

# Specification of monocrystalline *Gallium Arsenide*

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