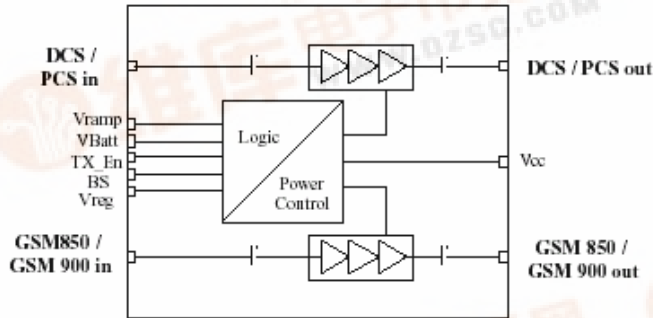


3V Quad-Band GSM850/GSM900/DCS/PCS Power Amplifier Module

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 Vramp 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 – 5×5×1.1 mm³.
- 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