



Image shown may not reflect actual configuration

# Cat® Photovoltaic Module PVT117

The Cat® thin film high photovoltaic efficiency modules provide a proven performance advantage over conventional crystalline silicon solar modules. Generating more energy than competing modules with the same power rating, the Cat PVT117 module delivers superior performance and reliability to our customers. The photovoltaic panels lower your cost of energy – reducing utility bills for grid-connected systems and offsetting the cost of fuel and maintenance for generator set powered facilities. And when integrated with Cat energy storage and microgrid master controls, the renewable energy can replace virtually all of the energy from traditional sources.

# **Features**

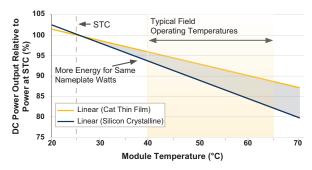
# **Proven Energy Yield Advantage**

- 17.0% maximum efficiency
- -0/+5W positive power tolerance
- Generates more energy than conventional crystalline silicon solar.
- Higher yield when compared to typical c-SI modules, resulting in more installed capacity per square meter.
- Superior temperature coefficient, better spectral response in humid conditions and better shading response means more specific annual energy yield than c-SI modules.

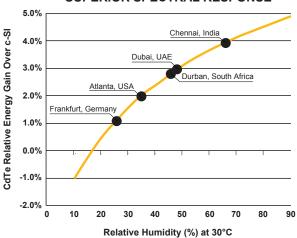
## **Advanced Performance and Reliability**

- Compatible with advanced 1500V plant architectures.
- Independently tested to pass accelerated life and stress tests beyond industry standards
- Highly predictable energy in all climates and applications
- Independently certified for reliable performance in high temperature, high humidity, extreme desert and coastal environments

### SUPERIOR TEMPERATURE COEFFICIENT



## SUPERIOR SPECTRAL RESPONSE



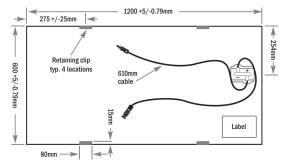
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# **Technical Data**

Mechanical Description		
Length	1200 mm (47.2 in)	
Width	600 mm (23.6 in)	
Thickness	6.8 mm (0.27 in)	
Weight	12 kg (26.5 lbs)	
Area	0.72 m <sup>2</sup>	
Leadwire	2.5 mm², 610 mm	
Connectors	488-1778 (female) / 488-1779 (male) (Multi-contact MC4)	
Bypass Diode	None	
Cell Type	Thin-film CdTe semiconductor, up to 216 cells	
Frame Material	None	
Front Glass	3.2 mm heat strengthened	
Back Glass	3.2 mm tempered	
Encapsulation	Laminate material with edge seal	
Load Rating	2400 Pa	

#### **MECHANICAL DRAWING**



# **Certification and Tests**

- Thresher Test, Long-Term Sequential Test, and ATLAS 25+
- IEC 61646 1500V, IEC 61730 1500V, CE
- IEC 61701 Salt Mist Corrosion, IEC 60068-2-68 Dust and Sand Resistance
- ISO 9001:2008 and ISO 14001:2004
- UL 1703 and ULC 1703 Listed, Type 10, Class B Fire Rating (Class A Spread of Flame)
- CSI Eligible (CA-USA), FSEC (FL-USA), MCS (UK), CEC Listed (Australia), SII (Israel), InMetro (Brazil)

# **Manufacturing Sources**

U.S., Malaysia, or Vietnam Sourced

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Module Rating at Standard Test Conditions (STC) 1000 W/m², AM 1.5, 25°C			
Nominal Values		PVT117	
Nominal Power (-0/+5 W)	P <sub>MPP</sub> (W)	117.5	
Voltage at P <sub>MAX</sub>	V <sub>MPP</sub> (V)	70.1	
Current at P <sub>MAX</sub>	I <sub>MPP</sub> (A)	1.68	
Open Circuit Voltage	V <sub>oc</sub> (V)	88.1	
Short Circuit Current	I <sub>SC</sub> (A)	1.83	
Module Efficiency	%	16.3	
Maximum System Voltage	V <sub>SYS</sub> (V)	1500 <sup>1</sup>	
Limiting Reversing Current	I <sub>R</sub> (A)	4.0	
Maximum Series Fuse	I <sub>CF</sub> (A)	4.0	
Rating at Nominal Operating			
Cell Temperature of 45°C 800 W/m², 20°C Air Temperature, AM 1.5, 1 m/w Wind Speed			
Nominal Power	P <sub>MPP</sub> (W)	89.0	
Voltage at P <sub>MAX</sub>	V <sub>MPP</sub> (V)	65.9	
Current at P <sub>MAX</sub>	I <sub>MPP</sub> (A)	1.35	
Open Circuit Voltage	V <sub>oc</sub> (V)	83.2	
Short Circuit Current	I <sub>SC</sub> (A)	1.5	
Temperature Characteristics			
Module Operating Range	(°C)	-40 to +85	
Coefficient of P <sub>MPP</sub>	T <sub>K</sub> (P <sub>MPP</sub> )	-0.28%/°C	
Coefficient of V <sub>OC</sub>	T <sub>K</sub> (V <sub>OC</sub> )	-0.28%/°C	

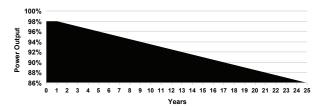
Application Class A for 1000V (class II), Application Class B for 1500V (class 0) with MC4; Application Class A for 1000V and 1500V (class II) with MC4-EVO 2

# **End of Life Recycling**

 Recycling services available through the Caterpillar industry-leading recycling program or customer selected third-party recycler.

## **Module Warranty**

- 10-year limited product warranty
- 25-year power assurance program



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