

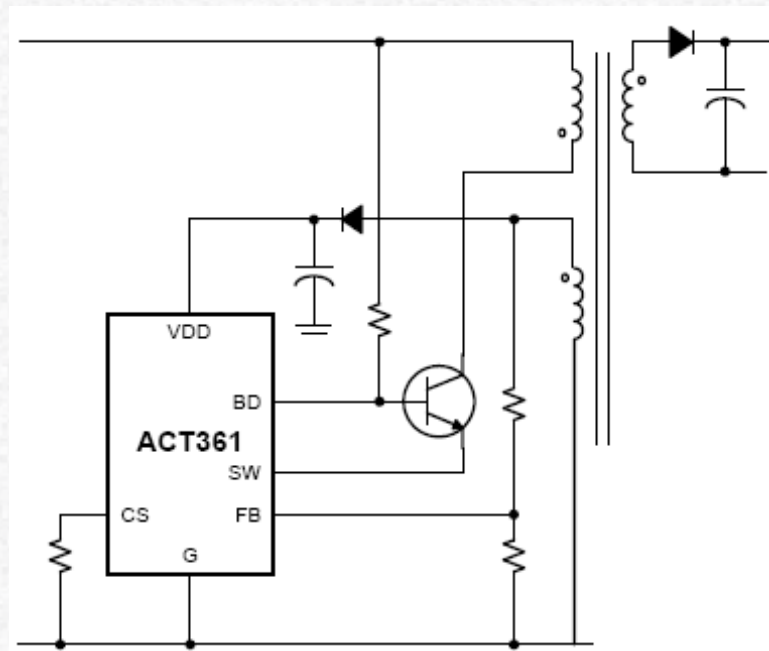


高效率低待机功耗便携式设备电源方案

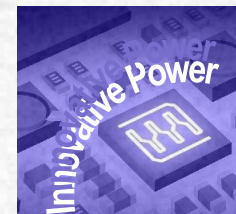
11-14-09

ActivePSR™ ACT361 ACT330 充电器与适配器方案

- **150mW or 30mW** 待机功耗
- **ES 2.0** 和 **CEC level 5** 效率
- 最大输出功率 **7W**
- **5%CV** 和 **10%CC** 精度
- 快速启动时间
- 可编程输出电流
- **NPN** 射极开关
- 极少外加元器件
- **SOT23** 封装
- **Pin-to-Pin** 兼容

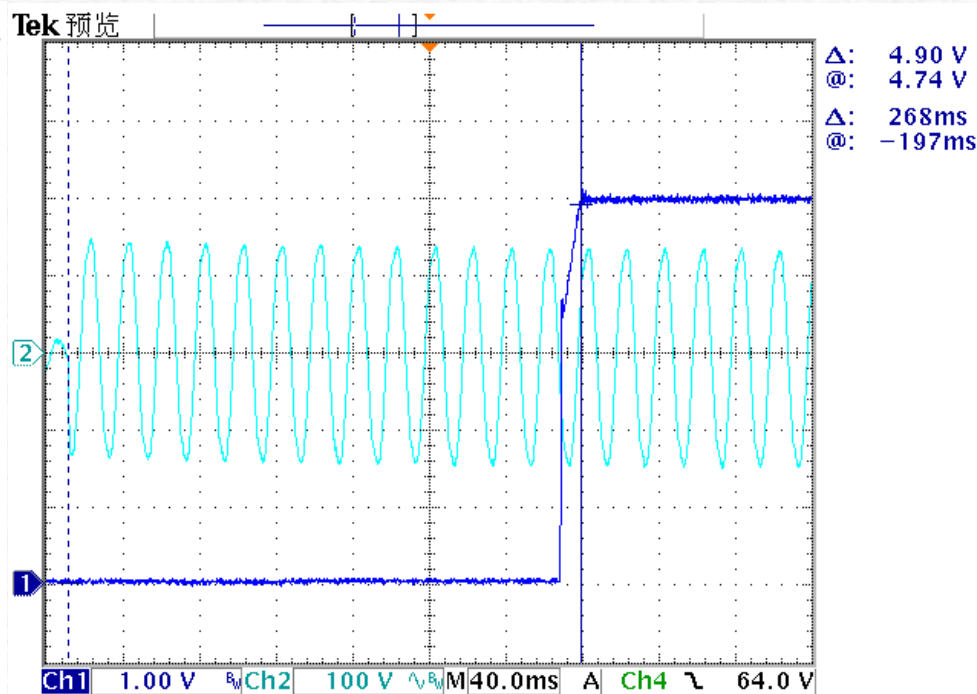
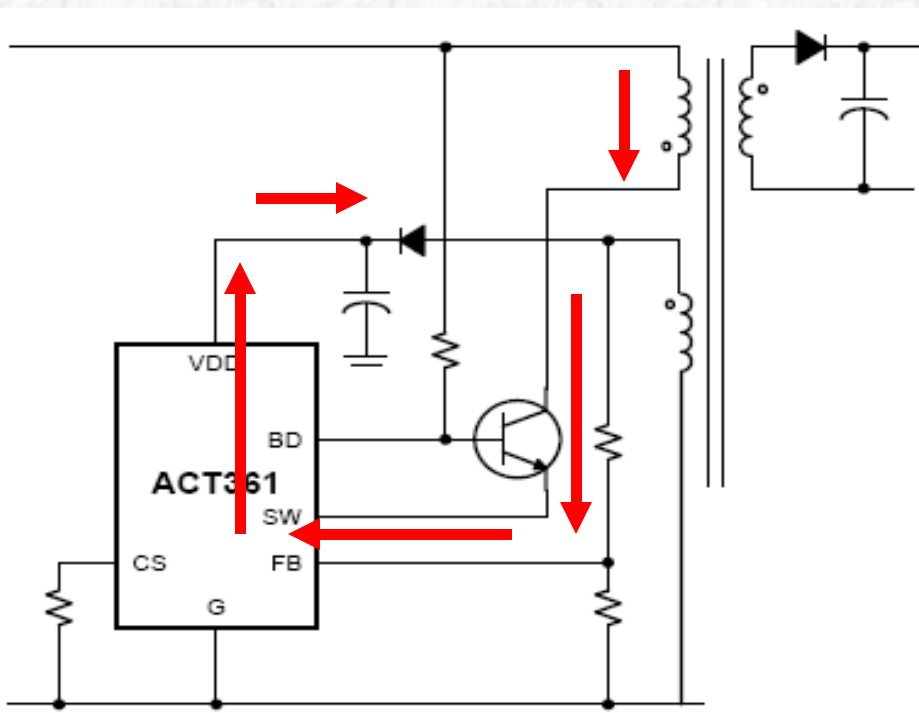


型号	待机功耗	效率
ACT361	70 mW	ES 2.0 或 CEC level 5 + 3%
ACT330	25 mW	ES 2.0 或 CEC level 5 + 4%

