

6" (150mm) SiC Epitaxial Wafer



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

Notes:

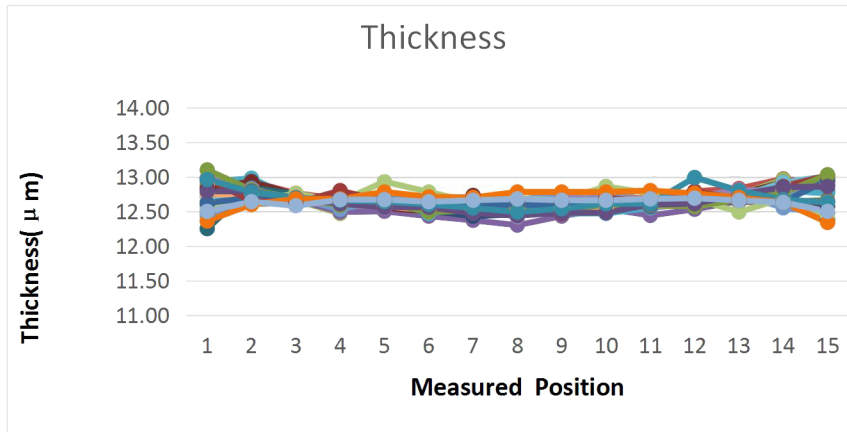
- N-type epi layers ≤30 microns are preceded by an n-type, 1E18 cm⁻³, 0.5-1 μm buffer layer
- Net Doping is determined as an average value across the wafer using Hg probe CV
- Epi Thickness is determined as an average value across the wafer using FTIR



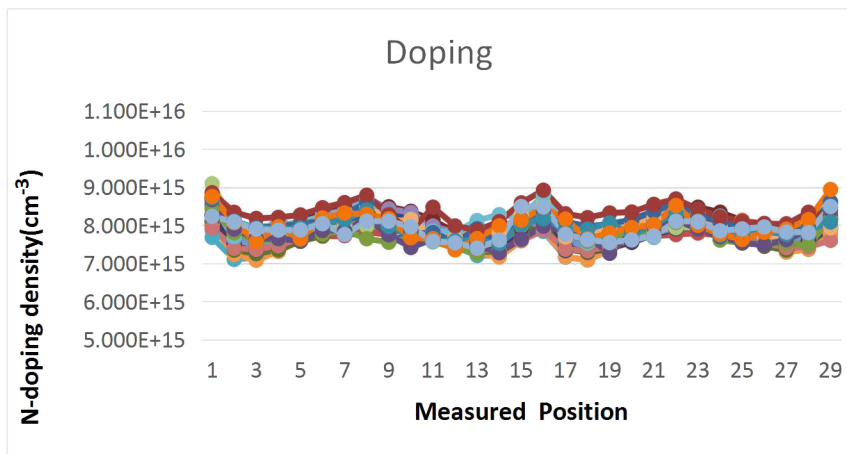
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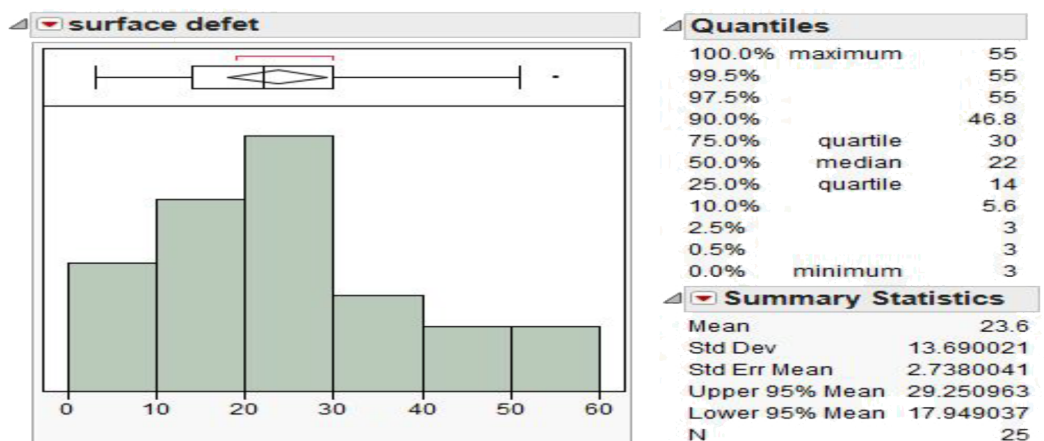
Data showing 25 pcs of 150mm epiwafers using same Process



Mean(μm)	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 Japan representative via material_sales@ostech.co.jp