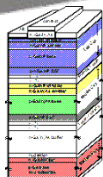


60<sup>th</sup>  
Anniversary!

**SPECTROLAB**

A BOEING COMPANY

# XTJ PRIME



## 30.7% Triple Junction Space Grade Solar Cell

- Currently in full production
- Best In class - BOL & EOL
- AIAA-S111 & AIAA-S112 Qualified
- Heritage Upright Lattice Matched XTJ Structure
- 26.7% EOL, 1E15 1MeV electron\*\*
- Multiple sizes available (27cm<sup>2</sup> through 84 cm<sup>2</sup>)

Cell Thickness = 80 μm - 225 μm

Cell Mass = 50 – 84mg/cm<sup>2</sup>

### XTJ Prime (US Standard- AIAA-S111-2005)

Parameters*	BOL	5E14	1E15	3E15	1E16
Efficiency <sub>mp</sub>	30.7%	.88	.85	.76	.65
V <sub>OC</sub> (V)	2.715	.89	.87	.83	.78
J <sub>sc</sub> (mA/cm <sup>2</sup> )	18.1	.99	.98	.96	.93
V <sub>mp</sub> (V)	2.390	.89	.87	.83	.76
J <sub>mp</sub> (mA/cm <sup>2</sup> )	17.4	.99	.97	.92	.86

\*Production Average; AMO (135.3 mW/cm<sup>2</sup>) 28°C

(Fluence 1MeV Electrons/cm<sup>2</sup>)

### XTJ Prime (European Standard - ECSS\*\*)

Parameters*	BOL	5E14	1E15	3E15	1E16
Efficiency <sub>mp</sub>	30.7%	.90	.87	.80	.70
V <sub>OC</sub> (V)	2.715	.90	.88	.85	.80
J <sub>sc</sub> (mA/cm <sup>2</sup> )	18.1	.99	.99	.97	.94
V <sub>mp</sub> (V)	2.390	.91	.89	.85	.80
J <sub>mp</sub> (mA/cm <sup>2</sup> )	17.4	.99	.98	.94	.88

\*\* Photon and temperature annealing according to ECSS-E-ST-20-08C

ENVIRONMENTAL MANAGEMENT SYSTEM  
CERTIFIED BY DNV  
**ISO 14001**

**AS9100**  
REGISTERED

REGISTERED  
**ISO 9001**  
2008

Spectrolab, Inc. 12500 Gladstone Avenue, Sylmar, California 91342 USA

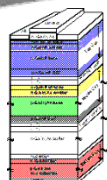
• Phone: 818.365.4611 • FAX: 818.361.5102 • Website: www.spectrolab.com

60<sup>th</sup>  
Anniversary!

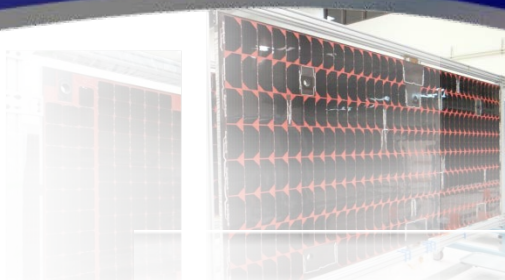
**SPECTROLAB**

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# XTJ PRIME



## 30.7% Triple Junction Space Grade Solar Cell



### Temperature Coefficients (15°C - 75°C)

Parameters	5E14	1E15	3E15	1E16
$\Delta V_{oc}/\Delta T$ (mV/C°)	-6.2	-6.3	-6.5	-6.6
$\Delta J_{sc}/\Delta T$ (uA/cm <sup>2</sup> /C°)	10	11	11	12
$\Delta V_{mp}/\Delta T$ (mV/C°)	-6.5	-6.6	-6.7	-6.7
$\Delta J_{mp}/\Delta T$ (uA/cm <sup>2</sup> /C°)	8.9	10.3	12	12

Thermal Parameters	Value
Solar Absorptance	0.88
Emittance	0.85

*Operates 2° C Cooler  
Than Other  
Space Grade Solar Cells*

### Standard Cell Sizes

