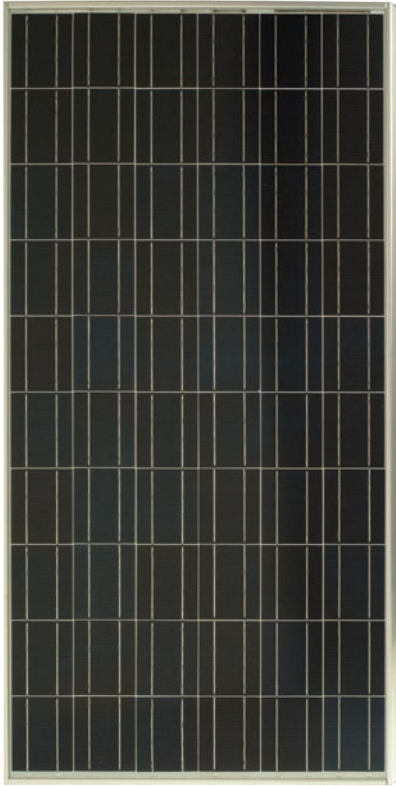




solar electricity

# 224 WATT

MULTI-PURPOSE MODULE



**ND-224U1F**

MULTI-PURPOSE 224 WATT  
MODULE FROM THE WORLD'S  
TRUSTED SOURCE FOR SOLAR.

Using breakthrough technology, made possible by nearly 50 years of proprietary research and development, Sharp's ND-224U1F solar module incorporates 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, this module offers high power output per square foot of solar array.

Business leaders install this module in large commercial applications, demonstrating financial astuteness and environmental stewardship.

### ENGINEERING EXCELLENCE

High module efficiency for an outstanding balance of size and weight to power and performance.

### DURABLE

Tempered glass, EVA lamination and weatherproof backskin provide long-life and enhanced cell performance.

### RELIABLE

25-year limited warranty on power output.

### HIGH PERFORMANCE

This module uses an advanced surface texturing process to increase light absorption and improve efficiency.



Sharp multi-purpose modules offer industry-leading performance for a variety of applications.



Improved Frame Technology

### SHARP: THE NAME TO TRUST

When you choose Sharp, you get more than well-engineered products. You also get Sharp's proven reliability, outstanding customer service and the assurance of our 25-year limited warranty. A global leader in solar electricity, Sharp powers more homes and businesses than any other solar manufacturer worldwide.

**BECOME POWERFUL**

# 224 WATT

## ND-224U1F

### ELECTRICAL CHARACTERISTICS


Maximum Power (Pmax)*	224 W
Tolerance of Pmax	+10%/-5%
Type of Cell	Polycrystalline silicon
Cell Configuration	60 in series
Open Circuit Voltage (Voc)	36.6 V
Maximum Power Voltage (Vpm)	29.28 V
Short Circuit Current (Isc)	8.33 A
Maximum Power Current (Ipm)	7.66 A
Module Efficiency (%)	13.74%
Maximum System (DC) Voltage	600 V
Series Fuse Rating	15 A
NOCT	47.5°C
Temperature Coefficient (Pmax)	-0.485%/°C
Temperature Coefficient (Voc)	-0.36%/°C
Temperature Coefficient (Isc)	0.053%/°C

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

### MECHANICAL CHARACTERISTICS

Dimensions (A x B x C below)	39.1" x 64.6" x 1.8"/994 x 1640 x 46 mm
Cable Length (I)	43.3"/1100 mm
Type of Output Terminal	Lead Wire with MC Connector
Weight	44.1 lbs / 20.0 kg
Max Load	50 psf (2400 Pascals)

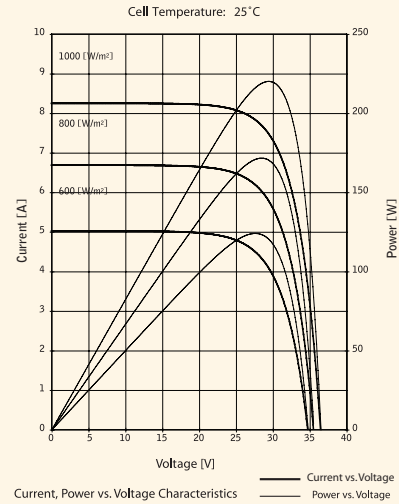
### QUALIFICATIONS

UL Listed	UL 1703	
Fire Rating	Class C	

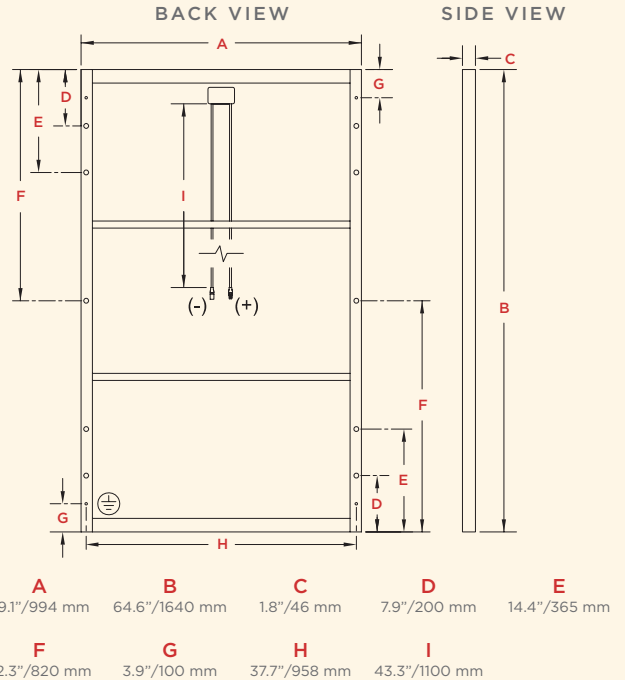
### WARRANTY

25-year limited warranty  
Contact Sharp for complete warranty information

### IV CURVES



### DIMENSIONS



Contact Sharp for tolerance specifications

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DC Power Systems  
(800) 967-6917  
www.dcpower-systems.com