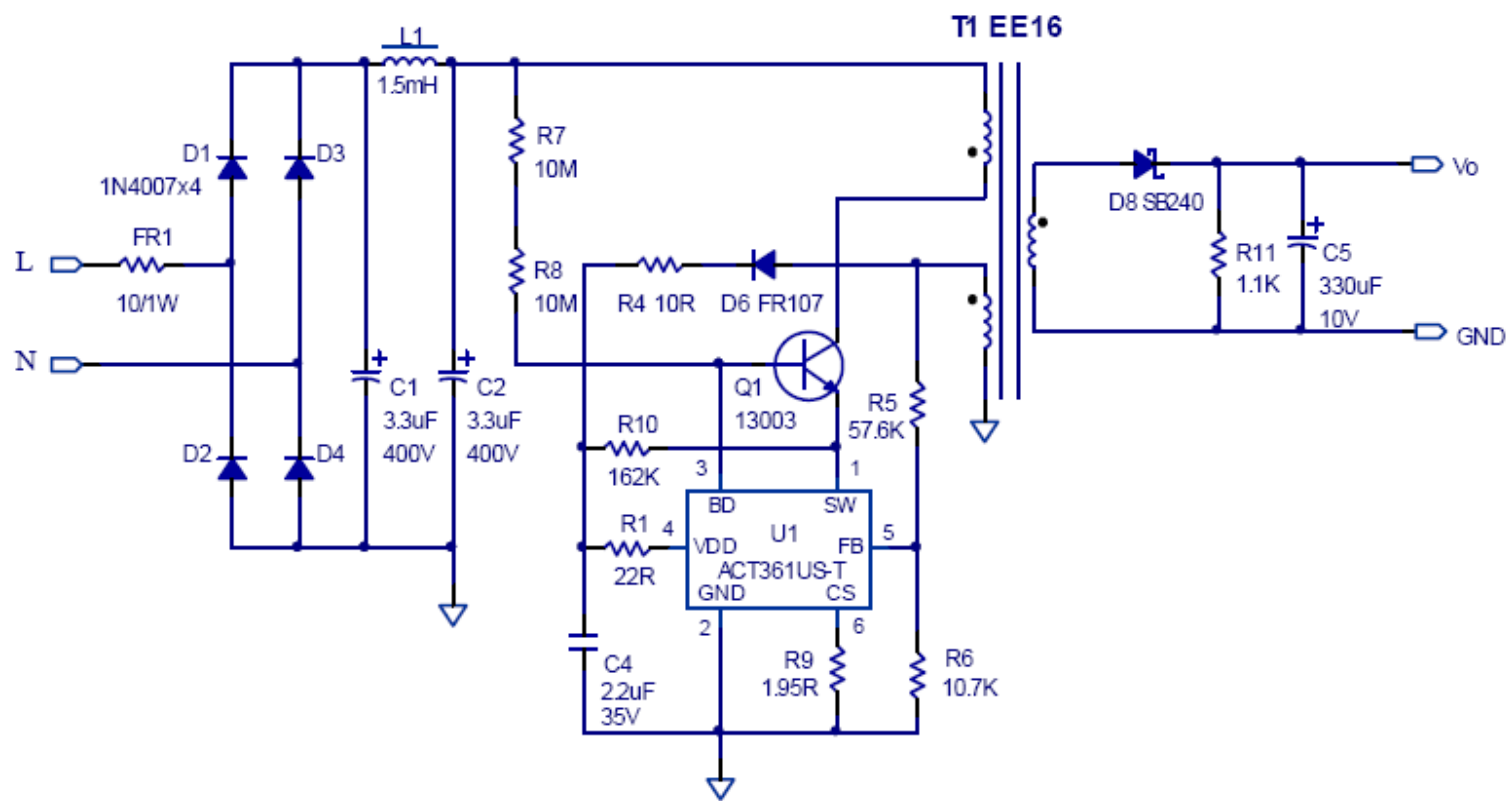
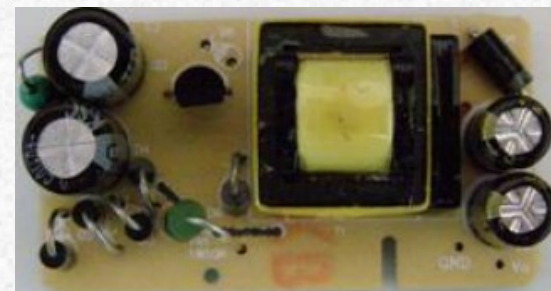


IC 内部智能快速启动

110Vac 启动时间 : 0.268 秒



- 24 个元器件
- 可用于 **LED** 照明驱动或适配器



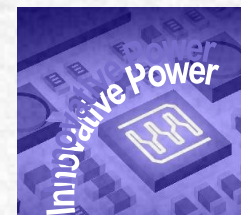
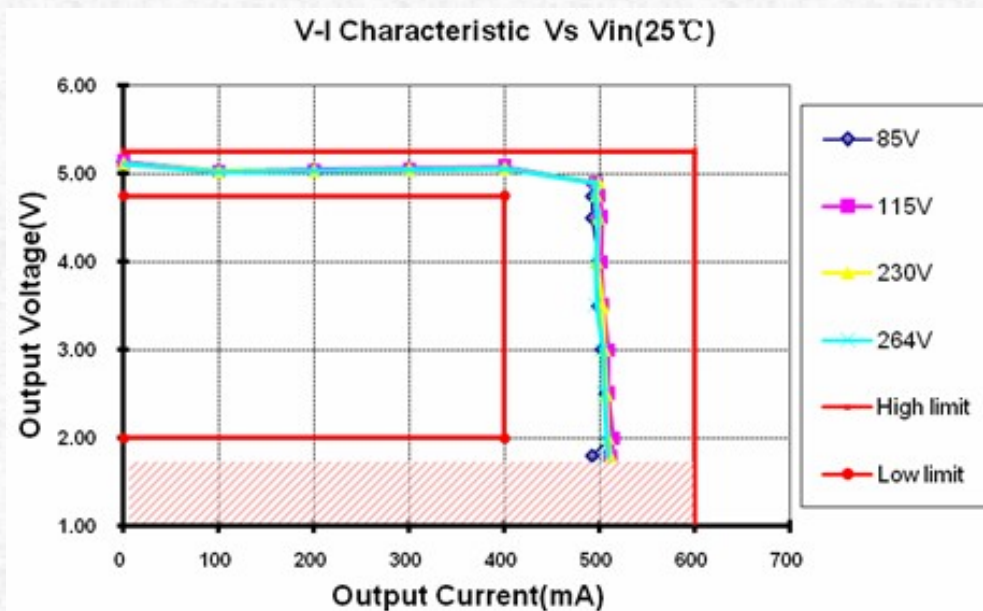
- 待机功耗

VIN(AC)	85	115	230	264	Green Mode Limit (mW)
Pin(mW) Po =0W	53.4	55.6	72.8	89.8	150

