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模块参数

参数名称	参数值	备注
模块型号	KV_65131	
模块类型	开关电源	升压转正负压
输入电压	2.7V to 5.5V	
输出电压	3种版本可选	±9V、±12V、±15V
输出电流	+400mA (@+12V) -350mA (@-12V)	最大输出电流非对称, 使用时请注意电流限制
输出功率	7W (MAX)	长期工作建议不超过6W
转换效率	86% (正压) 79% (负压)	
静态功耗	7mA	
负载调整率	±0.5%	
电压调整率	±1%	
开关频率	1380KHz	
输出纹波	优于60mV 优于20mV 优于25mV	+12V@400mA -12V@300mA
模块使能	无	
模块保护		芯片自带内部电流限制输出过压保护和热关断功能
模块特点	多种	单电源转正负电源; 低纹波; 带输出电源指示灯
模块应用	多种	(TFT) LCD、CCD 偏置电源、工业应用、数据采集、音频供电等
模块重量	3.7g	
模块尺寸	36*21*4	长*宽*高 (mm)
模块发热	带载越大、发热越大	长期大电流工作可增加散热装置以改善性能
工作温度	40℃--+85℃	

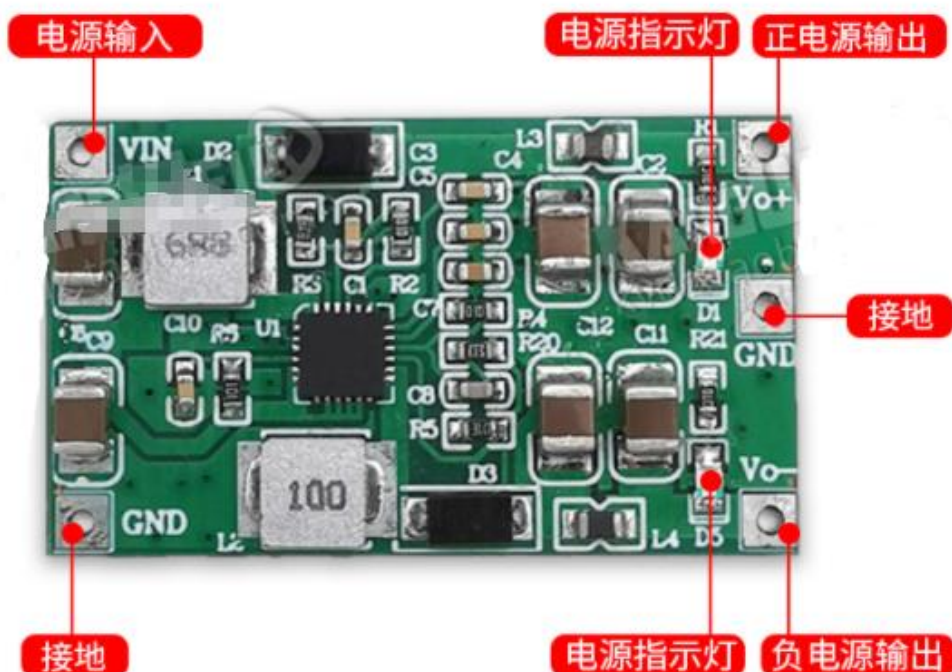
模块描述

优秀品质

KV_65131采用TI公司的TPS65131双输出DC-DC转换器芯片，在超小体积内实现了单电源转双电源输出。芯片内部具有电流限制、输出过压保护和热关断功能。在长时间大功率情况下使用，请注意模块（芯片、电感、二极管）的发热情况，以免芯片过热保护。模块参考官方设计规范来布局布线、用材大方、纹波小、方便实用。适合学生竞赛使用和个人项目开发。

