

## Effect of adjacent Pd on Ni-MILC

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Many studies have been made to lower the crystallization temperature of a-Si films. Metal-induced Lateral Crystallization (MILC) is one of the most successful methods to crystallize the a-Si at low temperature which is below 500°C. And the electrical characteristic of MILC TFTs is better than those made by other crystallize method such as SPC, ELA. But the annealing time is too long to obtain economic cost effectiveness.

In this study, we proposed the novel method that can crystallize the amorphous silicon by adjacent Pd-MILC enhanced Ni-MILC. With this method, the MILC rate was about 15  $\mu\text{m/hr}$  at 550°C which is four times faster than conventional MILC rate. The crystallization rate increased rapidly with the spacing between Ni and Pd decreased. And it was independent on Ni and Pd layer thickness and amorphous silicon active width. However, when Pd was capped by Ni layer, there's no enhancement on Ni-MILC. This implies that the enhancement comes from not Pd material itself but Pd-MILC induced tensile stress. We can explain these phenomena with a novel MILC mechanism