



Product Manual 2017



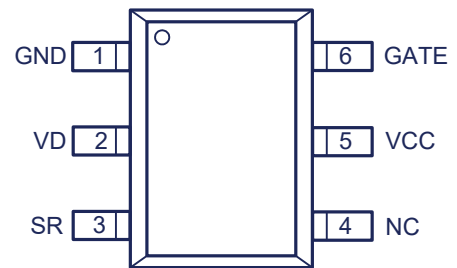
Synchronous Rectifier for AC-DC

Part Number	BV _{DSS} (MIN)	R _{DSON} (TYP)	Application Topology	Package
	V	mΩ		
SP6500	External MOSFET	External MOSFET	DCM/QR Flyback	SOT23-6
SP6502FL	45	17	DCM/QR Flyback	SOP8
SP6502F	55	15	DCM/QR Flyback	SOP8
SP6503F	50	6.5	DCM/QR Flyback	SOP8

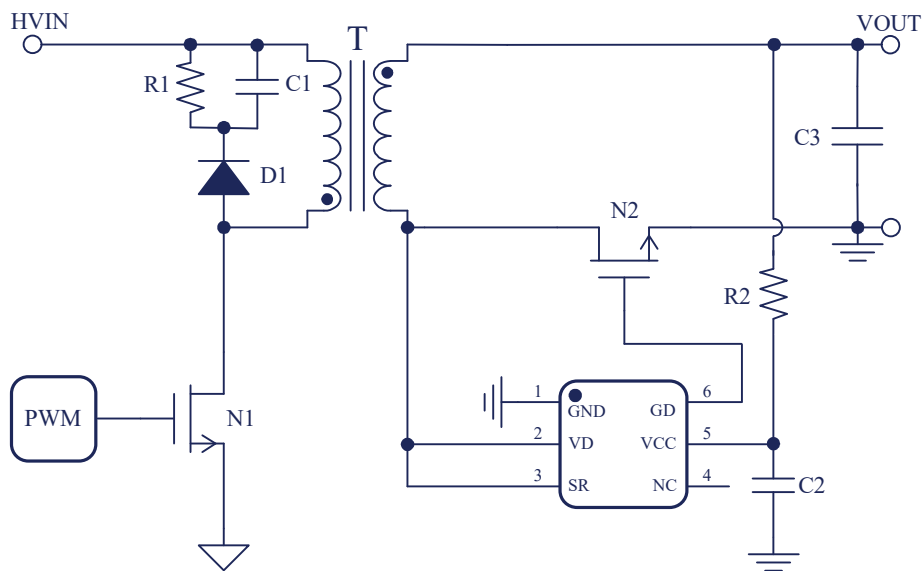
SP6500 Features

- Integrated 150V process
- Support output 12V applications
- Low operating current
- Operation voltage is 3V to 6V, voltage clamp are integrated
- Minimum on-time are detected cycle by cycle to prevents synchronous MOS misleading turn-on
- Support DCM and QR operating mode
- SOT23-6 package are provided

SP6500 Pin Configuration



Typical Application Diagram



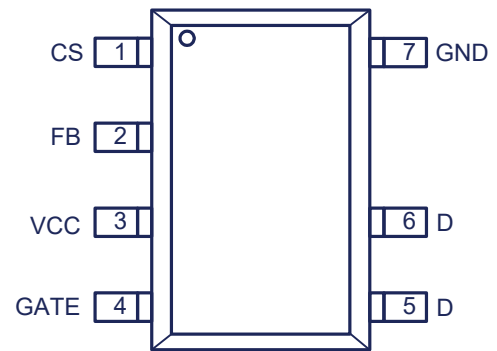
30mW Primary Side Control CC/CV Converter

Part Number	Standby Power	BV _{DSS} (MIN)	R _{DS(on)} (TYP)	Output Power	Max Frequency	Typical Application	Package
	mW	V	Ω	W	Hz		
SP2610	30	External MOS	External MOS	15	70 K	12V/1.2A	SOT23-6
SP2615F	30	650	8	5	70 K	5 V/1.0A	SOP7
SP2618F	30	650	3.7	10	70 K	5 V/2.1A	SOP7
SP2618P	30	650	4	12	70 K	12V/1.0A	DIP8
SP2619P	30	650	3	14	70 K	12V/1.2A	DIP8

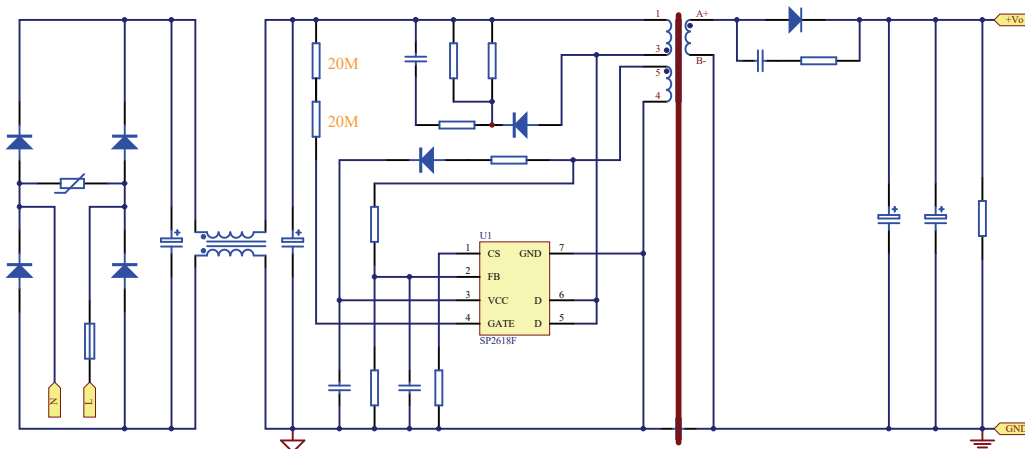
SP2618F Features

- The special startup technology can effectively reduce standby power consumption, make standby less than 30mW
- Integrated 3A 650V MOSFET, SOP-7 footprint
- Primary-side sensing and regulation without opto-coupler and TL431, effectively reduce the cost
- Featuring feedback control technology is used without compensation capacitance
- Built-in cable compensation adjusted by FB resistor
- The mixed operation mode of PFM+PWM is designed to improve conversion efficiency
- Excellent frequency decrease curve without light load noise
- Comprehensive protection function including VCC OVP, VCC UVLO, Output SCP, OTP, FB open loop protection

SP2618F Pin Configuration



Typical Application Diagram



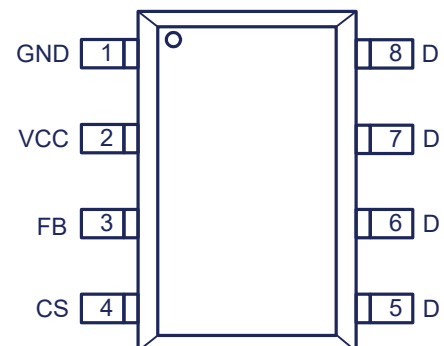
100mW Primary Side Control CC/CV Converter

Part Number	Standby Power	BV _{DSS} (MIN)	R _{DSON} (TYP)	Output Power	Max Frequency	Typical Application	Package
	mW	V	Ω	W	Hz		
SP2635F	<75	650	7	5	70 K	5 V/1.0A	SOP7
SP2637F	<75	620	3.5	8	70 K	5 V/1.5A	SOP7
SP2638F	<75	650	3	10	70 K	5 V/2.1A	SOP7
SP2638P	<75	650	3	12	70 K	12V/1.0A	DIP8
SP2639F	<75	650	2.7	12	70 K	5 V/2.4A	SOP7
SP2639P	<75	650	2	15	70 K	12V/1.2A	DIP8
SP2650	<75	External MOS	External MOS	18	70 K	5 V/3.4A	SOT23-6
SP2655F	<75	650	7	5	70 K	5 V/1.0A	SOP7
SP2657F	<75	620	3.5	8	70 K	5 V/1.5A	SOP7
SP2658F	<75	650	3	10	70 K	5 V/2.1A	SOP7
SP2658P	<75	650	3	12	70 K	12V/1.0A	DIP8
SP2659F	<75	650	2.7	12	70 K	5 V/2.4A	SOP7
SP2659P	<75	650	2	15	70 K	12V/1.2A	DIP7
SP2689F	<75	630	1.6	18	70 K	5V/3.1A	SOP8
SP2600A	<75	External BJT	External BJT	6	70 K	12V/0.5A	SOT23-5
SP2603F	<75	800	BJT	3	70 K	5 V/0.6A	SOP7
SP2605F	<75	800	BJT	5	70 K	5 V/1.0A	SOP7
SP2606F	<75	800	BJT	5	70 K	5 V/1.0A	SOP7
SP2607F	<100	800	BJT	10	70 K	5 V/2.1A	SOP7
SP2608F	<100	800	BJT	10	70 K	5 V/2.1A	SOP7

