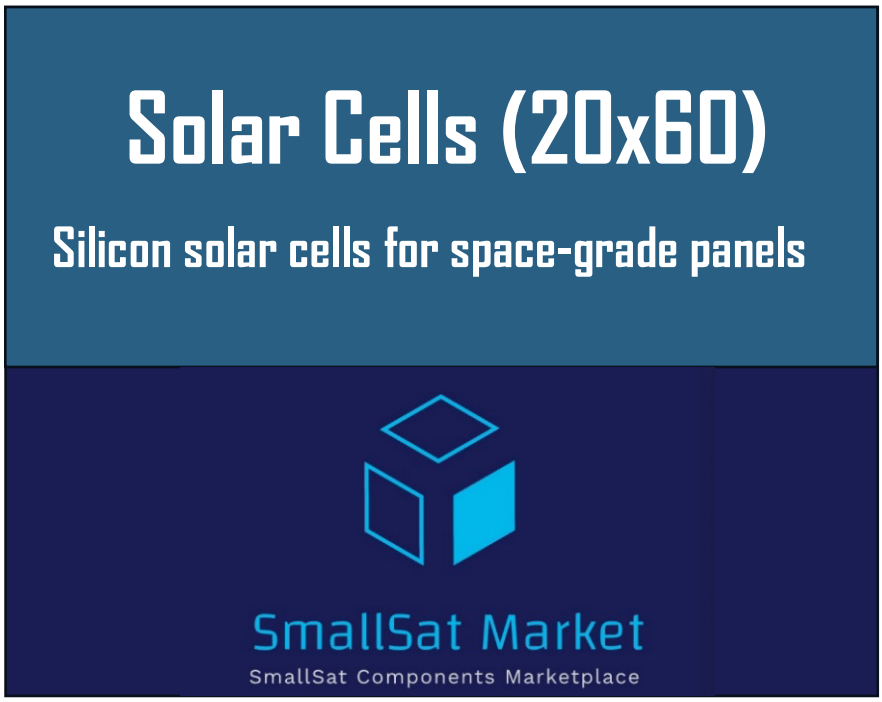
SUMMARY

These are the most proven, cheap and powerful space grade silicon solar cells in the market, with a titanium oxide and aluminum cover glass and cell interconnects (3) installed, they have been flown many times in many cubesat missions.

They are very tough, proven survivability of 10+ years with a reasonable EOL degradation level due to its coating, they have multiple points linked to the substrate, even a broken in half cell keeps working if properly installed. We have a 300+ units in inventory.



Proven reliability is a cornerstone of EXA's solar cell technology, crafted from high-purity Silicon material for enduring performance with a lifespan exceeding 20 years. Backed by flight heritage in space missions, these solar cells have demonstrated exceptional resilience in the most demanding environments. Leveraging an existing supply chain, EXA ensures scalability, maintaining consistency and reliability in every solar cell.

Designed to meet the needs of both terrestrial and space applications, EXA's solar cells are the perfect choice for long-flight-duration spacecrafts. Their custom design options allow for flexibility with customizable shapes, sizes, and a sleek black appearance, ensuring seamless integration and conformability to diverse spacecraft designs.

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Mechanical Data – Glass coated cells	
Base Material	CZ, <1-0-0>
AR-coating	TiOx/Al2O3
Dimensions (bare cell)	62.0 x 21.0 mm ± 0.1 mm
Cell Area	13.02 cm²
Average Weight	1.28 g (≤ 98 mg/cm²)
Cell - Thickness	450 ± 10 µm
Ag - Thickness	6 – 15 µm
Grid Design	3 contact pads
Resistivity	p (B) 2 ± 1 Ω cm

Electrical Data - Glass coated cells		BOL
Average Open Circuit Voc	[mV]	578
Average Short Circuit Isc	[mA/cm²]	34.49
Voltage at max. Power Vmp	[mV]	521
Current at max. Power Imp	[mA/cm²]	31.46
Average Efficiency η bare	[%]	16.9

Tolerances	
CIC size	+/- 0.1 mm
CIC thickness	+/- 50 µm

Reliability	
Thermal cycling (-180 °C to 100 °C, 6 cycles)	ΔEff <1%
96h at 95% RH and 60 °C	ΔEff <1%

Threshold values	
Solar Absorptance	<0.91
Hemispherical radiative rate	0.84 +/- 0.03
Pull test	>15N at 0°