



iqesilicon.com

For further information contact Rob Harper or Moz Fisher at:

IQE Silicon Compounds Ltd

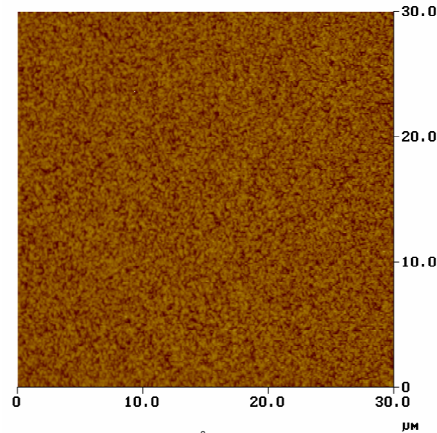
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Product data sheet: **Silicon on Sapphire (SoS)**

Atomic Force Microscopy (AFM)

30µm x 30µm



Silicon on Insulator (SOI) is an established material for silicon device manufacture offering advantages in speed and power performance as well as radiation hard semiconductors for aerospace applications.

IQE's new Silicon on Sapphire (SOS) is becoming widely established in sensor design that utilise its excellent hysteresis properties.

The manufacturing techniques employed at IQE minimise defects and control surface roughness to produce an optimal material for all applications.

Parameter	
Wafer size	4" and 6" wafers
Material structure	Si layer epitaxially deposited directly onto sapphire substrate
Si Thickness	0.2µm to 2.0µm
Si layer surface roughness	Less than 50Å for 2µm layers *
Thickness uniformity	±2%
Dopant	0.1Ω.cm to 100Ω.cm
LPDs	<20 at 0.2µm for set-up wafer
Defectivity	Dependent on material thickness and dopant: IQE utilises proprietary techniques to optimise
Metals	<5e10cm ⁻² as measured by VPD
Substrate	IQE supplied r-plane material

* lower surface roughness can be achieved for thinner layers

SOS production wafers are available now in 4" (100mm) and 6" (150mm) diameter wafer sizes.

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