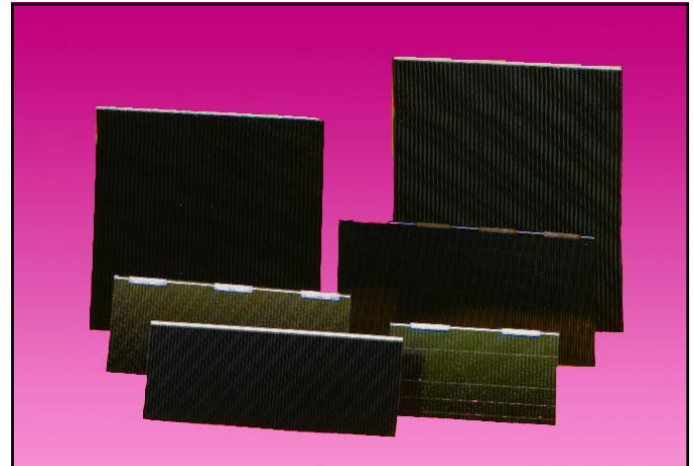


Silicon K6700B Solar Cells

Features

- High Conversion Efficiency
 - Beginning of Life
 - End of life
- High state-of-the-art reliability
- Optimized operating temperature
- Hardened applications
 - Space environmental effects: military & commercial
 - Terrestrial power
 - Consumer products
- Low Cost
 - Standard Products
 - Custom Products



Product Description

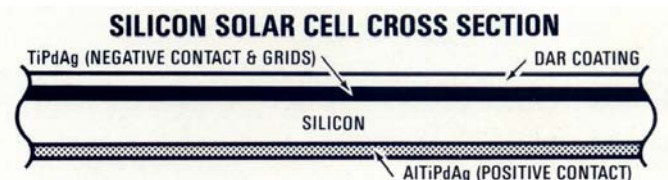
Standard/Special Product	Standard
Resistivity (p-type)	10 Ohm-cm
Crystal Orientation	1 - 0 - 0
Method of Growth	Czochralski
Shallow Junction	0.15 Micron
Metallization (Front)	TiPdAg
Metallization (Back)	AlTiPdAg
Anti-Reflective Coating	Multi-Layer
Back Surface Reflector	Aluminum
Back Surface Field	Boron
Sculptured Front Surface	No
Thickness	62 Microns
Sizes	Up to 8x8 cm
Weldable	Yes
Solderable	Sn62 Solder (QQ-S-571)

Note: other variations are available upon request

The information contained on this sheet is for reference only. Specifications subject to change without notice. 01/17/2000

Typical Qualification Test Results Nominal Degradation

Test	Description	Results
Humidity	+45°C, 90% RH Min., 30 Days	<1.5%
Thermal Cycle	+80°C to -180°C, 3000 Cycles	<2.5%
Thermal Shock	+140°C to -185°C, 5 Cycles	<1.5%
Thermal Soak	+140°C for 168 Hrs., 5×10^{-5} torr	<1.5%
Radiation	Characterized thru 1×10^{16} 1 MeV e/cm ²	—
Pull Test	90° Pull, Standard Tab	>250 gm



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Typical Electrical Parameters {AM0 Sunlight (135.3 mW/cm²), 28°C}

J_{sc}= 39.0 MilliAmperes/cm²

J_{mp}= 37.0 MilliAmperes/cm²

V_{mp}= 0.500 Volts

P_{mp}= 18.5 MilliWatts/cm²

V_{oc}= 0.605 Volts

C_{ff}= 0.78

Efficiency 13.7% Minimum Average

Radiation Degradation (Fluence e/cm² 1 MeV Electrons)

Parameter	1x10 ¹⁴	5x10 ¹⁴	1x10 ¹⁵	2.5x10 ¹⁵
I _{sc} /I _{sc0}	0.98	0.94	0.91	0.86
I _{mp} /I _{mp0}	0.98	0.93	0.90	0.85
V _{mp} /V _{mp0}	0.94	0.88	0.85	0.82
V _{oc} /V _{oc0}	0.96	0.90	0.87	0.82
P _{mp} /P _{mp0}	0.92	0.82	0.77	0.70

Thermal Properties

Solar Absorptance= 0.75 (CMX)

Solar Absorptance= 0.73 (Fused Silica)

Emittance (Normal)= 0.85 (CMX)

Emittance (Normal)= 0.81 (Fused Silica)

Weight

24 Milligrams/ cm² (Bare)

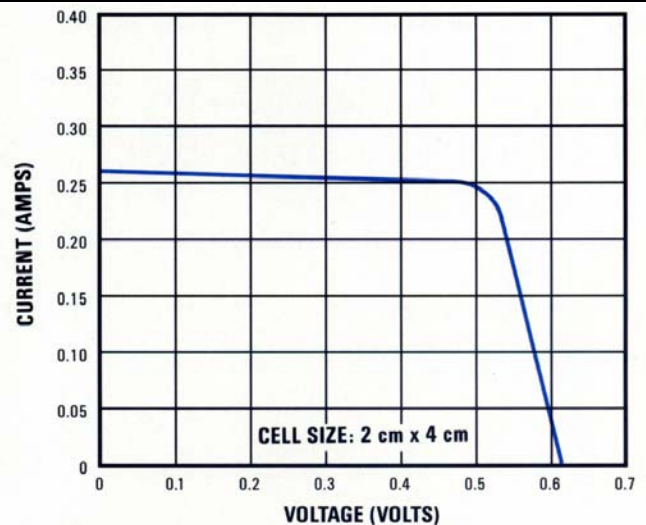
Temperature Coefficients

I_{sc}= +22.0 MicroAmperes/cm²

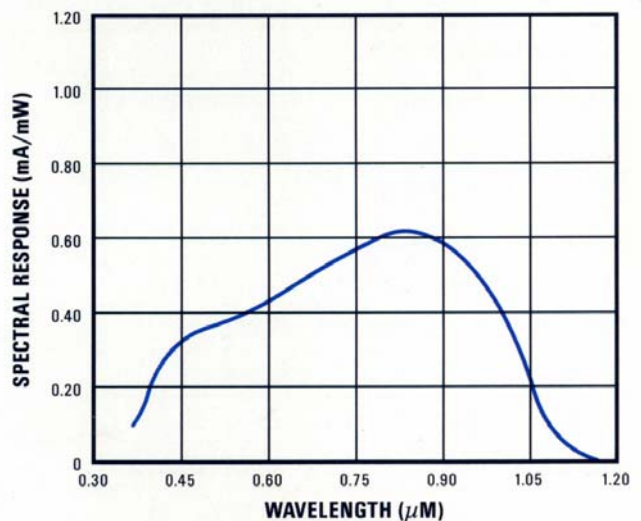
V_{mp}= -2.15 MilliVolts/°C

V_{oc}= -1.96 MilliVolts/°C

Typical I-V Characteristic Curve AM0 Sunlight (135.3 mW/cm²), 28°C



Spectral Response



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