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RF9812 QUAD-BAND GPRS/LINEAR EDGE +3.2V TD-SCDMA MULTI-MODE TRANSMIT MODULE

Package: 22-pin Module, 6.63mm x 5.24mm x 1.00mm



RFMD 🔊 RF9812

Features

- TD-SCDMA Compliant B34/39
- TD-HSDPA and TD-HSPA+ Compliant
- +25 dBm Output Power TD-SCDMA
- Low Gain Mode for reduced ICO
- High Efficiency at Rated POUT
 - V_{BATT}=3.5V
 - GSM850/EGSM900=41/40%
 - DCS1800/PCS1900=38/36%
- Integrated Power Flattening Circuit for Lower Power Variation Under Mismatch Conditions
- Integrated V_{BATT} Tracking Circuit for improved Switching Spectrum under low V_{BATT} Conditions
- Symmetrical RX Ports
- Robust 8kV ESD Protection at Antenna Port
- Pin Compatible with RF9810

Applications

- 3.2V Quad-Band GSM/GPRS/EDGE and Dual-Band TD-SCDMA Handsets
- Mobile GPRS/EDGE/ **TD-SCDMA Data Products**
- GPRS Class 12 Compliant Products



Functional Block Diagram

Product Description

The RF9812 is a Ouad Band EDGE+TD-SCDMA Multi-Mode Transmit Module with the capability to support both GSM/GPRS/Linear EDGE (GSM850/EGSM900/DCS1800/PCS1900) and TDSCDMA (1880MHz to 1920MHz and 2010MHz to 2025MHz) B34/39 frequency bands. The RF9812 continues to build upon RFMD's leading patented PowerStar® Architecture to include such features as a Power Flattening Circuit, V_{RAMP} Filtering, V_{RATT} Tracking, EDGE Low Power Mode. RFMD has integrated TD-SCDMA functionality into the RF9812, so it can be used as the transmit module in 3.2V, 50 Ω GSM/EDGE/TD-SCDMA dual-mode cellular equipment.

The RF9812 module includes a multi-function CMOS controller, GaAs HBT power amplifier, and pHEMT front end antenna switch. The amplifier devices are manufactured on RFMD's Advance Gallium Arsenide Heterojunction Bipolar Transistor (GaAs HBT) Process, which is designed to operate either in saturated mode for GMSK or linear mode for EDGE 8PSK and TD-SCDMA signaling. The highly integrated EDGE+TD-SCDMA transmit module simplifies GSM/TD-SCDMA dual-mode handset and data card design by eliminating the need for complicated control loop design, output RF spectrum (ORFS) optimization, harmonic filtering, and component matching, all of which combine to provide best in class RF performance, solution size, and ease of implementation for GSM/EDGE/TD-SCDMA dual-mode cellular phone and data card systems. The RF ports are 50 Ω matched and the antenna port includes ESD protection circuitry which meets the stringent 8kV industry standards requiring no additional components. All of these eliminated factors help to improve the customer's product time to market.

Optimum Technology Matching® Applied

🗹 GaAs HBT	
GaAs MESFET	
🗌 InGaP HBT	

SiGe BiCMOS Si BiCMOS SiGe HBT

GaAs pHEMT GaN HEMT Si CMOS RF MEMS Si BJT LDMOS

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