

## ALD Recipes and Film Thickness Data

<p><b>SiO<sub>2</sub></b>  <u>Recipe Name:</u> SiO<sub>2</sub> BDMS and O<sub>3</sub> with Bubbler</p> <p>Precursors: BDMS + Ozone            Precursor Temp: BDMS at 60°C            Chamber Temperature: 200°C            Number of cycles: 2,000            Film Thickness: <b>27 nm</b></p>	<p><b>Al<sub>2</sub>O<sub>3</sub></b>  <u>Recipe Name:</u> Al<sub>2</sub>O<sub>3</sub> TMA 2000 Cycles</p> <p>Precursors: TMA + H<sub>2</sub>O            Chamber Temperature: 250°C            Number of cycles: 1,000            TMA: 250 msec            Purge: 250 msec            H<sub>2</sub>O: 250 msec            Purge: 250 msec            Film Thickness: <b>220 nm</b></p>
<p><b>ZnO</b>  <u>Recipe Name:</u> ZnO 2000 Cycles</p> <p>Precursors: DEZ + H<sub>2</sub>O            Chamber Temperature: 250°C            # of cycles: 2,000            DEZ: 250 msec            Purge: 2 sec            H<sub>2</sub>O: 250 msec            Purge: 2 sec            Film Thickness: <b>300 nm</b></p>	<p><b>TiO<sub>2</sub></b>  <u>Recipe Name:</u> TiCl<sub>4</sub> H<sub>2</sub>O 500 cycles            amorphous 100°C</p> <p>Precursors: TiCl<sub>4</sub>+ H<sub>2</sub>O            Chamber Temperature: 100°C            # of cycles: 1,000            TiCl<sub>4</sub>: 500 msec            Purge: 5 sec            H<sub>2</sub>O: 200 msec            Purge: 5 sec            Film Thickness: <b>37 nm</b></p>