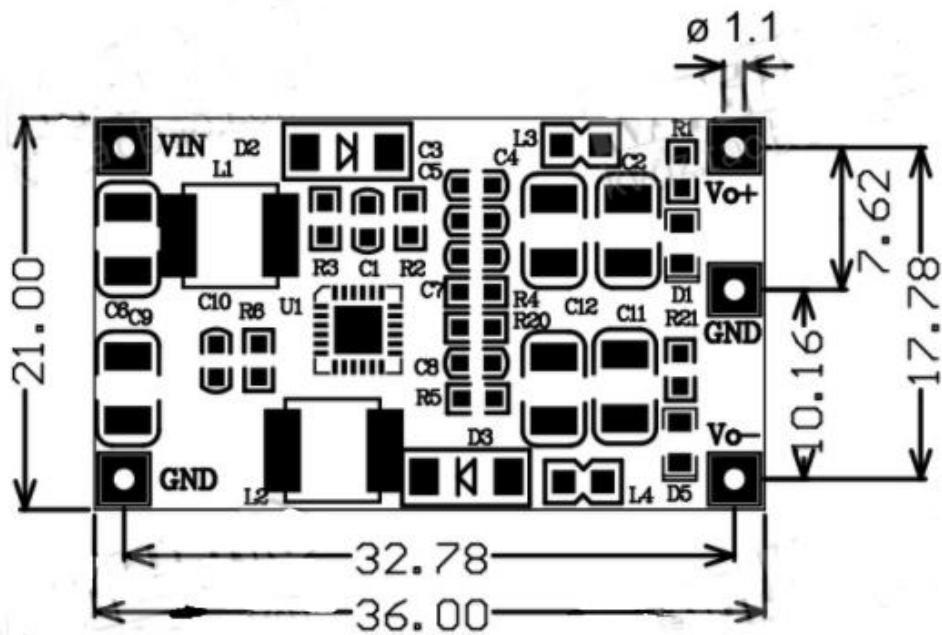
接口图

优秀品质



尺寸图

优秀品质



常见问题

优秀品质

Q: 为什么我使用时模块最大输出达不到标称值？

A: 想要达到输出大功率，模块的输入功率必须大于输出功率。

Q: 为什么测试不到标称的纹波参数？

A: 首先需要正确的测量方式，可百度电源纹波测量方法。其次输入输出电压差以及带载电流对输出纹波也有一定的影响。

TPS6513x Positive and Negative Output DC-DC Converter

1 Features

- 2.7-V to 5.5-V Input Voltage Range
- Dual Adjustable Output Voltages: Up to 15 V and Down to -15 V
- 800-mA Typical Switch Current Limit at Boost and Inverter Main Switches at TPS65130
- 2-A Typical Switch Current Limit at Boost and Inverter Main Switches at TPS65131
- Up to 89% Efficiency at Positive Output Voltage Rail
- Up to 81% Efficiency at Negative Output Voltage Rail
- Power-Save Mode for High Efficiency at Low Load Currents
- Independent Enable Inputs for Power-Up and Power-Down Sequencing
- Control Output for External PFET to Support Completely Disconnecting the Battery
- Minimum 1.25-MHz Fixed Frequency PWM Operation
- Thermal Shutdown
- Overvoltage Protection on Both Outputs
- 1- μ A Shutdown Current
- Small 4-mm x 4-mm VQFN-24 Package (RGE)

2 Applications

- LCD and OLED Displays
- Industrial Applications
- Data Acquisition
- Audio
- General-Purpose Split-Rail Supplies

3 Description

The TPS6513x is dual-output DC-DC converter generating a positive output voltage up to 15 V and a negative output voltage down to -15 V with output currents in a 200-mA range in typical applications, depending on input voltage to output voltage ratio. With a total efficiency up to 85%, the device is ideal for portable battery-powered equipment. The input voltage range of 2.7 V to 5.5 V allows the devices to be powered from batteries or from fixed 3.3-V or 5-V supplies. The TPS6513x comes in a small 4-mm x 4-mm VQFN-24 package. Together with a minimum switching frequency of 1.25 MHz, the device enables designing small power supply applications because it requires only a few small external components.

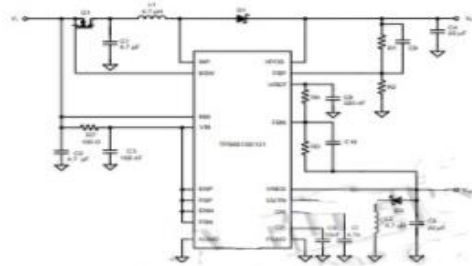
The converter operates with a fixed frequency PWM control topology and, if power-save mode is enabled, it uses a pulse-skipping mode at light-load currents. It operates with only 500- μ A device quiescent current. Independent enable pins allow power-up and power-down sequencing for both outputs. The device has an internal current limit, overvoltage protection and a thermal shutdown for highest reliability under fault conditions.

Device Information(1)

PART NUMBER	PACKAGE	BODY SIZE (NOM)
TPS65130	VQFN (24)	4.00 mm x 4.00 mm
TPS65131	VQFN (24)	4.00 mm x 4.00 mm

(1) For all available packages, see the orderable addendum at the end of the data sheet.

Typical Application Schematic



KV_65131模块发货清单

实物模块+售后技术支持+静电袋包装+防震泡沫

温馨提示:

(1) 本店模块接口明确, 性能稳定, 请结合本店提供的资料在对应实验条件做功能验证。

(2) 本模块基本参数都在详情页内, 不提供模块原理图PDF文档, 不提供工程文件, 请买家悉知, 若有操作问题可咨询客服。

(3) 请各位买家在使用模块前, 详细阅读本模块的详情页, 了解供电和使用限制, 避免因为操作不当而损坏模块。

(4) 本店模块均保证提供真实的模块参数、功能以及图片, 所有模块均检测后发货。