Desert Silicon
LIQUID SOURCE SOLUTIONS

Spin-on Glass ZnAs-650

Elements of Interest	Key Element atoms/cm^3	Key Element % in Film
Si, Zn, As	Zn, 5 x 10^{21} As, 1 x 10^{21}	Zinc, Arsenic
Viscosity, n (635nm)	**Thickness**	**Shelf Life**
0.90 cps, 1.48	Coats 2100 Å at 3000 rpm Refractive Index = 1.486	20°C 3 months 4°C 9 months

Benefits

- High zinc concentration coupled with arsenic diffusion barrier to avoid out gassing of doping material from substrate
- For final target concentration ranges from 5 x 10^{17} to 5 x 10^{19} of Zinc and Arsenic
- Uniform Coatings
- High Purity materials
- Available with impurity specification of less than 1 ppm or less than 50 ppb
- Lower melting point than silica alone

Typical Application

The concentration of the source for driving-in is typically high, in the range of 5x10^{21} Zn atoms/cm^3 and 1X10^{21} As atoms/cm^3. Thus leaving a high concentration of dopant right at the surface. During the drive-in procedure, the dopant diffuses into the substrate.

Keeping a doping layer with substrate dopant in it can prohibit the loss of the doping species as 3-5 and 2-6 substrates tend to partially decompose during the higher temperature diffusion process (compensates for out diffusion of As from GaAs for example).

Packaging

- 240ml
- 500ml
- 1 l
- 2.5 l
- 4 l

Alternative Products

Zn640
Zn-655
ZnAsP-320
Other target concentration levels available

Alternative Elements

- S
- Se
- Te
- Other elements available for compound semiconductor use

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