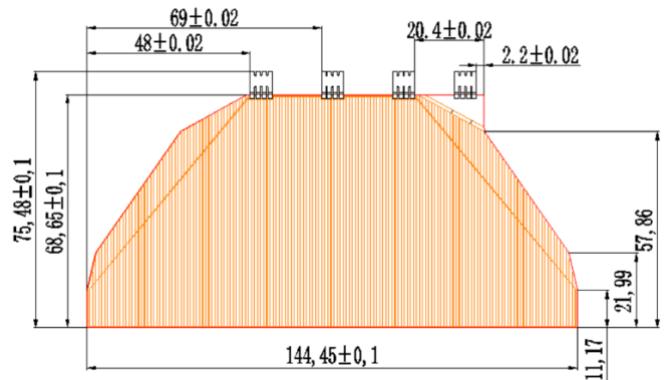


30% Triple Junction GaAs Solar Cell Assembly

Type: 30%TJ80SCA



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, "80" refers to the battery area of 79.8cm², "SCA" refers to the solar cell assembly.

Structure

Solar cell structure	GaInP/InGaAs/Ge on Ge substrate, p-Ge
Solar cell size	144.3mm × 68.5mm
Solar cell area	79.8cm ²
SCA Thickness	440 μm ± 30 μm
SCA Weight	13.2g ± 1g
Coverglass thickness	120 μm
Coverglass size	144.45mm × 68.65mm
Silicon bypass diode	$V_{forward} \leq 1V$ (1.21sc), $I_{reverse} \leq 10 \mu A$ (4V)
Interconnectors	Kovar coated with Ag
Warp	≤ 0.1mm

Electrical Data

	BOL	$EOL(1E14e/cm^2)$	$EOL(5E14e/cm^2)$	$EOL(1E15e/cm^2)$
Voc (mV)	2750	94.0%	91.0%	89.3%
Jsc(mA/cm²)	17.5	99.4%	98.8%	98.5%
Vm(mV)	2400	94.6%	91.2%	88.0%
Jm(mA/cm²)	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》**