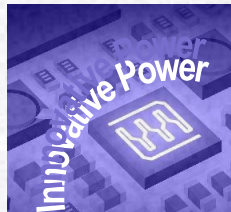
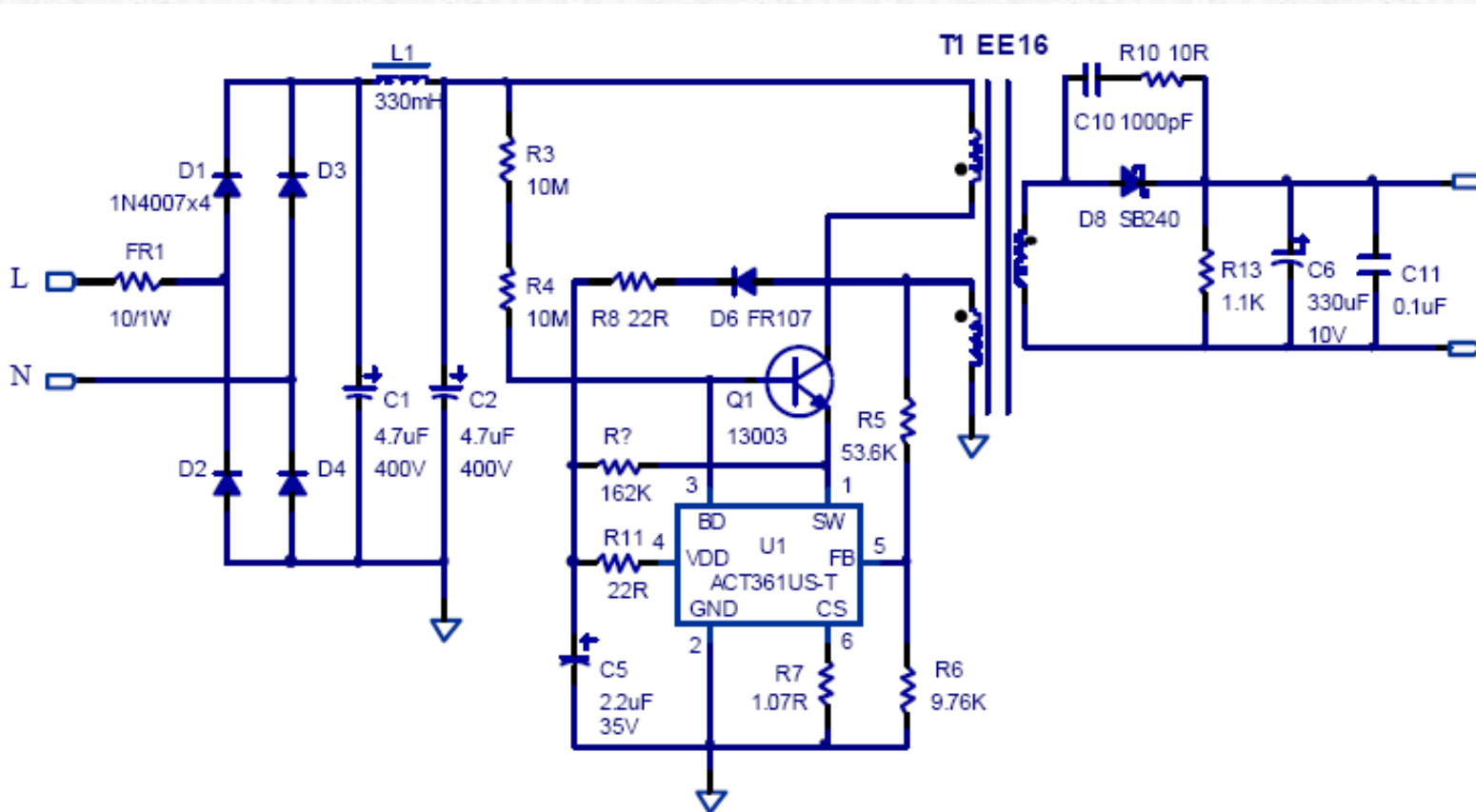
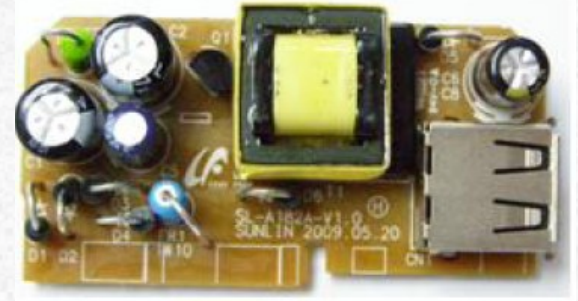
- 效率

VIN (V _{AC})	25% P _o	50% P _o	75% P _o	100% P _o	Average Eff(%)	5V/400mA E.S 2.0 Limit (%)
w	0.5	1	1.5	2		
115	70.62%	72.81%	73.24%	73.18%	72.46%	66.54%
230	65.19%	70.86%	71.94%	71.99%	69.99%	66.54%

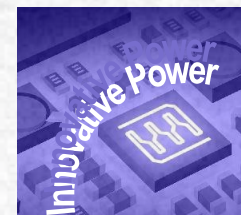
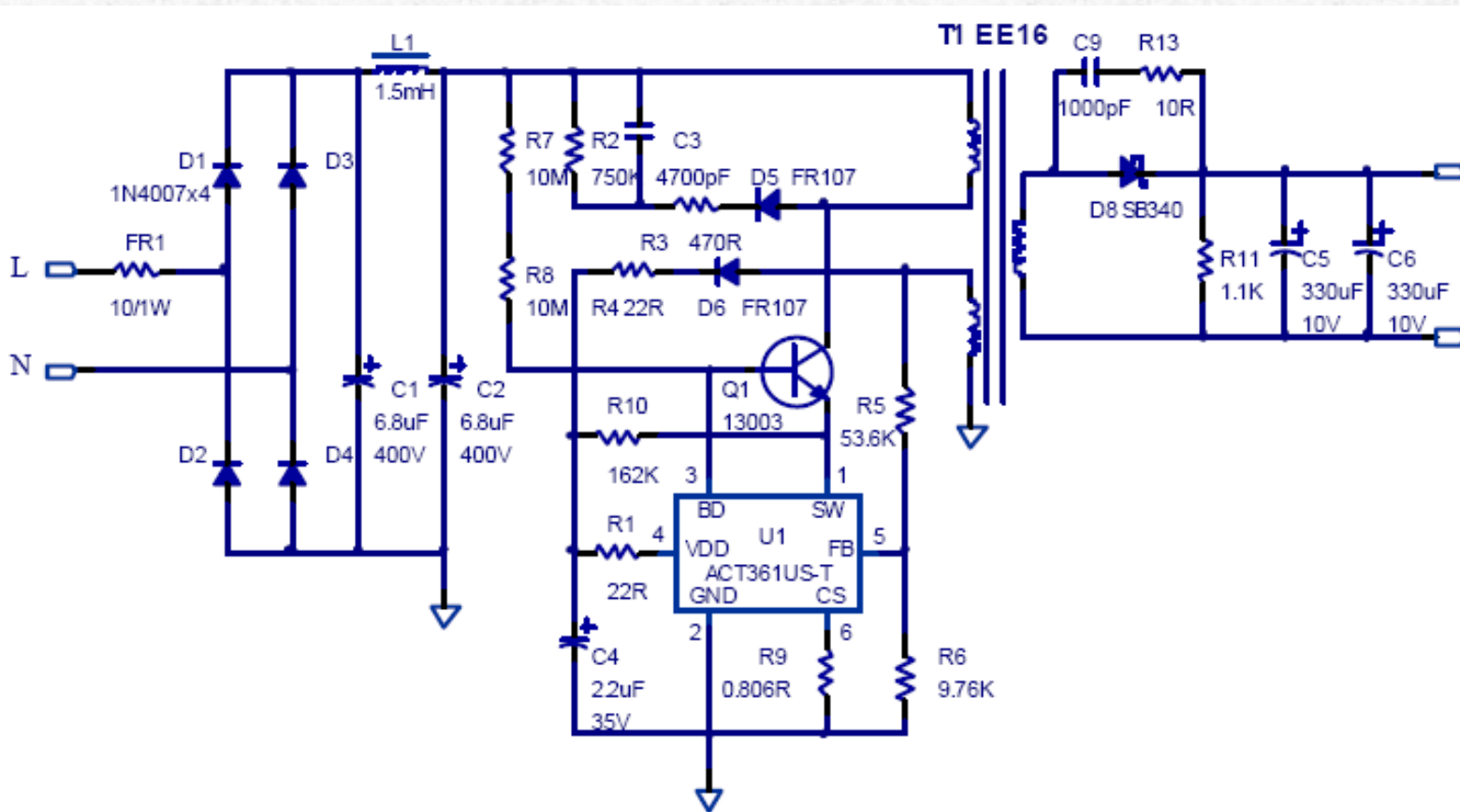
- CV CC 特性



