Fabrication and Properties of Piezoelectric Transformer for Step-Down Voltage using Ceramic Stack Process
Chang-Bae Lee, Jung-Rag Yoon
Samwha Capacitor Co. Ltd R&D Center

Abstract: A multilayer piezoelectric transformer (MPT) for step-down voltage was made by ceramic stack process. And then, the characteristics of piezoelectric transformer, such as resonance frequency, matching impedance, electro-mechanical coupling coefficient, voltage gain, heat generation and efficiency, are analyzed. The piezoelectric transformer consists of a lead zirconate titanate ceramic with a high electromechanical quality factor. The piezoelectric transformer, with a multilayered construction in the thickness direction, was formed with dimensions 15mm long, 15mm wide and 5mm thick.

Key Words: Step-down, Piezoelectric transformer, Voltage gain