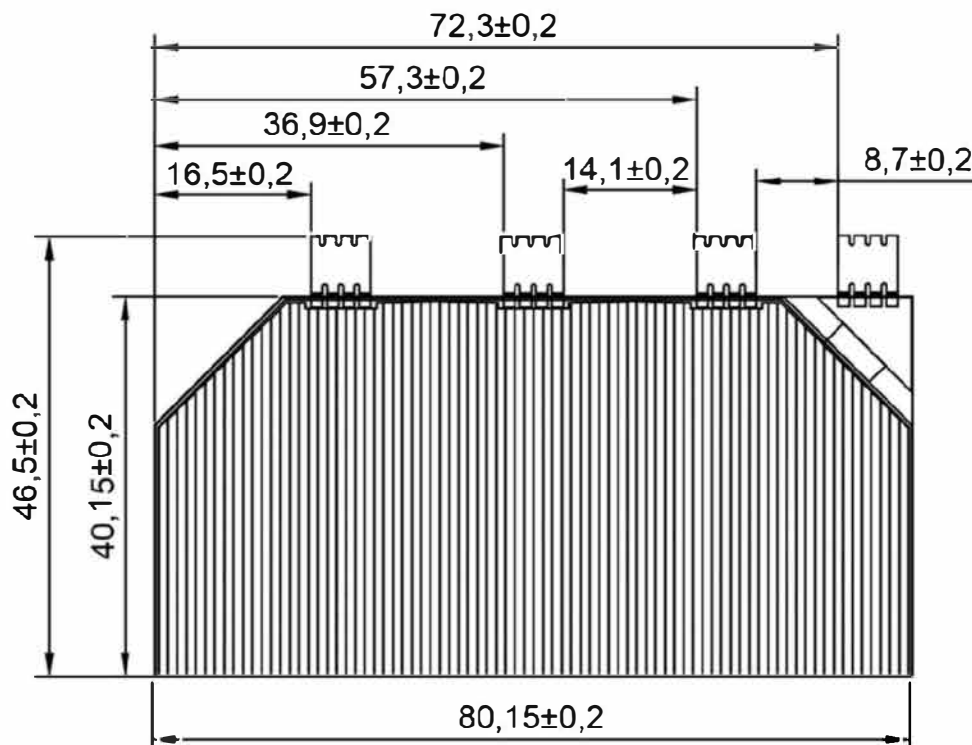
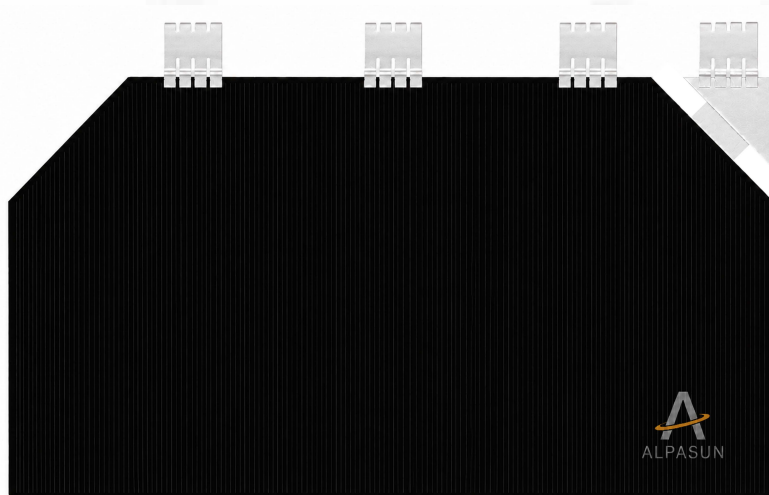


Triple Junction GaAs Solar Cell Assembly (40mm×80mm)



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	(80.15±0.05 mm)×(40.15±0.05 mm)
Cell Area	30.15cm ²
Areal density	≤145 mg/cm ²
Thickness	0.36± 0.10mm
Coverglass thickness	120±15μm
Interconnects	Kovar, silver coated
Interconnector thickness	25±4μm
Pulling Test	≥1.0N/mm ² with 21 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)	530	529	529	528	519
V_{mp} @Max. Power (mV)	2430	2304	2299	2270	2187
I_{mp} @Max. Power (mA)	520	519	519	519	508
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	$\leq 1.0V$ (620mA, $T=25^{\circ}C$)
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Reverse Current I_R	$\leq 25\mu A/mm^2$ (4.0V, $T=25^{\circ}C$)
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Operation Temperature	$-180^{\circ}C$ to $+150^{\circ}C$
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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
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Emissivity	0.84 ± 0.03
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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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