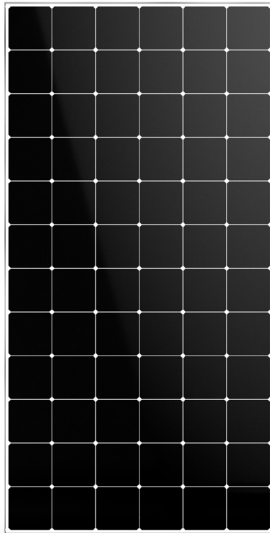




475–450 W Commercial M-Series Panel

SunPower® Maxeon® Technology

Built specifically for use with the SunPower Helix® system, the only fully integrated solar solution designed, engineered, and warranted by one company.

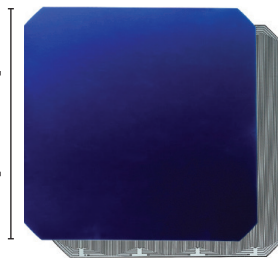


Highest Power Density Available

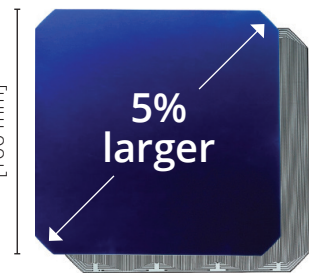
The patented, solid-copper foundation Maxeon Gen 6 cell is over 5% larger than prior generations, delivering the highest-efficiency commercial solar panel available.*



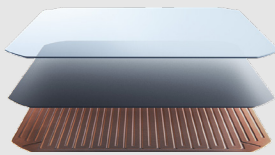
6.37 in
[161.7 mm]



6.54 in
[166 mm]



SunPower® Maxeon® Solar Cell Technology



Fundamentally different. And better.

- Delivers unmatched reliability²
- Patented solid metal foundation prevents breakage and corrosion

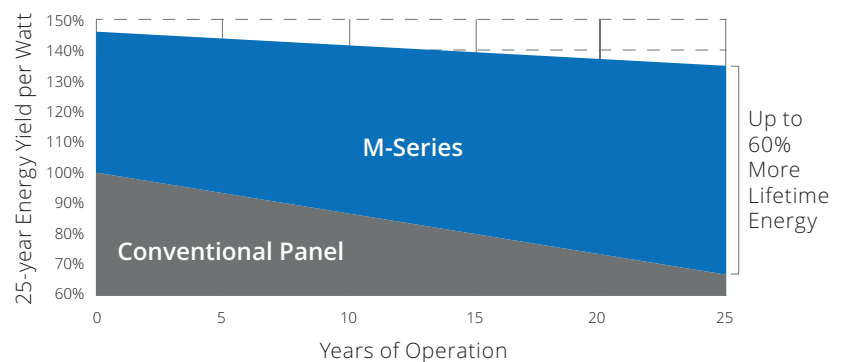
As sustainable as the energy it produces.

- Achieved the #1 ranking on the Silicon Valley Toxics Coalition's Solar Scorecard for 3 years running
- SunPower modules can contribute to your business's LEED certification³



Highest Lifetime Energy and Savings

Designed to deliver 60% more energy over 25 years in real-world conditions like partial shade and high temperatures.¹



Best Reliability, Best Warranty

With more than 42.6 million and 15 GW modules deployed around the world, SunPower technology is proven to last. That's why we stand behind our panel with the industry's best 25-year Combined Power and Product Warranty.

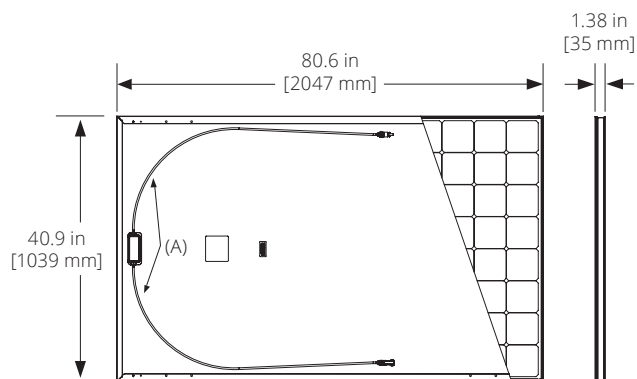
M-Series: M475 | M460 | M450 Maxeon® Commercial Panel

