

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

### General 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  $\mu$ A (typ.).

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

**Notice: This document is not a full datasheet. For more information regarding this product or to order samples please contact your local National Semiconductor sales office or visit <http://www.national.com/support/dir.html>**

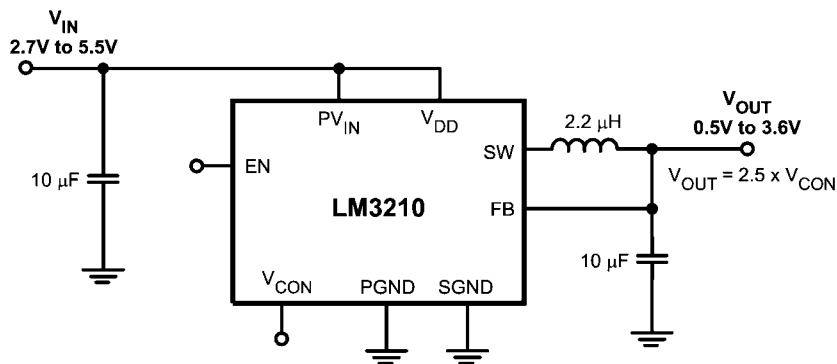
### Features

- 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  $\mu$ s max)
- 1.25A Maximum load capability
- High Efficiency
- Current Overload Protection
- Thermal Overload Protection

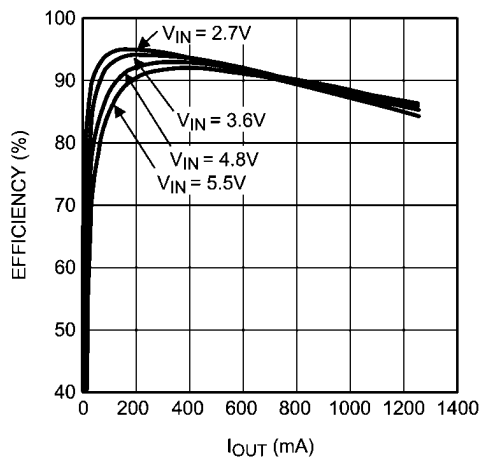
### Applications

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

### Typical Applications



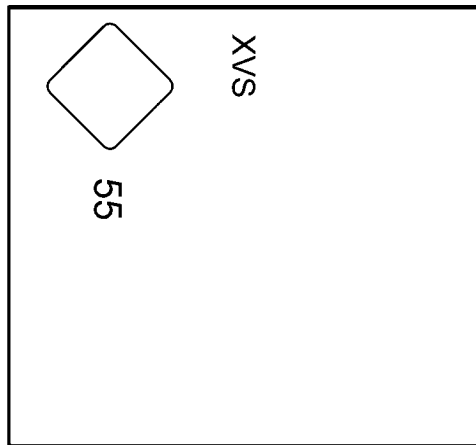
30024902



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

## Pin Identification



Package Mark — Top View

30024956

## Order Information

Order Number	Package Marking (Note)	Supplied As
LM3210TLE	XVS/55	250 units, Tape-and-Reel
LM3210TLX	XVS/55	1000 units, Tape-and-Reel

**Note:** The actual physical placement of the package marking will vary from part to part. The package marking "X" designates the date code. "V" is an NSC internal code for die traceability. Both will vary in production. "S" designates device type as switcher and "55" identifies the device (part number).



## Notes

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LVDS	<a href="http://www.national.com/lvds">www.national.com/lvds</a>	Packaging	<a href="http://www.national.com/packaging">www.national.com/packaging</a>
Power Management	<a href="http://www.national.com/power">www.national.com/power</a>	Green Compliance	<a href="http://www.national.com/quality/green">www.national.com/quality/green</a>
Switching Regulators	<a href="http://www.national.com/switchers">www.national.com/switchers</a>	Distributors	<a href="http://www.national.com/contacts">www.national.com/contacts</a>
LDOs	<a href="http://www.national.com/ldo">www.national.com/ldo</a>	Quality and Reliability	<a href="http://www.national.com/quality">www.national.com/quality</a>
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Voltage Reference	<a href="http://www.national.com/vref">www.national.com/vref</a>	Design Made Easy	<a href="http://www.national.com/easy">www.national.com/easy</a>
PowerWise® Solutions	<a href="http://www.national.com/powerwise">www.national.com/powerwise</a>	Solutions	<a href="http://www.national.com/solutions">www.national.com/solutions</a>
Serial Digital Interface (SDI)	<a href="http://www.national.com/sdi">www.national.com/sdi</a>	Mil/Aero	<a href="http://www.national.com/milaero">www.national.com/milaero</a>
Temperature Sensors	<a href="http://www.national.com/tempensors">www.national.com/tempensors</a>	SolarMagic™	<a href="http://www.national.com/solarmagic">www.national.com/solarmagic</a>
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