



Specification of monocrystalline *Gallium Arsenide*

	<i>GaAs</i> semi-insulating, undoped	<i>GaAs</i> semiconducting, p-type & n-type
Diameter	wafers: from 2" up to 4" ingots & synthesis: from 2" up to 6"	
Thickness	wafers: from 325 um up to 750 um ingots & synthesis: from 2" up to 6"	
Dopant	-	<i>Zinc, Silicon, Tellurium</i>
Carrier concentration	-	n-type $1 \times 10^{16} - 2 \times 10^{18} \text{ cm}^{-3}$ p-type $1 \times 10^{16} - 5 \times 10^{19} \text{ cm}^{-3}$
Crystal orientation	(100), (110), (111)	
Off orientation	up to 15°, if necessary >15°	
Resistivity	$>1 \times 10^7 \Omega\text{cm}$	$>1 \times 10^{-3} \Omega\text{cm}$
Hall mobility	$>6000 \text{ cm}^2\text{V}^{-1}\text{s}^{-1}$	n-type $>1500 \text{ cm}^2\text{V}^{-1}\text{s}^{-1}$; p-type low
Etch pit density (EPD)	$<1 \times 10^4 \text{ cm}^{-2}$	LEC: $<7 \times 10^4 \text{ cm}^{-2}$ VGF: $<5 \times 10^3 \text{ cm}^{-2}$
Surface treatment	wafers: as cut/lapped/etched/single & double side polished ingots and synthesis: as ground/as grown/as cut	
Flat orientation	US SEMI or EJ standard	
Packaging	Standard/Empak/Fluoroware/Fluoroware sealed with N2	