	+0.050%/°C
Open Circuit Voltage Temp 温度系数 (Vic)	-0.30%/°C
Max. Power Temp 温度系数 (Plax)	-0.39%/°C

Limit parameter 极限参数

Operating Temperature 工作温度	-40~+85°C
Max.System Voltage 最大系统电压	1000V DC

* 标准测试条件：（大气质量 AM1.5，辐照度 1000W/m²，电池温度25°C）下的测量值。

* Standard test conditions measured values (irradiance 1000 W/m², cell temperature 25 °C, atmospheric mass AM1.5).

Complete quality management system and product certification

完整的质量管理体系与产品认证

ISO 9001:2015: ISO 质量管理体系

ISO 14001: 2015: ISO 环境管理体系

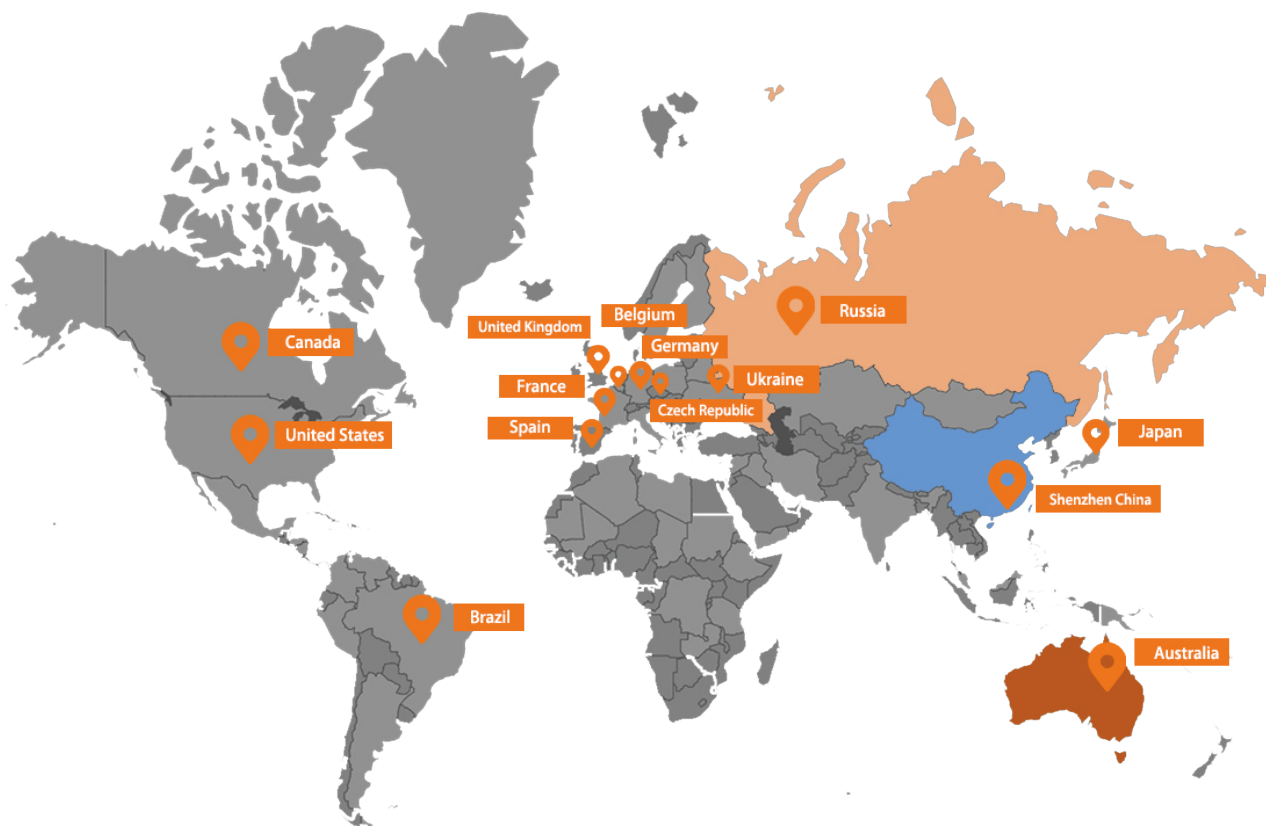
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