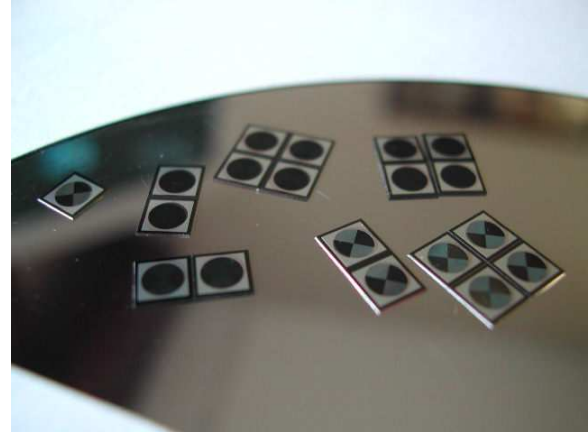
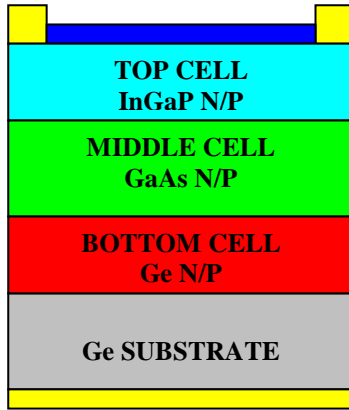


# SOLAR CELLS - Product code: CCTJ-38%

## Triple-Junction Solar Cell for Terrestrial Applications



### FEATURES & CHARACTERISTICS

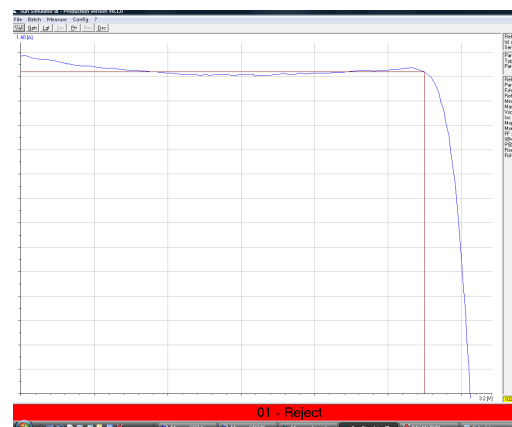
- Triple Junction Solar Cells InGaP/GaAs/Ge for CPV systems
- Polarity N on P
- Multi-layer antireflective coating matched with incident spectrum
- Characterized for terrestrial applications under concentrated illumination (over 1000 suns)
- Front and back contacts based on gold coated silver layers, weldable or solderable or bondable.
- Dimensions from 1 mm<sup>2</sup> up to 2 cm<sup>2</sup>
- Customized dimensions available
- Thickness 170 μm ± 30 μm.
- Minimum average efficiency 37%
- Operating temperature < 100°C
- Maximum temperature < 350°C
- Meet ESA ECSS Standard ECSS E20-08 for thermal cycling and humidity.
- External by-pass diode for reverse bias protection

### PERFORMANCE DATA

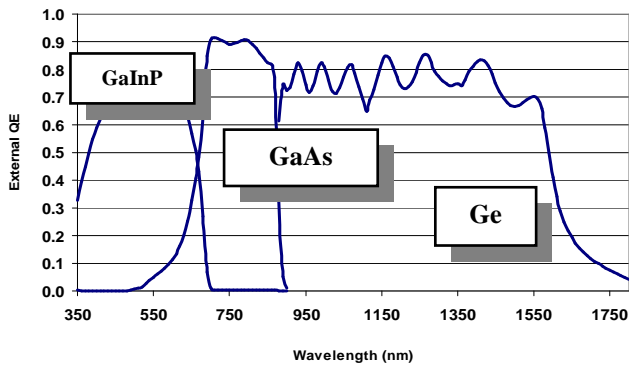
Typical solar cell electrical parameters @AM1.5D, low AOD, T=25°C

Suns	Jsc (A/cm <sup>2</sup> )	Voc (V)	Pm (W/cm <sup>2</sup> )	FF	Eff (%)
212	2.72	2.93	6.5	0.82	36.1
512	6.26	3.02	16.1	0.85	36.9
1012	12.11	3.09	32.0	0.86	37.2

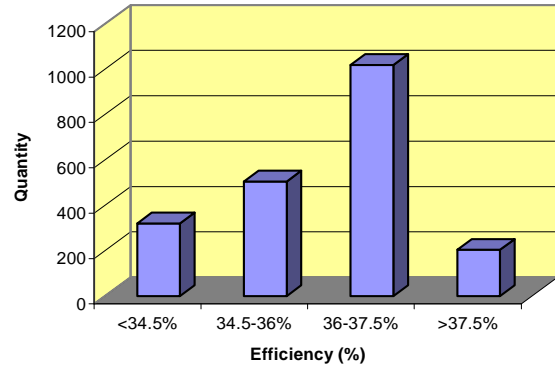
Current-Voltage Characteristic @ 1000 suns



SPECTRAL RESPONSE



EFFICIENCY DISTRIBUTION



TEMPERATURE COEFFICIENTS

Temperature Dependence at 500 suns  
(20°-70°C)

$\Delta J_{sc}/\Delta T$	$\Delta V_{oc}/\Delta T$	$\Delta \eta/\Delta T$
$\mu A/cm^2/^\circ C$	$mV/^\circ C$	$\%abs/^\circ C$
6.9	-3.99	-0.05

The Information contained on this sheet is for reference only. Specification subject to change without notice.

QUALIFICATION

Meets ECSS E20-08 standard specification for:

- Thermal Cycling
- Humidity

Specific CPV tests:

- Humidity and freeze
- Forward current for 1000 h

**CESI**

Via Rubattino 54  
I-20134 Milano - Italy  
Tel +39 02 21251  
Fax +39 02 21255440  
e-mail: info@cesi.it  
www.cesi.it