SP2689F Features

- Integrated 6A / 630V MOS in SOP8 package using 3D package technique to achieve 18W power with SOP8
- High and low voltage pin are isolated through package
- Primary-side sensing and regulation without opto-coupler and TL431, effectively reduce the cost
- Featuring feedback control technology is used without compensation capacitance
- Integrated cable voltage drooping compensation
- The mixed operation mode of PFM and PWM is designed to improve conversion efficiency
- Excellent frequency decrease curve without light load noise
- Comprehensive protection function including VCC OVP, VCC UVLO, Output SCP, OTP, FB open loop protection

SP2689F Pin Configuration



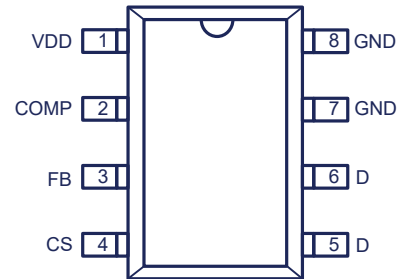
Primary Side Control CC/CV Converter

Part Number	Standby Power	BV _{DSS} (MIN)	R _{DSON} (TYP)	Output Power	Max Frequency	Typical Application	Package
	mW	V	Ω	W	Hz		
SP5710	<150	External MOS	External MOS	15	65 K	12V/1.2A	SOT23-6
SP5713F	<150	650	10	3	65 K	5 V/0.6A	SOP8
SP5715F	<150	650	7	5	65 K	5 V/1.0A	SOP8
SP5716P	<150	650	7	8	65 K	5 V/1.5A	DIP8
SP5717F	<150	620	3.5	8	65 K	5 V/1.5A	SOP7
SP5718F	<150	650	3	10	65 K	5 V/2.1A	SOP7
SP5718AP	<150	650	3.2	12	65 K	12V/1.0A	DIP8
SP5719F	<150	650	2.7	12	65 K	5 V/2.4A	SOP7
SP5719AP	<150	650	2	15	65 K	12V/1.2A	DIP8
SP5610	<200	External MOS	External MOS	15	60/75 K	12V/1.2A	SOT23-6
SP5613F	<200	650	10	3	60/75 K	5 V/0.6A	SOP8
SP5615F	<200	650	7	5	60/75 K	5 V/1.0A	SOP8
SP5618P	<200	650	3.2	12	60/75 K	12V/1.0A	DIP8
SP5619P	<200	650	2	15	60/75 K	12V/1.2A	DIP8

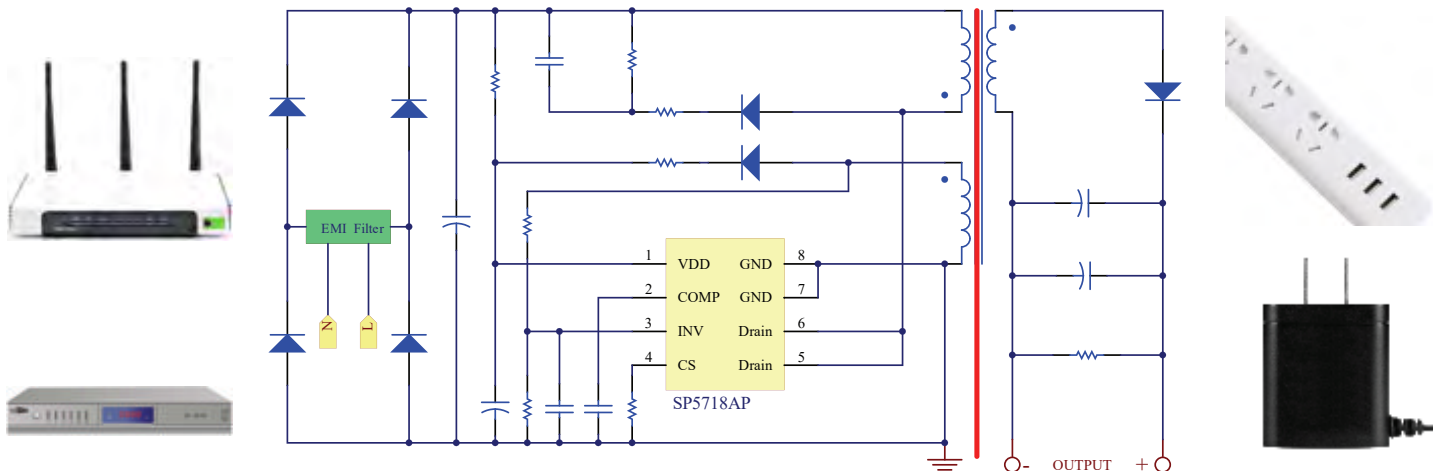
SP5718AP Features

- Integrated 3A 650V MOSFET transistor
- Primary-side sensing and regulation without opto-coupler and TL431, effectively reduce the cost
- Internal soft startup technology
- Built-in frequency jitter, improve EMI performance
- Comprehensive protection including VCC OVP, VCC Clamp, VCC UVLO, SCP, Cycle by Cycle Current Limiting

SP5718AP Pin Configuration



Typical Application Diagram



SP2689F+SP6503F 5V/3.1A Power Adapter

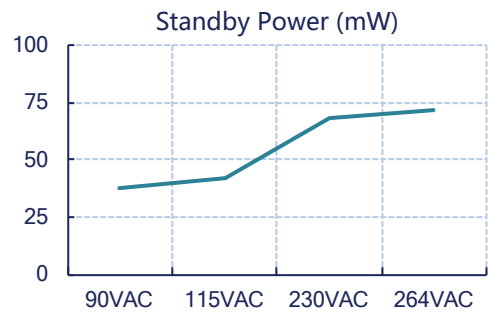
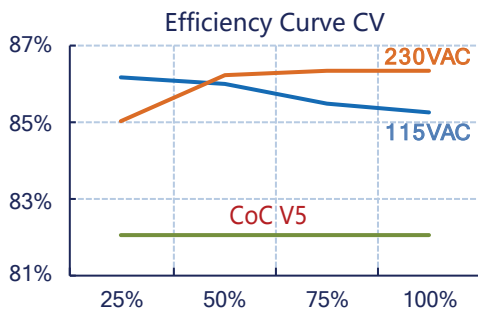
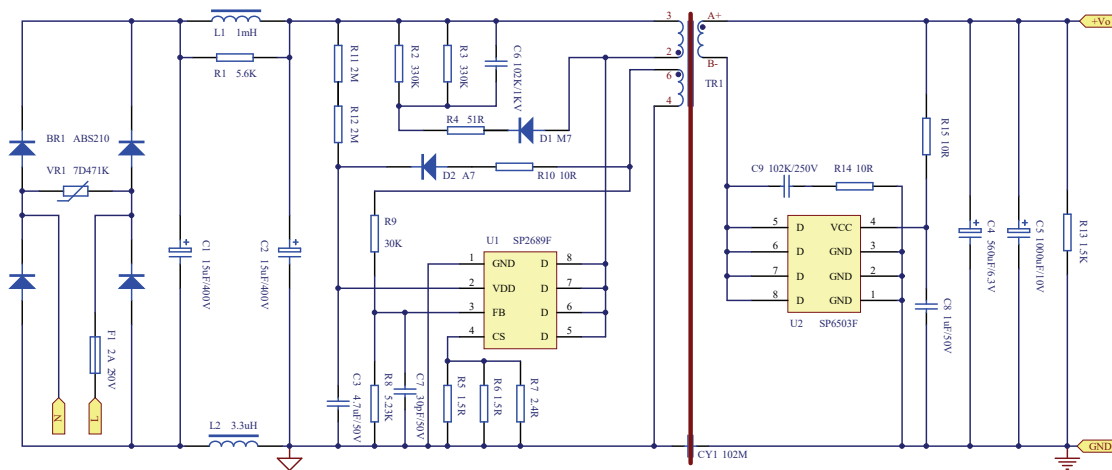
Features

