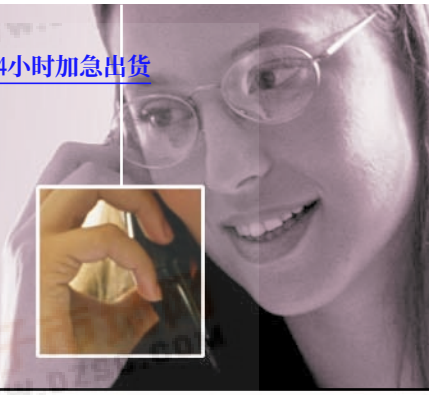
RF6100-2 Linear Amplifier

RF Micro Devices®
3V 900 MHz
Linear Amplifier



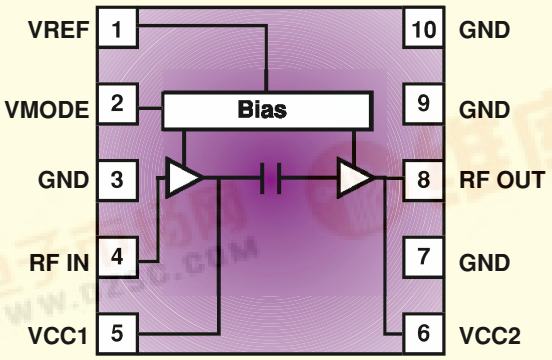
The RF6100-2 is a high-power, high-efficiency linear amplifier module specifically designed for 3V handheld systems. The device is manufactured on an advanced third-generation GaAs HBT process and has been designed for use as the final RF amplifier in 3V IS-95/CDMA 2000 1x/AMPS handheld digital cellular equipment, spread-spectrum systems and other applications in the 824 MHz to 849 MHz band. The RF6100-2 has a digital control line for low power applications in order to lower quiescent current. The device is self-contained with 50Ω input and output that is matched to obtain optimum power, efficiency and linearity. The module is an ultra-small 4x4mm land grid array with backside ground. The RF6100-2 is footprint compatible with industry standard 4x4mm CDMA modules and requires only one decoupling capacitor.

Features

- Advanced third-generation GaAs HBT process
- 4x4mm 50Ω internally matched package
- 28 dBm linear output power
- 40% power added efficiency
- 54% AMPS power added efficiency
- -50 dBc adjacent channel power rejection
- 3V regulated voltage
- 55mA quiescent current (up to 28 dBm)
- 29 dB linear gain

Typical Applications

- 3V CDMA/AMPS cellular handsets
- 3V CDMA 2000 1x cellular handsets
- Spread spectrum systems



RF6100-2
Application Schematic

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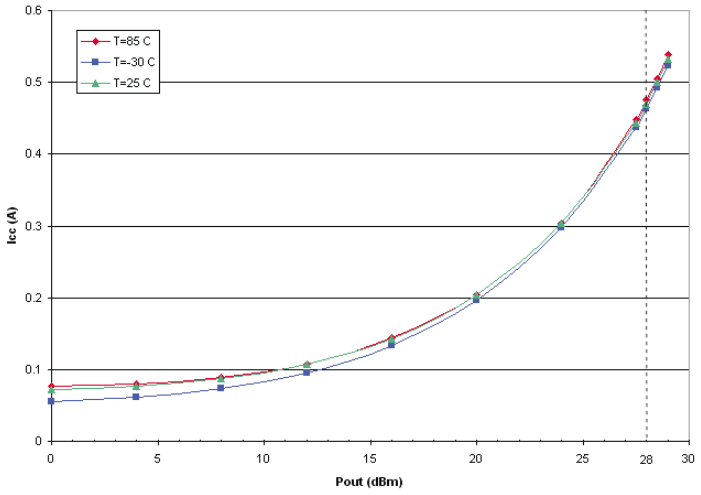
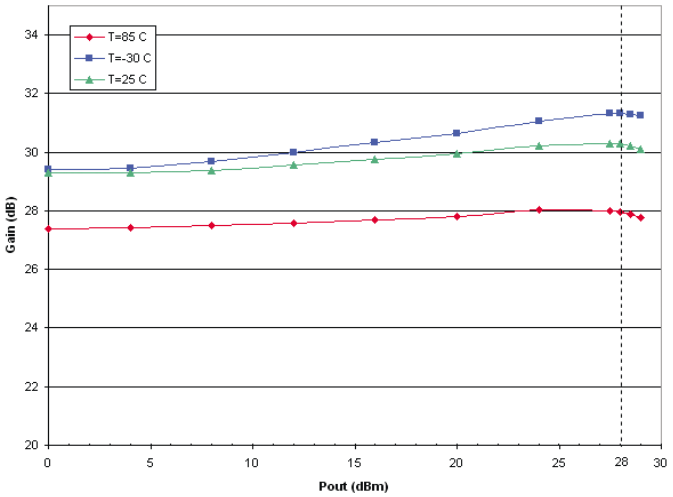
RF6100-2: Typical Performance Charts

