

ENERGY SOLAR

High-Efficiency Solar Cell CICs for Space Applications

Explore our High-Efficiency Solar Cell CICs designed for satellite, space station, and deep space applications. Featuring advanced encapsulation technology, these solar cells offer high efficiency, long life, and exceptional radiation resistance.

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Product Features

CIC (Coverglass Interconnected Cell) is a solar cell with interconnects encapsulated by glass cover for space use. It features a high efficiency of over **30%** and a long lifespan of over **15 years**. CIC adopts advanced encapsulation technology that effectively prevents adverse outer space effects on the solar cell.

Applications

- Application scenarios: satellites, space stations, deep space exploration, etc.
- Provides customizable high-efficiency, high-reliability aerospace products.

Parameters

High-Efficiency Solar Cell CICs

Application Orbit	Working Temperature	Size	Weight
LEO, GEO, IGSO, Deep space exploration	-175°C to 110°C	Classic size: 40mm80mm, 67mm138mm (customizable) Thickness:300-254 μm (Cell thickness: 150-200 μm) Coverglass thickness: 120 μm	≤ 115 mg/cm²

Typical Performance Data

Electrical Parameters @ AM0 (1353 W/m², T=25°C)		
Efficiency η [%]	30	32
Open Circuit Voc [V]	2.74	2.71
Short Circuit Jsc [mA/cm²]	17.4	18.7
Current @ Max. Power Jm [mA/cm²]	16.8	17.9
Voltage @ Max. Power Vm [V]	2.42	2.38

Radiation Performance at 1 MeV Electron Irradiation, EOL/BOL Ratios

Fluence (e/cm²)	1E14	5E14	1E15
Voc/Voc0	0.96	0.94	0.90
Isc/Isc0	0.99	0.97	0.94
Pmp/Pmp0	0.96	0.89	0.84

Bypass Diode

Type	Parameters
Forward Voltage (+2.5 A)	< 1.0 V
Reverse Current (-4.5 V)	< 0.7 mA

Interconnector

Type	Details
Sliver	Pull test at 45° (one point) > 1.6 N
Kovar, sliver coated	Pull test at 45° (one point) > 1.6 N

Thermal Properties (CIC)

Type	Details
Absorption Coefficient	< 0.89
Hemispheric Emissivity	0.82 ± 0.03

Temperature Gradients

Type	Unit	η = 30%	η = 32%
Short Circuit Jsc	[μA/cm²/°C]	12.0	11.0
Open Circuit Voc	[mV/°C]	-5.6	-6.0
Current at Max. Power Jm	[μA/cm²/°C]	9.0	10
Voltage at Max. Power Vm	[mV/°C]	-5.8	-6.3

For additional information on our high-efficiency solar cells or to discuss potential applications for your projects, please feel free to [contact us](#).