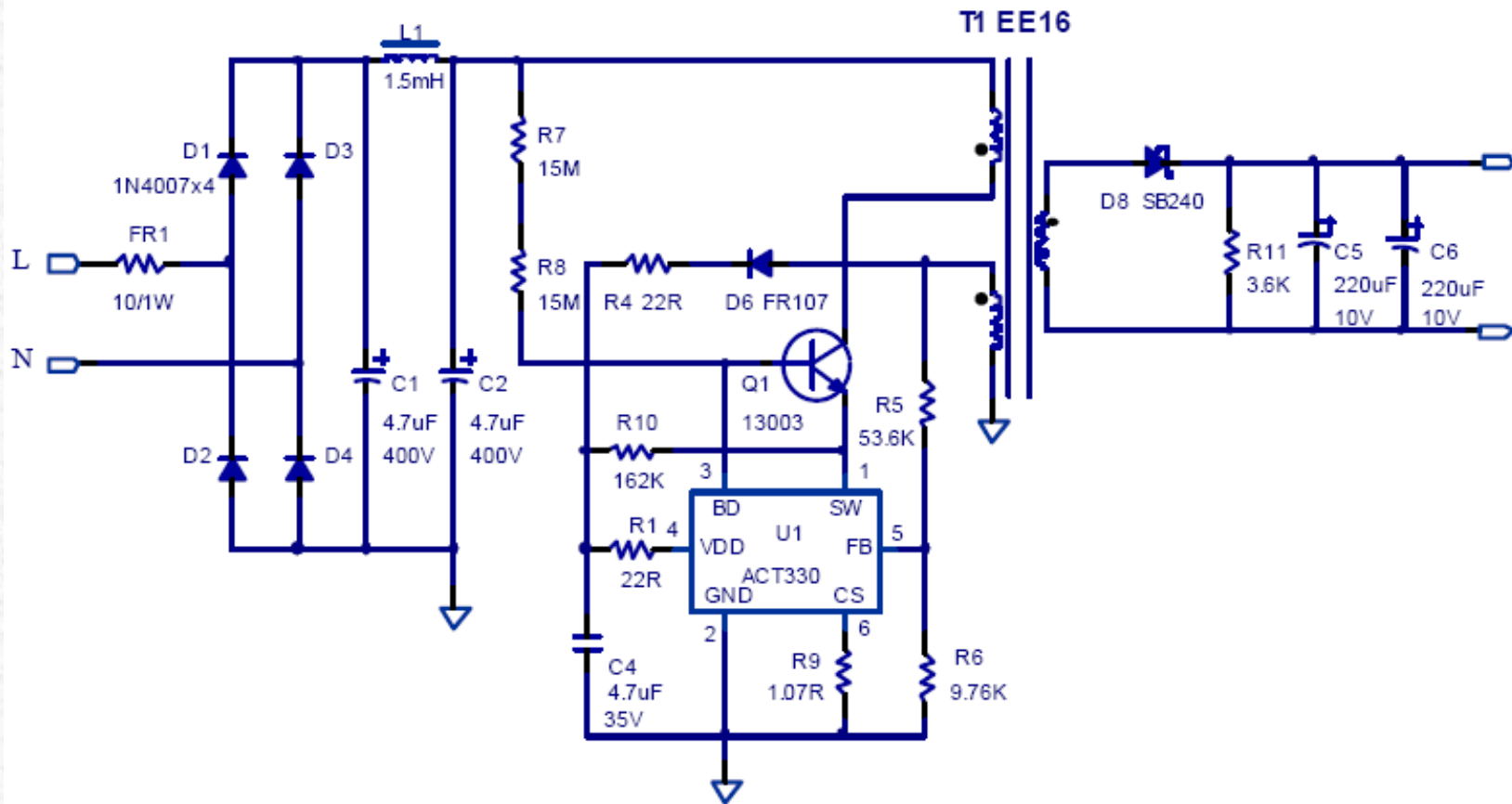
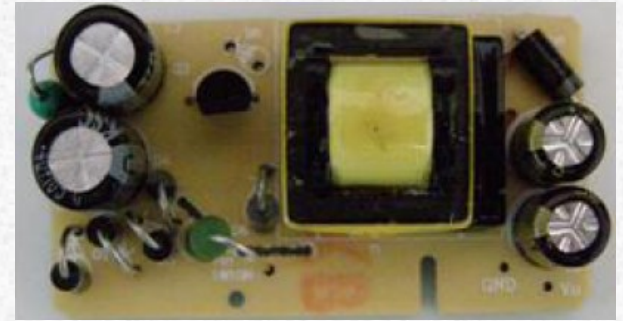
- 28 个元器件
- 可用于 **LED** 照明驱动或适配器



- 31 个元器件
- 可用于 LED 照明驱动或适配器



- 27 个元器件
- 原理图与 **ACT361** 兼容



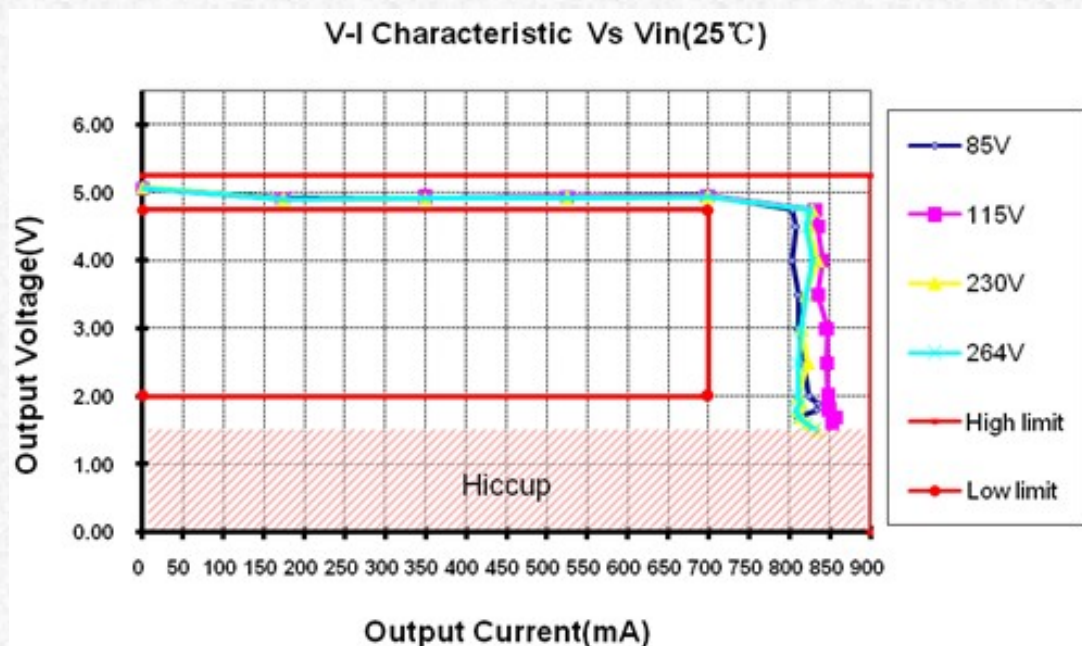
- 待机功耗

VIN(AC)	85	115	230	264	Green Mode Limit (mW)
Pin(mW) Po =0W	21.40	22.58	25.80	29.00	30

