100 mm SC VGF GaAs Si doped

Freiberger
Compound Materials

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) E 18
Hall mobility [*2]			cm^2 / Vs	≥ 1 500
LED grade				
Carrier concentration [*1]			cm^{-3}	(0.2...2.5) E18
Hall mobility [*2]			cm^2 / Vs	≥ 1 600
Etch pit density [*3]	LASER grade A	avg. value on wafer	cm^{-2}	≤ 100 [*4]
	LASER grade B	avg. value on wafer	cm^{-2}	≤ 500 [*5]
	LED grade	avg. value on wafer	cm^{-2}	≤ 3 000
(100)-orientation		on	°	± 0.5
		off towards (110)[*6]	°	2.0 ± 0.5
Orientation (OF) flat		length	mm	32.0 ± 2.0
SEMI-US		orientation		[01$\bar{1}$] ± 1°
SEMI-EJ		orientation		[0$\bar{1}\bar{1}$] ± 1°
Identification (IF) flat		length	mm	18.0 ± 2.0
SEMI-US		orientation		[011] ± 2°
SEMI-EJ		orientation		[0$\bar{1}$1] ± 2°
				Option A / Option B
Thickness [*6]			µm	450±25 / 625±25
Total thickness variation (TTV)			µm	≤ 10 / ≤ 5
Total indicated reading (TIR)			µm	≤ 7 / ≤ 4
Warp			µm	≤ 20 / ≤ 10
Particles		diameter > 0.3 µm	pcs.	≤ 50 / ≤ 50
Front side treatment				polished / polished
Back side treatment				cut/ etched / polished
Laser marking				acc. SEMI T 5
Packaging		standard		cassette
		option		single wafer container [*7]

[*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 ≤ 1200 cm^{-2} on ≥ 95% of wafer area
[*6] other values upon request
[*7] upon request for small quantity