

# 180nm HVIC Technology for Digital AC/DC Power Conversion

Don Disney, Wen-Cheng Lin, XiaoXin Liu, Swapnil Pandey, and Jongjib Kim  
Technology Development  
GLOBALFOUNDRIES Singapore

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 0.5 $\mu$ m 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.

Read the entire article:

<https://ieeexplore.ieee.org/document/7988960/>

International Symposium on Power Semiconductor Devices and ICs (ISPSD)  
Sapporo, Japan  
May, 2017

