Abstracts

E-PHEMT, single supply, high efficient power amplifiers for GSM and DCS applications

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This paper presents power amplifier MMICs for GSM and DCS applications using a newly developed 0.5 /spl mu/m enhancement mode power PHEMT process. An Automatic Bias Control (ABC) circuit is implemented on-chip to achieve high PAE. A Voltage Variable Attenuator (VVA) is also designed and fabricated on-chip to adjust the input power level and the overall gain. Under a low single supply voltage of 3.2 V the GSM PA provides 35 dBm output power with 55% PAE, and the DCS PA delivers 33 dBm with 40% PAE. Both chips are housed in 20-pin 4 mm/spl times/4 mm Miniature Leadless Packages (MLP).

❑ Return to main document.