

CONTACTS

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OUR SITES



WE ACT GLOBALLY.

Siltronic produces wafers in the world's most important semiconductor markets, in a global value creation network that comprises five plants with numerous state-of-the-art manufacturing lines:

- Burghausen, Germany
- Portland, USA
- Freiberg, Germany
- Singapore
- Hikari, Japan

The headquarters are based in Munich.

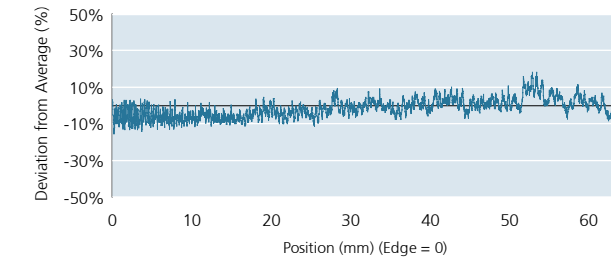
Based on our global network of production facilities, we run a service network that consists of local sales organizations and application technology laboratories and which cultivates close partnership with our customers. In this way we are close to our customers and we can respond quickly at all times.

PowerFZ®

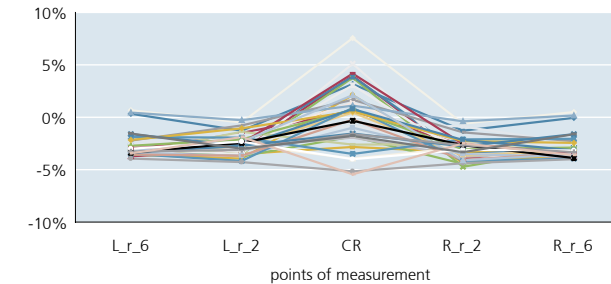
To provide solutions for demanding power applications Siltronic has developed PowerFZ®. This proprietary product reduces the radial resistivity variation through control of striations during the growth of the silicon ingot.

As shown in the chart below, the result is a much more consistent resistivity profile which is suitable for PowerMOSFET and IGBT applications. Moreover, the PowerFZ® process utilizes conventional FZ growth methods reducing leadtimes and providing exceptional cost and performance value.

Striation of PowerFZ® 150 mm <100>



Typical radial profiles of PowerFZ®



FLOAT ZONE SILICON AT SILTRONIC



COMPANY PROFILE

Siltronic is a global leader in the market for ultra-pure silicon wafers and the partner of numerous leading chip manufacturers. Siltronic develops and manufactures wafers with diameters of up to 300 mm at production sites in Europe, Asia, Japan and the United States.

Silicon wafers form the heart of modern micro- and nanoelectronics – for computers, mobile telephones, Internet, DVD players, flat-panel displays, navigation systems, airbags, computer tomography machines, aircraft control systems and many other applications.

FLOAT ZONE

FLOAT ZONE TECHNIQUE

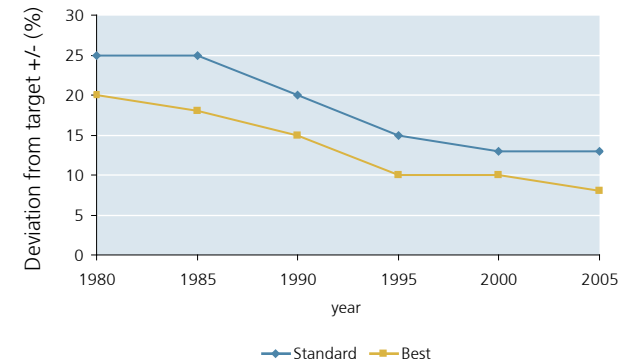
The float zone (FZ) method of silicon crystal production provides an ingot with considerable advantages. Due to the absence of oxygen in the molten silicon during the FZ process, there are no effects of thermal donors or oxygen precipitates. This produces a silicon wafer that has extremely stable resistivity performance and high carrier lifetimes.

Years of float zone experience connected with a powerful numerical simulation group enable Siltronic to forward innovations and continuous improvements to our customers. One of the main focuses is a continuous lowering of the total resistivity variations.

200 MM FLOAT ZONE

Whereas 200 mm Czochralski grown material is available since mid 80's, the technical limit in crystal pulling of FZ was seen at 150 mm for a long time. In 2002 Siltronic succeeded to pull 200 mm FZ ingots and to produce 200 mm FZ wafers as the first silicon manufacturer worldwide. Since this time, Siltronic has continued to ramp and now runs volume production. Siltronic has taken the challenge of the market and manifested again our leading edge in float zone technology.

Powerful numerical simulations allow to visualize the flow of dopant in the melt and thus to optimize the pulling scheme to achieve best possible resistivity uniformity (especially in wafer center where variation is highest in FZ).



Note: I-0-0 p/bor

DOPANT FLOW SIMULATION

