

PRODUCT SUMMARY

SKY87021-11: Power Management IC for the SkyBlue™ System

Applications

- Smartphones
- 3G/4G multimode front-end modules
- Tablets and eBook readers
- Wireless data cards

Features

- Input voltage range: 2.5 V to 5.5 V
- High voltage boost supply:
 - Output voltage range from Bypass to 11V
 - Output current up to 450mA
 - High efficiency: 90% typical ($V_{IN}=3.8\text{ V}$, $V_{OUT}=9.5\text{ V}$, $I_{LOAD}>110\text{ mA}$)
 - Fast voltage transition response 570 mV/ μs
 - Optimized for small external components
 - For HPUE application, 1.5 μH inductor, 2x1.0 μF output capacitor
 - For non-HPUE application: 1.5 μH /2.2 μH , 1.0 μF output capacitor
 - High 2.25 MHz switching frequency
 - Shutdown load disconnect
 - Fast load transient response, less than 20 μs
 - Over temperature, over voltage and short circuit protection
- Low voltage ± 2 step-down function
 - Output current up to 30 mA
- 4.5 V, 3 mA PA bias supply output
- MIPI RFFE interface for setup and control
 - 8-bit output voltage programming resolution
- Small footprint CSP (16-ball, 1.991 mm \times 1.991 mm) package (MSL1, 260 °C per JEDEC J-STD-020)



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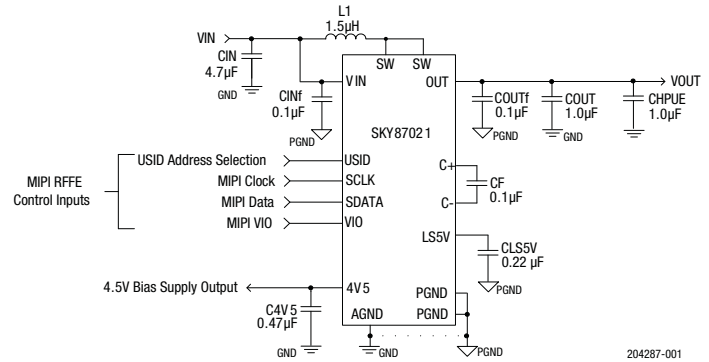


Figure 1. Typical Application Circuit (Programmable Output)

Description

The SKY87021-11 is a high-efficiency RF front-end power management IC for APT RF power amplifier (PA) applications in portable battery powered devices. This IC includes a high-efficiency DC-DC voltage converter capable of delivering 450 mA at 11 V with a 4.5 V reference supply to provide a user-programmable RF PA APT supply for a 2.5 V to 5.5 V input range.

The SKY87021-11 also provides an additional 4.5 V bias supply for RF PA operation. This bias voltage output can supply load currents up to 3 mA and is available whenever the device is enabled. When the device is disabled, the 4.5 V bias supply is shut down. This device has over-voltage, over-current, shorted circuit, and thermal shutdown protection to protect the device and system under adverse operating conditions.

The SKY87021-11 is capable of supporting HPUE front-end modules and is controlled with a MIPI RFFE 2.0 compliant interface with 8-bit output voltage programming resolution.

The SKY87021-11 is available in a 16-pin, 1.991 mm x 1.991 mm Chip Scale Package (CSP).

A typical application circuit is shown in Figure 1.

Ordering Information

Model Name	Manufacturing Part Number	Evaluation Board Part Number
SKY87021-11: Power Management IC for the SkyBlue™ System	SKY87021-11-001	SKY87021-11-EVB

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