

## Specification

### 6 " (150 mm) SiC Epitaxial Wafer Version 150/04/2019

Items	N-type Specification (High Grade)	Typical	N-type Specification (Standard)	Typical
<b>Diameter</b>	6 " (150 mm)	—	6 " (150 mm)	—
<b>Poly-type</b>	4H	—	4H	—
<b>Surface</b>	(0001) Silicon-face	—	(0001) Silicon-face	—
<b>Off-orientation toward &lt;11<math>\bar{2}</math>0&gt;</b>	4 ±0.5°	—	4 ±0.5°	—
<b>Conductivity</b>	n-type	—	n-type	—
<b>Dopant</b>	Nitrogen	—	Nitrogen	—
<b>Carrier Concentration</b>	3E15 - 3E16 cm <sup>-3</sup>	—	3E15 - 3E16 cm <sup>-3</sup>	—
<b>Tolerance (All measured points are guarranty EE=5mm)</b>	±12%		±15%	
<b>Uniformity(Std/mean)</b>	≤ 6%	< 5%	≤8%	
<b>Epi Thickness</b>	≤30 μm	—	≤30 μm	—
<b>Tolerance (All measured points are guarranty EE=5mm)</b>	± 6%		± 10%	
<b>Uniformity(Std/mean)</b>	≤ 3%	< 2%	≤ 4%	
<b>Usable area (2mmx2mm) EE=3mm</b>	≥95%		≥90%	
<b>Surface Defect</b> include but not limited to Triangles, comet tails, carrots, particles.	≤0.5 cm <sup>-2</sup>		≤1 cm <sup>-2</sup>	
<b>Surface Roughness</b> 10 μm x10 μm area.	≤1 nm	≤0.5 nm	≤1 nm	≤0.5 nm
<b>Scratches</b>	<1 x wafer diameter			
<b>Edge chip</b>	None permitted above 0.5mm			

**Notes:**

- N-type epi layers ≤30 microns are preceded by an n-type, 1E18 cm<sup>-3</sup>, 0.5-1 μm buffer layer
- Net Doping 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

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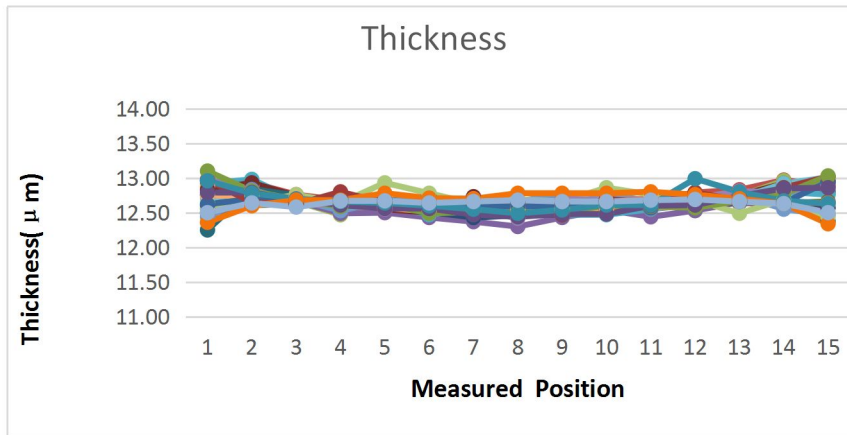
Tel: 86-769-2289 3387

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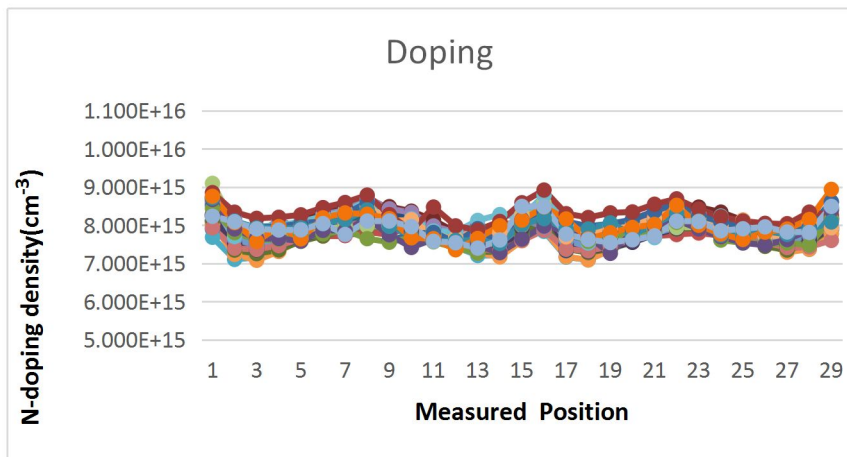
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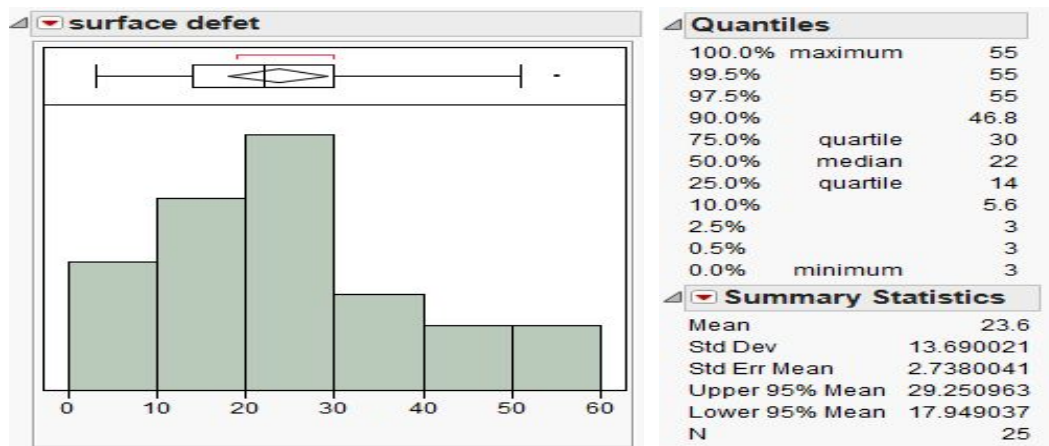
Data showing 25 pcs of 150mm epiwafers using same Process



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



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



Note:

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

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