- Input Voltage : 90VAC-265VAC universal AC input
- Output Power : 15.5W, 5V/3.1A
- Average Efficiency : >85%, meet CoC V5
- Standby Power : <75mW, meet CoC V5
- With output OCP, OVP, SCP, OTP function
- DEMO Size : 44.5mm*34mm*20mm
- Transformer : EE16W vertical bobbin, TDK PC40 core

Certification

- EMI radiation, conduction meet EN55022 ClassB
- AC insulation meet 3.75KV,60s,leakage current less than 5mA
- ESD meet IEC61000-4-2,contact discharge 8KV / air discharge15KV
- EFT meet IEC61000-4-4:2004,4KV
- Surge meet IEC61000-4-5:2005,2KV

Typical Application Diagram and Performance



Physical Picture



SP2639F+SP6502F 5V/2.4A Power Adapter

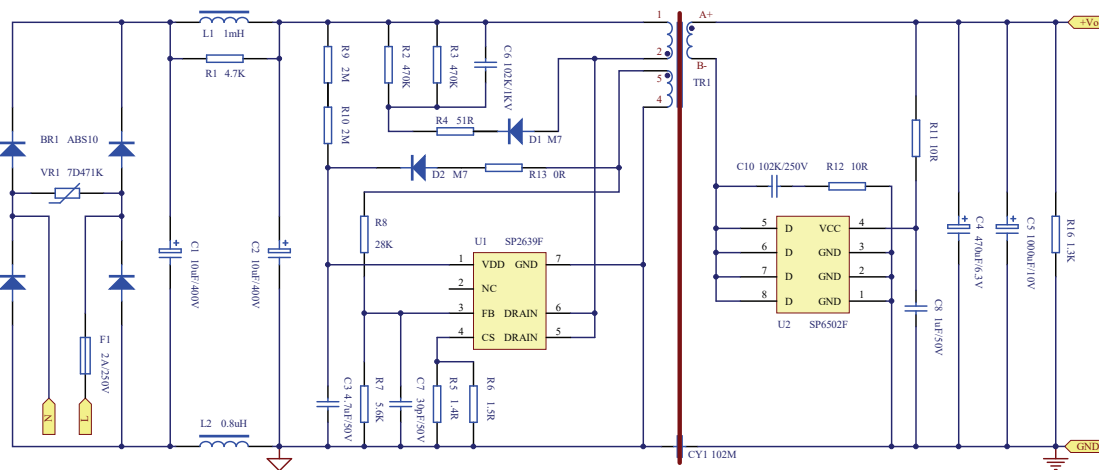
Features

- Input Voltage : 90VAC-265VAC universal AC input
- Output Power : 12W, 5V/2.4A
- Average Efficiency : >85%, meet CoC V5
- Standby Power : <75mW, meet CoC V5
- With output OCP, OVP, SCP, OTP function
- DEMO Size : 52mm*34mm*20mm
- Transformer : EE16W vertical bobbin, TDK PC40 core

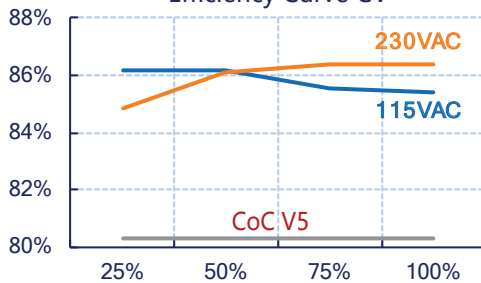
Certification

- EMI radiation, conduction meet EN55022 ClassB
- AC insulation meet 3.75KV,60s,leakage current less than 5mA
- ESD meet IEC61000-4-2,contact discharge 8KV / air discharge15KV
- EFT meet IEC61000-4-4:2004,4KV
- Surge meet IEC61000-4-5:2005,2KV

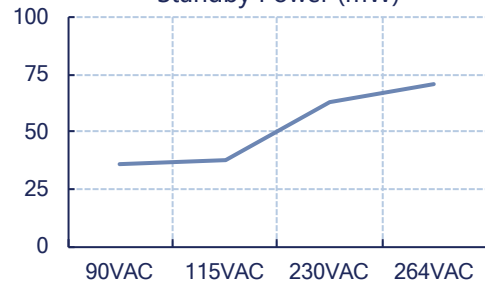
Typical Application Diagram and Performance



Efficiency Curve CV



Standby Power (mW)



Physical Picture



SP2608F+SP6502FL 5V/2.1A Power Adapter

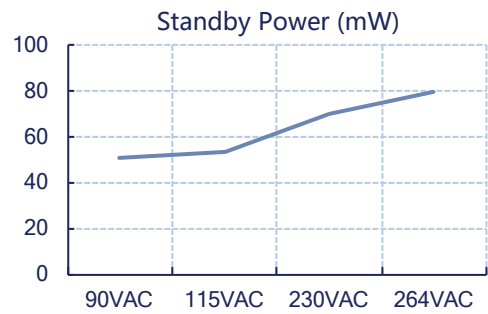
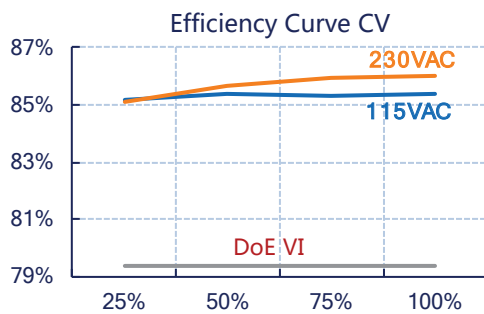
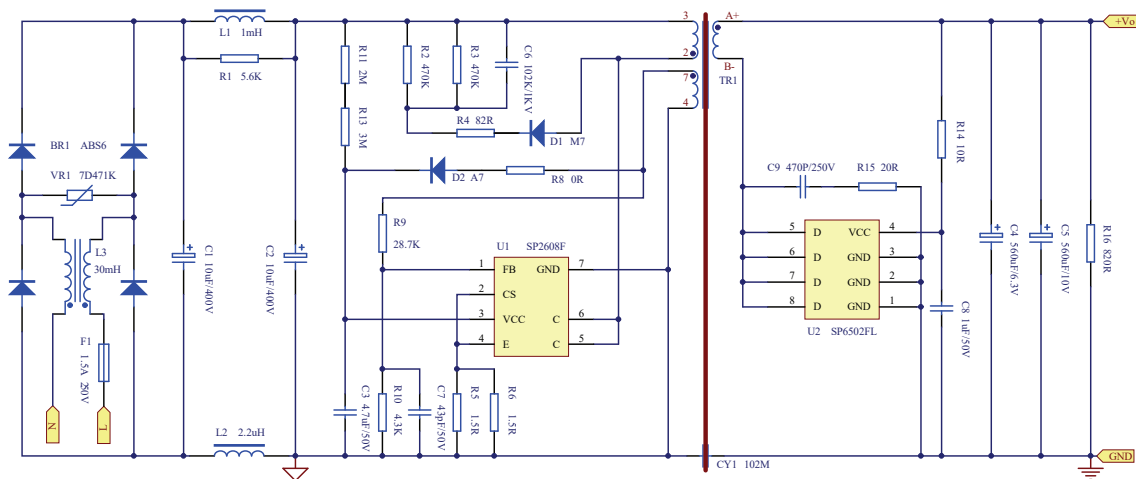
Features

