



# 125 mm SI LEC GaAs



Freiberger

Parameter		Unit	Values
Diameter		mm	125.0 ± 0.1
Crystal growth method			LEC
Option A			
Resistivity <sup>*1</sup>		Ωcm	(1.0 ... 6.0) × 10 <sup>7</sup>
Hall mobility		cm <sup>2</sup> /Vs	(8.5 ... 7.0) × 10 <sup>3</sup>
Carbon content		cm <sup>-3</sup>	(0.3 ... 4.0) × 10 <sup>15</sup>
Option B			
Resistivity <sup>*1</sup>		Ωcm	(0.6 ... 4.0) × 10 <sup>8</sup>
Hall mobility		cm <sup>2</sup> /Vs	(7.0 ... 4.5) × 10 <sup>3</sup>
Carbon content		cm <sup>-3</sup>	(2.0 ... 10.0) × 10 <sup>15</sup>
Etch pit density <sup>*2</sup>	avg. value on wafer	cm <sup>-2</sup>	≤ 100 000
EL2 concentration	avg. value on wafer	cm <sup>-3</sup>	(1.2 ... 1.7) × 10 <sup>16</sup>
(100)-orientation	on off towards (110) <sup>*3</sup>	° °	± 0.5 2.0 ± 0.5
Orientation (OF) flat	length	mm	42.5 ± 2.5
SEMI-US	orientation		[011] ± 1°
SEMI-EJ	orientation		[011] ± 1°
Identification (IF) flat	length	mm	27.5 ± 2.0
SEMI-US	orientation		[011] ± 5°
SEMI-EJ	orientation		[011] ± 5°
Thickness <sup>*3</sup>		μm	625 ± 25
Total thickness variation (TTV)		μm	≤ 6
Total indicated reading (TIR)		μm	≤ 5
Local focal plane deviation (LFPD <sub>max</sub> )		μm	≤ 1.5
Local thickness variation (LTV <sub>max</sub> )		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

<sup>\*1</sup> measured @ 22 °C

<sup>\*2</sup> measured according to DIN 50454-1: measurement at 9 sites

<sup>\*3</sup> other values upon request