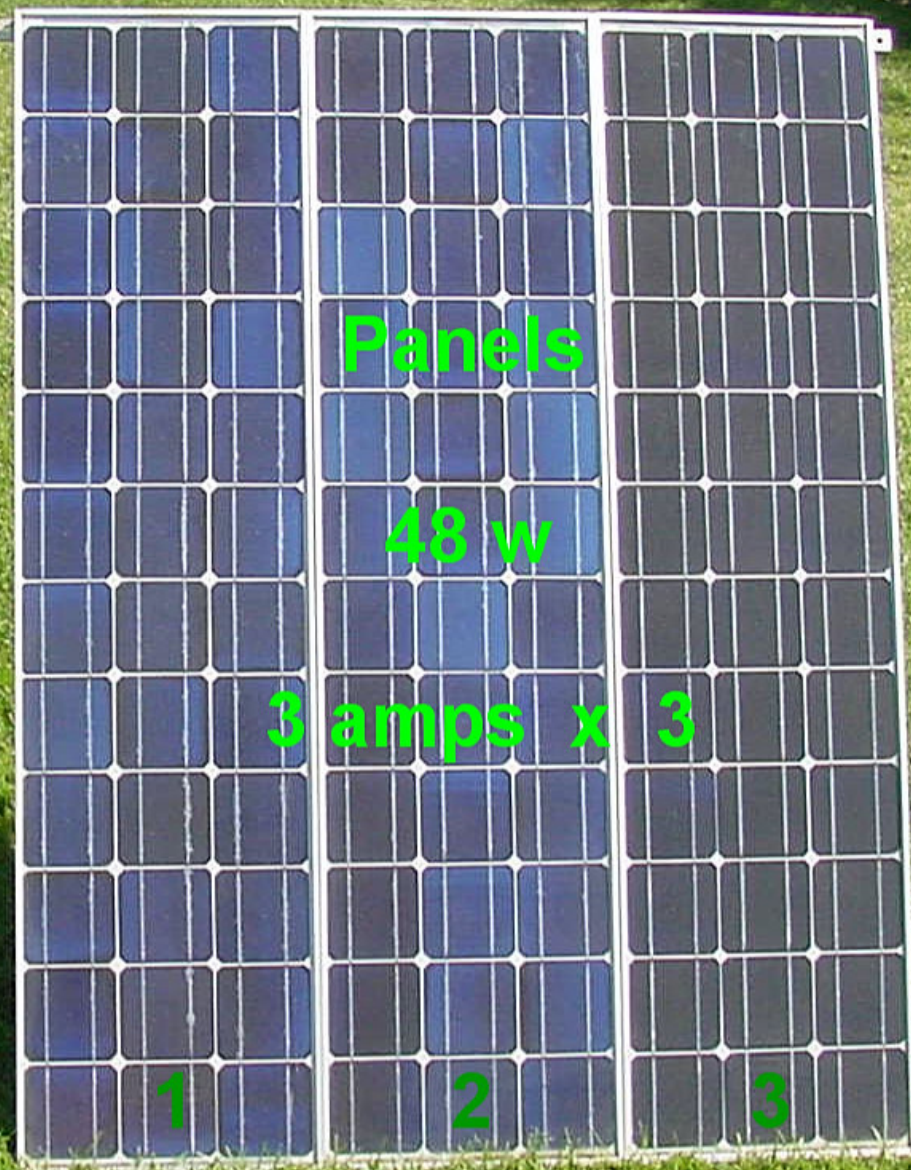


Photovoltaics

Deep Cycle
Battery

Solar
Controller





BP 350

50 Watt Photovoltaic Module

High-efficiency photovoltaic module using silicon nitride multicrystalline silicon cells.

Performance

Rated power (P_{max})	50W
Nominal voltage	12V
Limited Warranty ₁	25 years

Configuration

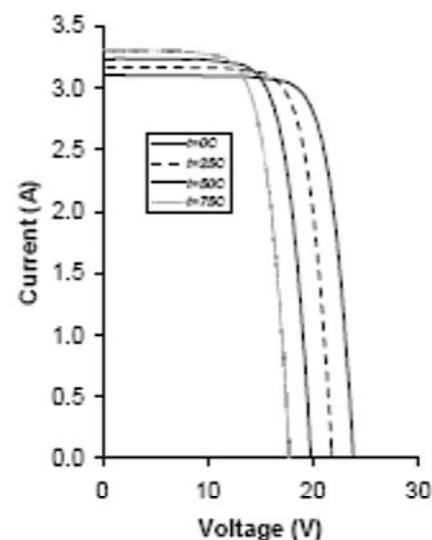
BP 350U	Clear universal frame and standard J-box
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Electrical Characteristics²

