

Konarka Power Plastic® Solar Panel

Product Specifications

Konarka's KT 50 (0.5 Watt–4 Volt) panel, which measures 194mm x 172mm (7.6" x 6.8") can be affixed to almost any surface for charging microelectronics and sensors.

Material Characteristics

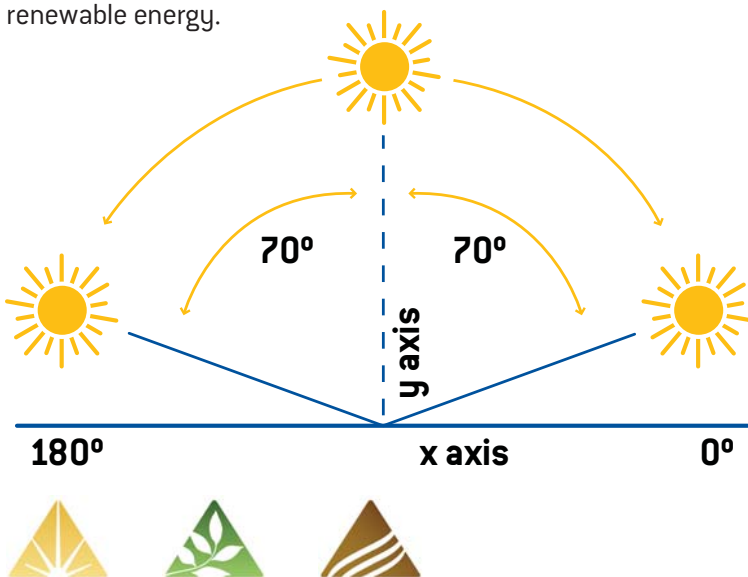
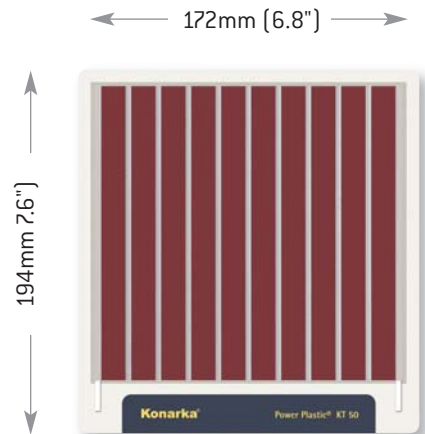
Power Plastic is a lightweight, thin-film photovoltaic material that is much more versatile in application than traditional silicon-based solar cells. Konarka's unique technology is based on patented photo-reactive materials made from conducting polymers and organic nano-engineered materials. These materials can be printed or coated onto flexible plastic using an inexpensive, energy-efficient manufacturing process.

Power Plastic reacts with both indoor and outdoor light, and performs well on cloudy days, greatly expanding its potential applications. By integrating Power Plastic into everyday products, devices can produce their own low-cost source of renewable energy.

Construction Characteristics

- **Dimensions:**
Length: 194mm (7.6"),
Width: 172mm (6.8"),
Depth: 0.5mm (.020")
- **Weight:** 30g (1oz)
- **Material thickness:**
0.5mm +/- 0.05mm
- **Operating temperature range:**
-20°C to 65°C (-4°F to 149°F)
- **Weatherproof materials**
- **By-pass/blocking diode optional**
- **User friendly design:**
easily mountable
- **Laminate encapsulation:**
high-light transmissive polymer
- **Output cables:** variety of solderable leads & connectors
- **Power terminals:**
 - *Option 1:* Direct bussing from PV module
 - *Option 2:* Konarka junction box with universal connection

Energy Independence
Power Plastic is ideal for powering microelectronics with indoor or outdoor light.



Konarka's Power Plastic collects energy at up to 70° off-axis from nearly sunrise to sunset. Can even be used on vertical surfaces.

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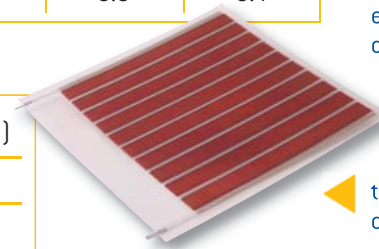
Outdoor Performance

Electrical Data	Units	1 Sun	1/2 Sun
(Pmax)	W	0.4	0.2
Impp	mA	106.7	52.6
Vmpp	V	4.0	4.1
Voc	V	5.6	5.4
Isc	mA	133.8	66.9

Indoor Performance (Fluorescent Light)

Electrical Data	Units	1,000 Lux	500 Lux
(Pmax)	mW	2.0	1.0
Impp	mA	0.7	0.3
Vmpp	V	3.0	2.9
Voc	V	4.0	3.9
Isc	mA	0.8	0.4

Konarka's PowerPlastic takes light in and delivers power out. When integrated into products, this direct current (DC) electrical energy can be used immediately, stored for later use, or converted to other forms of energy.



