



## Energy & Cost Savings

The Friends Meeting of Austin  
 3701 Martin Luther King Blvd. Austin, TX. 78721  
 (26) Sharp 208 W Modules = 5.408 kW  
 0.77/0.94\*0.955=0.782 Derate Factor

Station Identification	
City:	Austin
State:	TX
Latitude:	30.30° N
Longitude:	97.70° W
Elevation:	189 m
PV System Specifications	
DC Rating:	5.41 kW
DC to AC Derate Factor:	0.782
AC Rating:	4.23 kW
Array Type:	Fixed Tilt
Array Tilt:	18.5°
Array Azimuth:	175.0°
Energy Specifications	
Cost of Electricity:	10.5 ¢/kWh

Results			
Month	Solar Radiation (kWh/m <sup>2</sup> /day)	AC Energy (kWh)	Energy Value (\$)
1	3.92	493	51.77
2	4.66	520	54.60
3	5.34	656	68.88
4	5.62	649	68.14
5	5.82	682	71.61
6	6.35	709	74.45
7	6.60	749	78.64
8	6.41	731	76.75
9	5.70	646	67.83
10	5.33	630	66.15
11	4.20	492	51.66
12	3.56	445	46.73
Year	5.30	7401	777.11

C# Has not yet had site assessment.  
 May 31, 2007

# 208 WATT

NEXT GENERATION. BREAKTHROUGH PERFORMANCE.

## POLY-CRYSTALLINE SILICON PHOTOVOLTAIC MODULE WITH 208W MAXIMUM POWER

This poly-crystalline 208 watt module features 12.8% module efficiency for an outstanding balance of size and weight to power and performance. Using breakthrough technology perfected by Sharp's 45 years of research and development, these modules incorporate an advanced surface texturing process to increase light absorption and improve efficiency. Common applications include commercial and residential grid-tied roof systems as well as ground-mounted arrays. Designed to withstand rigorous operating conditions, Sharp's ND-208U1F modules offer high power output per square foot of solar array.



*Solder-coated grid results in high fill factor performance under low light conditions.*



*Sharp multi-purpose modules offer outstanding performance for a variety of applications.*

## FEATURES

- High-power module (208W) using 156mm square poly-crystalline silicon solar cells with 12.8% module conversion efficiency
- Sharp's advanced surface texturing process increases light absorption and efficiency while providing a more subdued, "natural" look
- Bypass diodes minimize the power drop caused by shade
- Water white tempered glass, EVA resin, and a weatherproof film, plus aluminum frame for extended outdoor use
- UL Listings: UL1703, cUL
- Sharp modules are manufactured in ISO 9001 certified facilities
- 25-year limited warranty on power output (see dealer for details)

### ELECTRICAL CHARACTERISTICS

Cell	Poly-crystalline silicon
No. of Cells and Connections	60 in series
Open Circuit Voltage (Voc)*	36.3V
Maximum Power Voltage (Vpm)*	28.71V
Short Circuit Current (Isc)	7.99A
Maximum Power Current (Ipm)	7.25A
Rated Power (Pmax)*	208W (+10% / -5%)
Module Efficiency Maximum Power ( $\eta_m$ )	12.8%
Maximum System Voltage	600VDC
Series Fuse Rating	15A
Type of Output Terminal	Lead Wire with MC Connector

\* (STC) Standard Test Conditions: 25°C, 1 kW/m<sup>2</sup>, AM 1.5

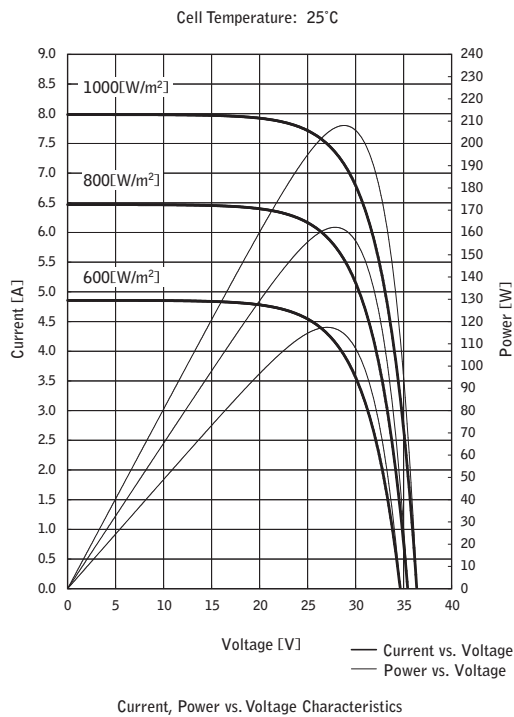
### MECHANICAL CHARACTERISTICS

Dimensions A x B x C (below)	64.6" x 39.1" x 1.8" / 1640 x 994 x 46mm
Weight	46.3lbs / 21kg
Size of Carton	68.3" x 43.2" x 4.5" / 1735 x 1097 x 114mm
Carton Quantity	2 pcs per carton
Pallet Quantity	28 pcs per pallet
Loading Capacity (48 ft container)	448 pcs (16 pallets)
Loading Capacity (53 ft container)	476 pcs (17 pallets)

