

**SILICON CARBIDE (SiC) SUBSTRATE SPECIFICATION**  
**100mm DIAMETER, SEMI-INSULATING**  
**Prime Grade**

<b>Property</b>	<b>Value</b>	<b>Tolerance</b>	<b>Units</b>
Diameter	100.0	+0 / - 0.5	mm
Edge Exclusion	3		mm
Center Thickness	500 $\mu$ m	$\pm$ 25	$\mu$ m
Polytype	6H or 4H	> 95% of area	
Micropipe Density	< = 10		cm <sup>-2</sup>
Face Orientation	C-plane (0001); on-axis	$\pm$ 0.5	deg
Front Surface (Si-face) Finish	EpiReady™ <sup>(1)</sup>		
Scratches by Bright Light	Cumulative Length < 10 cm		
Back Surface (C-face) Finish	Optical Polish (standard)		
Warp	< 35		$\mu$ m
Bow	< 20		$\mu$ m
TTV	< 10		$\mu$ m
LTV (10mm x 10mm – Avg)	< 3.0		$\mu$ m
Flat Length: Primary	32.5	$\pm$ 2	mm
Flat Length: Secondary	18.0	$\pm$ 2	mm
Flat Orientation: Primary	Perpendicular to (11-20) plane	$\pm$ 1	deg
Flat Orientation: Secondary	90° CW from primary flat	$\pm$ 5	deg
Laser Mark Location & Text	Carbon Face Per SEMI M55		
Edge	Beveled, conforming to SEMI edge acceptability specs		
Packaging	Multi-Wafer Cassette or Single wafer container		
Cracks	None		
Cumulative Area Defects	< 10% Area		
Dopant	SI Vanadium Doped ( $\rho$ > 1.0E9)		Ohm*cm

<sup>[1]</sup> Epiready™ CMP polish is suitable for GaN or SiC epitaxial growth