

Material engineering required such as patterning and laminating







Hao Wu, Shirong Zhao, Donald S. Gardner, and Hongbin Yu, 'Improved High Frequency Response and Quality Factor of On-Chip Ferromagnetic Thin Film Inductors by Laminating and Patterning Co-Zr-Ta-B Films', IEEE Trans. Magn., 49, 4176 (2013

Hao Wu, et al.,, IEEE Transactions on Magnetics (2012).

0.1

Frequency (GHz)

10

4



Optimization of soft magnetic thin films structures in on-chip inductors for efficient power conversion in integrated voltage regulators

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Inductors Fabricated on Package substrate





Publications

Arizona State

- ✓ Hao Wu, et al., 'Integration of Magnetic Materials into Package RF and Power Inductors on Organic Substrates for System in Package (SiP) Applications', IEEE Electronic Components and Technology Conference, Orlando, FL, May 2014.
- Hao Wu, Donald S. Gardner, Shirong Zhao, Hai Huang, and Hongbin Yu, 'Control of magnetic flux and eddy currents in magnetic films for on-chip radio frequency inductors: Role of the magnetic vias', J. Appl. Phys. 115, 17E719 (2014).
- Hao Wu Shirong Zhao, Donald S. Gardner, and Hongbin Yu, 'Aspect ratio dependent saturation field in patterned amorphous Co-Zr-Ta-B thin films with uniaxial anisotropy', J. Appl. Phys. 115, 17E904 (2014).
- ✓ Hao Wu, Shirong Zhao, Donald S. Gardner, and Hongbin Yu, 'Improved High Frequency Response and Quality Factor of On-Chip Ferromagnetic Thin Film Inductors by Laminating and Patterning Co-Zr-Ta-B Films', IEEE Trans. Magn., 49, 4176 (2013).
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- Wei Xu, Hao Wu, Donald S. Gardner, Saurabh Sinha, Tawab Dastagir, Bertan Bakkaloglu, Yu Cao and Hongbin Yu, 'Sub-100 μm and nH On-Chip Inductors with CoZrTa for GHz Applications', J. Appl. Phys. 109, 07A316 (2011).
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- ✓ Wei Xu, Saurabh Sinha, Feng Pan, Tawab Dastagir, Yu Cao, and Hongbin Yu, 'Improved Frequency Response of On-Chip Inductors With Patterned Magnetic Dots', IEEE Elec. Dev. Lett. 31, 207 (2010).
- Saurabh.Sinha, W. Xu, J. Velamala, M. Dastagir, B. Bakkaloglu, H. Yu, Y. Cao, 'Enabling resonant clock distribution with scaled onchip magnetic inductors,' International Conference on Computer Design, pp. 103-108, (2009).

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