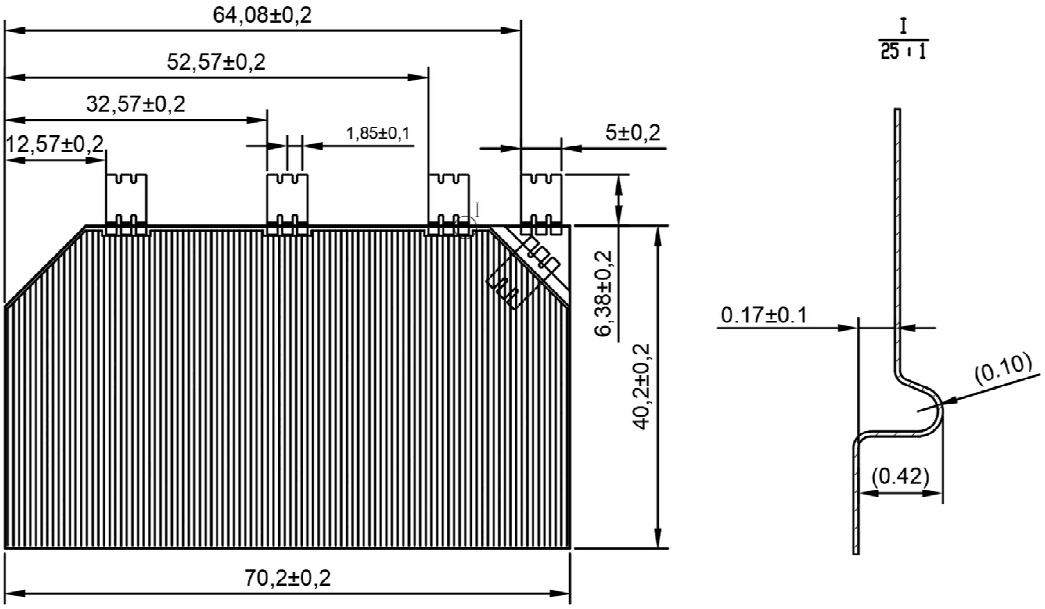
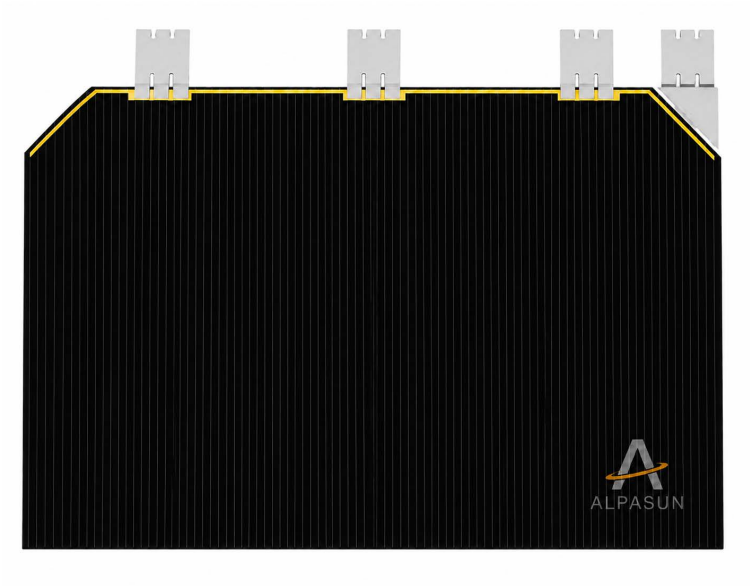
Triple Junction GaAs Solar Cell Assembly (40mm×70mm)





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;
- Eff≥30.5%（25 ℃, AM0 1353 W/m^2）;
- Reinforced with radiation-resistant coverglass, external Si diode protection, and interconnect soldering of Kovar silver-plated components, providing excellent durability to 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_2O_3
Dimensions	(70.15±0.1mm)×(40.15±0.1mm)
Cell Area	27.0cm^2
Areal density	≤120 mg/cm^2
Thickness	0.30± 0.05mm
Coverglass thickness	120±20μm
Interconnects	kovar, silver coated
Interconnector thickness	25μm±4μm
Pull Test	≥1.0N/mm^2 with 25μm 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)	475.0	474.0	473.5	472.8	465.0
V_{mp} @Max. Power (mV)	2430	2304	2299	2270	2187
I_{mp} @Max. Power (mA)	465.6	465.0	464.5	464.5	455
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	**≤1.0V（580mA，T=25°C）**
Reverse Current I_R	≤200μA（4.0V，T=25°C）
Operation Temperature	-180°C to +150°C

Temperature Gradients

DATA	BOL	1.0E+14	2.0E+14	5.0E+14	1.0E+15
Voltage @max. power (mV/°C)	-5.2	-5.4	-5.5	-5.6	-5.8
Current @max. power（μA/cm²/°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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