



# 76.2 mm SC VGF GaAs Si doped



Freiberger

Parameter		Unit		Values
Diameter		mm		76.2 ± 0.1
Crystal growth method				VGF
Dopant				Si
Conductivity type				n
LASER grade				
Carrier concentration <sup>*1</sup>		cm <sup>-3</sup>		(0.8 ... 3.0) × 10 <sup>18</sup>
Hall mobility <sup>*2</sup>		cm <sup>2</sup> /Vs		(2.0 ... 1.5) × 10 <sup>3</sup>
LED grade				
Carrier concentration <sup>*1</sup>		cm <sup>-3</sup>		(0.2 ... 2.5) × 10 <sup>18</sup>
Hall mobility <sup>*2</sup>		cm <sup>2</sup> /Vs		(2.5 ... 1.6) × 10 <sup>3</sup>
Etch pit density <sup>*3</sup>	LASER grade A	avg. value on wafer	cm <sup>-2</sup>	≤ 100 <sup>*4</sup>
	LASER grade B	avg. value on wafer	cm <sup>-2</sup>	≤ 250 <sup>*5</sup>
	LASER grade C	avg. value on wafer	cm <sup>-2</sup>	≤ 500 <sup>*6</sup>
	LED grade	avg. value on wafer	cm <sup>-2</sup>	≤ 3 000
(100)-orientation		on	°	± 0.5
		off towards (110) <sup>*7</sup>	°	2.0 ± 0.5
Orientation (OF) flat		length	mm	22.2 ± 1.5
SEMI-US		orientation		[011] ± 1°
SEMI-EJ		orientation		[011] ± 1°
Identification (IF) flat		length	mm	11.2 ± 1.5
SEMI-US		orientation		[011] ± 5°
SEMI-EJ		orientation		[011] ± 5°
Thickness <sup>*7</sup>			µm	450 ± 25
Total thickness variation (TTV)			µm	≤ 12
Total indicated reading (TIR)			µm	≤ 10
Warp			µm	≤ 15
Particles		diameter > 0.3 µm	pcs.	≤ 50
Front side treatment				polished
Back side treatment		standard		cut/etched
		option		polished
Laser marking				acc. SEMI T 5
Packaging		standard		cassette
		option		single wafer container

<sup>\*1</sup> other ranges upon request

<sup>\*2</sup> depending on doping level or carrier concentration

<sup>\*3</sup> measured according to DIN 50454-1: whole wafer mapping, site size 500 x 500 µm<sup>2</sup>  
number of sites 15196, edge exclusion 3 mm

<sup>\*4</sup> corresponds to an EPD of 0 cm<sup>-2</sup> on ≥ 85% of wafer area

<sup>\*5</sup> corresponds to an EPD of ≤ 400 cm<sup>-2</sup> on ≥ 90% of wafer area

<sup>\*6</sup> corresponds to an EPD of ≤ 1200 cm<sup>-2</sup> on ≥ 95% of wafer area

<sup>\*7</sup> other values upon request