

Advances in InP HEMT Technology for High Frequency Applications

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Abstract

This paper reviews the remarkable progress being made in the development of InP HEMT devices and circuits for high frequency analog applications. Despite possessing superior performance, widespread use of InP HEMTs has to date been hindered by their relatively high cost (as compared with GaAs-based devices). However, the commercialization of HEMTs with high-indium-content InGaAs channels now appears to be inevitable due to recent progress on two parallel fronts--the development of metamorphic HEMTs (MHEMTs) and the scaling of InP substrates to larger sizes (4 and 6-inch).