Active Match Load Circuit Intended for Testing Piezoelectric Transformers

An adjustable high voltage active load circuit for voltage amplitudes above 100 volts, especially intended for resistive matching the output impedance of a piezoelectric transformer (PT) is proposed in this paper. PTs have been around for over 50 years, were C. A. Rosen is common known for his famous Rosen type design back in the 1950s. After the discovered of new piezoelectric materials and new PT designs have been invented, the PT based power converters are in the area where they can outperform tradition electromagnetic based converters in certain applications. The performance of PTs can be measured and compared on its zero voltage switching (ZVS) factor, power density, and efficiency. Common for these three parameters are that they need to be measured with a match load connected at the output of the PT.

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