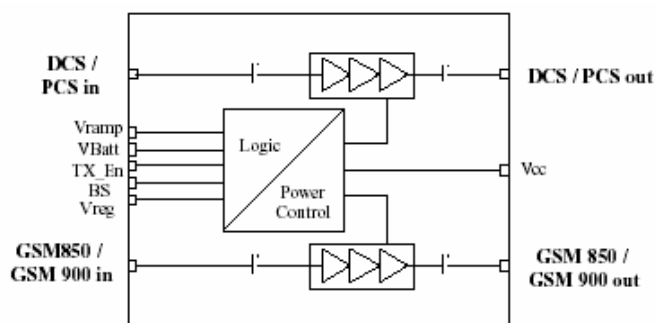


3V Quad-Band GSM850/GSM900/DCS/PCS Power Amplifier Module

Functional Block Diagram



Product Description

The TQM7M4006 is an advanced, quad-band, ultra-compact, 3V power amplifier module designed for mobile handset applications. The module sets new standards in performance and size by employing the latest technologies in power amplifier design. High-reliability is assured by InGaP HBT technology in combination with new CuFlip™ assembly technology. This fully integrated module, in a minimal form factor, provides a simple 50 Ω interface on all input and output ports. It includes internal closed-loop power control with wide dynamic range, and on-board reference voltage. No external matching or bias components are required. Despite its very compact size, the module has exceptional efficiency in all bands.

Incorporates two highly-integrated InGaP power amplifier die with a CMOS controller. All die are CuFlip™ mounted to minimize thermal excursions. Each amplifier has three gain stages with interstage matching implemented with a high Q passives technology for optimal performance. The CMOS controller implements a fully integrated closed-loop power control within the module, eliminating the need for external detection to assure the output power level. The latter is set directly from the V_{ramp} input from the DAC. The module has Tx enable and band select inputs and a highly-stable on-board reference voltage. Excellent performance is achieved across the 824 – 849 MHz, 880 – 915 MHz, 1710 – 1785 MHz, and 1850 – 1910 MHz bands. Module construction is a low-profile overmolded land-grid array on laminate.

Electrical Specifications

Parameter	850 Band			900 Band			DCS/PCS			Units
	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
GSM Pout	34.5	35		34.5	35		32	32.5		dBm
Efficiency	47	52		52	57		46	51		%
Pin	2	5	8	2	5	8	2	5	8	dBm

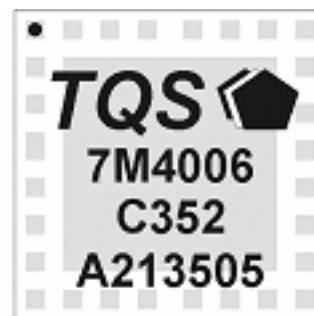
Features

- Very compact size – $5 \times 5 \times 1.1 \text{ mm}^3$.
- Positive supply voltage – 2.9 to 4.5 V.
- High efficiency – typical GSM850 50%, GSM900 55%, DCS 50%, PCS 50%.
- CMOS internal closed-loop power control.
- 55 dB dynamic control range.
- GPRS class 12 compatible.
- High-reliability InGaP technology.
- Ruggedness 10:1.
- 50 Ω input and output impedances.
- Few external components

Applications

- GSM handsets
- GSM wireless cards and data links

Package Style



Package Size : 5 x 5 x 1.1 mm

Advance Data Sheet: Subject to change without notice

For additional information and latest specifications, see our website: { [HYPERLINK "http://www.triquint.com"](http://www.triquint.com) }

Revision A, June 1, 2004

{PAGE }