Electrical Data			
	SPR-M475-COM	SPR-M460-COM	SPR-M450-COM
Nominal Power (P _{nom}) ¹	475 W	460 W	450 W
Power Tolerance	+5/-0%	+5/-0%	+5/-0%
Pane Efficiency	22.3%	21.6%	20.2%
Rated Voltage (V _{mpp})	43.9 V	43.2 V	42.8 V
Rated Current (I _{mpp})	10.82 A	10.64 A	10.52 A
Open-Circuit Voltage (V _{oc})	52.6 V	52.5 V	52.4 V
Short-Circuit Current (I _{sc})	11.57 A	11.54 A	11.51 A
Max. System Voltage	1500 V UL		
Maximum Series Fuse	20 A		
Power Temp Coef.	0.29% / °C		
Voltage Temp Coef.	0.239% / °C		
Current Temp Coef.	0.057% / °C		

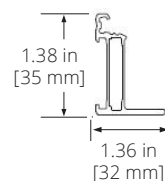
Tests and Certifications	
Standard Tests	UL61730 (Type 2 Fire Rated)
Quality Management Certs	ISO 9001:2015, ISO 14001:2015
EHS Compliance	RoHS, OHSAS 18001:2007, lead free, Recycle Scheme, REACH SVHC-163
Ammonia Test	IEC 62716
Desert Test	MIL-STD-810G
Salt Spray Test	IEC 61701 (maximum severity)
PID Test	1500 V: IEC 62804
Available Listings	UL

Operating Conditions and Mechanical Data	
Temperature	-40°C to +85°C (40°F to +185°F)
Impact Resistance	25 mm (1 in.) diameter hail at 23 m/s (52 mph)
Appearance	Class A
Solar Cells	72 Maxeon 6 cells
Tempered Glass	High-transmission tempered anti reflective
Junction Box	IP-68, PV4S
Weight	22.7 kg (50 lb)
Max. Test Load ⁵	Wind: 125 psf, 6000 Pa, 611 kg/m ² back Snow: 187 psf, 9000 Pa, 917 kg/m ² front
Max. Design Load	Wind: 75 psf, 3600 Pa, 367 kg/m ² back Snow: 125 psf, 6000 Pa, 611 kg/m ² front
Frame	Class 2 silver anodized

Packaging Configuration	
Modules Per Pallet	29
Packaging Box Dimensions	2082 × 1072 × 1224 mm
Pallet Gross Weight	689 kg (1519 lb)
Pallets Per Container	30
Net Weight Per Container	20,670 kg (45,569 lb)



Frame Profile



- A. Cable Length:
1350 mm ±10 mm (53.1 in. ±0.4 in.)
- B. Long Side:
32 mm (1.3 in.)
- Short Side:
32 mm (1.3 in.)

* Based on datasheet review of websites of top 20 manufacturers per Wood Mackenzie US PV Leaderboard Q1 2022.

1 Maxeon 475 W, 22.3% efficient, compared to a Conventional Panel on same-sized arrays (310 W, 18% efficient, approx. 2.0 m²), 7.9% more energy per watt (based on PVSyst pan files for avg. US climate), 0.5%/yr slower degradation rate (Jordan, et. al. "Robust PV Degradation Methodology and Application." PVSC 2018).

2 #1 rank in "Fraunhofer PV Durability Initiative for Solar Modules: Part 3". PVTech Power Magazine, 2015. Campeau, Z. et al. "SunPower Module Degradation Rate," SunPower white paper, 2013.

3 M-Series panels additionally contribute to LEED Materials and Resources credit categories.

4 Standard Test Conditions (1000 W/m² irradiance, AM 1.5, 25°C). All DC voltage is fully contained within the module.
5 Please read the safety and installation instructions for more information regarding load ratings and mounting configurations.

See www.sunpower.com/company for more reference information.

Specifications included in this datasheet are subject to change without notice.

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Please read the safety and installation instructions for details.



