

LM3210 – 1.25A Miniature, Adjustable, Step-Down DC-DC Converter for RF Power Amplifiers

Description

The LM3210 is a DC-DC converter optimized for powering RF power amplifiers (PAs) from a single Lithium-Ion cell. However, it may be used in many other applications. It steps down an input voltage in the range from 2.7V to 5.5V to an adjustable output voltage of 0.5V to 3.6V. Output voltage is set by using a V_{CON} analog input to control power levels and efficiency of the RF PA.

The LM3210 offers superior performance for mobile phones and similar RF PA applications. Fixed-frequency PWM operation minimizes RF interference. A shutdown function turns the device off and reduces battery consumption to 0.01 μ A (typ.).

Only three small external surface-mount components, an inductor and two ceramic capacitors, are required.

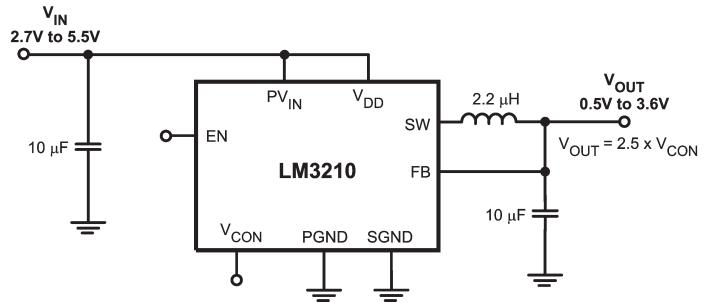
Features

- Operates from a single Li-Ion cell (2.7V to 5.5V)
- Adjustable Output Voltage (0.5V to 3.6V)
- Fast Output Voltage Transient (0.5V to 2.7V in 30 μ s max)
- 1.25A Maximum load capability
- High Efficiency
- Current Overload Protection
- Thermal Overload Protection

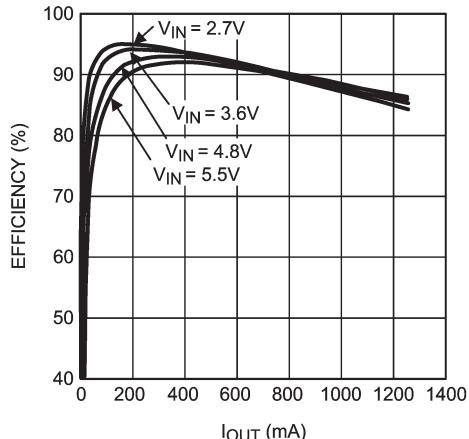
Applications

- Cellular Phones
- Hand-Held Radios
- RF PC Cards
- Battery Powered RF Devices

Typical Applications



Efficiency vs Output Current ($V_{OUT} = 2.1V$)



For detailed datasheet or samples, please contact National Semiconductor sales.

LM3210 – 1.25A Miniature, Adjustable, Step-Down DC-DC Converter for RF Power Amplifiers

For more National Semiconductor product information and proven design tools, visit the following Web sites at:

Products		Design Support	
Amplifiers	www.national.com/amplifiers	WEBENCH	www.national.com/webench
Audio	www.national.com/audio	Analog University	www.national.com/AU
Clock Conditioners	www.national.com/timing	App Notes	www.national.com/appnotes
Data Converters	www.national.com/adc	Distributors	www.national.com/contacts
Displays	www.national.com/displays	Green Compliance	www.national.com/quality/green
Ethernet	www.national.com/ethernet	Packaging	www.national.com/packaging
Interface	www.national.com/interface	Quality and Reliability	www.national.com/quality
LVDS	www.national.com/lvds	Reference Designs	www.national.com/refdesigns
Power Management	www.national.com/power	Feedback	www.national.com/feedback
Switching Regulators	www.national.com/swatchers		
LDOS	www.national.com/ldo		
LED Lighting	www.national.com/led		
PowerWise	www.national.com/powerwise		
Serial Digital Interface (SDI)	www.national.com/sdi		
Temperature Sensors	www.national.com/tempssensors		
Wireless (PLL/VCO)	www.national.com/wireless		

National Semiconductor
2900 Semiconductor Drive
Santa Clara, CA 95051
1 800 272 9959

Mailing address:
PO Box 58090
Santa Clara, CA 95052

Visit our website at:
national.com/power

**For more information,
send email to:**
support@nsc.com