100 mm SI LEC GaAs

Freiberger

Parameter		Unit	Values
Diameter		mm	100.0 ± 0.1
Crystal growth method			LEC
Option A			
Resistivity [*1]		Ωcm	(1.0 ... 6.0) × 10^7
Hall mobility		cm^2/Vs	(8.5 ... 7.0) × 10^3
Carbon content		cm^{-3}	(0.3 ... 4.0) × 10^{15}
Option B			
Resistivity [*1]		Ωcm	(0.6 ... 4.0) × 10^8
Hall mobility		cm^2/Vs	(7.0 ... 4.5) × 10^3
Carbon content		cm^{-3}	(2.0 ... 10.0) × 10^{15}
Etch pit density [*2]	avg. value on wafer	cm^{-2}	≤ 100 000
EL2 concentration	avg. value on wafer	cm^{-3}	(1.2 ... 1.7) × 10^{16}
(100)-orientation	on	°	± 0.5
	off towards (110) [*3]	°	2.0 ± 0.5
Orientation (OF) flat	length	mm	32.5 ± 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] ± 5°
SEMI-EJ	orientation		$[0\bar{1}1]$ ± 5°
Thickness [*3]		µm	625 ± 25
Total thickness variation (TTV)		µm	≤ 5
Total indicated reading (TIR)		µm	≤ 4
Local focal plane deviation ($LFPD_{max}$)		µm	≤ 1.2
Local thickness variation (LTV_{max})		µm	≤ 1.5
Measurement site size		mm	15 × 15
Warp		µm	≤ 7
Particles	diameter > 0.3 µm	pcs.	≤ 50
Front side treatment			polished
Back side treatment			polished
Laser marking			acc. SEMI T 5
Packaging	standard		cassette
	option		single wafer container

[*1] measured @ 22 °C
[*2] measured according to DIN 50454-1: measurement at 9 sites
[*3] other values upon request