Abstract

GaAs based Hetero-junction Bipolar Transistors (HBTs) have recently emerged as an important device technology for high speed and high frequency applications. The advantages of the HBTs fabricated on the new material systems are subjects of great interest and also studied by some of the researchers. The GaAs/AlGaAs device technology is ideally suited for such applications. In this work we are designing a device based on HBT technology, in order to investigate its characteristics and performance for high frequency applications. It proves that, the technology can be widely used and can replace CMOS Technology. Since HBT gives more advantage in terms of higher power gain and better thermal capabilities, i.e. for the same
power, CMOS will dissipate more heat which increases the costs of the cooling systems. The emergence of GaAs HBT technology is destined to challenge silicon bipolar domination at the high end.

References

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Index Terms

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Keywords

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