- Input Voltage : 90VAC-265VAC universal AC input
- Output Power : 10.5W, 5V/2.1A
- Average Efficiency : >85% , meet DoE VI
- Standby Power : <100mW, meet DoE VI
- With output OCP, OVP, SCP, OTP function
- DEMO Size : 40.5mm*29mm*20mm
- Transformer : EE16W vertical bobbin, TDK PC40 core

Certification

- EMI radiation, conduction meet EN55022 ClassB
- AC insulation meet 3.75KV,60s,leakage current less than 5mA
- ESD meet IEC61000-4-2,contact discharge 8KV / air discharge15KV
- EFT meet IEC61000-4-4:2004,4KV
- Surge meet IEC61000-4-5:2005,2KV

Typical Application Diagram and Performance



Physical Picture



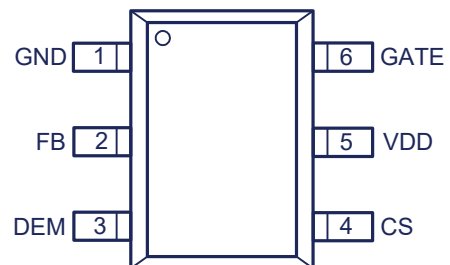
75mW Second Side Control CV Converter

Part Number	Standby Power	BV _{DSS} (MIN)	R _{DSON} (TYP)	Output Power	Max Frequency	Typical Application	Package
	mW	V	Ω	W	Hz		
SP6650A	<75	External MOS	External MOS	48	65 K	12V/3.0A	SOT23-6
SP6658F	<75	650	2.7	12	65 K	12V/1.0A	SOP7
SP6658P	<75	650	2	18	65 K	12V/1.5A	DIP7/DIP8
SP6659P	<75	650	1.5	24	65 K	12V/2.0A	DIP7
SP6620HP	<75	650	2	18	65 K	12V/1.5A	DIP8
SP6620CHP	<75	650	1.5	24	65 K	12V/2.0A	DIP8
SP6620DHP	<75	650	1.5	24	65 K	12V/2.0A	DIP8
SP6623HP	<75	650	10	6	65 K	12V/0.5A	DIP7
SP6624HP	<75	650	7	7.5	65 K	5V/1.5A	DIP7
SP6626HP	<75	650	3.2	12	65 K	12V/1.0A	DIP7
SP6629HF	<75	650	2.7	12	65 K	12V/1.0A	SOP7
SP6623F	<75	650	7	6	55 K	12V/0.5A	SOP8
SP6624P	<75	650	7	7.5	55 K	5V/1.5A	DIP8
SP6626P	<75	650	3.2	12	55 K	12V/1.0A	DIP8
SP6601A	<75	External MOS	External MOS	18	65 K	12V/1.5A	SOT23-6
SP6601H	<75	External MOS	External MOS	18	65 K	12V/1.5A	SOT23-6
SP6606P	<75	650	3.2	12	55 K	12V/1.0A	DIP8
SP6616P	<75	650	3.2	12	55 K	12V/1.0A	DIP8
SP6637HP	<75	650	2.7	15	65 K	Constant power	DIP7
SP6638HP	<75	650	2	18	65 K	Constant power	DIP7
SP6639HP	<75	650	1.5	24	65 K	Constant power	DIP8

SP6650A Features

- Multi mode operation: CCM @ full load, valley switching mode @ green mode, burst mode @ light load and no load, high conversion efficiency can be achieved
- Ultra low startup and operation current, standby power consumption less than 75mW can be achieved
- Minimum frequency 25KHz without audio noise
- Maximum frequency 65KHz achieve excellent EMI performance
- Power on soft start, CS peak voltage increases gradually
- Built in AC line under voltage detection (Brown-out)
- Comprehensive protection including VCC OVP, VCC Clamp, VCC UVLO, Output OVP, SCP, OLP, OTP

SP6650A Pin Configuration



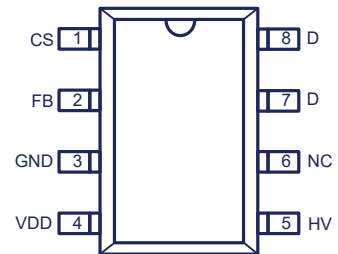
Second Side Control CV Converter

Part Number	Standby Power	BV _{DSS} (MIN)	R _{DS(on)} (TYP)	Output Power	Max Frequency	Typical Application	Package
	mW	V	Ω	W	Hz		
SP5630P	<150	External MOS	External MOS	48	Adjustable	24V/2.0A	DIP8
SP5673N	<150	External MOS	External MOS	48	Adjustable	24V/2.0A	SOT23-6
SP5673A	<150	External MOS	External MOS	48	65 K	24V/2.0A	SOT23-6
SP5875F	<150	External MOS	External MOS	65	Adjustable	24V/2.5A	SOP8
SP5875P	<150	External MOS	External MOS	65	Adjustable	24V/2.5A	DIP8
SP5624P	<200	650	7	6	50 K	12V/0.5A	DIP8
SP5624HP	<200	650	7	6	65 K	12V/0.5A	DIP8
SP5626P	<200	650	3.2	12	50 K	12V/1.0A	DIP8
SP5628P	<200	700	4.2	12	50 K	12V/1.0A	DIP8
SP5628HP	<200	700	4.2	12	65 K	12V/1.0A	DIP8
SP5620HP	<200	650	2	18	65 K	12V/1.5A	DIP8
SP5820HF	<100	External MOS	External MOS	24	100 K	12V/2.0A	SOP8
SP5828HP	<100	650	3.2	12	100 K	12V/1.0A	DIP8
SP5808F	<100	External MOS	External MOS	120	100 K	24V/5.0A	SOP8

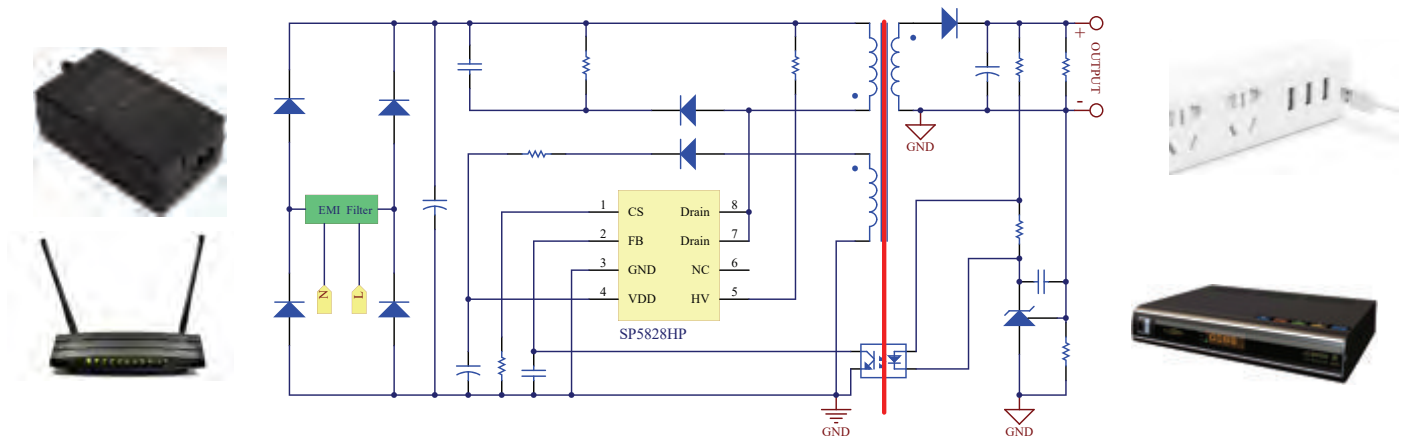
SP5828HP Features

- Integrated 3A 650V MOSFET
- Standby power less than 100mW as high voltage startup
- Frequency jitter are designed to improve EMI performance
- Input cable voltage dropping compensation are integrated
- Soft startup time 2.5ms
- Built-in VCC OVP, VCC UVLO, SCP, OLP OTP functions

