

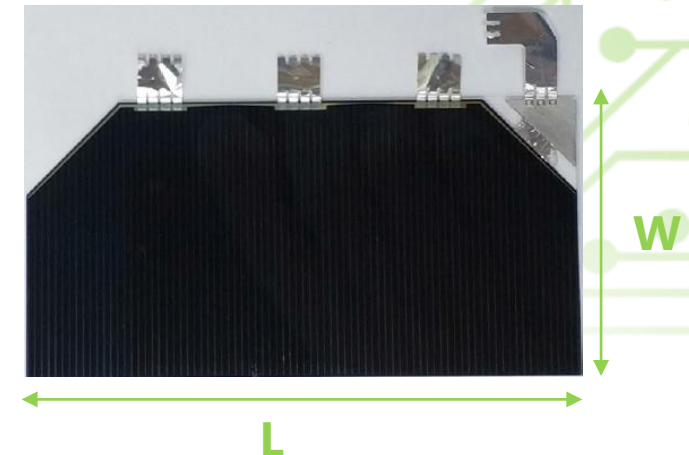
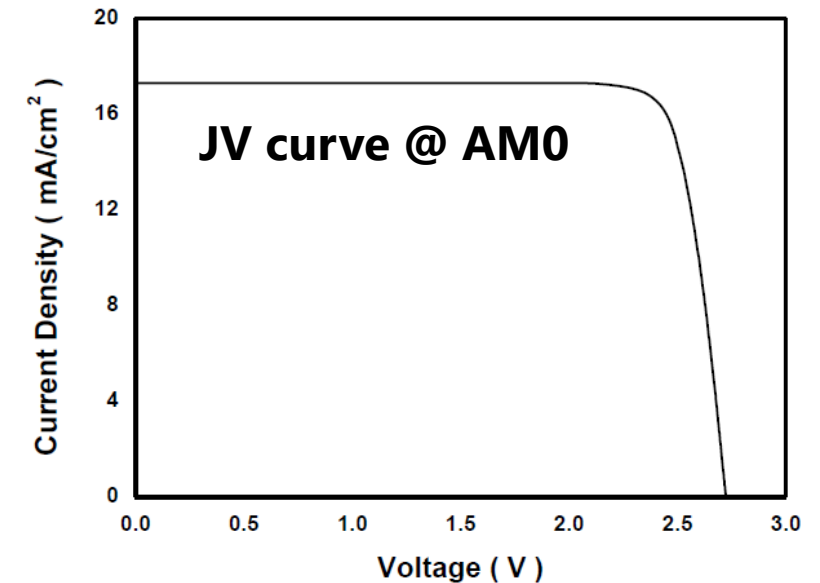
80x40 Space solar cell datasheet

Main electrical parameters @ AM0 (135.3 mW.cm ⁻²) and 25 °C	BOL	EOL (10 ¹⁵ e.cm ⁻²)
Open circuit voltage V _{oc} (V)	2.74	2.48
Short-circuit current density J _{sc} (mA.cm ⁻²)	17.2	16.7
Voltage at MPP V _{mp} (V)	2.49	2.26
Current density at MPP J _{mp} (mA.cm ⁻²)	16.4	15.4
Power per cell P _{mp} (W)	1.23	1.05
Cell Efficiency (%)	>30.0	25.7

Thermal coefficients	BOL	EOL (10 ¹⁵ e.cm ⁻²)
dV _{oc} / dT (mV.°C ⁻¹)	-5.9	-6.2
dJ _{sc} / dT (μA.cm ⁻² .°C ⁻¹)	14.8	14.6
dV _{mp} / dT (mV.°C ⁻¹)	-6.5	-6.9
dJ _{mp} / dT (μA.cm ⁻² .°C ⁻¹)	9.9	10.1

Bypass protection: external Si diode	
V _{forward} @ 620 mA (V)	0.8V
I _{reverse} @ -4V, dark (μA)	0.1

Dimensions	
Max. length L (mm)	80.15
Max. width W (mm)	40.15
Total CIC thickness (μm)	300
Coverglass thickness (μm)	100
Interconnector (Ag) thickness (μm)	25
Total area (cm ²)	30.15
Total weight (mg/cm ²)	<120



Additional information

Features	
Active material	GaInP/GaAs/Ge
Substrate	Ge
ARC	TiO _x / Al ₂ O ₃
Cell electrode	Ag/Au
Cell polarity	N on P

Tolerances	
CIC size	+/- 0.1 mm
CIC thickness	+/- 50 µm

Reliability	
Thermal cycling (-180 °C to 100 °C, 6 cycles)	ΔEff <1%
96h at 95% RH and 60 °C	ΔEff <1%

Threshold values	
Solar Absorptance	<0.91
Hemispherical radiative rate	0.84 +/- 0.03
Pull test	>7N at 0°