	BP 350
Maximum power (P_{max}) ³	50W
Voltage at P_{max} (V_{mp})	17.5V
Current at P_{max} (I_{mp})	2.9A
Warranted minimum P_{max}	45W
Short-circuit current (I_{sc})	3.17A
Open-circuit voltage (V_{oc})	21.8V
Temperature coefficient of I_{sc}	$(0.065 \pm 0.015)\% / ^\circ C$
Temperature coefficient of V_{oc}	$-(80 \pm 10)mV / ^\circ C$
Temperature coefficient of power	$-(0.5 \pm 0.05)\% / ^\circ C$
NOCT (Air 20°C; Sun 0.8kW/m ² ; wind 1m/s)	$47 \pm 2^\circ C$
Maximum series fuse rating	20A
Maximum system voltage	600V (U.S. NEC & IEC 61215 rating) 1000V (TUV Rheinland rating)



BP 350 I-V Curves



BP350 50watt panel

2.9 A

\$372.99

www.solarhome.com

\$7.50/watt

BRIGHT IDEAS, BRILLIANT TECHNOLOGY



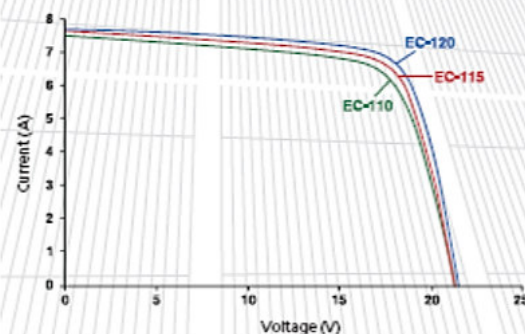
CEDAR LINE™ PHOTOVOLTAIC MODULES

Producing our own wafers, cells and modules assures that the highest quality components go into every one of our panels. And since they are made with String Ribbon™ technology, our panels take advantage of one of the newest, fastest-growing, most environmentally friendly manufacturing processes available in the world.

Evergreen Solar is a fully integrated, independent company. Solar is our only business. Our commitment to the environment is matched only by our commitment to our customers. If, like us, you want the best in solar, make the pure choice ... Evergreen Solar panels.



I-V CHARACTERISTICS*



ELECTRICAL SPECIFICATIONS*

	EC-110-GL	EC-115-GL	EC-120-GL
P_p (W)	110	115	120
V_p (V)	17.0	17.1	17.6
I_p (A)	6.47	6.73	6.82
V_{oc} (V)	21.3	21.3	21.5
I_{sc} (A)	7.48	7.62	7.68
Cells	72		
Maximum Series Fuse	15A		
UL Rated System Voltage	600V		
TUV Rated System Voltage	800V		

EC 120 120watt panel

6.82 A

\$516.99

www.solarhome.com

\$4.30/watt

Specialty Concepts Controller



Use only smart controllers or battery chargers that include adjustable full charge cutoff voltage and then switch to float voltage.

Float voltage feature prevents overcharging and water loss.

