

Application	Module Name	Number of Cells	Number of Diodes	Module Length (mm)	Module Width (mm)	Module Width (mm)	Weight	Pmax - Power (W)	Voc - Open Circuit Voltage (V)	ISC - Short Circuit Current (A)	Vmp - Maximum Power Voltage (V)	Imp - Maximum Current (A)	Efficiency	Performance Warranty
Comment		A solar cell, or photovoltaic cell, is an electrical device that converts the energy of light directly into electricity.	Most solar panels only contain three bypass diodes which significantly limits performance in shaded or cloudy conditions (if one cell is shaded, total power reduces by one-third). We incorporate bypass diodes into every other cell meaning if a pair of cells is shaded, the current is able to move to the next cell, so the only performance loss is from the shaded cells.			Slim design means no drag or wind noise (no loss of MPG) and unlikely to get damaged by low hanging branches etc	Extremely lightweight so no affect on payload.	The Pmax is the maximum wattage ($V_{mp} \times I_{mp} = P_{max}$)	The Voc is the maximum voltage available from a solar cell. With an open-circuit voltage of >30 Voc, there is a highly efficient conversion of sunlight to energy. The advantage of having a higher voltage, compared to traditional solar solutions, means the panel will be able to start charging earlier in the day and remain charging for longer to keep the voltage above the battery state for longer. For comparison a conventional panel would be around 18-20 Voc on a 110W panel.	Short Circuit Current is how many amps (i.e. current) the solar panels are producing when not connected to a load. This is the highest current the solar panels will produce under standard test conditions.	Voltage at maximum power is the voltage that occurs when the module is connected and operating at its peak performance output.	The Imp is the current (amps) when the power output is the greatest.	Solar panel efficiency is a measurement of how much of the sun's energy a panel can convert into usable electricity.	
Fridge Trailer	GI 50 HE	44	22	1120	355	3	2.2kg with Loom & Controller	50	30.82	2.21	25	1.99	16%	5 Years
Bus	GI 110	54	27	2600	358	3	3.9kg with Loom & Controller	110	35	3.84	28.58	3.84	16%	5 Years

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