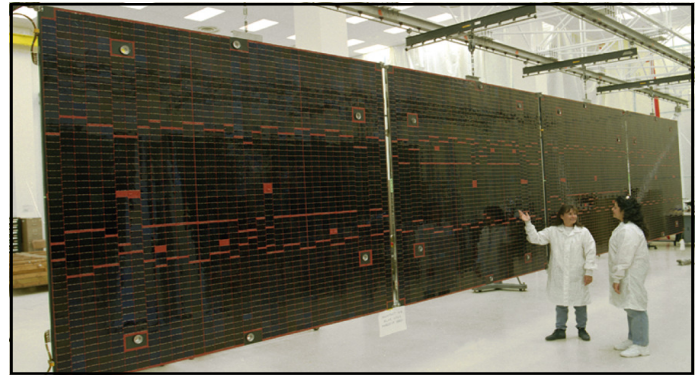


## Space Solar Panels

### Features

- High Conversion Efficiency
  - Beginning of Life & End of life
- State-of-the-art Reliability
- A wide range of hardened applications
  - Space environment effects
  - Custom products



	Improved Triple Junction (ITJ): GaInP <sub>2</sub> /GaAs/Ge	Ultra Triple Junction (UTJ): GaInP <sub>2</sub> /GaAs/Ge	NeXt Triple Junction (XTJ): GaInP <sub>2</sub> /GaAs/Ge
<b>Power (28°C, Beginning Of Life)</b>			
• Panel Area > 2.5 m <sup>2</sup>	330 W/m <sup>2</sup>	350 W/m <sup>2</sup>	370 W/m <sup>2</sup>
• Panel Area < 2.5 m <sup>2</sup>	316 W/m <sup>2</sup>	330 W/m <sup>2</sup>	349 W/m <sup>2</sup>
<b>Mass (add-on to substrate)</b>			
• 3 mil Ceria Doped Coverslide	1.76 kg/m <sup>2</sup> (5.5 mil thick cell)	1.76 kg/m <sup>2</sup> (5.5 mil thick cell)	1.76 kg/m <sup>2</sup> (5.5 mil thick cell)
• 6 mil Ceria Doped Coverslide	2.06 kg/m <sup>2</sup> (5.5 mil thick cell) 2.36 kg/m <sup>2</sup> (7.5 mil thick cell)	2.06 kg/m <sup>2</sup> (5.5 mil thick cell)	2.06 kg/m <sup>2</sup> (5.5 mil thick cell)
<b>Thermal Control</b>	Absorptance ≤ 0.92 Emittance ≥ 0.84	Absorptance ≤ 0.92 Emittance ≥ 0.84	Absorptance ≤ 0.899 Emittance ≥ 0.84
• Front: Ceria Doped Coverslide* • Rear			
<b>Magnetic Dipole Moment</b>	Standard: < 0.5 Am <sup>2</sup> ; Special: 0.0 Am <sup>2</sup> (Magnetic Field < 3 nT Measured At End Of Array Wing)		
<b>Reliability</b>	Demonstrated 0.999 for 5kW Array		

Option: Spectrolab can facilitate full scale environmental testing: vibroacoustic, thermal vacuum, thermal cycling.  
\* Lower absorptance values can be obtained using special coatings



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# Spectrolab

Photovoltaic Products

www.spectrolab.com



## Flight Hardware Heritage

### Mission Environments

Low Earth Orbit:	5 Years
Mid Earth Orbit:	10 Years
Geosynchronous Orbit:	15 Years
Planetary:	Mars, Venus, Asteroid

### Circuit Configuration

(As qualified on Aluminum and Composite Substrate Face-Sheets)

Series Connections, Wire Terminations:	<ul style="list-style-type: none"> <li>• Soldered (Standard, High Temperature)</li> <li>• Welded</li> </ul>
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### Component Integration

Interconnects:	<ul style="list-style-type: none"> <li>• Fatigue Resistant</li> <li>• Magnetic or Non-Magnetic</li> </ul>
Wiring:	<ul style="list-style-type: none"> <li>• Radiation Tolerant</li> </ul>
Connectors:	<ul style="list-style-type: none"> <li>• Crimped</li> <li>• Flex Print</li> <li>• Subminiature Shell</li> </ul>

### Thermal Control

Paint  
Second Surface Mirrors  
Silverized Teflon

### Electrostatic Discharge

Differential Voltage, Grouting, Conductively Coated Coverglass and Wiring



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The information contained on this sheet is for reference only. Specifications subject to change without notice. 04/29/2008