Typical cutoff $\simeq 14.2 - 14.4\text{v}$

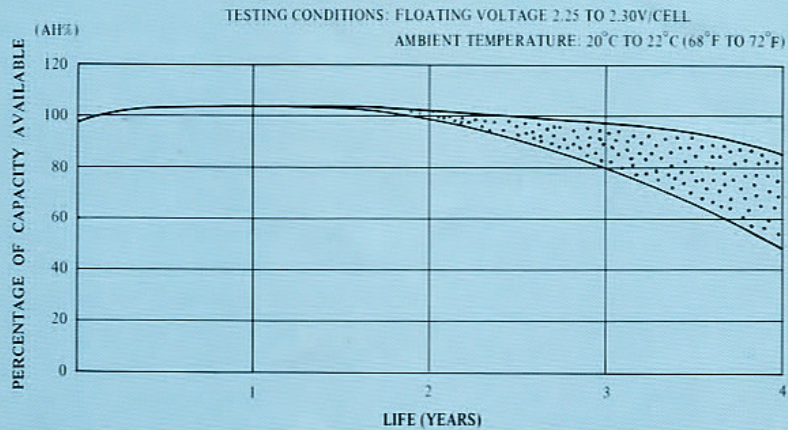
Typical float $\simeq 13.6\text{v}$

\$84

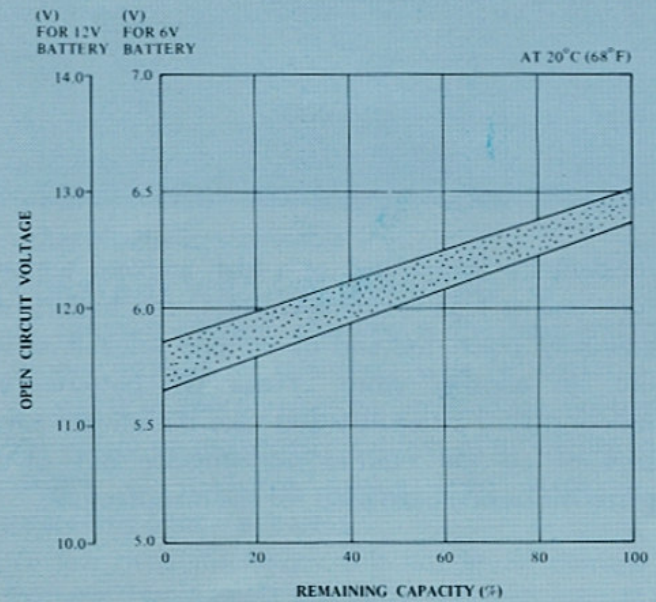
www.infinigi.com

Support vendors that support us - CVARC communication van controller.