SP5828HP Pin Configuration



Typical Application Diagram



SP6650A 12V/3A Power Adapter

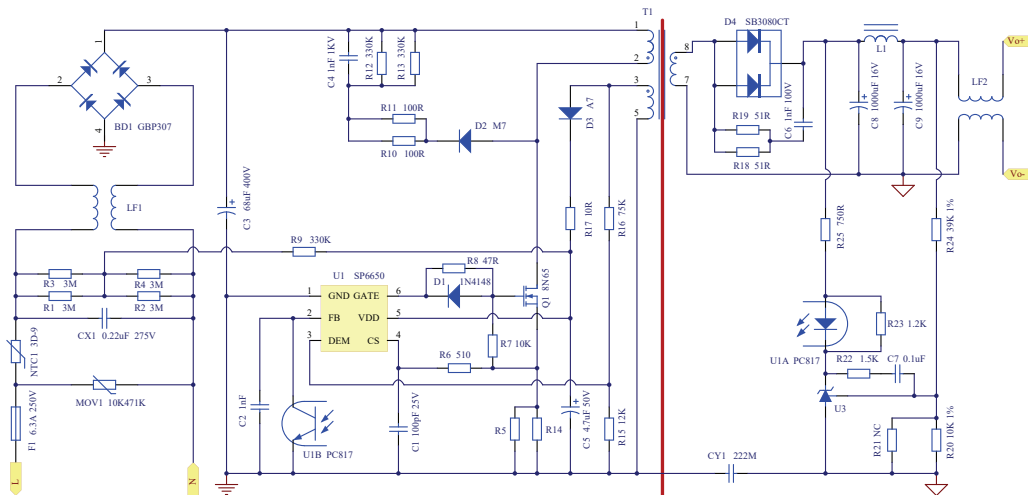
Features

- Input Voltage : 90VAC-265VAC universal AC input
- Output Power : 36W, 12V/3A
- Average Efficiency : >89%, meet CoC V5
- Standby Power : <75mW, meet CoC V5
- With OLP, OVP, SCP, Line UVP, OTP function
- DEMO Size : 86mm*40mm*25mm
- Transformer : RM10 vertical bobbin, TDK PC40 core

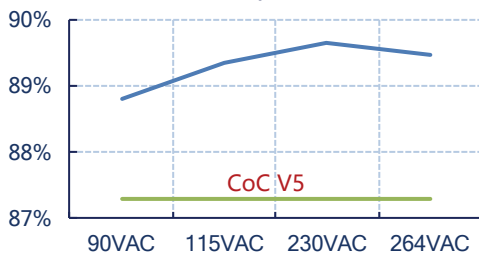
Certification

- EMI radiation, conduction meet EN55022 ClassB
- AC insulation meet 3.75KV,60s,leakage current less than 5mA
- ESD meet IEC61000-4-2,contact discharge 8KV / air discharge15KV
- EFT meet IEC61000-4-4:2004,4KV
- Surge meet IEC61000-4-5:2005,2KV

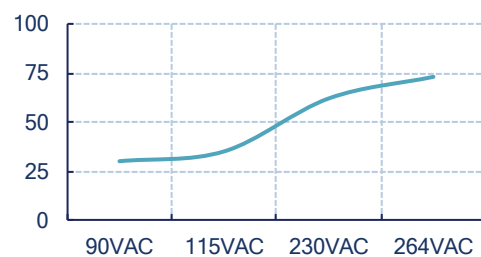
Typical Application Diagram and Performance



Efficiency Curve CV



Standby Power (mW)



Physical Picture



SP6650A+MP6901 Power Adapter

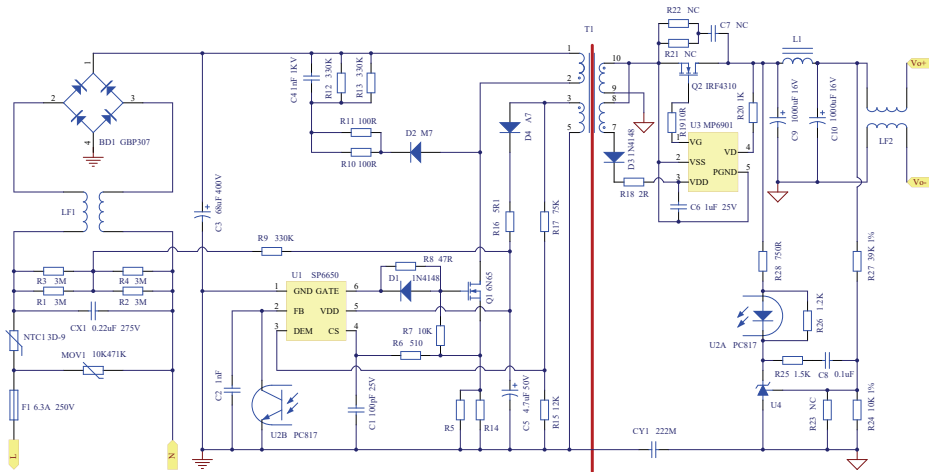
Features

- Input Voltage : 90VAC-265VAC universal AC input
- Output Power : 25W, 5V/5A
- Average Efficiency : >86%, meet CoC V5
- Standby Power : <75mW, meet CoC V5
- With OLP, OVP, SCP, Line UVP, OTP function
- DEMO Size : 80mm*42mm*28mm
- Transformer : PQ2020 vertical bobbin, TDK PC40 core

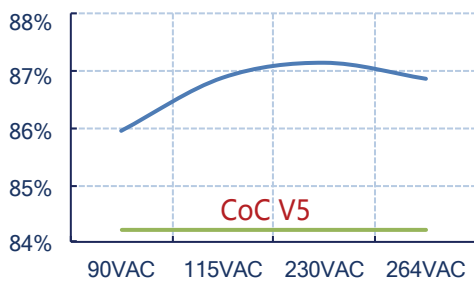
Certification

- EMI radiation, conduction meet EN55022 ClassB
- AC insulation meet 3.75KV,60s,leakage current less than 5mA
- ESD meet IEC61000-4-2,contact discharge 8KV / air discharge15KV
- EFT meet IEC61000-4-4:2004,4KV
- Surge meet IEC61000-4-5:2005,2KV

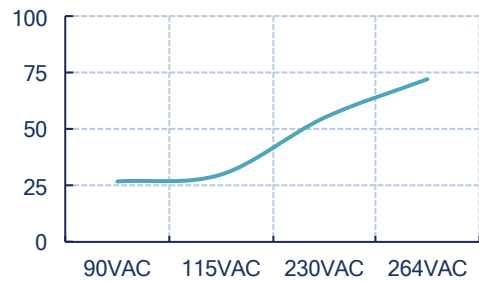
Typical Application Diagram and Performance



Efficiency Curve CV



Standby Power (mW)