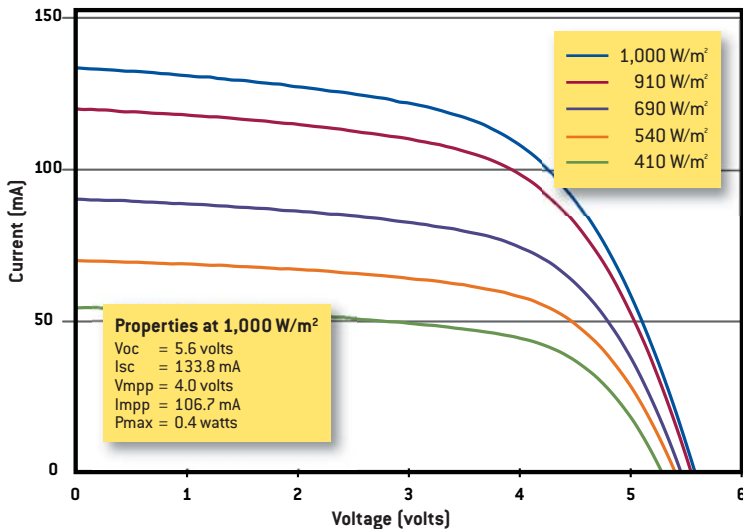
Temperature Range

Operating Temperature	-20°C to 65°C [-4°F to 149°F]
Storage Temperature	-40°C to 75°C [-40°F to 167°F]

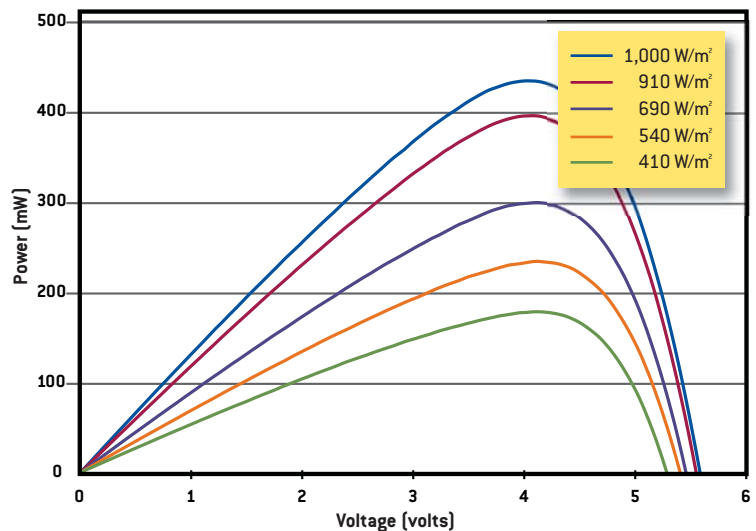
Temperature Coefficients

Pmax	+0.05% / °C (based on air temperature)
Vmpp	-0.27% / °C (based on air temperature)
Voc	-0.21% / °C (based on air temperature)

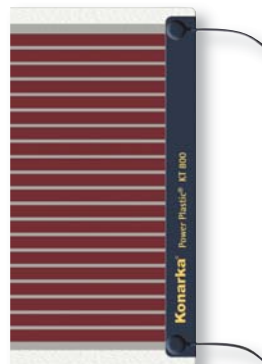
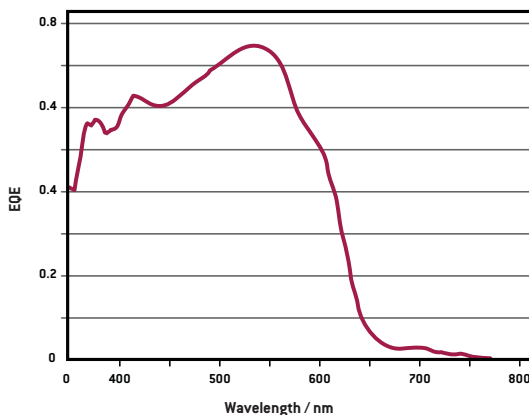
KT 0.5W – 4V Panel: IV Curves



KT 0.5W – 4V Panel: Power Curves



Power Plastic EQE



Power Plastic is available with a variety of connectors. [Shown here: KT 800 with weatherproof end caps.]

Headquarters: Lowell, MA, USA
Manufacturing: New Bedford, MA, USA
R&D Facilities: Lowell, MA, USA; Linz, Austria; Nurnberg, Germany

Learn more at www.konarka.com
 Or call +1-978-569-1400

