

高效、小外形尺寸晶体管 (SOT)23 封装降压、直流至直流 (DC-DC) 转换器

特性

- 效率高达 **95%** 的高效同步降压转换器
- **2.5V 至 6V** 输入电压范围
- 可调输出电压范围
- 提供固定输出电压选项
- 输出电流
- 固定频率脉宽调制 (PWM) 运行
- 省电模式带来的宽负载电流范围内的最高效率
- 静态电流
- 软启动
- **100%** 占空比低压降运行
- 动态输出电压定位

应用范围

- 掌上电脑 (PDA) 和手持设备
- 手机、智能电话
- 低功耗数字信号处理器 (DSP) 电源
- 数码摄像机
- 便携式媒体播放器
- 便携式设备

说明

TPS62203 是一款高效同步降压转换器，此转换器非常适合应用于由 1 节或者 3 节镍镉/镍镉电池供电的便携式系统。此器件也适合用在标准电压轨上运行。

此器件是为 PDA，手持设备，和智能手机内使用的低电压 DSP 和处理器供电的理想选择。在标称负载电流下，此器件运行在一个固定的开关频率下。在轻负载电流下，部件进入省电模式运行并且开关频率被减少；因此，它可以在整个负载电流范围内实现最高效率。TPS62203 只需三个外部组件。高级快速响应电压模式控制机制可在使用小型陶瓷输入和输出电容器时实现出色的线路和负载调节。

ORDERING INFORMATION⁽¹⁾

PRODUCT	PACKAGE DESIGNATOR	PACKAGE	ORDERABLE PART NUMBER	PACKAGE QUANTITY
TPS62203	TD	Bare die in waffle pack ⁽²⁾	TPS62203TDE1	252
			TPS62203TDE2	10

(1) For the most current package and ordering information, see the Package Option Addendum at the end of this document, or see the TI web site at www.ti.com.

(2) Processing is per the Texas Instruments commercial production baseline and is in compliance with the Texas Instruments Quality Control System in effect at the time of manufacture. Electrical screening consists of DC parametric and functional testing at room temperature only. Unless otherwise specified by Texas Instruments AC performance and performance over temperature is not warranted. Visual Inspection is performed in accordance with MIL-STD-883 Test Method 2010 Condition B at 75X minimum.



Please be aware that an important notice concerning availability, standard warranty, and use in critical applications of Texas Instruments semiconductor products and disclaimers thereto appears at the end of this data sheet.



This integrated circuit can be damaged by ESD. Texas Instruments recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage.

ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.

BARE DIE INFORMATION

DIE THICKNESS	BACKSIDE FINISH	BACKSIDE POTENTIAL	BOND PAD METALLIZATION COMPOSITION	BOND PAD THICKNESS
11 mils.	Silicon with backgrind	Ground	Al5Cu	650 nm