Physical Picture



SP6620DHP+NT6008 18W QC3.0 Power Adapter

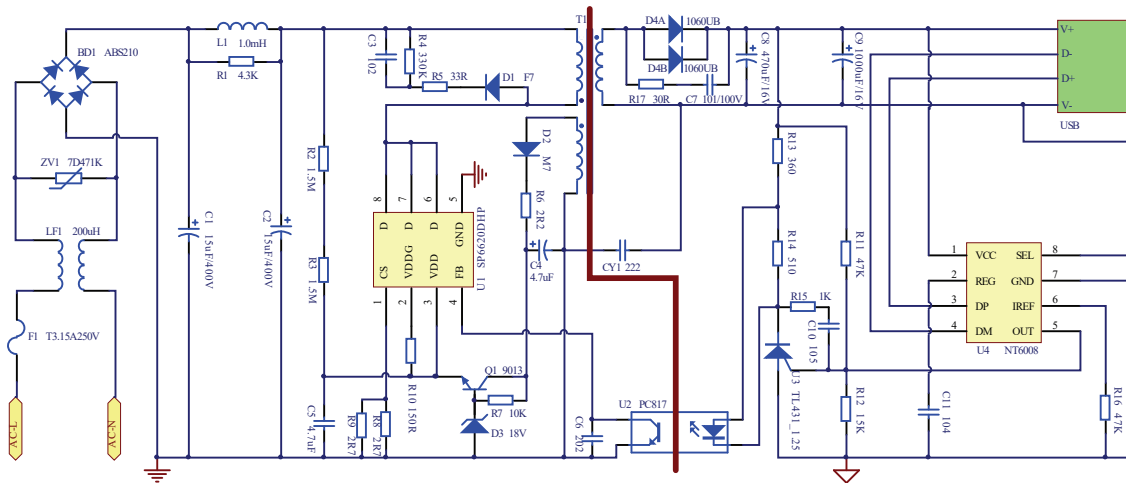
Features

- Input Voltage : 90VAC-265VAC universal AC input
- Output Power : 5V3A, 9V2A, 12V1.5A, 18W
- Average Efficiency : >83%, meet CoC V5
- Standby Power : <75mW, meet CoC V5
- With OLP, OVP, SCP, OTP function
- DEMO Size : 48mm*40mm*22mm
- Transformer : EE19W vertical bobbin, TDK PC40 core

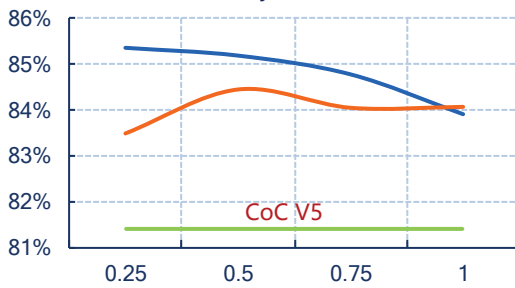
Certification

- EMI radiation, conduction meet EN55022 ClassB
- AC insulation meet 3.75KV,60s,leakage current less than 5mA
- ESD meet IEC61000-4-2,contact discharge 8KV / air discharge15KV
- EFT meet IEC61000-4-4:2004,4KV
- Surge meet IEC61000-4-5:2005,2KV

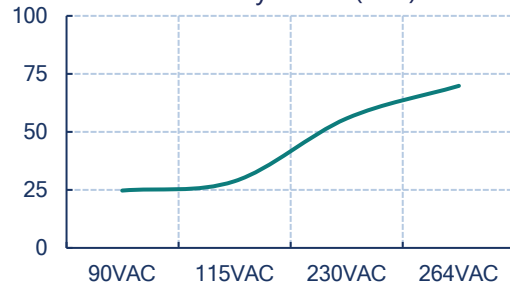
Typical Application Diagram and Performance



Efficiency Curve 5V3A



Standby Power (mW)



Physical Picture



LED Lighting Driver

Features	Part Number	Current Accuracy	Package	Topology	Input Voltage	Output Power	Typical Application
					VAC	W	
Isolated Low PF	SP5213F	±5%	SOP8	PSR+ Duplex Winding	85-265	3	10V/300mA
	SP5215F	±5%	SOP8	PSR+ Duplex Winding	85-265	5	16V/300mA
	SP5218P	±5%	DIP8	PSR+ Duplex Winding	85-265	12	40V/300mA
	SP5610	±6%	SOT23-6	PSR+ Three Winding	180-265	36	120V/300mA
	SP5710	±6%	SOT23-6	PSR+ Three Winding	180-265	50	50V/930mA
	SP5712F	±6%	SOP7	PSR+ Three Winding	85-265	3	10V/300mA
	SP5715F	±6%	SOP7	PSR+ Three Winding	85-265	5	12V/350mA
	SP5717F	±6%	SOP7	PSR+ Three Winding	85-265	7	22V/300mA
	SP5718AP	±6%	DIP8	PSR+ Three Winding	180-265	18	60V/300mA
	SP5719P	±6%	DIP8	PSR+ Three Winding	180-265	24	80V/300mA
	SP2610	±6%	SOT23-6	PSR+ Three Winding	85-265	18	36V/500mA
Isolated High PF	SP5221F	±5%	SOP8	APFC+PSR+QR	85-265	30	50V/600mA
					180-265	50	55V/900mA
	SP5230F	±5%	SOP8	APFC+Flyback	85-265	36	24V/1.5A
Non-isolated Low PF	SP5364F	±5%	SOP8	Buck+BCM	180-265	12	100V/120mA
	SP5366F	±5%	SOP8	Buck+BCM	180-265	18	90V/200mA
	SP5366P	±5%	DIP8	Buck+BCM	180-265	24	85V/280mA
	SP5367P	±5%	DIP8	Buck+BCM	180-265	36	130V/280mA
	SP5368P	±5%	DIP8	Buck+BCM	180-265	48	170V/280mA
Non-isolated High PF	SP5230F	±5%	SOP8	APFC+Boost	85-265	120	400V/300mA
	SP5310	±5%	SOT23-6	APFC+Buck+QR	180-265	50	120V/420mA
					100-265	42	70V/600mA
	SP5318F	±5%	SOP8	APFC+Buck+QR	85-265	18	60V/300mA
	SP5320	±5%	SOT23-6	APFC+Buck	85-265	30	42V/700mA
	SP5324AF	±5%	SOP8	APFC+Buck	85-265	9	60V/150mA
	SP5326AF	±5%	SOP8	APFC+Buck	180-265	18	72V/240mA
SP5340	±5%	SOP8	APFC+Buck+ paragraph dimming	180-265	24	80V/300mA	
Linear	SP5411EF	±10%	ESOP8	Single Channel Linear	200-240	7	270V/25mA
	SP5411T	±10%	TO252-3L	Single Channel Linear	200-240	8	270V/30mA
DC/DC	SP5518F	±5%	SOP8	Boost	6.5-24VDC	60	48V/1.25A
	SP5519F	±5%	SOP8	Boost	8-36VDC	60	48V/1.25A
	SP5521F	±5%	SOP8	Boost	8-36VDC	60	80V/750mA



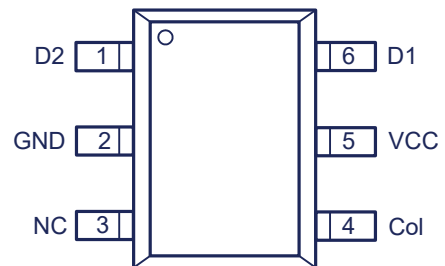
LED Lighting Auxiliary Function Products

Part Number	Feature	Package	Topology	Typical Application
SP5420	Flicker free from AC frequency	T0252-5L	Isolated output 5-60V	SP5221F+SP5420, 40V450mA flicker free
SP5430A	Double power color switching A→B→A+B	SOT23-6	Isolated/Non-isolated	SP5430A+SP5366F, 24W double power switch
SP5432F	Single power color switching A→B→A+B	SOP8	Isolated/Non-isolated	SP5432F+SP5366F, 12W single power switch
SP5450	Double power color switching A→B→A+B	SOT23-6	Isolated/Non-isolated	
SP5450A	Double power color switching A+B→A→B	SOT23-6	Isolated/Non-isolated	
SP5452F	Single power color switching A→B→A+B	SOP8	Isolated/Non-isolated	
SP5452AF	Single power color switching A+B→A→B	SOP8	Isolated/Non-isolated	

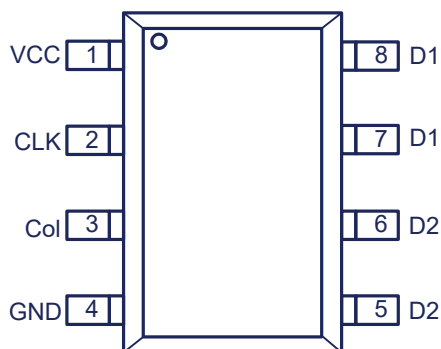
SP5450 Features

- Switching color without renewal existing switch in the wall
- Forward control color temperature switching double power
- Isolated and non-isolated topology can be supported
- Extremely few peripheral components
- Ultra low operating current
- Logic switch normally when aluminum substrate leakage
- Reset time with temperature compensation and set freely
- SOT23-6 package are provided

