

Specification

150 mm SiC Epitaxial Wafer Version 150/03/2021

For 3.3KV or below mass production

Items	N-type Specification (High Grade)	Typical	N-type Specification (Standard)	Typical
Diameter	150 mm	—	150 mm	—
Poly-type	4H	—	4H	—
Surface	(0001) Silicon-face	—	(0001) Silicon-face	—
Off-orientation toward [11-20]	4 ±0.5°	—	4 ±0.5°	—
Conductivity	n-type	—	n-type	—
Dopant	Nitrogen	—	Nitrogen	—
Carrier Concentration	2E15 - 3E16 cm ⁻³	—	2E15 - 3E16 cm ⁻³	—
C. C. Tolerance	±12%		±15%	
C. C. Uniformity(% s/μ)	≤ 6%	< 5%	≤8%	
Epi Thickness	5-30 μm	—	5-30 μm	—
Epi Tolerance	± 6%		± 10%	
Epi Uniformity(% s/μ)	≤ 3%	< 2%	≤ 4%	
Usable area (2mmx2mm) EE=3mm	≥95%		≥90%	
Surface Roughness 10 μm x10 μm area.	≤1 nm	≤0.5 nm	≤1 nm	≤0.5 nm
Scratches	Scratches (Max 5) cumulative length <1 x wafer diameter			
Edge chip	None permitted above 0.5 mm in size			

Notes:

- N-type epi layers ≤30 microns are preceded by an n-type, 1E18cm⁻³, 0.5-1 μm buffer layer.
Carrier Concentration is determined as an average value across the wafer using Hg probe CV.
Epi Thickness is determined as an average value across the wafer using FTIR.

Dongguan Tianyu Semiconductor Technology Co., Ltd.

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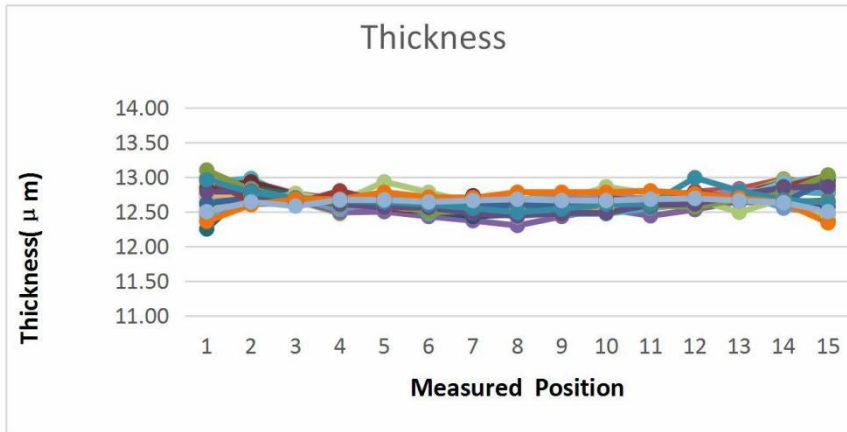
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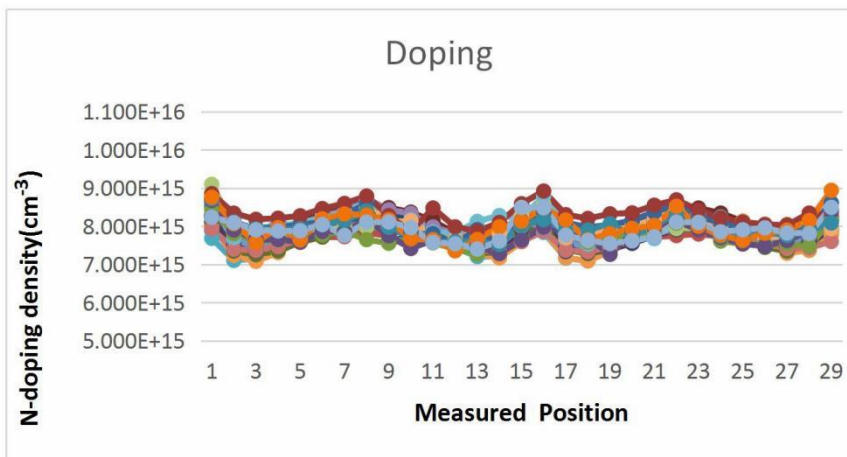
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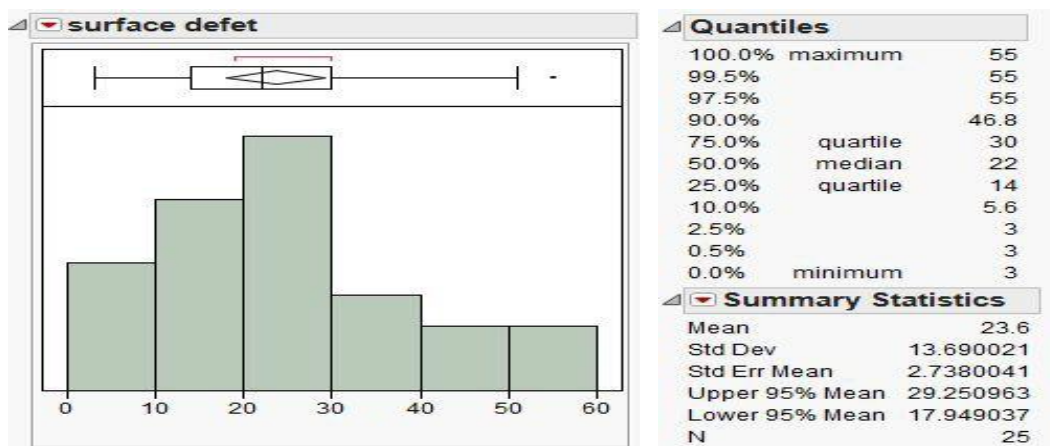
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Mean(um)	12.662
Sigma/Mean	0.29 %
(max-min)/(max+min)	0.67 %



Mean(cm-3)	7.888E+15
Sigma/Mean	2.23 %
(max-min)/(max+min)	4.40 %



Data showing 25 pcs of 150mm epi-wafers using same Process

Note:

- For ultra high thickness above 30 μm or any special epitaxy requests, please contact our Sales, local representatives or via enquiry@sicty.com

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