# Novel Integration Technologies for Highly Manufacturable 32Mb FRAM

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Ferroelectric random access memory has been considered as future memory device and it is strongly desired to develop high density FRAM device beyond 32Mb for the application of stand-alone memory devices. We report for the first time to develop highly manufacturable 32Mb FRAM, which is achieved by 300nm capacitor stack technology in COB cell structure, a double encapsulated barrier layer scheme, an optimal inter-layer dielectric and inter-metallic dielectric technology, and a novel common cell-via scheme.