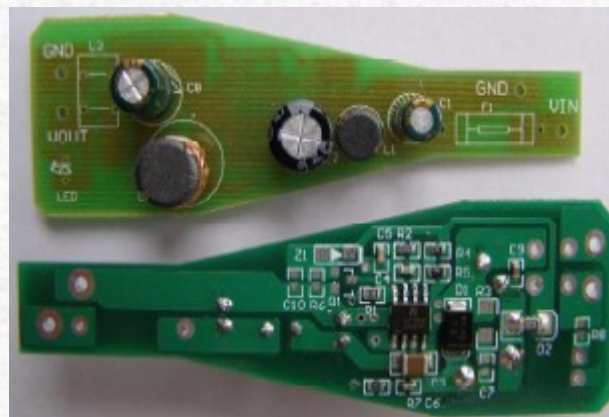
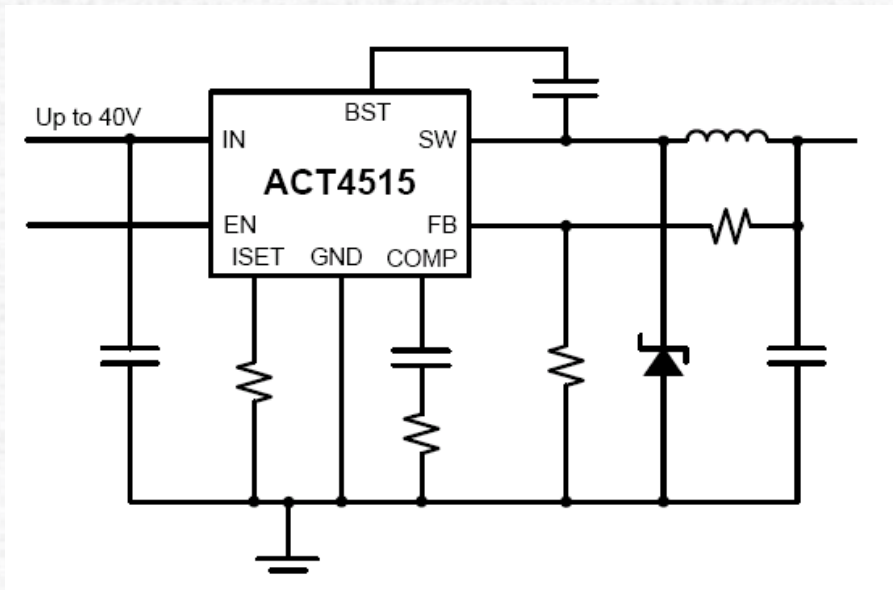
- 效率

VIN (V _{AC})	25% Po	50% Po	75% Po	100% Po	Average Eff(%)	E _{IS} 2.0 Limit (%)
w	0.875	1.75	2.625	3.5		
115	75.24%	74.68%	74.21%	72.84%	74.24%	65.50%
230	71.78%	73.28%	72.67%	72.68%	72.60%	65.50%

- CV CC 特性



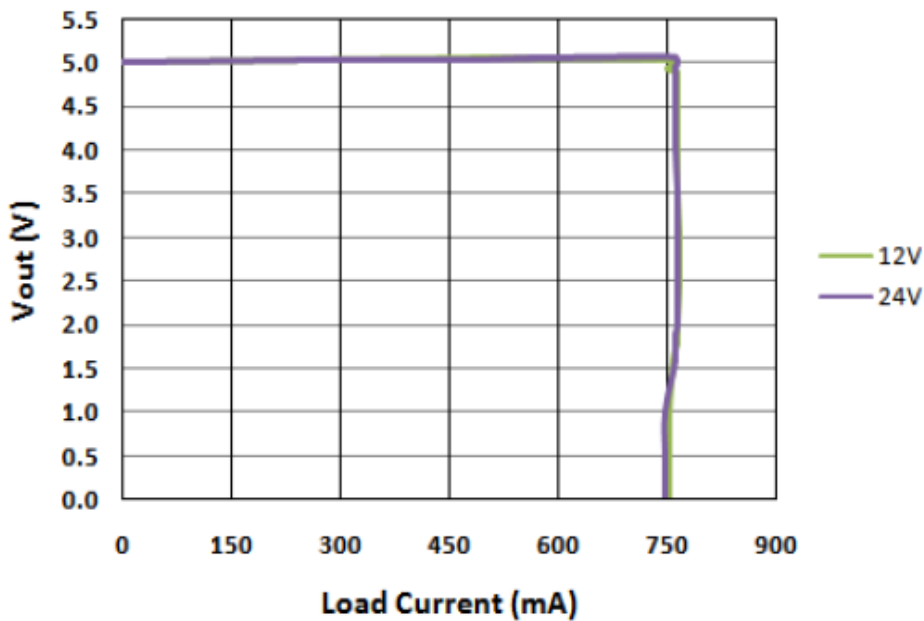
- 输入电压：**10 - 40V**
- 输出电流：**0.4 - 1.5A**
- 效率 **> 90%**
- **CV: < 2%**
- **CC: < 5%**
- 可编程输出电流
- 内置 **MOSFET**
- 极少外加元器件
- **SOP8 封装**



