ADVANCE PRODUCT SUMMARY

SKY77179 AutoSmart™ PA Module for WCDMA / HSDPA (824–849 MHz)

Applications

- WCDMA handsets
- HSDPA handsets

Features

- Low voltage positive bias supply
  - 3.2 V to 4.2 V
- Low V_{REF}
  - 2.85 V, nominal
- Low I_{REF}
  - less than 2 mA
- Good linearity
- High efficiency
- Large dynamic range
- 8-pin package
  - 3 x 3 x 1.2 mm
- Power down control
- InGaP
- 3GPP

NEW

Skyworks offers lead (Pb)-free "environmentally friendly" packaging that is RoHS compliant (European Parliament for the Restriction of Hazardous Substances).

Description

The SKY77179 AutoSmart™ Power Amplifier Module (PAM) is a fully matched, 8-pin surface mount module developed for Wideband Code Division Multiple Access (WCDMA) / High Speed Downlink Packet Access (HSDPA) applications.

AutoSmart™ power amplifier technology internally adjusts the RF transistor bias level throughout the dynamic operating range to minimize battery current consumption and ensure sufficient linear performance to meet WCDMA system requirements. The result is a significant savings in average battery current without the complications of a system-supplied mode function signal or analog bias control. AutoSmart™ response time is more than adequate for RF access probe and discontinuous transmission operation.

This small and efficient module packs full coverage of the 824–849 MHz bandwidth into a single compact package. The device meets the stringent 3GPP linearity requirements up to and exceeding 28 dBm output power. The single Gallium Arsenide (GaAs) Microwave Monolithic Integrated Circuit (MMIC) contains all active circuitry in the module. The MMIC contains on-board bias circuitry, as well as input and interstage matching circuits. Output match to a 50-ohm load is realized off-chip and within the module package to optimize efficiency and power performance.

The SKY77179 AutoSmart™ PAM is manufactured with Skyworks' GaAs Heterojunction Bipolar Transistor (HBT) process that provides for all positive voltage DC supply operation while maintaining high efficiency and good linearity. Primary bias to the SKY77179 is supplied directly from a three-cell Ni-Cd, a single-cell Li-Ion, or other suitable battery with an output in the 3.2 to 4.2 volt range. Power down is accomplished by setting the voltage on the low current reference pin to zero volts. No external supply side switch is needed as typical "off" leakage is a few microamperes with full primary voltage supplied from the battery.

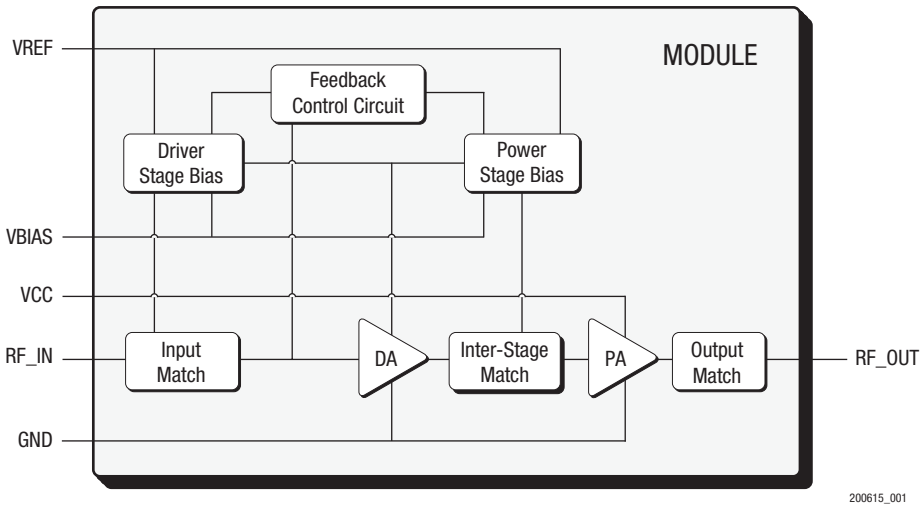


Figure 1. Functional Block Diagram

Copyright © 2006, Skyworks Solutions, Inc. All Rights Reserved.

Information in this document is provided in connection with Skyworks Solutions, Inc. (“Skyworks”) products. These materials are provided by Skyworks as a service to its customers and may be used for informational purposes only by the customer. Skyworks assumes no responsibility for errors or omissions in these materials. Skyworks may make changes to its documentation, products, specifications and product descriptions at any time, without notice. Skyworks makes no commitment to update the information and shall have no responsibility whatsoever for conflicts, incompatibilities, or other difficulties arising from future changes to its documentation, products, specifications and product descriptions.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by or under this document. Except as may be provided in Skyworks Terms and Conditions of Sale for such products, Skyworks assumes no liability whatsoever in association with its documentation, products, specifications and product descriptions.

THESE MATERIALS ARE PROVIDED “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED OR OTHERWISE, RELATING TO SALE AND/OR USE OF SKYWORKS PRODUCTS INCLUDING WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, PERFORMANCE, QUALITY OR NON-INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. SKYWORKS FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. SKYWORKS SHALL NOT BE LIABLE FOR ANY DAMAGES, INCLUDING SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS THAT MAY RESULT FROM THE USE OF THESE MATERIALS WHETHER OR NOT THE RECIPIENT OF MATERIALS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Skyworks products are not intended for use in medical, lifesaving or life-sustaining applications. Skyworks customers using or selling Skyworks products for use in such applications do so at their own risk and agree to fully indemnify Skyworks for any damages resulting from such improper use or sale.

The following are trademarks of Skyworks Solutions, Inc.: Skyworks®, the Skyworks logo, and Breakthrough Simplicity®. Product names or services listed in this publication are for identification purposes only, and may be trademarks of Skyworks or other third parties. Third-party brands and names are the property of their respective owners. Additional information, posted at www.skyworksinc.com, is incorporated by reference.