SP5450 Pin Configuration



SP5452F Pin Configuration



SP5452F Features

- Switching color without renewal existing switch in the wall
- Backward control color temperature switching single power
- With dual channel LED equalizing current function
- Automatic switching when single channel LED open circuit
- Integrated 200V MOSFET
- Isolated and non-isolated topology can be supported
- Extremely few peripheral components
- Ultra low operating current
- Reset time with temperature compensation and set freely
- SOP-8 package are provided

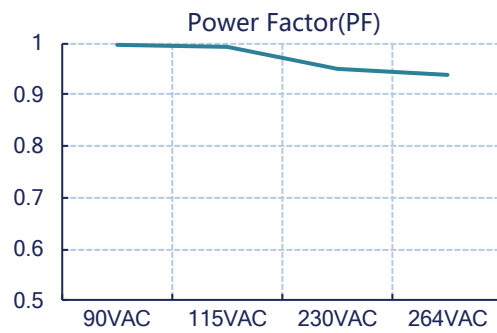
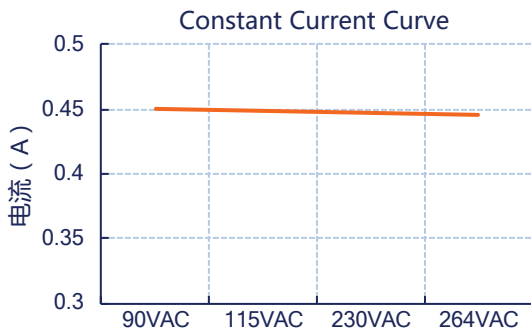
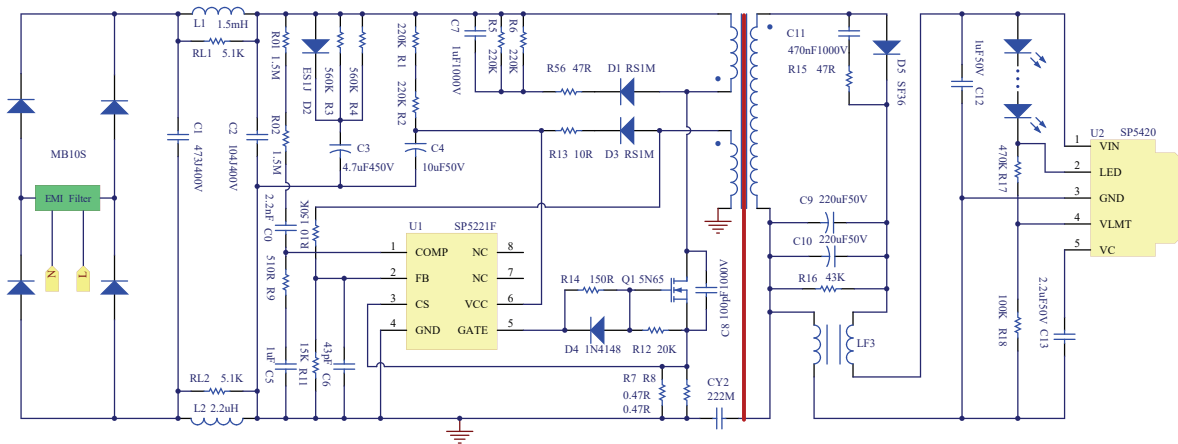


SP5221F+SP5420 Flicker Free,Low THD,18W

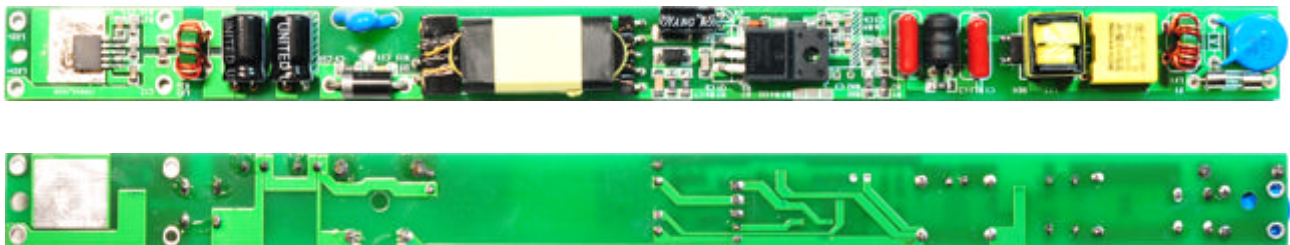
Features

- Input Voltage : 90VAC-265VAC universal AC input
- Output Power : 18W, 40V/450mA
- Average Efficiency : >85%
- Current Precision : $\pm 3\%$
- With output OVP, LED short protection, OTP function
- DEMO Size : 236mm*18mm*15mm
- Transformer : EDR2810 bobbin, TDK PC40 core
- Power Factor : >0.9
- THD : <15%
- Quasi-resonant improve conversion efficiency
- LED lights without flicker
- EMI radiation and conduction meet EN55015
- AC insulation meet 3.75KV,60s,leakage current less than 5mA

Typical Application Diagram and Performance



Physical Picture

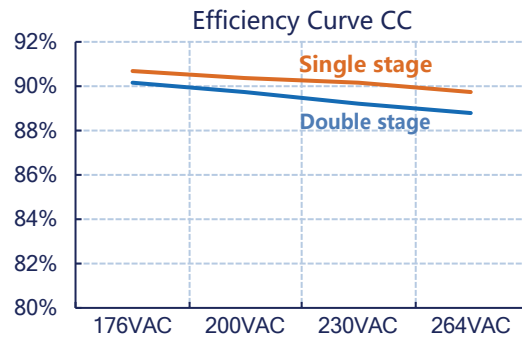
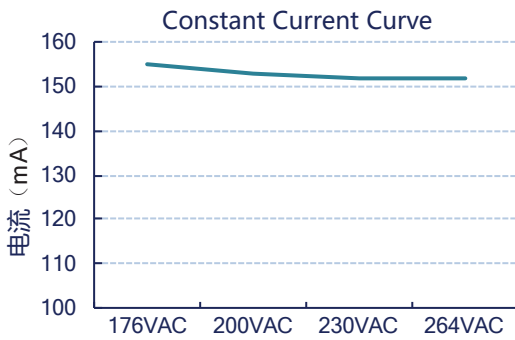
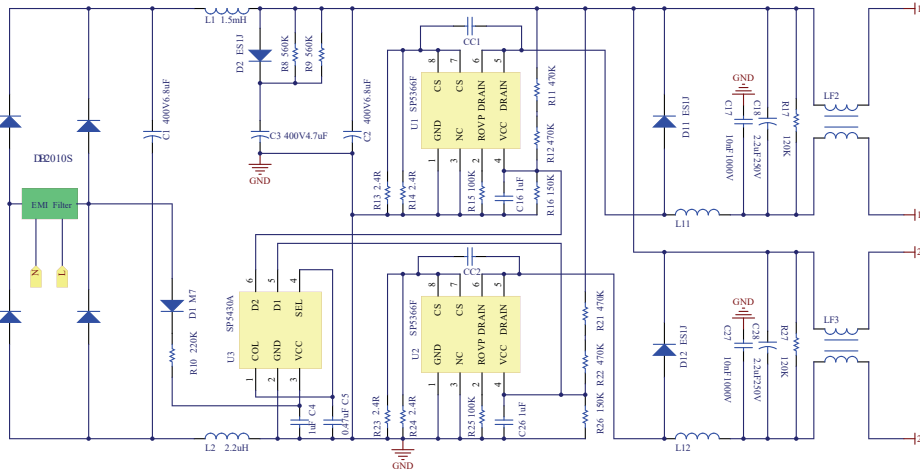