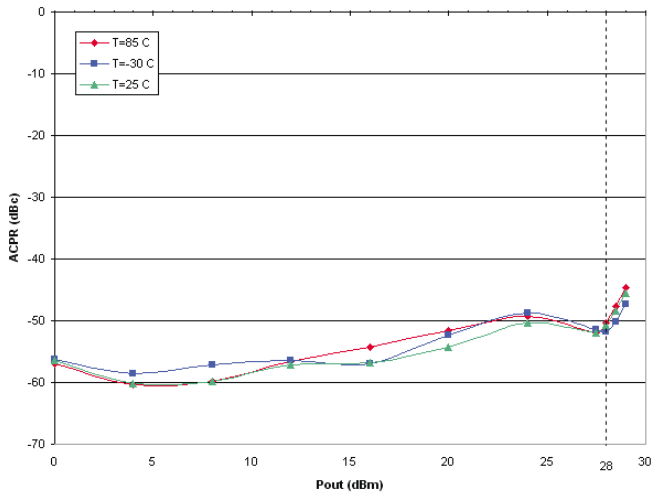
RF6100-2: IS-95 Icc vs Pout
Vcc = 3.4V, Vreg = 3.0V, Vmode = 0V, F = 836 MHz



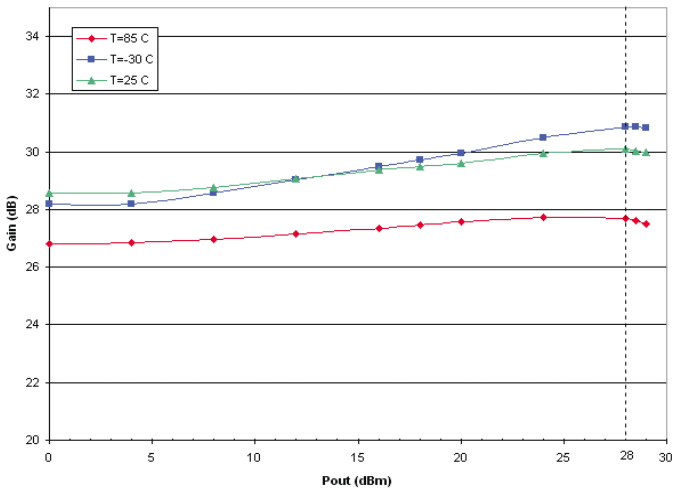
RF6100-2: IS-95 Gain vs Pout
Vcc = 3.4V, Vreg = 3.0V, Vmode = 0V, F = 836 MHz



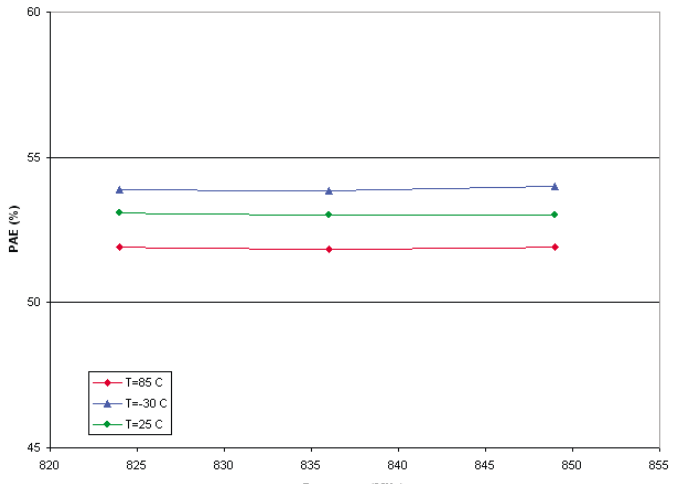
RF6100-2: IS-95 ACPR @ 885kHz vs Pout
Vcc = 3.4V, Vreg = 3.0V, Vmode = 0V, F = 836 MHz



RF6100-2: IS-95 Gain vs Pout
Vcc = 3.4V, Vreg = 3.0V, Vmode = 2.85V, F = 836 MHz



RF6100-2: AMPS PAE vs. Frequency
Vcc = 3.4V, Vreg = 3.0V, Vmode = 0V, Pout = 31 dBm



RF6100-2: IS-95 Gain vs. Frequency
Vcc = 3.4V, Vreg = 3.0V, Vmode = 0V, Pout = 28 dBm