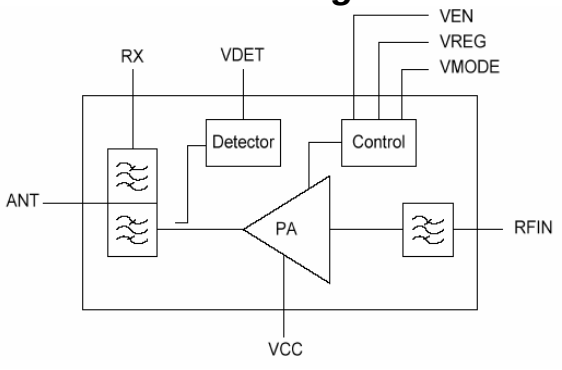
TQM613017

Data Sheet

PowerPad™ CDMA/AMPS Cellular Band PA/Duplexer Module

Functional Block Diagram



Product Description

TriQuint's TQM613017 is a fully matched PA/Duplexer, Front End Module (FEM) for CDMA/AMPS use in mobile phones. The 8 x 5 x 1.52 mm, 22-pin module includes an integrated SAW Duplexer, Power Amplifier, Transmit filter, RF Power Detector and Logic Controller. With an RF Power Output up to 25.5dBm the TQM613017 FEM meets the strict ACPR and ALTR requirements for products designed to the IS-95/98 standards. The quiescent current of the PA/Duplexer is set by the base-band processor using a 1-bit bias control (Vmode) to minimize battery consumption and maximize talk time.

TriQuint's multilayer laminate technology provides low loss interconnect and optimized match between the duplexer, PA and filter enabling the TQM613017 to achieve typically 430 mA current consumption at maximum output power (+25.5dBm). The small 8.0 × 5.0 mm module replaces four separate components requiring less board space. TQM613107 provides handset designers with a simple to use surface mount module requiring minimal external circuitry in the new generation of small and light phones.

Electrical Specifications

Parameter	Min	Typ	Max	Units
Frequency	824	836.5	849	MHz
CDMA Mode Pout[1]		+25.5		dBm
CDMA Mode ACPR (+/- 885kHz offset)[1]		-51		dBc
CDMA Mode ALTR (+/- 1.98 MHz offset)[1]		-59		dBc
CDMA Mode Current Consumption[1]		460		mA
CDMA Mode Leakage[1]		-30		dBm
ANT-to-Rx Insertion Loss		2.8		dB
Rx Noise		-181		dBm/Hz

Note 1: Test Conditions V_{CC}=3.4 V, V_{REF}=2.85 V, T=+25°C

Absolute Maximum Ratings[1]

Features

- InGaP GaAs HBT PA
- Low Current Consumption
  Typical: 460mA @ +25.5dBm
- Low Quiescent Current
  Typical: 40mA
- 1-Bit Bias Control for Extended Talk Time
- Integrated power detector
- Integrated duplexer and interstage filter
- Excellent ACPR
  Typical: -51 dBc @ +/- 885kHz offset
- Excellent ALTR
  Typical: -60 dBc @ +/- 1.98 MHz offset
- Low Voltage Operation 1.3 V to 4.4 V
- Small Profile 22 pins, 8.0 x 5.0 x 1.52 mm
- Reduced Phone Board Space
  Replaces 4 Separate Components
- Easy to use with few External Components
  Internally matched inputs and outputs

Applications

- IS-95/CDMA2000
- Single-Mode, Dual Mode, and Tri Mode CDMA/AMPS phones

Package Style