

MT-006

## Multifunctional Thin Film Resistors Prepared by ALD for High-Efficiency Inkjet Printheads

Won-Sub Kwack, Se-Hun Kwon

National Core Research Center for Hybrid Materials Solution, Busan National University

In past decades, the thermal inkjet (TIJ) printer has been widely used as one of the most well-known digital printing technology due to its low cost, and high printing quality. Since the printing speed of TIJ printers are much slower than that of laser printers, however, there has been intensive efforts to raise the printing speed of TIJ printers. One of the most plausible methods to raise the printing speed of TIJ printers is to adopt a page-wide array TIJ printhead. To accomplish this goal, the high efficiency inkjet heating resistor films should be developed to settle the high power consumption problem of a page-wide array TIJ printhead.

In this study, we investigated noble metal based multicomponent thin film resistor films prepared by atomic layer deposition (ALD) for a high efficiency inkjet printhead. Design concept, preparation, material properties of noble metal based multicomponent thin films will be discussed in terms of multifunctionality.

**Keywords:** ALD, Multifunctional Thin Films