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# 15-Stage Compact Marx Generator Using 2N5551 Avalanche Transistors

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In this contribution, we present a 15-stage, avalanche transistor Marx generator using inexpensive 2N5551 transistors. It can be used in low-power biomedical, environmental and food applications where compact circuits to generate high-voltage pulses are required. We characterized the avalanche transistors and built a test setup with 15 stages which provides 1.3-kV pulses into a 50 Ohm load and over 4-kV into a small capacitive load (such as a small plasma reactor). Furthermore, by optimizing placement of starting capacitances, the rise time of the circuit could be adjusted to just under 2 ns, which can still be further optimized.

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