



**THE DATASHEET OF
SKY87000-11-001**



PRODUCT SUMMARY

SKY87000-11: Step-Down Regulator with Auto-Bypass LDO for Multi-Band/Mode RF Power Amplifiers

Applications

- Multi-mode RF PAs
- Smartphones, mobile phones, cellular phones
- Wireless USB data cards
- Portable media devices

Features

- Input voltage range: 2.7 to 5.5 V
- Dynamic output voltage: 0.4 V to 4.25 V
 - 0.16 V to 1.7 V reference input range
 - 2.5 times the reference input voltage to regulator output gain
- Internally compensated current/mode architecture:
 - 2 MHz switching frequency
 - 2.2 μ H chip inductor
 - Two 4.7 μ F output capacitors
 - Wide duty cycle range (100% duty cycle operation)
- Integrated 85 m Ω (typical) bypass regulator
- Less than 10 μ s response for 1 V output step
- Up to 2 A typical output current
- Small 9-bump WLCSP package (MSL1, 260 °C per JEDEC J-STD-020) package



Skyworks Green™ products are compliant with all applicable legislation and are halogen-free. For additional information, refer to *Skyworks Definition of Green™*, document number SQ04-0074.

Description

The SKY87000-11 dynamically controls the operating voltage of a multi-mode WCDMA or GSM/EDGE Power Amplifier (PA) solution. The SKY87000-11 outputs a voltage between 0.40 V and 4.25 V, giving optimum efficiency for all operating states.

The output voltage of the device is controlled by an analog signal from the baseband processor. The SKY87000-11 can support up to 2 A of total load current with step-down and bypass regulators. The 2 MHz switching frequency is optimized for a typical 2.2 μ H inductor and reduced output capacitance.

To further improve system performance, an 85 m Ω bypass linear regulator is included that allows the PA to be powered directly from the battery. The bypass regulator output voltage is offset from the step-down regulator, which improves extreme load transient and dynamic output transition performance.

The SKY87000-11 is available in a 9-bump Wafer Level Chip Scale Package (WLCSP) with 0.5 mm pin pitch. A typical application circuit diagram is shown in Figure 1.

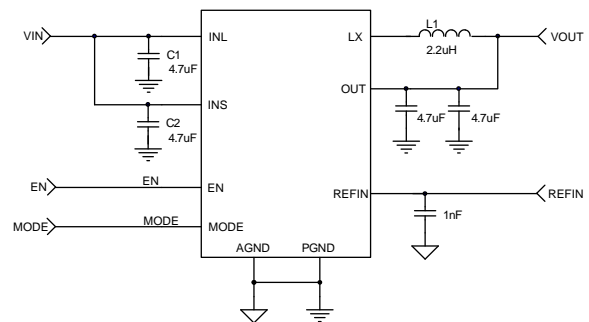


Figure 1. SKY87000-11 Typical Application Circuit

Ordering Information

Model Name	Manufacturing Part Number	Evaluation Board Part Number
SKY87000-11 Step-Down Regulator with Auto-Bypass LDO	SKY87000-11-001	SKY87000-11-001-EVB

Copyright © 2012, 2013 Skyworks Solutions, Inc. All Rights Reserved.

Information in this document is provided in connection with Skyworks Solutions, Inc. (“Skyworks”) products or services. These materials, including the information contained herein, 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 or the information contained herein. Skyworks may change its documentation, products, services, specifications or product descriptions at any time, without notice. Skyworks makes no commitment to update the materials or information and shall have no responsibility whatsoever for conflicts, incompatibilities, or other difficulties arising from any future changes.

No license, whether express, implied, by estoppel or otherwise, is granted to any intellectual property rights by this document. Skyworks assumes no liability for any materials, products or information provided hereunder, including the sale, distribution, reproduction or use of Skyworks products, information or materials, except as may be provided in Skyworks Terms and Conditions of Sale.

THE MATERIALS, PRODUCTS AND INFORMATION ARE PROVIDED “AS IS” WITHOUT WARRANTY OF ANY KIND, WHETHER EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE, INCLUDING FITNESS FOR A PARTICULAR PURPOSE OR USE, MERCHANTABILITY, PERFORMANCE, QUALITY OR NON-INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHT; ALL SUCH WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED. SKYWORKS 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 BUT NOT LIMITED TO ANY SPECIAL, INDIRECT, INCIDENTAL, STATUTORY, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS THAT MAY RESULT FROM THE USE OF THE MATERIALS OR INFORMATION, 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, or other equipment in which the failure of the Skyworks products could lead to personal injury, death, physical or environmental damage. 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.

Customers are responsible for their products and applications using Skyworks products, which may deviate from published specifications as a result of design defects, errors, or operation of products outside of published parameters or design specifications. Customers should include design and operating safeguards to minimize these and other risks. Skyworks assumes no liability for applications assistance, customer product design, or damage to any equipment resulting from the use of Skyworks products outside of stated published specifications or parameters.

Skyworks, the Skyworks symbol, and “Breakthrough Simplicity” are trademarks or registered trademarks of Skyworks Solutions, Inc., in the United States and other countries. Third-party brands and names are for identification purposes only, and are the property of their respective owners. Additional information, including relevant terms and conditions, posted at www.skyworksinc.com, are incorporated by reference.

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

-  [View SKY87000-11-001 on WIN SOURCE](#)
-  [Skyworks Solutions Inc. Information](#)

Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management