


Conv DC-DC 2.5V to 5.5V Synchronous Step Down Single-Out 0.5V to 1.77V 3A 16-Pin DSBGA T/R

| | |
|----------------------|--|
| Manufacturer: | Texas Instruments, Inc |
| Package/Case: | BGA |
| Product Type: | Power Management ICs |
| RoHS: | RoHS Compliant/Lead free  |
| Lifecycle: | Active |



Images are for reference only

[Inquiry](#)

General Description

The TPS6236x are a family of high-frequency synchronous step down dc-dc converter optimized for battery-powered portable applications for a small solution size. With an input voltage range of 2.5V to 5.5V, common battery technologies are supported. The device provides up to 3A peak load current, operating at 2.5MHz typical switching frequency.

The devices convert to an output voltage range of 0.77V to 1.4V (TPS62360/62) and 0.5V to 1.77V (TPS62361B/63), programmable via I2C interface in 10mV steps. Dedicated inputs allow fast voltage transition to address processor performance operating points.

The TPS6236x supports low-voltage DSPs and processor cores in smart-phones and handheld computers including latest submicron processes. Dedicated hardware input pins allow simple transitions to performance operating points and retention modes of processors.

The devices focus on a high output voltage accuracy. The differential sensing and the DCS-Control architecture achieve precise static and dynamic, transient output voltage regulation.

The TPS6236x devices offer high efficiency step down conversion. The area of highest efficiency is extended towards low output currents to increase the efficiency while the processor is operating in retention mode, as well as towards highest output currents increasing the battery on-time.

The robust architecture and multiple safety features allow perfect system integration.

The 2mm x 2mm package and the low number of required external components lead to a tiny solution size of less than 25mm².

Key Features

3A Peak Output Current

Highest Efficiency:

Low RDS,on Switch and Active Rectifier

Power Save Mode for Light Loads

I2C High Speed Compatible Interface

Programmable Output Voltage for Digital Voltage Scaling

TPS62360/62: 0.77V to 1.4V, 10mV Steps

TPS62361B/63: 0.5V to 1.77V, 10mV Steps

Excellent DC/AC Output Voltage Regulation

Differential Load Sensing

Precise DC Output Voltage Accuracy

DCS-Control Architecture for Fast and Precise Transient Regulation

Multiple Robust Operation/Protection :

Soft Start

Programmable Slew Rate at Voltage Transition

Over Temperature Protection

Input Under Voltage Detection and Lockout

Available in 16-Bump, 2mm × 2mm NanoFree Package

Low External Device Count: < 25mm² Solution Size

Description

The TPS6236x are a family of high-frequency synchronous step down dc-dc converter optimized for battery-powered portable applications for a small solution size. With an input voltage range of 2.5V to 5.5V, common battery technologies are supported. The device provides up to 3A peak load current, operating at 2.5MHz typical switching frequency.

The devices convert to an output voltage range of 0.77V to 1.4V (TPS62360/62) and 0.5V to 1.77V (TPS62361B/63), programmable via I2C interface in 10mV steps. Dedicated inputs allow fast voltage transition to address processor performance operating points.

The TPS6236x supports low-voltage DSPs and processor cores in smart-phones and handheld computers including latest submicron processes. Dedicated hardware input pins allow simple transitions to performance operating points and retention modes of processors.

The devices focus on a high output voltage accuracy. The differential sensing and the DCS-Control architecture achieve precise static and dynamic, transient output voltage regulation.

The TPS6236x devices offer high efficiency step down conversion. The area of highest efficiency is extended towards low output currents to increase the efficiency while the processor is operating in retention mode, as well as towards highest output currents increasing the battery on-time.

The robust architecture and multiple safety features allow perfect system integration.

The 2mm x 2mm package and the low number of required external components lead to a tiny solution size of less than 25mm².

Recommended For You

TPD3S014DBVR

Texas Instruments, Inc

SOT23-6

TPS2065CDBVR

Texas Instruments, Inc

SOT23-5

TPS2557DRBT

Texas Instruments, Inc

SON8

TPS2042BDR

Texas Instruments, Inc
SOP8

TPS2051BDR

Texas Instruments, Inc
SOP8

TPL7407LPWR

Texas Instruments, Inc
TSSOP16

TPS23753APWR

Texas Instruments, Inc
TSSOP14

TPS2116DRLR

Texas Instruments, Inc
SOT5X3-8

TPS259460ARPWR

Texas Instruments, Inc
VQFN-10

TPS23751PWPR

Texas Instruments, Inc
HTSSOP16

TPS65150QPWPRQ1

Texas Instruments, Inc
HTSSOP-24

TPS2410PWR

Texas Instruments, Inc
TSSOP-14

TPS22914BYFPR

Texas Instruments, Inc
DSBGA4

TPS2115ADRBR

Texas Instruments, Inc
VSON8

TPS2113ADRBR

Texas Instruments, Inc
SON8