539976 Rev A / LTR_US



SUNNY HIGHPOWER PEAK3 125-US / 150-US

SHP 125-US-20 / SHP 150-US-20



Cost effective

- Modular architecture reduces BOS and maximizes system uptime
- Compact design and high power density maximize transportation and logistical efficiency

Maximum flexibility

- Scalable 1,500 VDC building block with best-in-class performance
- Flexible architecture creates scalability while maximizing land usage

Simple install, commissioning

- Ergonomic handling and simple connections enable quick installation
- Centralized commissioning and control with SMA Data Manager

Highly innovative

- SMA Smart Connected reduces O&M costs and simplifies field-service
- Powered by award winning ennexOS cross sector energy management platform

SUNNY HIGHPOWER PEAK3 125-US / 150-US

A superior modular solution for large-scale power plants

The PEAK3 1,500 VDC inverter offers high power density in a modular architecture that achieves a cost-optimized solution for large-scale PV integrators. With fast, simple installation and commissioning, the Sunny Highpower PEAK3 is accelerating the path to energization. SMA has also brought its field-proven Smart Connected technology to the PEAK3, which simplifies O&M and contributes to lower lifetime service costs. The PEAK3 power plant solution is powered by the ennexOS cross sector energy management platform, 2018 winner of the Intersolar smarter E AWARD.

Technical Data	Sunny Highpower PEAK3 125-US	Sunny Highpower PEAK3 150-US
Input (DC)		
Maximum array power	187500 W _p STC	225000 W _p STC
Maximum system voltage	1500 VDC	
Rated MPP voltage range	705 V ... 1450 V	880 V ... 1450 V
MPPT operating voltage range	684 V ... 1500 V	855 V ... 1500 V
MPP trackers	1	
Maximum operating input current	180 A	
Maximum input short-circuit current	325 A	
Output (AC)		
Nominal AC power	125000 W	150000 W
Maximum apparent power	125000 VA	150000 VA
Output phases / line connections	3 / 3-PE	
Nominal AC voltage	480 V	600 V
Compatible transformer winding configuration	Wye-grounded	
Maximum output current	151 A	
Rated grid frequency	60 Hz	
Grid frequency / range	50 Hz, 60 Hz / -6 Hz ... +6 Hz	
Power factor at rated power / adjustable displacement	1 / 0.0 leading ... 0.0 lagging	
Harmonics (THD)	<3%	
Efficiency		
CEC efficiency	98.5 %	99.0 %
Protection and safety features		
Ground fault monitoring: Riso / Differential current	● / ●	
DC reverse polarity protection	●	
AC short circuit protection	●	
Monitored surge protection (Type 2): DC / AC	● / ●	
Protection class / overvoltage category (as per UL 840)	I / IV	
General data		
Device dimensions (W / H / D)	770 / 830 / 444 mm (30.3 / 32.7 / 17.5 in.)	
Device weight	98 kg (216 lbs)	
Operating temperature range	-25 °C ... +60 °C (-13 °F ... +140 °F)	
Storage temperature range	-40 °C ... +70 °C (-40 °F ... +158 °F)	
Audible noise emission (full power @ 1m and 25 °C)	< 69 dB(A)	
Internal consumption at night	< 5 W	
Topology	Transformerless	
Cooling concept	OptiCool (forced convection, variable speed fans)	
Enclosure protection rating	Type 4X (as per UL 50E)	
Maximum permissible relative humidity (non-condensing)	100%	
Additional information		
Mounting	Rack mount	
DC connection	Terminal lugs - up to 600 kcmil CU/AL	
AC connection	Screw terminals - up to 300 kcmil CU/AL	
LED indicators (Status/Fault/Communication)	●	
SMA Speedwire (Ethernet network interface)	● (2 x RJ45 ports)	
Data protocols: SMA Modbus / SunSpec Modbus	● / ●	
Integrated Plant Control / Q on Demand 24/7	● / ●	
Off-grid capable / SMA Hybrid Controller compatible	- / ●	
SMA Smart Connected (proactive monitoring and service)	●	
Certifications		
Certifications and approvals	UL 62109, UL 1998, CAN/CSA-C22.2 No.62109	
FCC compliance	FCC Part 15, Class A	
Grid interconnection standards	IEEE 1547, UL 1741 SA - CA Rule 21, HECO Rule 14H	
Advanced grid support capabilities	L/HFRT, L/HVRT, Volt-VAR, Volt-Watt, Frequency-Watt, Ramp Rate Control, Fixed Power Factor	
Warranty		
Standard	5 years	
Optional extensions	10 / 15 / 20 years	
Type designation	SHP 125-US-20	SHP 150-US-20

Technical data as of May 2020 ● Standard features ○ Optional features – Not available

SHP150-US-17 Changes to products and services, including those resulting from country-specific requirements, as well as deviations from technical data are subject to change at any time without notice. SMA assumes no liability for typographical or other errors. Please visit www.SMA-Solar.com for the latest information.