



100 mm SC VGF GaAs Si doped



Freiberger

Parameter		Unit		Values
Diameter		mm		100.0 ± 0.1
Crystal growth method				VGF
Dopant				Si
Conductivity type				n
LASER grade				
Carrier concentration ^{*1}		cm ⁻³		(0.8 ... 3.0) × 10 ¹⁸
Hall mobility ^{*2}		cm ² /Vs		(2.0 ... 1.5) × 10 ³
LED grade				
Carrier concentration ^{*1}		cm ⁻³		(0.2 ... 2.5) × 10 ¹⁸
Hall mobility ^{*2}		cm ² /Vs		(2.5 ... 1.6) × 10 ³
Etch pit density ^{*3}	LASER grade A	avg. value on wafer	cm ⁻²	≤ 100 ^{*4}
	LASER grade B	avg. value on wafer	cm ⁻²	≤ 250 ^{*5}
	LASER grade C	avg. value on wafer	cm ⁻²	≤ 500 ^{*6}
	LED grade	avg. value on wafer	cm ⁻²	≤ 3 000
(100)-orientation		on off towards (110) ^{*7}	° °	± 0.5 2.0 ± 0.5
Orientation (OF) flat		length	mm	32.5 ± 2.0
SEMI-US		orientation		[011] ± 1°
SEMI-EJ		orientation		[011] ± 1°
Identification (IF) flat		length	mm	18.0 ± 2.0
SEMI-US		orientation		[011] ± 5°
SEMI-EJ		orientation		[011] ± 5°
Thickness ^{*7}			µm	625 ± 25
Total thickness variation (TTV)			µm	≤ 15
Total indicated reading (TIR)			µm	≤ 10
Warp			µm	≤ 10
Particles		diameter > 0.3 µm	pcs.	≤ 80
Front side treatment				polished
Back side treatment		standard option		cut/etched polished
Laser marking				acc. SEMI T 5
Packaging		standard option		cassette single wafer container

^{*1} other ranges upon request

^{*2} depending on doping level or carrier concentration

^{*3} measured according to DIN 50454-1: whole wafer mapping, site size 500 x 500 µm²
number of sites 27352, edge exclusion 3 mm

^{*4} corresponds to an EPD of 0 cm⁻² on ≥ 85% of wafer area

^{*5} corresponds to an EPD of ≤ 400 cm⁻² on ≥ 90% of wafer area

^{*6} corresponds to an EPD of ≤ 1200 cm⁻² on ≥ 95% of wafer area

^{*7} other values upon request