

SKY77152: PA Module for WCDMA (1920-1980 MHz)

APPLICATIONS

- WCDMA handsets

Features

- Low voltage positive bias supply
 - 3.2 V to 4.2 V
- Low V_{REF}
 - 2.85 V, nominal
- Supports low collector voltage operation
- Good linearity
- High efficiency
- Large dynamic range
- 10-pin package
 - 4 mm x 4 mm x 1.5 mm
- Power down control
- Low power-state control
- InGaP

The SKY77152 Power Amplifier Module (PAM) is a fully matched, 10-pin, surface mount module developed for Wideband Code Division Multiple Access (WCDMA) applications. This small and efficient module packs full 1920-1980 MHz bandwidth coverage into a single compact package. The SKY77152 meets the stringent spectral linearity requirements of WCDMA transmission, with high power added efficiency for power output of up to 28 dBm. A low current pin (V_{CONT}) is provided to improve efficiency for the low RF power range of operation.

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 is realized off-chip within the module package to optimize efficiency and power performance into a $50\ \Omega$ load. This device 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 SKY77152 is supplied directly from a three-cell Ni-Cad, a single-cell Li-ion, or other suitable batteries with outputs 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.

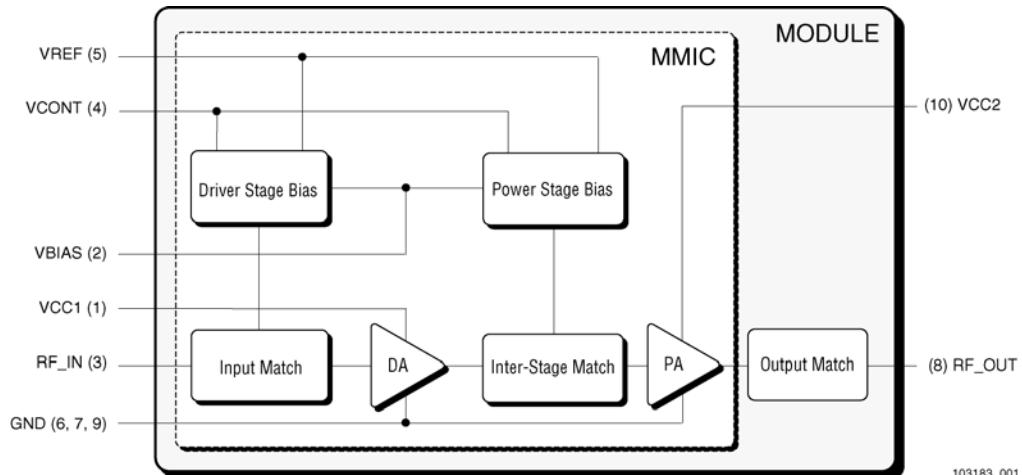


Figure 1. Functional Block Diagram

© 2002-2004, 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. Skyworks assumes no responsibility for errors or omissions in these materials. Skyworks may make changes to its 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 products and product descriptions.

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

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, 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 SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS THAT MAY RESULT FROM THE USE OF THESE MATERIALS.

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 symbol, and "Breakthrough Simplicity"™. Product names or services listed in this publication are for identification purposes only, and may be trademarks of 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.