LM3241

LM3241 PRODUCT BRIEF 6MHz, 750mA Miniature, Adjustable, Step-Down DC-DC Converter for RF Power Amplifiers

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General Description

The LM3241 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 from 2.7V to 5.5V to an adjustable output voltage from 0.6V to 3.4V. Output voltage is set using a VCON analog input for controlling power levels and efficiency of the RF PA.

The LM3241 offers three modes of operation. In PWM mode the device operates at a fixed frequency of 6MHz (typ.) which minimizes RF interference when driving medium-to-heavy loads. In ECO mode, the quiescent current is reduced and extends the battery life. Shutdown mode turns the device off and reduces battery consumption to 0.1 µA (typ.).

The LM3241 is available in a 6-bump lead-free micro SMD package. A high-switching frequency (6MHz) allows use of tiny surface-mount components. Only three small external surface-mount components, an inductor and two ceramic capacitors are required.

Notice: This document is not a datasheet. For more information regarding this product or to order samples please contact your local National Semiconductor/Texas Instruments sales office or visit http://www.focus.ti.com/general/docs/dsnsuprt.tsp.

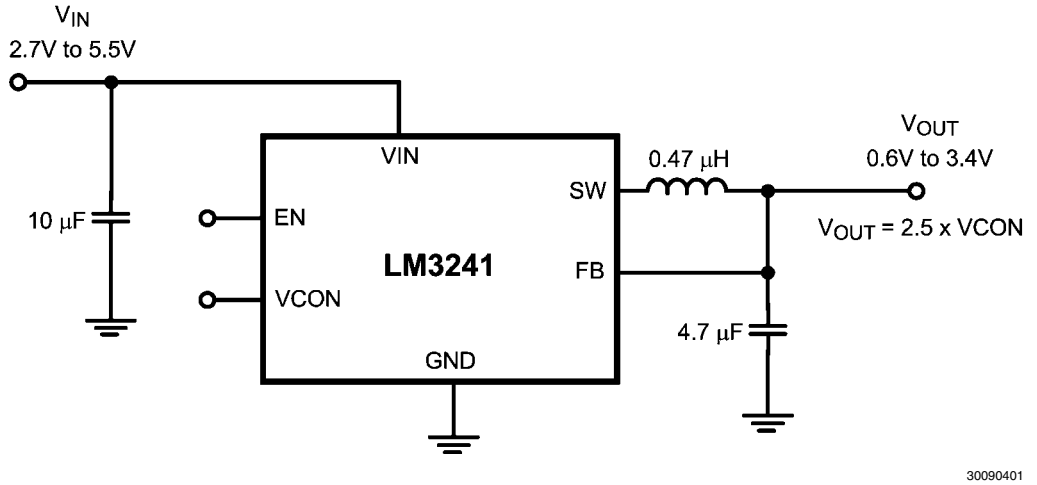
Features

- 6MHz (typ.) PWM Switching Frequency
- Operates from a Single Li-Ion Cell (2.7V to 5.5V)
- Adjustable Output Voltage (0.6V to 3.4V)
- 750 mA Maximum Load Capability
- High Efficiency (95% typ. at $3.9V_{IN}$, $3.6V_{OUT}$ at 500 mA)
- Automatic ECO/PWM mode change
- 6-bump micro SMD Package
- Current Overload Protection
- Thermal Overload Protection
- Soft Start Function
- C_{IN} and C_{OUT} are 0402 (1005) case size and 6.3V of rated-voltage ceramic capacitor
- Small Chip Inductor in 0805 (2012) case size

Applications

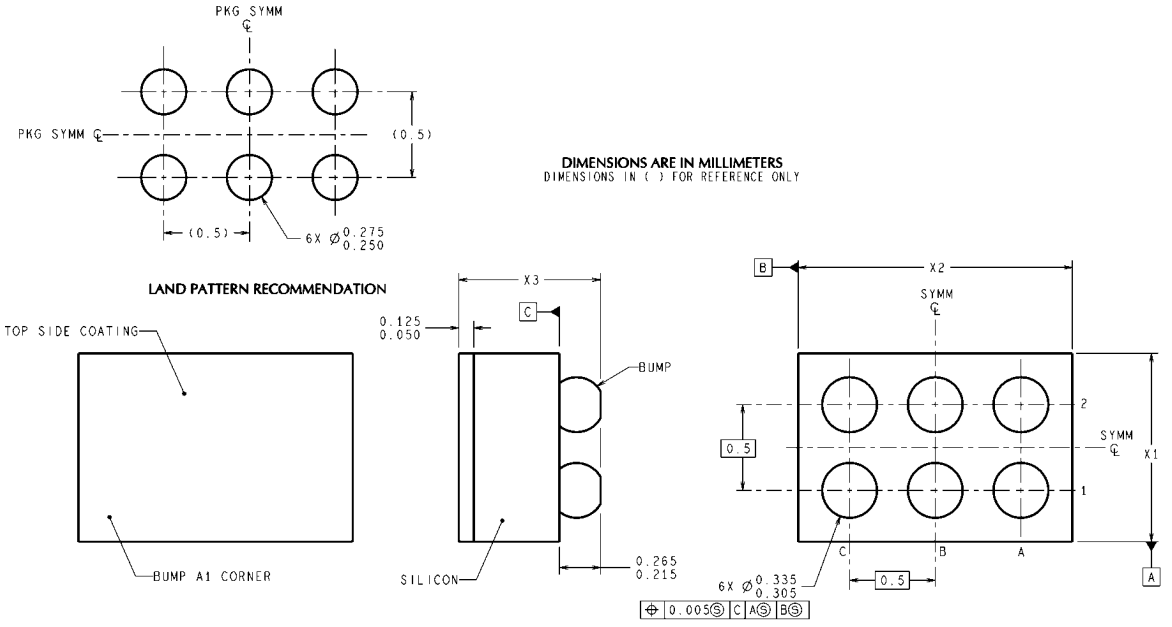
- Battery-Powered 3G/4G RF PAs
- Hand-Held Radios
- RF PC Cards

Typical Application



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Physical Dimensions inches (millimeters) unless otherwise noted



TLA06XXX (Rev C)

6-Bump Thin Micro SMD, Large Bump (0.5 mm pitch)
X1 = 1.107 mm ± 0.030 mm
X2 = 1.488 mm ±0.030 mm
X3 = 0.600 mm ±0.075 mm
NS Package Number TLA06E1A

Notes

Notes

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