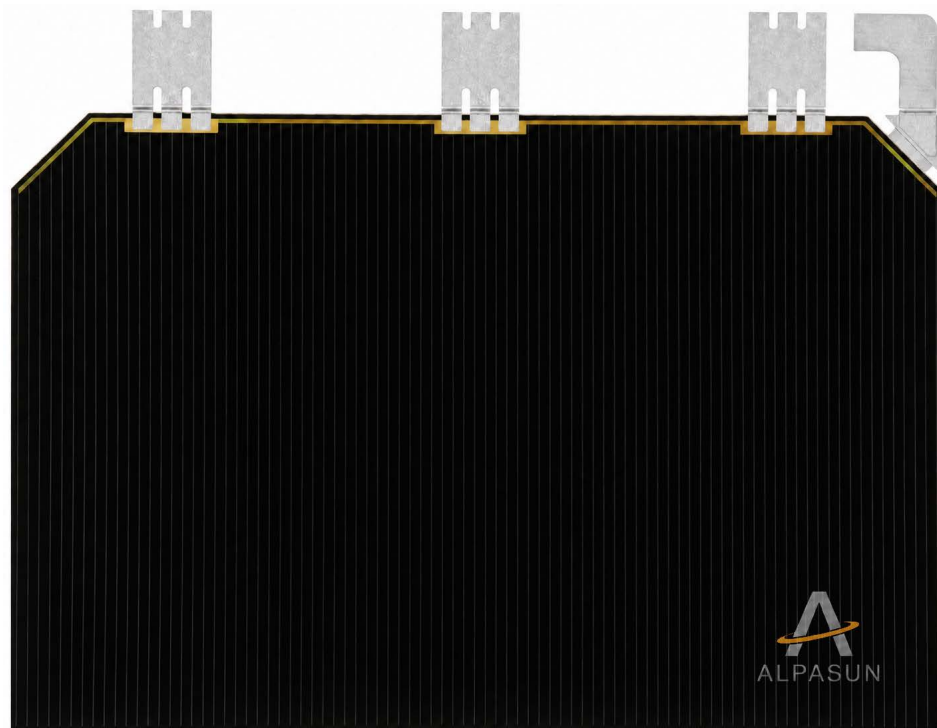
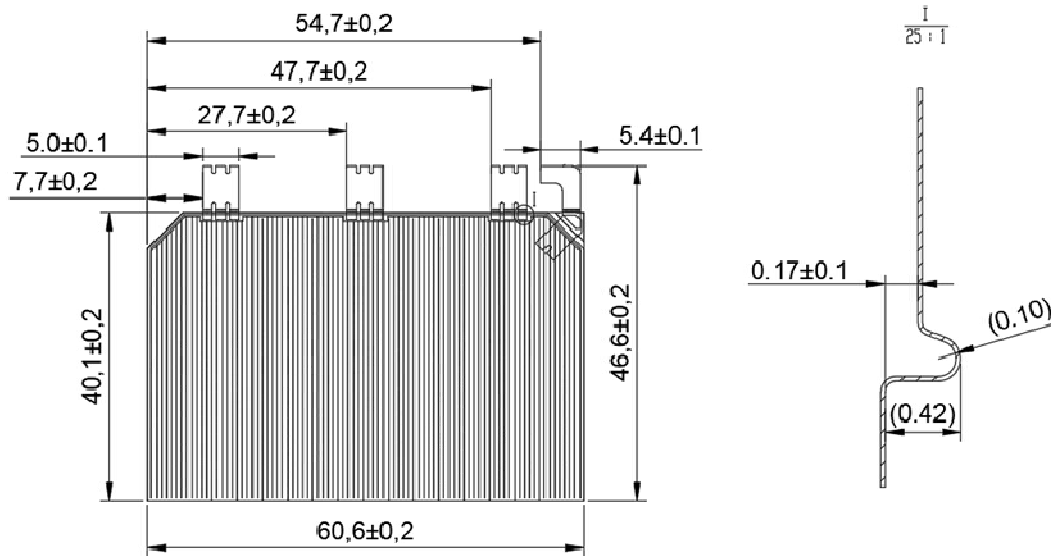


Triple Junction GaAs Solar Cell Assembly (40mm×60mm)



Contact information

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Features

- ◆ Fabricated on a germanium substrate using MOCVD epitaxial growth, semiconductor device processing and radiation-resistant packaging;
- ◆ GaInP/GaAs/Ge on Ge substrate triple junction solar cell assembly;
- ◆ $\text{Eff} \geq 30.5\%$ (25 °C, AM0 1353 W/m²) ;
- ◆ Reinforced with radiation-resistant coverglass, external Si diode protection, and interconnect soldering of Kovar silver-plated components, providing excellent durability in the space environment.

Design and Mechanical Data

Base Material	GaInP/GaAs/Ge on Ge substrate
Contact Metallization Thickness	4~5μm(Ag)
AR-coating	TiO _x /Al ₂ O ₃
Dimensions	(40.1±0.05 mm)×(60.6±0.05 mm)
Cell Area	24.0cm ²
Areal density	≤120 mg/cm ²
Thickness	0.30± 0.05mm
Coverglass thickness	120±20μm
Interconnects	kovar, silver coated
Interconnector thickness	25±4μm
Pulling Test	≥1.0N/mm ² with 25 μm kovar/Ag stripes by pulling at 45°
Bypass protection	External Si diode

Electrical Data

Data	BOL	1.0E+14	2.0E+14	5.0E+14	1.0E+15
Open Circuit V _{oc} (mV)	2750	2602	2600	2557	2481
Short Circuit I _{sc} (mA)	421.8	421.0	420.8	420.2	413.2
V _{mp} @Max. Power (mV)	2430	2304	2299	2270	2187
I _{mp} @Max. Power (mA)	414.0	413.2	413.0	412.4	408.8
Fill Factor FF (%)	85	85	85	84	85
Efficiency (%)	30.5	29	29	28	26

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Bypass Diode

Forward Voltage V_F $\leq 1.0V$ (500mA, $T=25^\circ C$)

Reverse Current I_R $\leq 200\mu A$ (4.0V, $T=25^\circ C$)

Operation Temperature $-180^\circ C$ to $+150^\circ C$

Temperature Gradients

DATA	BOL	1.0E+14	2.0E+14	5.0E+14	1.0E+15
Voltage @max. power (mV/ $^\circ C$)	-5.2	-5.4	-5.5	-5.6	-5.8
Current @max. power ($\mu A/cm^2/^\circ C$)	6.0	6.2	6.3	6.4	6.5

Absorptivity

Absorptivity ≤ 0.92

Emissivity 0.84 ± 0.03

Customization, Handling and Support.

- ◆ Product dimensions, configurations and photovoltaic efficiencies can be customized to meet specific customer requirements, subject to technical evaluation.
- ◆ This product is fragile, handle with care during transportation, storage, installation and use.
- ◆ If a product-related quality issue occurs, we will provide timely technical support, investigate the issue and work with the customer toward an effective resolution.

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