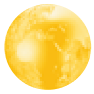

# 125 mm SI VGF GaAs

| Parameter | | Unit | Values |
|---|---|---|---|
| Diameter | | mm | 125.0 ± 0.1 |
| Crystal growth method | | | VGF |
| Resistivity [*1] | | Ωcm | $(0.8 \dots 8.0) \times 10^{8}$ |
| Hall mobility | | $cm^2/Vs$ | $(7.5 \dots 4.0) \times 10^{3}$ |
| Carbon content | | $cm^{-3}$ | $(1.0 \dots 10.0) \times 10^{15}$ |
| Etch pit density [*2] | avg. value on wafer | $cm^{-2}$ | ≤ 10 000 |
| EL2 concentration | avg. value on wafer | $cm^{-3}$ | $(1.0 \dots 1.5) \times 10^{16}$ |
| (100)-orientation | on | ° | ± 0.5 |
| | off towards (110) [*3] | ° | 2.0 ± 0.5 |
| Orientation (OF) flat | length | mm | 42.5 ± 2.5 |
| SEMI-US | orientation | | $[01\bar{1}] \pm 1°$ |
| SEMI-EJ | orientation | | $[0\bar{1}\bar{1}] \pm 1°$ |
| Identification (IF) flat | length | mm | 27.5 ± 2.0 |
| SEMI-US | orientation | | $[011] \pm 5°$ |
| SEMI-EJ | orientation | | $[0\bar{1}1] \pm 5°$ |
| Thickness [*3] | | µm | 625 ± 25 |
| Total thickness variation (TTV) | | µm | ≤ 6 |
| Total indicated reading (TIR) | | µm | ≤ 5 |
| Local focal plane deviation ($LFPD_{max}$) | | µm | ≤ 1.5 |
| Local thickness variation ($LTV_{max}$) | | µm | ≤ 1.8 |
| Measurement site size | | mm | 15 × 15 |
| Warp | | µm | ≤ 8 |
| Particles | diameter > 0.3 µm | pcs. | ≤ 80 |
| Front side treatment | | | polished |
| Back side treatment | | | polished |
| Laser marking | | | acc. SEMI M 12 |
| Packaging | | | cassette |

[*1] measured @ 22 °C
[*2] measured according to DIN 50454-1: whole wafer mapping, site size 500 x 500 $µm^2$
number of sites 43984, edge exclusion 3 mm
[*3] other values upon request