

Integrated Power Management with Ferromagnetic Thin-film Power Inductors

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The integration of DC-DC power conversion functions with CMOS provides substantial value in terms of cost, volume and energy efficiency for mobile and datacenter processors, PMICs and other integrated circuit products. Until recently, applications of Integrated Voltage Regulation (IVR) have been hindered by the unavailability of appropriate integrated power inductors. Ferric's CMOS integrated magnetic core power inductors address this problem by providing dense and high-quality on-chip energy storage for IVR as a back-end process option at CMOS foundry TSMC. This talk describes the integration, performance and design support of Ferric's CMOS integrated magnetic core power inductors, along with several power converter products that have been realized with the combination of Ferric Inductors and TSMC CMOS.