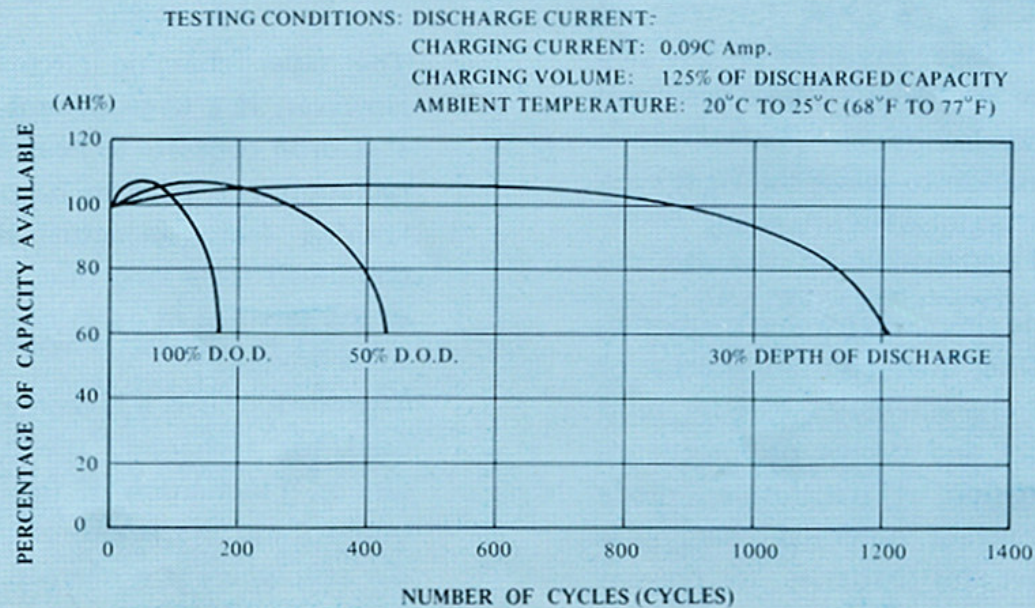
FLOAT SERVICE LIFE



OPEN CIRCUIT VOLTAGE VS REMAINING CAPACITY



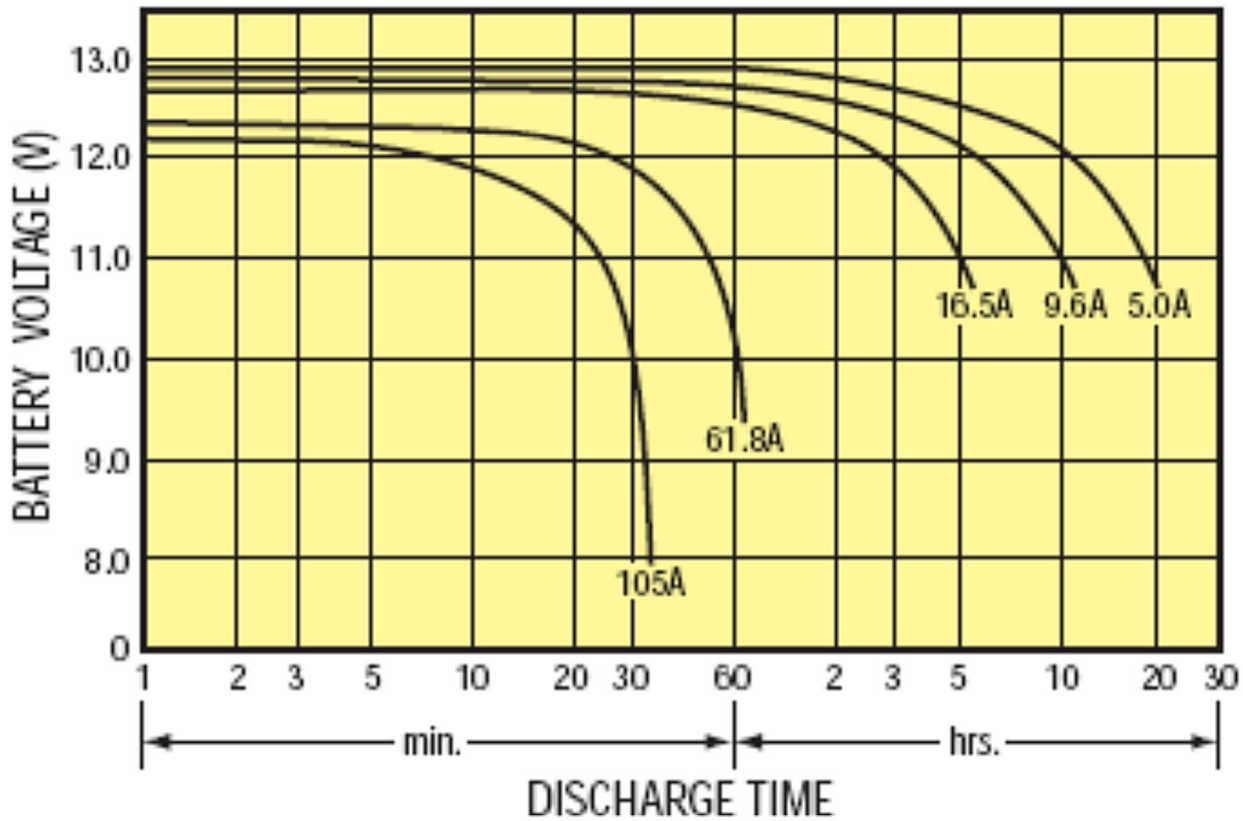
CYCLE SERVICE LIFE IN RELATION TO DEPTH OF DISCHARGE



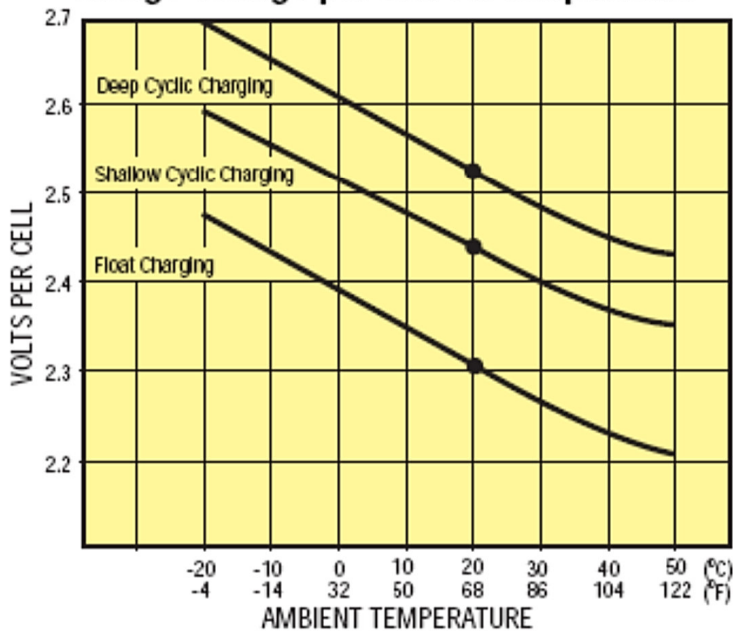
100 AH Battery

Typical Voltage Characteristic (70°F)

DISCHARGE CURVE



Charge Voltage per Cell vs. Temperature



Capacity as Affected by Temperature

@ VARIOUS RATES OF DISCHARGE