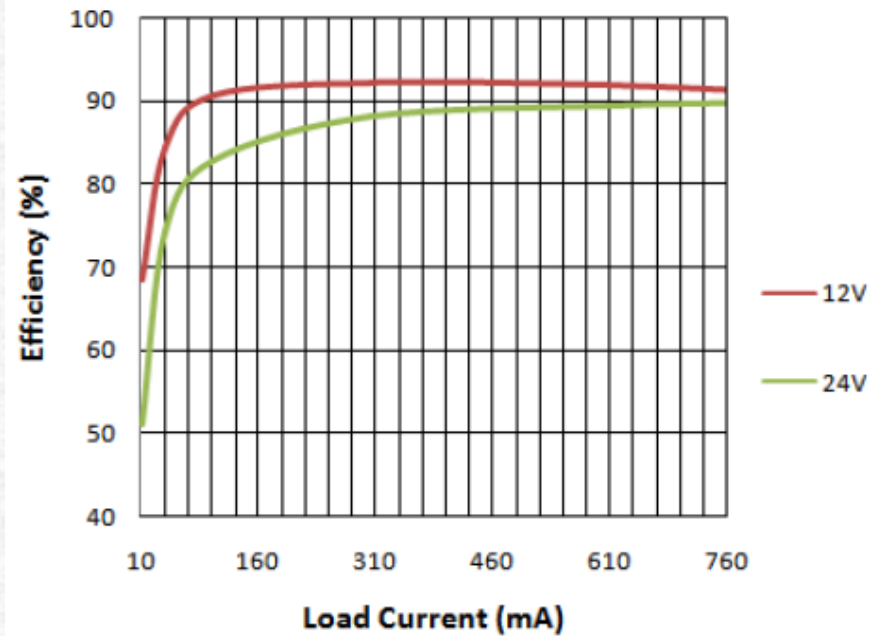
● 电流精度 $< 5\%$

效率 $> 90\%$

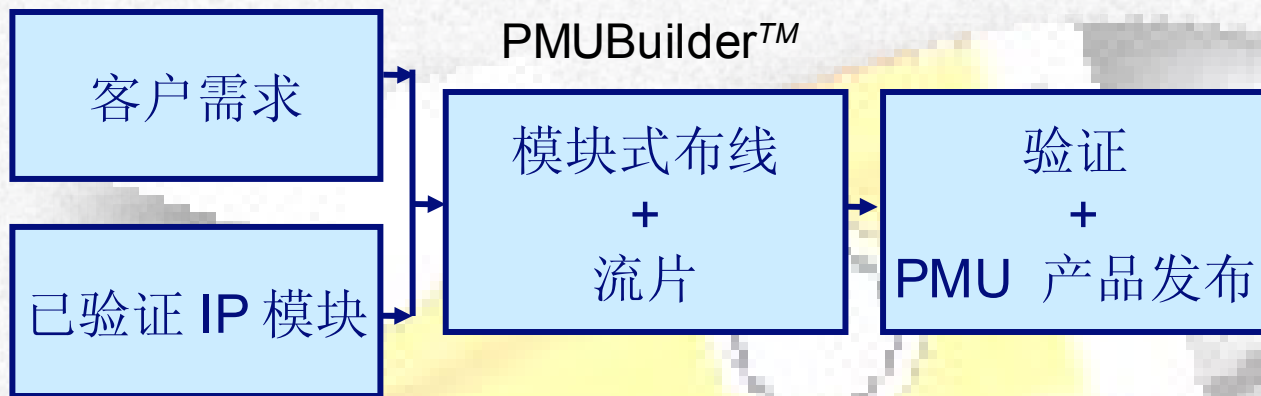
CC/CV curve vs. Load current



Efficiency vs. Load current

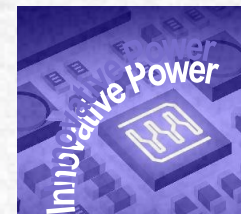


ActivePMU™ 模式



优势

- 降低研发成本
- 加快产品上市
- 使用已验证的 IP 模块以降低研发风险
- 非常灵活地定制时序与电压



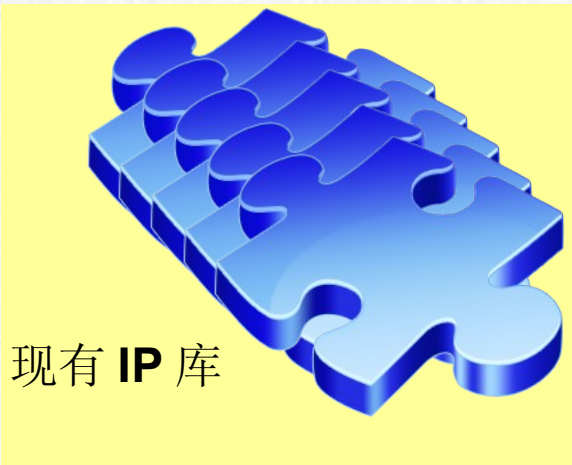
研发新的 IP 模块

新 IP 定义

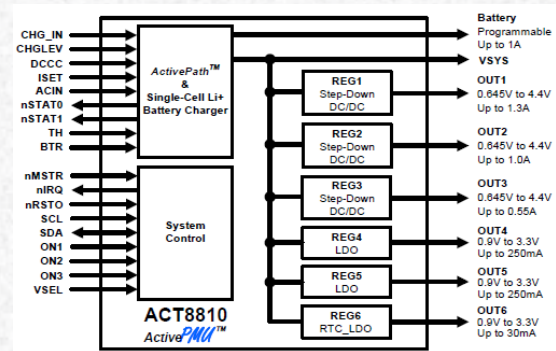
市场 / 客户需求

新产品定义

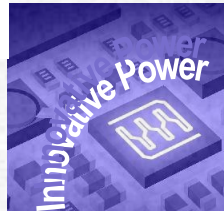
Active PMU™
系统解决方案



Active PMU™
Builder



ActivePMU™



完整、高性能手持设备电源 / 电池 / 背光方案



电源管理

- DC-DC & LDOs
- Hi Fsw up to 2.5MHz
- I2C Control
- Hi PSRR/Lo Noise LDOs
- Hi Efficiency

电池管理

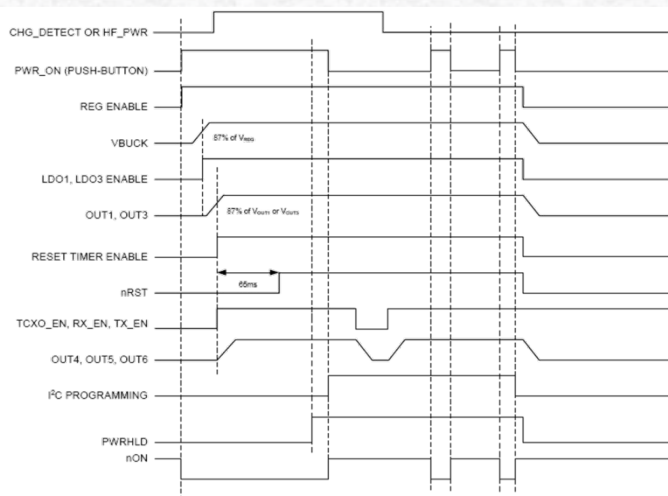
- Li-Ion Charger
- ActivePath™
- USB/AC Adapter in
- CC/CV control
- Prog Charge Current

