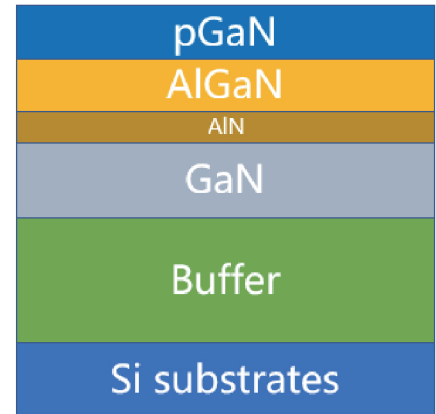


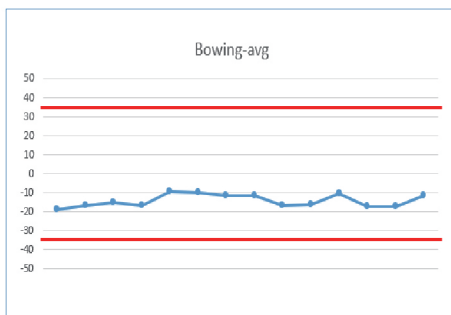
### Product Characteristics

- 6-inch and 8-inch available
- Buffer breakdown voltage > 650V
- Edge cracks < 3mm
- Customized AlGaIn and pGaN layer
- In-situ SiN or GaN cap layer can be choose
- High repeatability and good uniformity

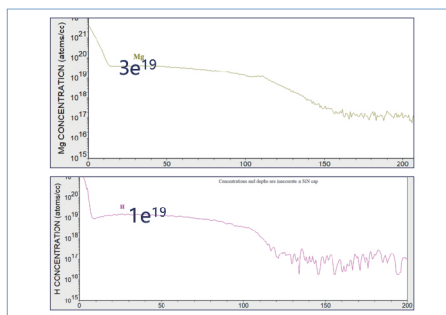


650V E-Mode

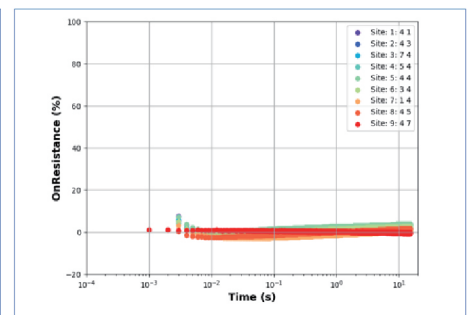
### Data Graph Display



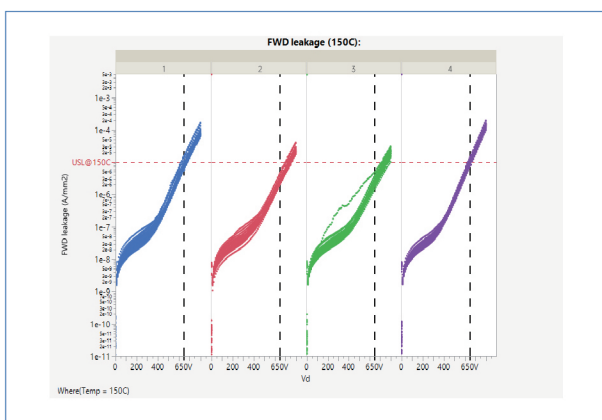
Bowing



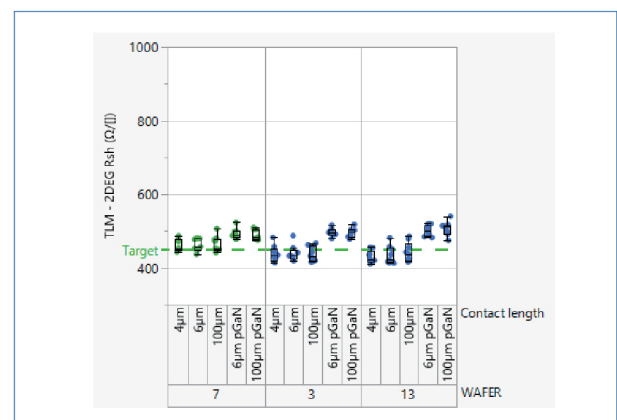
SIMS



Buffer Dispersion



Buffer Breakdown



Electrical Characteristic(2DEG Rsh)

### Product Specification

Parameter	SPEC	Measurement technique/tool/conditions	Comments
<b>Substrate</b>			
Thickness (um)	1000	Micrometer	
Flat length (mm)	47.5	/	
Dopant/type	B/P-type	/	
Resistivity (ohm.cm)	0.005-0.02Ω	/	
Bevel design	<111> to <110>0.25°	/	
Wafer bow	≤20 um	Stress Mapper	
<b>Epi</b>			
EPI total thickness (um)	4-5	PL	Base on request
Finished 650V EPI wafer bow (6inch) in um	≤±35	Stress Mapper	
EPI surface rms roughness (AFM, indicate scan size in um <sup>2</sup> )	≤1 nm in 5x5 um <sup>2</sup>	AFM	
Capping layer thickness (nm)	/	TEM	GaN cap : 3nm SiN cap: 3~100nm
pGaN layer thickness (nm)	100±10	TEM	Base on request
Mg chemical concentration (at/cm <sup>3</sup> ) PCOR-SIMS	3E+19	PCOR-SIMS	E-mode
Mg/H in pGaN(a.u.) PCOR-SIMS	>=2	PCOR-SIMS	E-mode
AlGaN barrier Al percentage	0.18	PL	Base on request
AlGaN barrier thickness (nm)	15	TEM	Base on request
GaN channel thickness (nm)	200	TEM	Base on request
GaN FWHM (102)	< 1800 arcsec	XRD	
GaN FWHM (002)	< 1000 arcsec	XRD	
C concentration in (Al)GaN layer below GaN-UID (at/cm <sup>3</sup> )- PCOR-SIMS	3E+19	SIMS	