

Press release

Wettenberg, October 1, 2013

baSiC-T: New system generation – silicon carbide (SiC) crystals for mass production

- SiC for high-performance electronics
- Successful use in industrial production
- High degree of automation for mass production
- Low operating costs

SiC for high-performance electronics

SiC crystals are mainly required by customers working in high-tech markets. Typical applications include high-performance electronics such as hybrid and electric cars, air conditioning systems, LED applications and d.c./a.c. converters for photovoltaics. The major advantage in silicon carbide material lies in the enormous energy-saving potential of over 40% compared to conventional silicon components. In addition to this, the future will bring completely new prospects in the semi-conductor industry as the product can also be used at high temperatures and high voltages in excess of 10,000 volts; this dramatically exceeds the potential of the silicon used today.

Modular structure and high degree of automation

The design of the innovative crystallization system "baSiC-T" is based on a modular concept and allows substrates with a diameter of up to 150 mm to be used. Low operating costs and a high degree of automation in the baSiC-T facilitate inexpensive mass production of silicon carbide.

Successful use in industrial production

Systems to manufacture SiC crystals have already been delivered to several customers in Europe and Asia and been successfully accepted, providing proof of the systems' outstanding performance.

More detailed information about the baSiC-T can be found at the following link:

[Silicon Carbide](#)

PVA TePla in the field of power electronics

In addition to the baSiC-T, a series of other PVA TePla systems are already being used in the field of power electronics. The SiCube is an industrially tested system for SiC volume crystal production by means of PVT and HTCVD. Our Floatzone (FZ35) and Czochralski (EKZ) systems are used to crystallize high-purity silicon. The recycling of susceptors using GaN epitaxy processes is performed in special PVA TePla vacuum furnaces. Different innovative metrology technologies for nondestructive quality control are also available.



baSiC-T: New system generation

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