LED 背光驱动

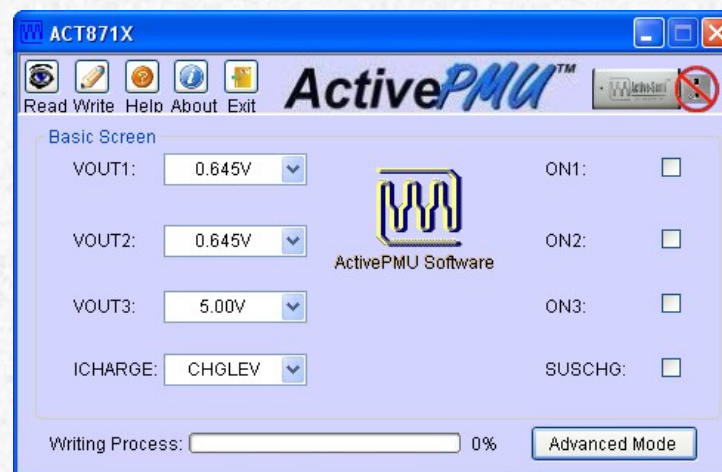
- Up to 10S LEDs
- Up to 40V CV
- OVP

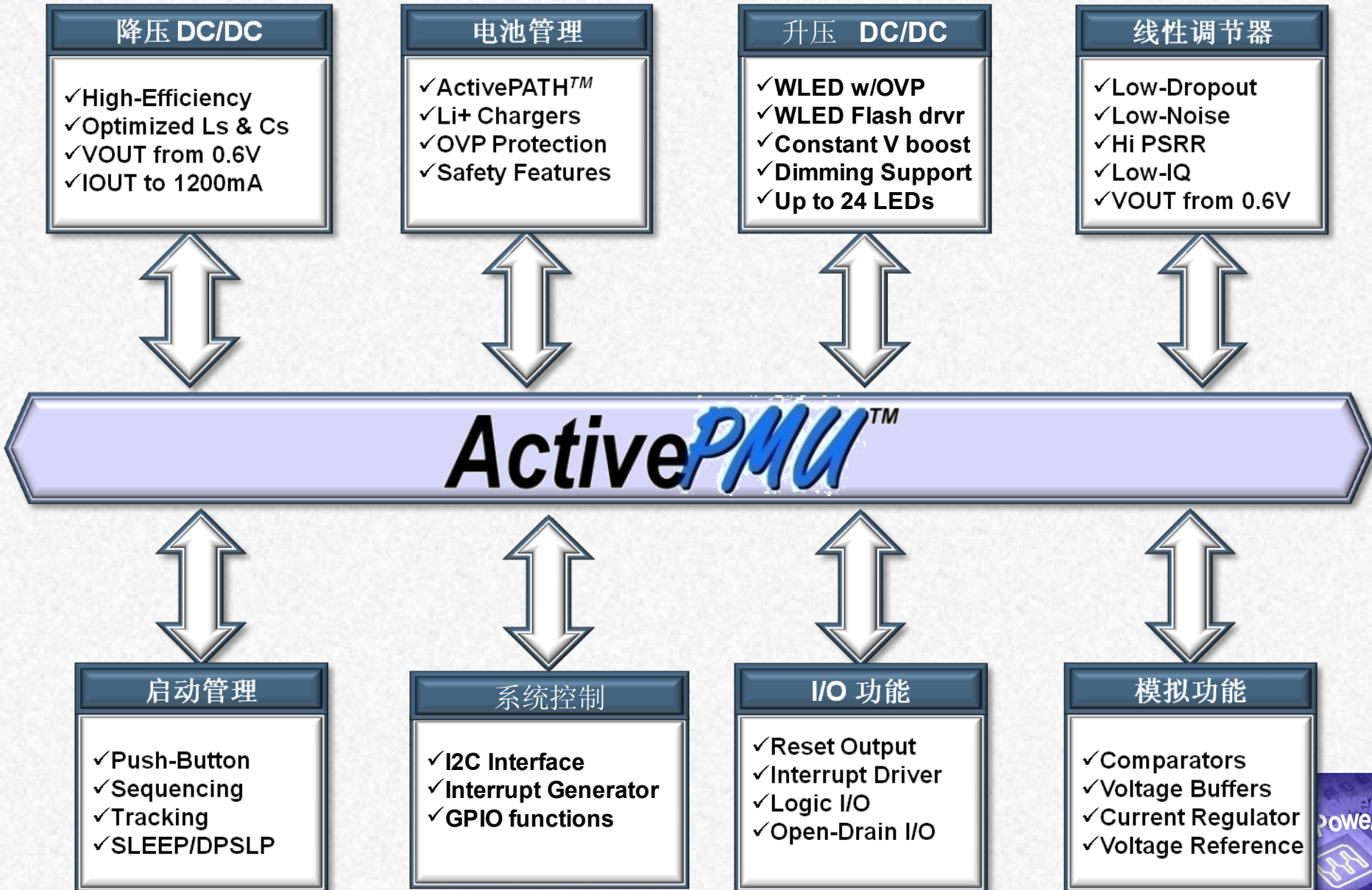


灵活的上电时序



全面的测试套件技术支持





一般功能

- I2C 接口
- 输出电压可调
- 独立输出控制



System PMUs (ASSP)

- **ACT58xx** – Buck + LDOs + Charger (VIA CDMA)
- **ACT8810** – 3xBuck + 4xLDO + APCharger
- **ACT8828** – 3xBuck + WLED + APCharger
- **ACT8935/6*** – 3xBuck + 4xLDO + APCharger



Small System PMUs

- **ACT874x** – 1xBuck + 1xWLED + 3xLDO
- **ACT875x** – 2xBuck + 1xWLED + 3xLDO
- **ACT877x** – 2xBuck + 3xLDO + Charger
- **ACT8780/8781x** – 3xBuck + 3xLDO



Mini PMUs (up to 4 Channels)

- **ACT833x** – 1xBuck + 2xLDO
- **ACT870x/1x** – 2xBuck + Boost/WLED + Charger
- **ACT8352*** – 1xBuck + 3xLDO



