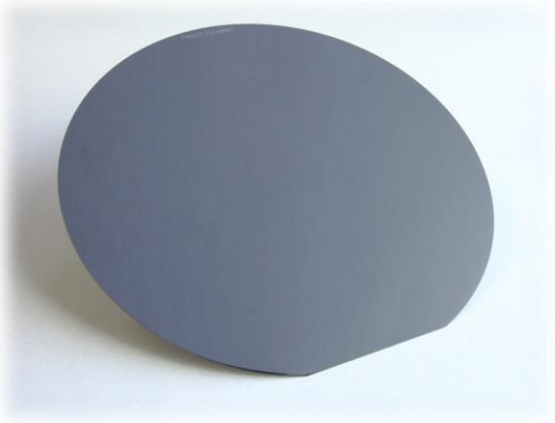
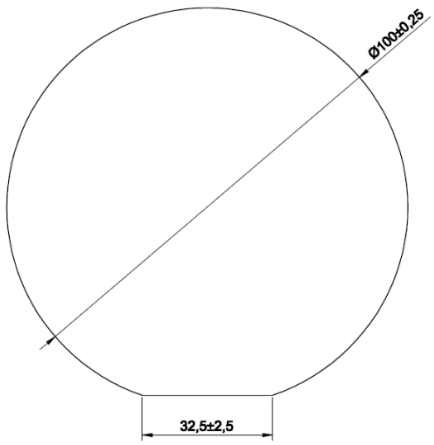
30% Triple Junction GaAs Epitaxial Wafer

Type: TJ GaAs Epitaxial Wafer 3G30W-Advanced



The AZUR SPACE unprocessed Epitaxial Wafers of class 30% contain our high-efficiency GaInP/GaAs/Ge based epitaxial layers on a Ge substrate. These epixial wafers can be used for any further processing and customized cell designs.



3G30W-Advanced

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2016-08-22

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Certified Company

ISO 9001
ISO 14001
OHSAS 18001

Space

30% Triple Junction GaAs Epitaxial Wafer-Advanced

Type: TJ GaAs Epitaxial Wafer 3G30W-Advanced

Design and Mechanical Data

Base Material	GaInP/GaAs/Ge on Ge substrate
Dimensions	100 mm ± 0.25 mm
Thickness	150 µm ± 20 µm or 175 µm ± 20 µm
Major Flat length	32.5 mm ± 2.5 mm
Major Flat orientation	<100> ± 2°
Average Weight	≤ 80 mg/cm^2
Excluded area	2 mm rim from the outer wafer edge
Laser mark label	Alpha-numeric

Electrical Data*

		BOL	2.5E14	5E14	1E15
Average Open Circuit V_{oc}	[mV]	2700	2616	2564	2522
Average Short Circuit I_{sc}	[mA/cm^2]	17.2	17.2	17.0	16.6
Voltage at max. Power V_{mp}	[mV]	2411	2345	2290	2246
Current at max. Power I_{mp}	[mA/cm^2]	16.7	16.7	16.6	16.1
Average Efficiency η_{bare} (1367 W/m^2)	[%]	29.5	28.6	27.8	26.5
Average Efficiency η_{bare} (1353 W/m^2)	[%]	29.8	28.9	28.1	26.8

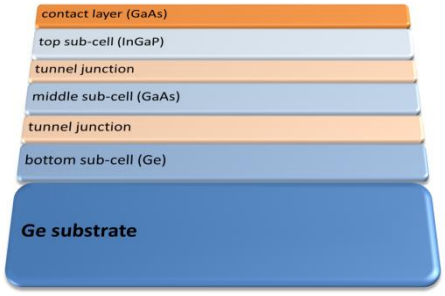
Acceptance Values

Averaged Efficiency per lot	29.5 %
Min. average Efficiency per wafer	27.5 %

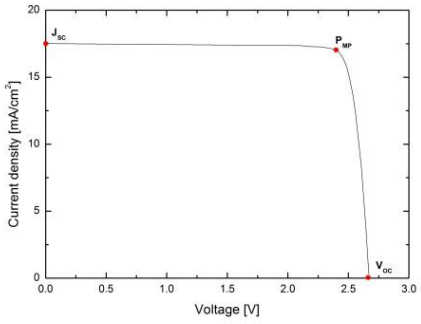
Temperature Gradients

			BOL	2.5E14	5E14	1E15
Open Circuit Voltage	$\Delta V_{oc}/\Delta T\uparrow$	[mV/°C]	- 6.2	- 6.5	- 6.6	- 6.7
Short Circuit Current	$\Delta I_{sc}/\Delta T\uparrow$	[mA/°C]	0.36	0.33	0.35	0.38
Voltage at max. Power	$\Delta V_{mp}/\Delta T\uparrow$	[mV/°C]	- 6.7	- 6.8	- 7.1	- 7.2
Current at max. Power	$\Delta I_{mp}/\Delta T\uparrow$	[mA/°C]	0.24	0.20	0.24	0.28

Layer Structure



Typical IV-Curve



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