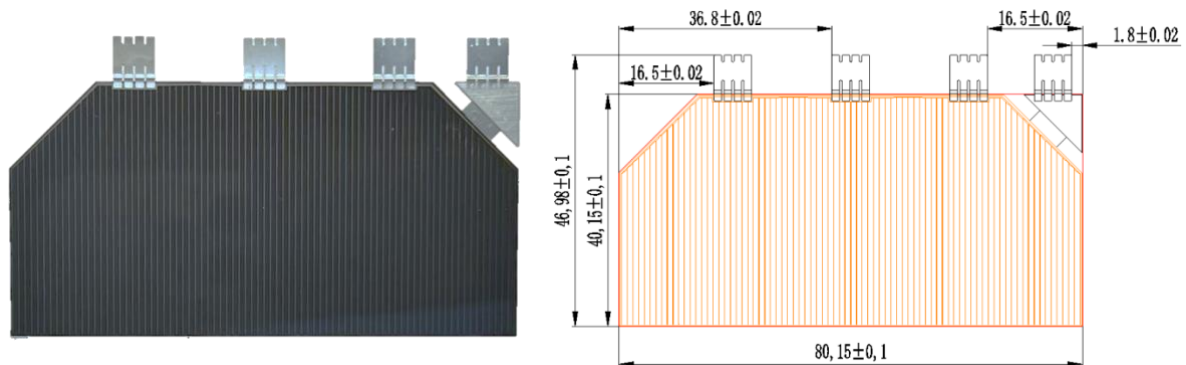


30% Triple Junction GaAs Solar Cell Assembly

Type: **30%TJ30SCA**



Triple junction GaAs solar cells are mainly used in various aerospace vehicles, which can directly convert solar energy into electric energy, and have the characteristics of high efficiency, high reliability and long life.

"30%" refers to the typical photoelectric conversion efficiency of solar cells is 30%, "TJ" refers to triple junctions, "30" refers to the battery area of 30.18cm^2 , "SCA" refers to the solar cell assembly.

Structure

Solar cell structure	GaInP/InGaAs/Ge on Ge substrate, p-Ge
Solar cell size	80.0mm×40.0mm
Solar cell area	30.18cm ²
SCA Thickness	320 μm±20 μm
SCA Weight	3.6g±0.3g
Coverglass thickness	120 μm
Coverglass size	80.15mm×40.15mm
Silicon bypass diode	V _{forward} ≤1V (1.2I _{sc}), I _{reverse} ≤10 μA (4V)
Interconnectors	Kovar coated with Ag
Warp	≤0.1mm

Electrical Data (1MeV)

	BOL	EOL(1E14e/cm ²)	EOL(5E14e/cm ²)	EOL(1E15e/cm ²)
Voc (mV)	2750	94.0%	91.0%	89.3%
Jsc(mA/cm ²)	17.5	99.4%	98.8%	98.5%
Vm(mV)	2400	94.6%	91.2%	88.0%
Jm(mA/cm ²)	17.1	99.5%	99.5%	98.3%
η(%)	30.3	94.1%	90.7%	86.5%

I-V Test Standard: AM0, 25°C±1°C, 135.3mW/cm²

Thermal characteristics

Absorptivity α _s	≤0.92(with coverglass)
Hemispherical emissivity ε _H	0.83±0.04(with coverglass)
Temperature Gradients	Voc: -6.4mV/°C, Jsc: +0.009mA/cm ² /°C

Meet the standard of GJB 7392-2011 《General Specification for
GaInP₂/InGaAs/Ge Solar Cell for Space Application》