This paper presents a new high-voltage integrated circuit (HVIC) technology that is optimized for AC/DC power conversion applications with increased digital content. The cost-effective process uses 3.3V CMOS and a 180nm backend process to provide about 10X greater digital circuit density compared to conventional 0.5μm 5V CMOS solutions while maintaining excellent analog circuit performance. Reliable 700V devices are demonstrated using shallow trench isolation (STI) oxide over a double-RESURF drift region.

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