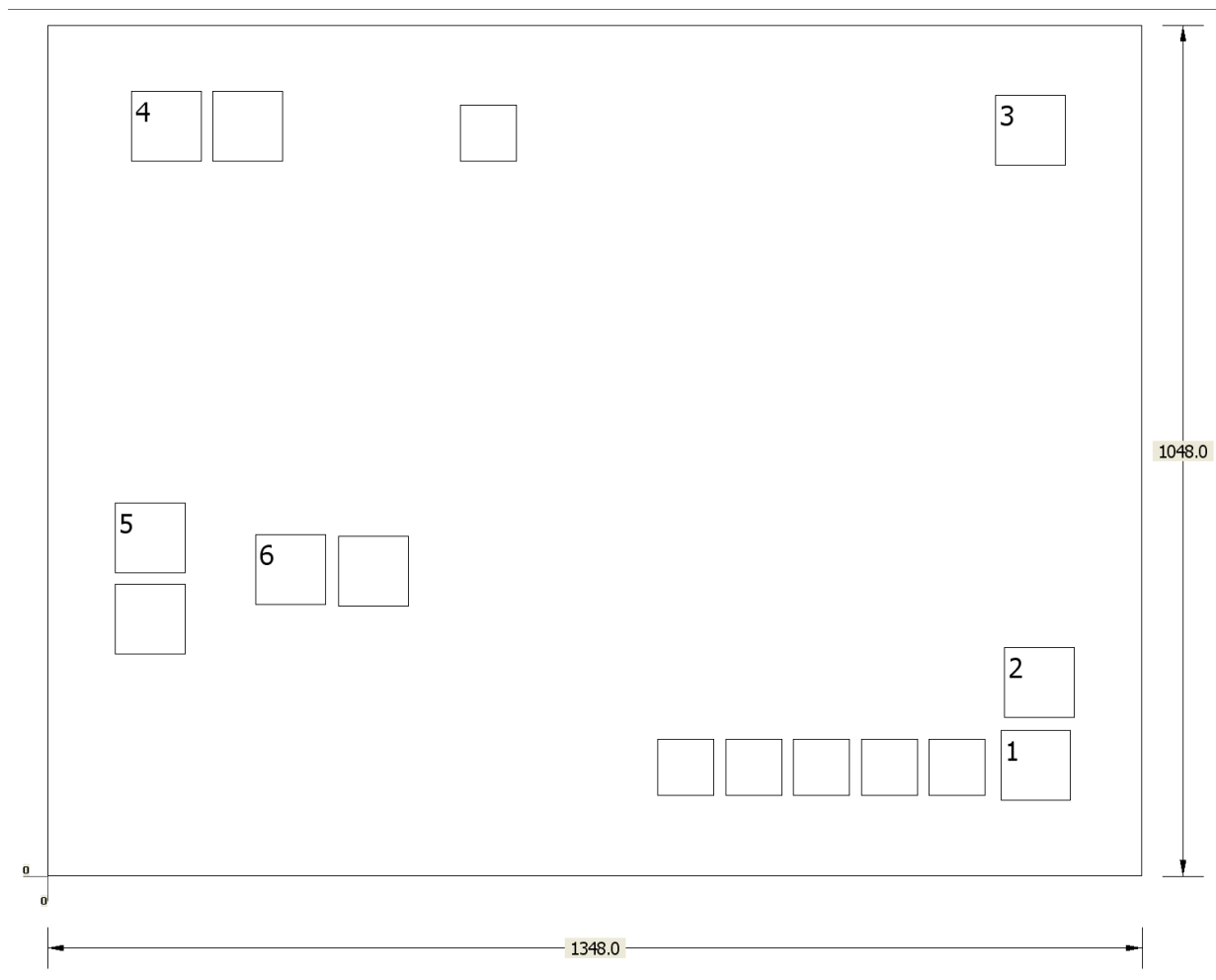


Table 1. Bond Pad Coordinates in Microns⁽¹⁾

DESCRIPTION	PAD NUMBER	X MIN	Y MIN	X MAX	Y MAX
FB	1	1173.51	92.97	1260.45	179.91
GND	2	1178.19	194.94	1265.13	281.88
EN	3	1167.21	874.62	1254.15	961.56
VI	4	102.87	880.38	189.81	967.32
GND	5	82.98	373.32	169.92	460.26
SW	6	256.05	334.08	342.99	421.02

(1) Substrate GND.

PACKAGING INFORMATION

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead finish/ Ball material (6)	MSL Peak Temp (3)	Op Temp (°C)	Device Marking (4/5)	Samples
TPS62203TDE1	ACTIVE			0	252	RoHS & Green	Call TI	N / A for Pkg Type	-40 to 85		Samples
TPS62203TDE2	ACTIVE			0	10	RoHS & Green	Call TI	N / A for Pkg Type	-40 to 85		Samples

(1) The marketing status values are defined as follows:

ACTIVE: Product device recommended for new designs.

LIFEBUY: TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.

NRND: Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.

PREVIEW: Device has been announced but is not in production. Samples may or may not be available.

OBSELETE: TI has discontinued the production of the device.

(2) **RoHS:** TI defines "RoHS" to mean semiconductor products that are compliant with the current EU RoHS requirements for all 10 RoHS substances, including the requirement that RoHS substance do not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, "RoHS" products are suitable for use in specified lead-free processes. TI may reference these types of products as "Pb-Free".

RoHS Exempt: TI defines "RoHS Exempt" to mean products that contain lead but are compliant with EU RoHS pursuant to a specific EU RoHS exemption.

Green: TI defines "Green" to mean the content of Chlorine (Cl) and Bromine (Br) based flame retardants meet JS709B low halogen requirements of <=1000ppm threshold. Antimony trioxide based flame retardants must also meet the <=1000ppm threshold requirement.

(3) MSL, Peak Temp. - The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

(4) There may be additional marking, which relates to the logo, the lot trace code information, or the environmental category on the device.

(5) Multiple Device Markings will be inside parentheses. Only one Device Marking contained in parentheses and separated by a "~" will appear on a device. If a line is indented then it is a continuation of the previous line and the two combined represent the entire Device Marking for that device.

(6) Lead finish/Ball material - Orderable Devices may have multiple material finish options. Finish options are separated by a vertical ruled line. Lead finish/Ball material values may wrap to two lines if the finish value exceeds the maximum column width.

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