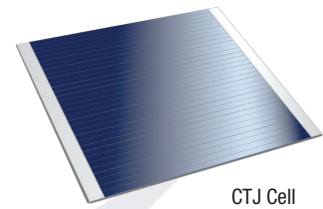


DATASHEET - MARCH 2015

SolAero's Concentrating Triple-Junction (CTJ) solar cells with n-on-p polarity are built on germanium substrates and incorporate a proprietary anti-reflective coating that provides low reflectance over a wavelength range of 0.3 to 1.8 μm . These high efficiency solar cells are optimized for terrestrial applications under concentrated incident illumination and high current densities.



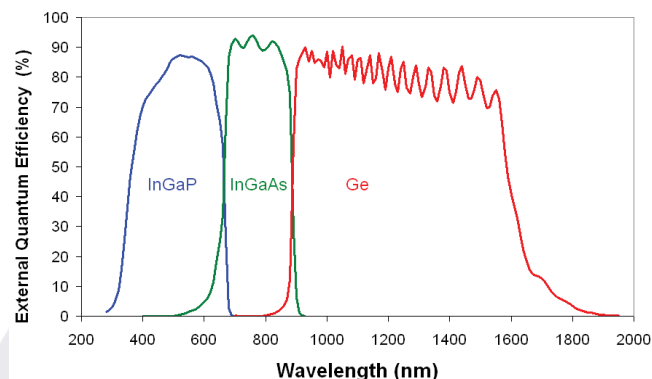
Features & Characteristics

- Series interconnected triple-junction solar cells monolithically integrated on germanium
- Photovoltaic absorber materials and bandgap energies are 1.86eV InGaP, 1.40eV InGaAs, and 0.67eV Ge
- Custom design is also available for variables such as cell size, operating intensity, spectrum, and temperature
- Weldable or solderable front and back contact metallization terminated in silver/gold alloy
- All cells are flash tested at concentration at 25°C
- A variety of shipping options are available, including waffle packs, tape and reel, or processed wafers
- 300 MW/yr manufacturing capacity
- System specific customization is available

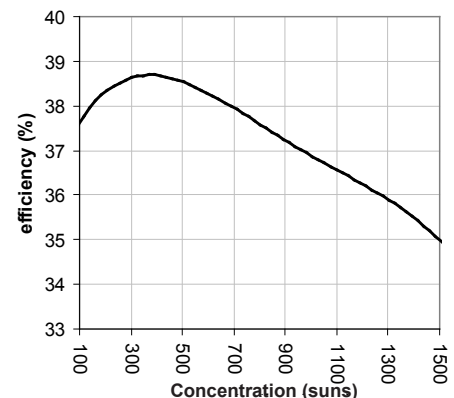
Typical Current-Voltage Parameters at 50 W/cm², 25°

Parameter	Value at 25°C, 50 W/cm ²
Efficiency (%)	39.6
Isc (Amps)	6.48
Imp (Amps)	6.34
Voc (Volts)	3.19
Vmp (Volts)	2.76

Quantum Efficiency



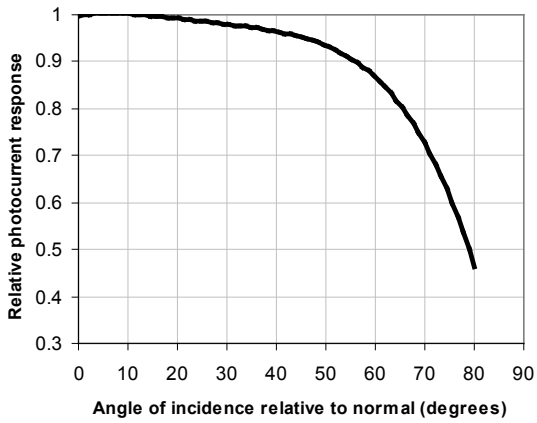
Efficiency vs. Concentration Characteristics



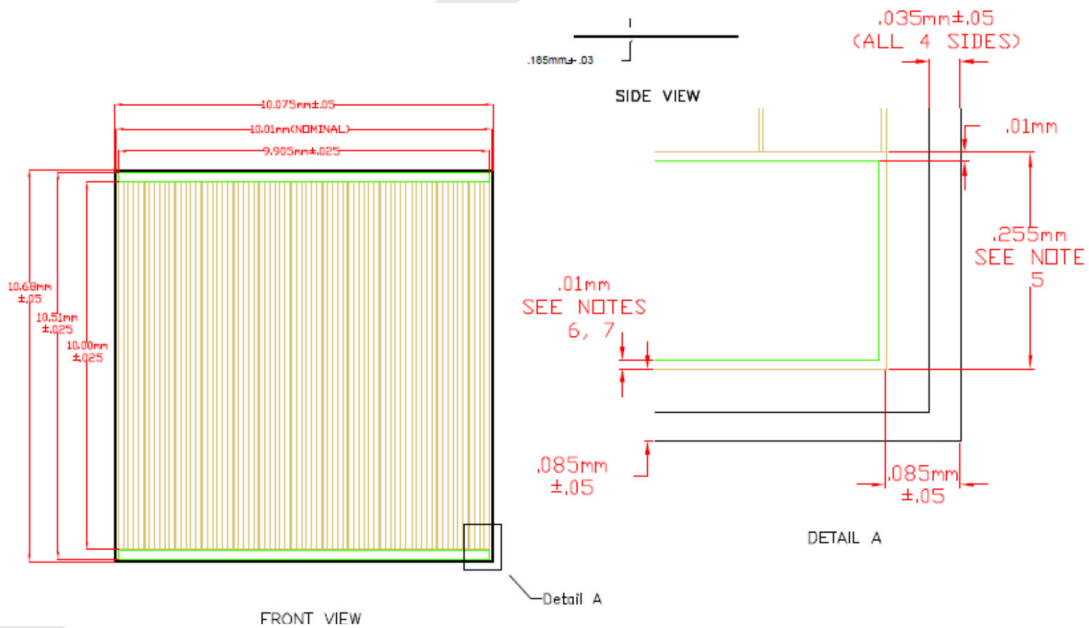
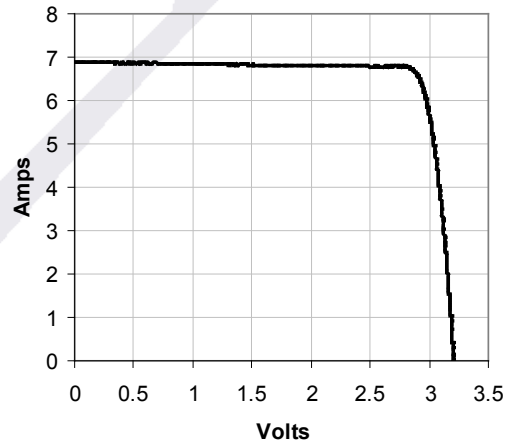
Nominal Temperature Coefficients at 50 W/cm²

Parameter	Absolute, 10°C to 100°C Range		Relative, at 25°C	
Efficiency	-0.04	absolute % / °C	-1080	PPM / °C
Vmp	-4.5	milliVolts / °C	-1610	PPM / °C
Jmp	4.7	milliAmps / cm ² / °C	570	PPM / °C
Responsivity@Vmp	7.7	x10 ⁻⁵ Amps / Watt / °C	570	PPM / °C

Angular Acceptance Characteristics



Nominal Current-Voltage Characteristics



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