

# Industry's Most Efficient Nano Power Harvesting Solutions

Extract and manage  $\mu\text{W}$  to  $\text{mW}$



## Overview

Energy harvesting with breakthrough TI technology allows the development of systems that extract and manage nano power from a variety of sources such as solar, thermal electric, electromagnetic, and vibration energy. With the reality of years-long battery life, TI technology enables new applications that are simply not possible with traditional battery-powered systems. From solar-powered sensors for wireless monitoring of factories or farms to using body heat to power sensors on medical and fitness equipment, TI and leading energy harvesting partners are creating a complete ecosystem for designers to envision and create a battery-less world.

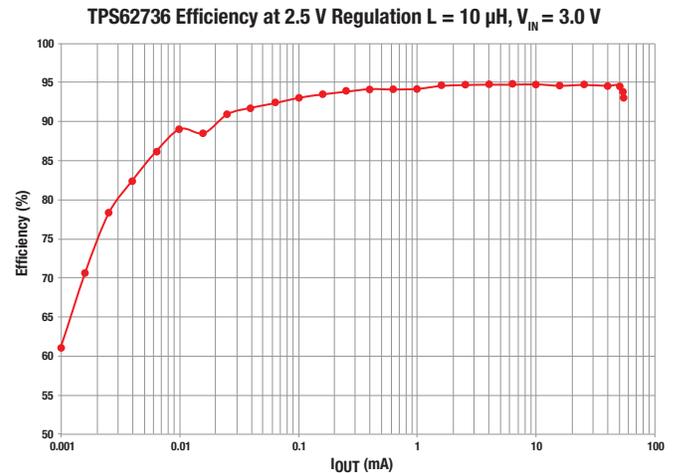
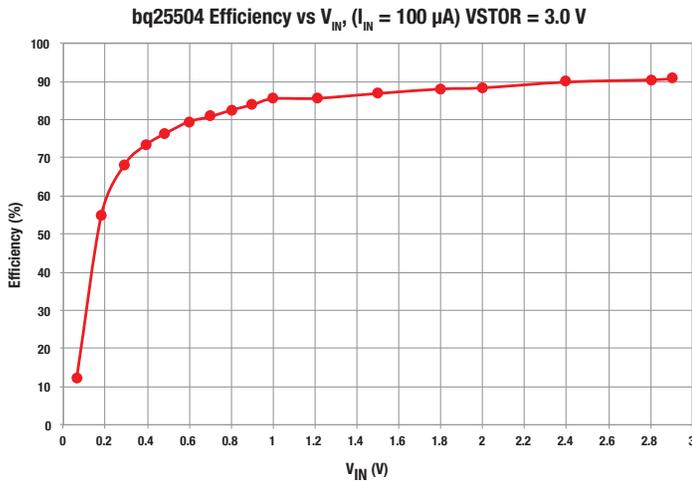
### From low power to no power, TI delivers the most efficient energy harvesting technology

- Low quiescent currents (350 nA typical)
- >90% conversion efficiency even at currents as low as 15  $\mu\text{A}$
- User-programmable devices with Maximum Power Point Tracking (MPPT) for optimized extraction
- Cold start capability for very low input conditions

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## Featured Energy Harvesting ICs

Product	Description
<b>bq25505</b>	Ultra-low power boost converter with battery management and autonomous power path multi-plexing
<b>bq25504</b>	Ultra-low power boost converter with battery management
<b>bq25570</b>	Ultra-low power boost converter with battery management and buck output regulation
<b>TPS62736/37</b>	Ultra-low Iq nano-buck regulators
<b>bq25504EVM-674</b>	Evaluation module for bq25504 ultra-low-power boost converter
<b>TPS62736EVM-205</b>	Evaluation module for TPS62736 programmable output ultra-low-power buck converter



### bq25504

Ultra-low power boost converter with battery management

#### Key Features

- High-efficiency DC/DC boost converter/charger
- Programmable dynamic Maximum Power Point Tracking (MPPT) with cold start feature
- Flexible energy storage options
- Battery charging and protection



### bq25570

Ultra-low power boost converter with battery management and buck output regulation

#### Key Features

- High efficiency DC/DC boost converter/charger with built-in buck regulation
- MPPT with cold start feature
- Flexible energy storage options
- Battery charging and protection



### bq25505

Ultra-low power boost converter with battery management and autonomous power path multi-plexing

#### Key Features

- High-efficiency DC/DC boost converter/charger with MPPT
- Autonomous multiplexing for primary and secondary power
- Flexible energy storage options
- Battery charging and protection



### TPS62736/37

Programmable output Nano-Power buck converters with 50 mA load capability

#### Key Features

- High-efficiency (>90% at 15  $\mu A$ ) buck regulators with programmable output regulation
- Ultra-low active current (350 nA)
- Pass mode option
- Two power-off states, including Input Power Good indication



For more information, visit [ti.com/energyharvestingICs](http://ti.com/energyharvestingICs)

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Logic	<a href="http://logic.ti.com">logic.ti.com</a>
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Computers and Peripherals	<a href="http://www.ti.com/computers">www.ti.com/computers</a>
Consumer Electronics	<a href="http://www.ti.com/consumer-apps">www.ti.com/consumer-apps</a>
Energy and Lighting	<a href="http://www.ti.com/energy">www.ti.com/energy</a>
Industrial	<a href="http://www.ti.com/industrial">www.ti.com/industrial</a>
Medical	<a href="http://www.ti.com/medical">www.ti.com/medical</a>
Security	<a href="http://www.ti.com/security">www.ti.com/security</a>
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