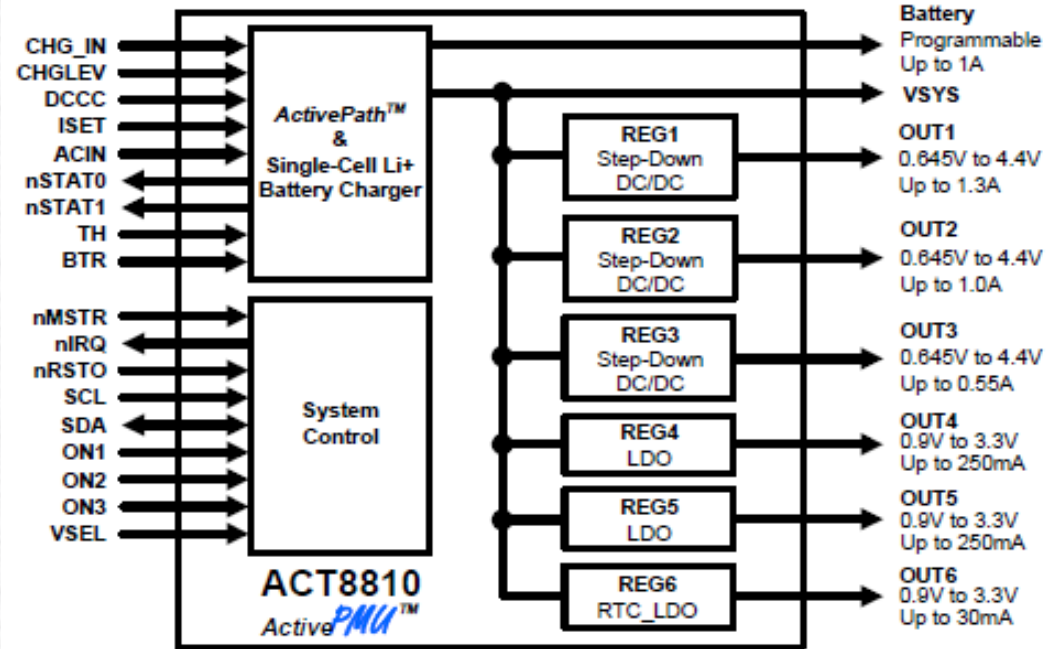

Part #	Description	Buck1	Buck2	Buck3	LDOs	I2C	Li-Ion Charger	ActiveP ath™	Boost	Package	Comment	Status
ACT5810	6xLDO, Charger	-	-	-	6	Yes	Yes	-	-	5x5 QFN-24	2x N-MOS drivers, Via	Released
ACT5830	1xBuck, 8LDOs, Charger	350mA	-	-	8	Yes	Yes	-	-	5x5 QFN-40	2x N-MOS drivers, Via	Released
ACT5851	1xBuck, 8LDOs, OVP Charger	350mA	-	-	8	Yes	Yes	-	-	5x5 QFN-40	OVP	Released
ACT8325	2xBuck	350mA	550mA	-	-	-	-	-	-	3x3 DFN-10	2xEN	Released
ACT8332/42	1xBuck, 2xLDO	350mA	-	-	2	-	-	-	-	3x3 DFN-10	2xEN	Released
ACT8335/6	1xBuck, 2xLDO	550mA	-	-	2	-	-	-	6-	3x3 DFN-10	2xEN	Released
ACT8700/1/ 2	2xBuck, 1xWLED/Boost, Charger	350mA	500mA	-	-	-	Yes	-	LEDs/5 V	4x4 QFN-24	2xEN, Chg EN	Released
ACT8704/6	2xBuck, 1WLED, Charger	550mA	750mA	-	-	-	Yes	-	6-LEDs	4x4 QFN-24	2xEN, Chg EN	Released
ACT8710	2xBuck, 1WLED, Charger	350mA	550mA	-	-	Yes	Yes	-	6-LEDs	4x4 QFN-24	PMP	Released
ACT8712	2xBuck, 1WLED, Charger	550mA	750mA	-	-	Yes	Yes	-	6-LEDs	4x4 QFN-24	PMP	Released
ACT8727	3xBuck, 3xLDO	1.2A	1.2A	750mA	-	Yes	Yes	-	-	4x4 QFN-24	PDA, GPRS reciever	Released
ACT8728	3xBuck, 3xLDO	750mA	750mA	550mA	-	Yes	-	-	-	4x4 QFN-24	Wimax	Released
ACT8740/1	1xBuck, 1WLED, 3xLDO	350mA	-	-	3	Yes	Yes	-	6-LEDs	4x4 QFN-24		Released
ACT8750/1	2xBuck, 1WLED, 3xLDO	350mA	550mA	-	3	-	-	-	6-LEDs	4x4 QFN-24		Released
ACT8770/1	2xBuck, 3xLDO, Charger	350mA	550mA	-	3	-	Yes	-	-	4x4 QFN-24		Released
ACT8780	3xBuck, 3xLDO	350mA	550mA	550mA	3	Yes	-	-	-	4x4 QFN-24		Released
ACT8786/96	3xBuck, 3xLDO	750mA	750mA	550mA	3	Yes	-	-	-	4x4 QFN-24		Released
ACT8790	3xBuck, 3xLDO	350mA	350mA	250mA	3	Yes	-	-	-	4x4 QFN-24		Released
ACT8798	3xBuck, 3xLDO	1.2A	1.2A	750mA	3	Yes	-	-	-	4x4 QFN-24		Released
ACT8810	3xBuck, 3xLDO, AP-Charger	1.3A	1.0A	550mA	3	Yes	Yes	Yes	-	5x5 QFN-40	Smartphone/PND/Play	Released
ACT8828	3xBuck, 1WLED, AP-Charger	1.3A	1.0A	550mA	-	Yes	Yes	Yes	7-LEDs	5x5 QFN-40	er	Released
ACT8830	3xBuck, 3xLDO	450mA	450mA	750mA	3	Yes	-	-	-	4x4 QFN-24	Wireless Card	Sampling
ACT8935	3xBuck, 4xLDO, AP Charger	750mA	750mA	550mA	4	Yes	Yes	Yes	-	5x5 QFN-40	Smartphone/PND	Sampling
ACT5870	1xBuck, 11xLDO	350mA	-	-	11	Yes	-	-	-	5x5 QFN-32	CDMA phone	Sampling
ACT8352	1xBuck, 3xLDO	350mA	-	-	3	Yes	-	-	-	3x3 QFN-16	Wireless Card	Sampling

注：
 敬请联系 Active-Semi 销售办公室以了解不同的输出电流参数选项



性能

- **ActivePath™ Li+ Charger and System Power Selection**
 - 1.3A High Efficiency Step-Down DC/DC
 - 1.0A High Efficiency Step-Down DC/DC
 - 0.55A High Efficiency Step-Down DC/DC
 - 250mA Low Noise, High PSRR LDOs
 - 250mA Low Noise, High PSRR LDOs
 - 30mA RTC LDO
- I²C™ Serial Interface
- Minimal External Components
- Compatible with USB or AC-Adapter Charging
- 5×5mm, Thin-QFN (TQFN55-40) Package



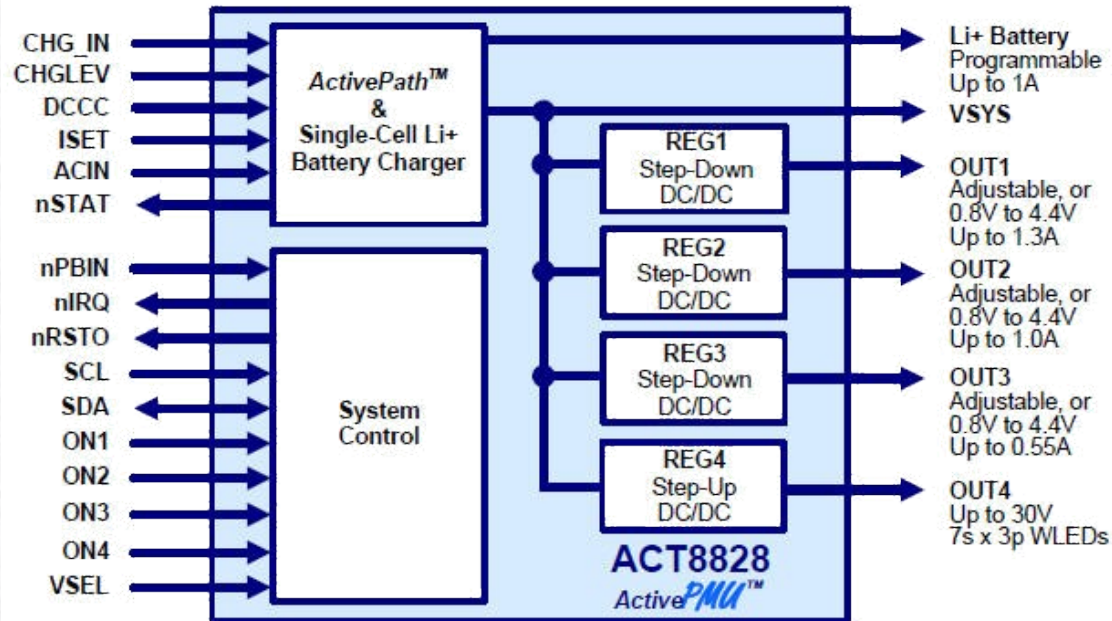
应用范围：

- PMP/MP3/MP4 Players
- Personal Navigation devices (PND)
- Mobile Internet devices (MID)
- EBooks



性能

- **ActivePath™ Li+ Charger and System Power Selection**
 - Up to 12V Input with OVP
 - Programmable Charge Timer
 - Programmable Charge Current
 - Dual Charge State Indicator LEDs
 - Thermal Protection
- **Step-Down DC/DC x3**
 - 1.3A High Efficiency Step-Down DC/DC
 - 1.0A High Efficiency Step-Down DC/DC
 - 0.55A High Efficiency Step-Down DC/DC
- **30V Step-Up DC/DC for up to 7s × 3p WLEDs**
- **Flexible Power On Sequence**
- **Integrated PMU Hardware Reset Input**



应用范围：

PMP/MP3/MP4 Players

Personal Navigation devices (PND)

Mobile Internet devices (MID)

EBooks



ActivePMU™

