



E-Science achieves greater than 18 months lifetime from its MOCVD substrate heater designed for nitride production reactors

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E-Science, Inc. has achieved an important milestone for the performance of its MOCVD substrate heater for nitride applications. The heater has been in operation for over 18 months of continual 24x7 operation. This achievement has enabled its customers to maintain a high throughput from their reactors cutting costs and improving efficiencies.

Samples were grown in a custom 4" epitaxial reactor growing FET devices on a SiC substrate. The filament geometry was changed to accommodate the higher powers necessary to achieve the ramp rates required for this process. The filament support was also modified to fix the filament over repeated cycles.

Another enhancement made to the heater was with the contacts which have traditionally been a weak point in the filament design. This is no longer an issue due to E-science's proprietary contact design that has not experienced a failure since its development.

E-science has successfully developed a robust MOCVD heater designed specifically for nitride applications. The heater is inert to the nitride process gasses and is capable of short heat up times. To improve temperature uniformity, the heater may incorporate multiple filaments for independent control of input power. The basic design scales easily and can be adapted to fit a variety of different manufacturers systems or custom chambers.

Contact E-Science for more information on this product.

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