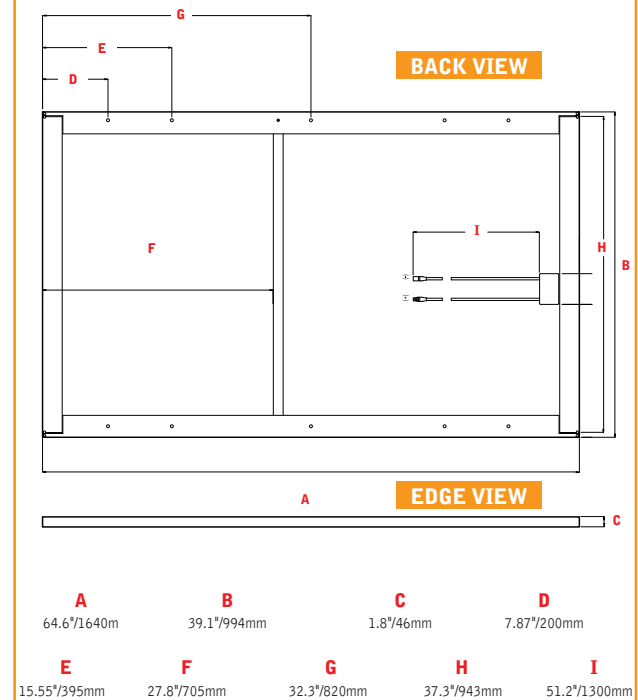
### ABSOLUTE MAXIMUM RATINGS

Operating Temperature (min to max, °F/°C)	-40 to +194°F / -40 to +90°C
Storage Temperature (min to max, °F/°C)	-40 to +194°F / -40 to +90°C

### IV CURVES



### DIMENSIONS



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Contact Sharp to obtain the latest product manuals before using any Sharp device.



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SB 5000US / SB 6000US / SB 7000US



- > Certified to the new UL 1741/IEEE 1547
- > 10 yr. standard warranty
- > Highest CEC efficiency in its class
- > Integrated load-break rated AC and DC disconnect switch
- > Integrated fused series string combiner
- > Sealed electronics enclosure & Opticool
- > Comprehensive SMA communications and data collection options
- > Ideal for residential or commercial applications
- > Sunny Tower compatible



## Sunny Boy 5000 / 6000 / 7000

The best in their class

SMA is proud to introduce our new line of inverters updated with our latest technology and designed specifically to meet the new IEEE 1547 requirements. The SB6000U and SB7000U are also compatible with SMA's new Sunny Tower. Increased efficiency means better performance and shorter payback periods. All three models are field-configurable for positive ground systems making them more versatile than ever. With over 500,000 fielded units, Sunny Boy has become the benchmark for PV inverter performance and reliability throughout the world.





# Technical Data

## Sunny Boy 5000 / 6000 / 7000

	SB 5000US	SB 6000US	SB 7000US
<b>Input Data (DC)</b>			
Max. Recommended Array Input Power (DC @ STC)	6250 W	7500 W	8750 W
Max. DC Voltage	600 V	600 V	600 V
Peak Power Tracking Voltage	250 - 480 V	250 - 480 V	250 - 480 V
DC Max. Input Current	21 A	25 A	30 A
DC Voltage Ripple	< 5%	< 5%	< 5%
Number of Fused String Inputs	4	4	4
PV Start Voltage	300 V	300 V	300 V
<b>Output Data (AC)</b>			
AC Nominal Power	5000 W	6000 W	7000 W
AC Maximum Output Power	5000 W	6000 W	7000 W
AC Maximum Output Current (@ 208, 240, 277 V)	24 A, 20.8 A, 18 A	29 A, 25 A, 21.6 A	34 A, 29 A, 25.3 A
AC Nominal Voltage / Range	183 - 229 V @ 208 V 211 - 264 V @ 240 V 244 - 305 V @ 277 V	183 - 229 V @ 208 V 211 - 264 V @ 240 V 244 - 305 V @ 277 V	183 - 229 V @ 208 V 211 - 264 V @ 240 V 244 - 305 V @ 277 V
AC Frequency / Range	60 Hz / 59.3 Hz - 60.5 Hz	60 Hz / 59.3 Hz - 60.5 Hz	60 Hz / 59.3 Hz - 60.5 Hz
Power Factor	1	1	1
<b>Efficiency</b>			
Peak Inverter Efficiency	96.8 %	97.0 %	97.1 %
CEC weighted Efficiency	95.5 % @ 208 V 95.5 % @ 240 V 95.5 % @ 277 V	95.5 % @ 208 V 95.5 % @ 240 V 96.0 % @ 277 V	95.5 % @ 208 V 96.0 % @ 240 V 96.0 % @ 277 V
<b>Mechanical Data</b>			
Dimensions W x H x D in inches	18.4 x 24.1 x 9.5	18.4 x 24.1 x 9.5	18.4 x 24.1 x 9.5
Weight / Shipping Weight	143 lbs / 154 lbs	143 lbs / 154 lbs	143 lbs / 154 lbs
Ambient temperature range	-13 to +113 °F	-13 to +113 °F	-13 to +113 °F
Power Consumption: standby / nighttime	< 7 W / 0.25 W	< 7 W / 0.25 W	< 7 W / 0.25 W
Topology	PWM, true sinewave, current source	PWM, true sinewave, current source	PWM, true sinewave, current source
Cooling Concept	Convection with regulated fan cooling	Convection with regulated fan cooling	Convection with regulated fan cooling
Mounting Location Indoor / Outdoor (NEMA 3R)	● / ●	● / ●	● / ●
<b>Features</b>			
LCD Display	●	●	●
Lid Color: aluminum / red / blue / yellow	● / ○ / ○ / ○	● / ○ / ○ / ○	● / ○ / ○ / ○
Communication: RS485 / Wireless	○ / ○	○ / ○	○ / ○
Warranty: 10-year	●	●	●
Compliance: IEEE 929, IEEE 1547, UL 1741, UL 1998, FCC Part 15 A & B	●	●	●
Specifications for nominal conditions	● Included ○ Option – Not available		

Efficiency Curves

