

# Permanent Wafer Bonding at Room Temperature

## Atomic Diffusion Bonding

Any Substrates Available

Various Bonding Materials

Ambient Control Sealing

● Substrates

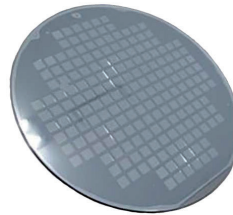


Si - Synthetic quartz

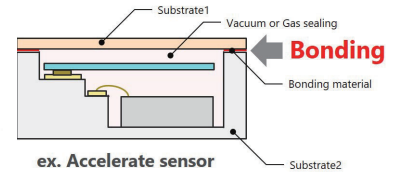


Synthetic quartz - Synthetic quartz

● Chip sealing



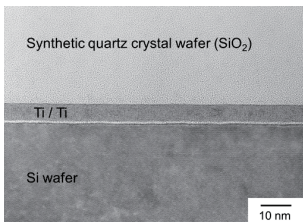
Patterned Silicon - Quartz



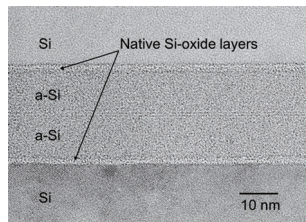
Silicon, Compound, Quartz, Glass or Others

● Bonding material examples

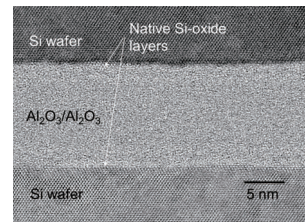
Titanium\*



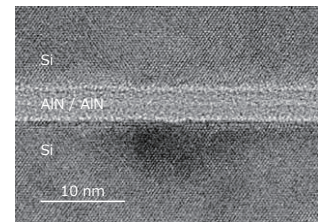
Silicon\*



Aluminum Oxide\*



Aluminum Nitride



\* Courtesy of Shimatsu Laboratory, Tohoku University

**BC7000** for  $\varnothing 100 / \varnothing 150$  mm



**BC7300** for  $\varnothing 200 / \varnothing 300$  mm



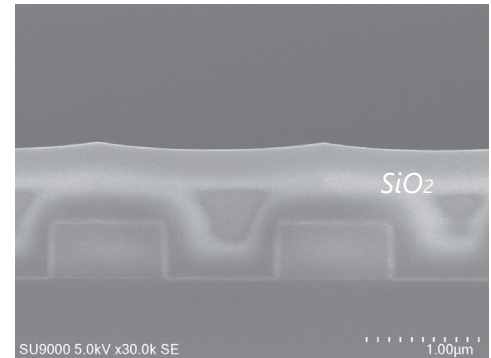
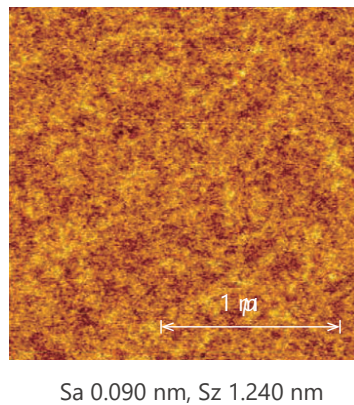
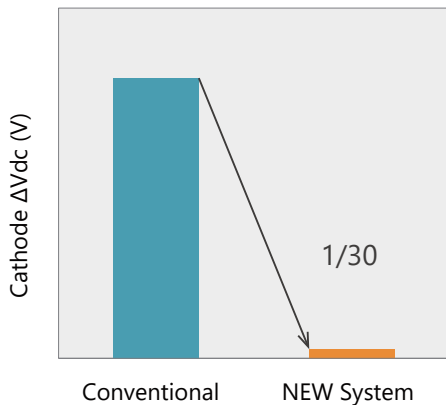
# Dielectric Film Sputtering

## Unique RF Plasma Technology

Excellent  
Stability

Smooth  
Surface

Seamless  
Filling



Excellent Vdc stability with  
process running

Extreme smooth surface  
morphology by SiO<sub>2</sub>

Seamless & void less  
by SiO<sub>2</sub> filling

**EB2500** for R&D



**EC7430** for Volume production

