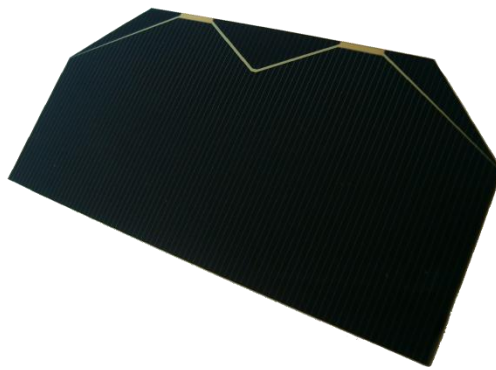
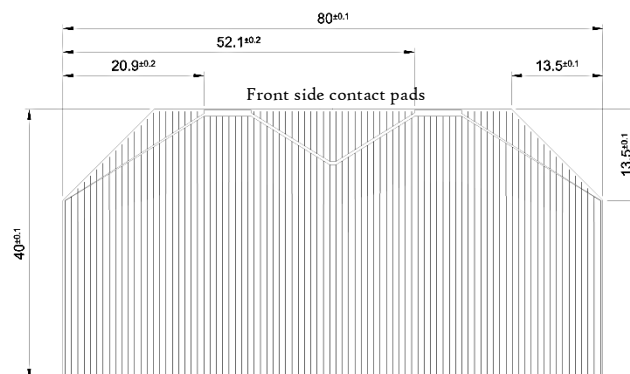




**30% Triple Junction GaAs Solar Cell**  
 Type: TJ Solar Cell 3G30C - Advanced (80 $\mu$ m)  
*Best in Class EOL-Values!*



This cell type is a GaInP/GaAs/Ge on Ge substrate triple junction solar cell (efficiency class 30% advanced and thickness 80 $\mu$ m). The end-of-life version of the 3G30C solar cell offers best EOL-performance values and should be combined with an external bypass diode protection.



**3G30C - Advanced (80 $\mu$ m)**

## 30% Triple Junction GaAs Junction Solar Cell

Type: TJ Solar Cell 3G30C - Advanced (80µm)



### Design and Mechanical Data

Base Material	GalnP/GaAs/Ge on Ge substrate
AR-coating	TiO <sub>x</sub> /Al <sub>2</sub> O <sub>3</sub>
Dimensions	40 x 80 mm ± 0.1 mm
Cell Area	30.18 cm <sup>2</sup>
Average Weight	≤ 50 mg/cm <sup>2</sup>
Thickness (without contacts)	80 ± 20 µm
Contact Metallization Thickness (Ag/Au)	3 – 10 µm
Grid Design	Grid system with 2 contact pads



### Electrical Data

		BOL	2,5E14	5E14	1E15
Average Open Circuit V <sub>oc</sub>	[mV]	2700	2616	2564	2522
Average Short Circuit I <sub>sc</sub>	[mA]	520.2	518.5	514.0	501.9
Voltage at max. Power V <sub>mp</sub>	[mV]	2411	2345	2290	2246
Current at max. Power I <sub>mp</sub>	[mA]	504.4	503.2	500.6	486.6
Average Efficiency η <sub>bare</sub> (1367 W/m <sup>2</sup> )	[%]	29.5	28.6	27.8	26.5
Average Efficiency η <sub>bare</sub> (1353 W/m <sup>2</sup> )	[%]	29.8	28.9	28.1	26.8

Standard: CASOLBA 2005 (05-20MV1, etc); Spectrum: AMO WRC = 1367 W/m<sup>2</sup>; T = 28 °C

@fluence 1MeV [e/cm<sup>2</sup>]

### Acceptance Values

Voltage V <sub>op</sub>	2350 mV
Min. average current I <sub>op avg</sub> @ V <sub>op</sub>	505 mA
Min. individual current I <sub>op min</sub> @ V <sub>op</sub>	475 mA



### Temperature Gradients

		BOL	2E14	5E14	1E15
Open Circuit Voltage	ΔV <sub>oc</sub> /ΔT↑ [mV/°C]	- 6.2	- 6.5	- 6.6	- 6.7
Short Circuit Current	ΔI <sub>sc</sub> /ΔT↑ [mA/°C]	0.36	0.33	0.35	0.38
Voltage at max. Power	ΔV <sub>mp</sub> /ΔT↑ [mV/°C]	- 6.7	- 6.8	- 7.1	- 7.2
Current at max. Power	ΔI <sub>mp</sub> /ΔT↑ [mA/°C]	0.24	0.20	0.24	0.28

@fluence 1MeV [e/cm<sup>2</sup>]



### Threshold Values

Absorptivity	≤ 0.91 (with CMX 100 AR)
Pull Test	> 1.6 N at 45° welding test (with 12.5µm Ag stripes)