



## EST SERIES SOLAR MODULES

ENN Solar's EST series is designed to provide high performance, top quality and cost effective solar modules for a wide range of applications employing the most advanced silicon thin film production technology.

ENN Solar modules are manufactured with environmentally friendly processes and use approximately 1% of the silicon material required for typical crystalline silicon modules. By combining a cutting-edge production line and the expertise of our core technology team, we are committed to continuous technology innovation, and to making clean, renewable energy more affordable and available worldwide.

### KEY FEATURES

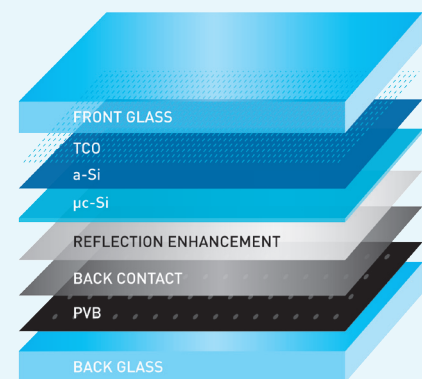
- » Environmentally safe production process and no toxic materials used in module
- » Four module sizes up to 5.7m<sup>2</sup> suited to a variety of applications
- » Up to 460 Wp power output
- » Available with or without bonded rails
- » Compatible with standard ground-mounted structures
- » Shorter energy pay back period

### KEY ADVANTAGES

- » Higher power output in low or diffused light
- » 60% lower heat coefficient than crystalline silicon
- » Over 10% more power output than crystalline silicon
- » Higher voltage modules require smaller gauge wiring
- » Full size modules reduce installation costs by 20%

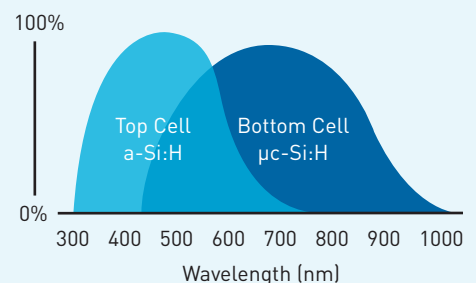
### EST MODULE CONSTRUCTION

ENN Solar's silicon thin film tandem junction solar modules. Total thickness: 7.5mm / .295"







### QUANTUM EFFICIENCY YIELD

Two PIN junctions absorb a wide solar spectrum from visible light to IR.



# EST MODULE SPECIFICATIONS

MODEL	EST-460	EST-225V	EST-225H	EST-110
Dimensions	2.2m / 7.2ft 	1.1m / 3.6ft 	2.2m / 7.2ft 	1.1m / 3.6ft 
Thickness (Excluding J-Box)	7.5mm (+/-0.2mm) / .295" (+/- .008")			
Nominal Power (W)	460	225	225	110
Voc (V) (Open Current Voltage)	289	142	289	142
Isc (A) (Short Circuit Current)	2.46	2.46	1.22	1.22
Vmpp (V) (Max. Power Voltage)	220	108	220	108
Impp (A) (Max. Power Current)	2.08	2.08	1.03	1.03
Weight (Without Mounting Rails)	95kg / 210lbs	48kg / 105lbs	48kg / 105lbs	24kg / 53lbs
Weight (With Mounting Rails)	117kg / 258lbs	59kg / 130lbs	59kg / 130lbs	30kg / 66lbs
TEMPERATURE COEFFICIENT				
Power	- 0.20%/°C			
Voc	- 0.30%/°C			
Isc	+ 0.10%/°C			
Vmpp	- 0.30%/°C			
Impp	+ 0.15%/°C			
Temperature Range	- 40°C to + 85°C / - 40°F to + 185°F			

## ALL VALUES RATED UNDER STANDARD TEST CONDITIONS

- » Irradiance of 1,000W/m<sup>2</sup>, spectrum of AM 1.5, and ambient temperature at 25°C / 77°F.
- » The initial performance of the modules will be higher than the stable values shown above.
- » The Voc and Isc may be up to 5% higher. The Nominal Power is the stabilized value +/-5%.

## QUALITY ASSURANCE

ENN Solar modules are performance-guaranteed for 10 years at 90% of rated power output and 25 years at 80% of rated power output. ENN Solar is striving to continuously improve module performance. Specifications are subject to change.