SP5366F+SP5430A Forward Control Color Temperature Switching

Features

- Input Voltage : 176VAC-265VAC
- Output Power : 24W , 70V/160mA+70V/160mA
- Average Efficiency : 90%
- Current Precision : $< \pm 5\%$
- With output OVP, LED short protection, OTP function
- DEMO Size : 69mm*33mm*17mm
- Transformer : EE13 vertical bobbin, TDK PC40 core
- Switching Speed : $< 100\text{ms}$
- Reset time can be adjusted
- High switching uniformity of multiple power modules
- Burn-in testing 250h with temperature 85°C and 85% humidity
- EMI radiation and conduction meet EN55015

Typical Application Diagram and Performance



Physical Picture

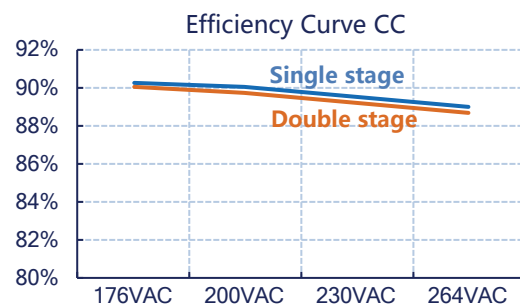
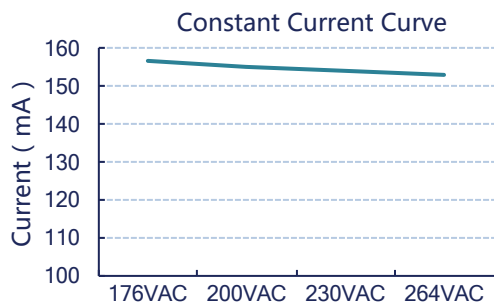
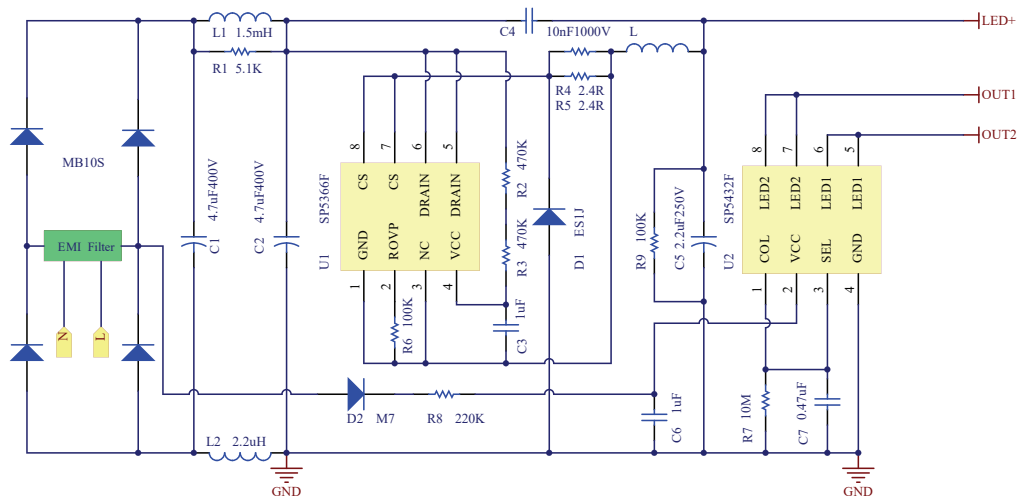


SP5366F+SP5432F Backward Control Color Temperature Switching

Features

- Input Voltage : 176VAC-265VAC
- Output Power : 24W , 70V/160mA+70V/160mA
- Average Efficiency : 90%
- Current Precision : $\leq \pm 5\%$
- With output OVP, LED short protection, OTP function
- DEMO Size : 48mm*25mm*17mm
- Transformer : EE13 vertical bobbin, TDK PC40 core
- Switching Speed : $< 100\text{ms}$
- Reset time can be adjusted
- High switching uniformity of multiple power modules
- EMI radiation, conduction meet EN55015 criteria

Typical Application Diagram and Performance



Physical Picture



Buck Products

Switch Model	Part Number	Package	Input Voltage	Quiescent Current	Frequency	Max Duty Cycle	Peak Efficiency	Current Accuracy	Typical Application
			V	mA	Hz				
Syn	SP1220F	MSOP10L	9–42	1.5	120 K	95%	97%	±5%	5V/4.8A
	SP1223F	SOP8	9–32	1.5	120 K	95%	95%	±5%	5V/3.4A
	SP1225F	SOP8	9–42	1.5	120 K	95%	95%	±5%	5V/3.1A
	SP1226F	MSOP10L	9–42	1.5	120 K	95%	97%	±5%	5V/4.8A
Asyn	SP1200BEF	ESOP8	8–36	2	170 K	100%	93%	-	5V/3.5A
	SP1211EF	ESOP8	9–40	1	120 K	90%	93%	±5%	5V/3.1A
	SP1215F	SOP8	9–40	1	120 K	90%	93%	±10%	5V/2.4A
	SP1215EF	ESOP8	9–40	1	120 K	90%	93%	±10%	5V/3.1A

SP1220F Features

- VIN operation voltage:9V-42V
- Output voltage accuracy:±2%
- Dual-Channeling CC/CV function
- External current limiting accuracy:±5%
- Built-in adjustable cable voltage drop compensation
- Built-in soft startup
- Comprehensive protection including Output Over Current Protection,Over Voltage Protection,Short Circuit Protection,Over Temperature Protection,VIN Under Voltage Lockout Protection

SP1220F Pin Configuration



Boost Products

Switch Model	Part Number	Package	Input Voltage	Standby Current	Frequency	Max Duty Cycle	Peak Efficiency	Output Current
			V	uA	Hz			A
Asyn	SP1072	SOT23-6	2.5–8	0.1	1.3 M	92%	92%	0.3
	SP1672	SOT23-5	2.5–6	0.1	1.3 M	92%	92%	0.5
	SP1682	SOT23-6	2.6–5.5	0.1	1 M	90%	91%	1
	SP1682B	SOT23-6	2.6–5.5	0.1	1 M	90%	91%	1
	SP1683	SOT23-6	2.6–5.5	0.1	1 M	90%	91%	1
	SP1685EF	ESOP8	2.6–5.5	0.1	1 M	90%	91%	2

SP1220F+NT6008 QC3.0 Car Charger

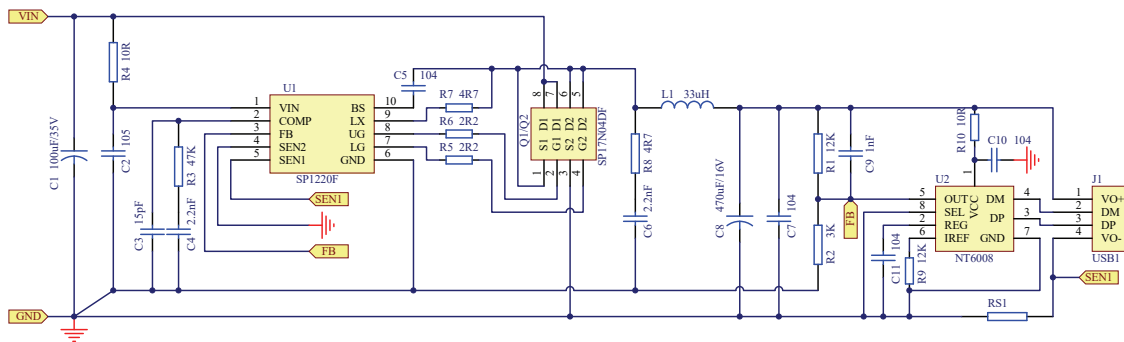
Features

- Input Voltage : 12V / 24V
- Fast-Charging Technology : QC3.0 , QC2.0 , Apple 2.1A/2.4A , Samsung Galaxy Note 2.0A , BC1.2
- Peak Efficiency : 97%
- External Current Limiting Precision : $\pm 5\%$
- Integrated output OCP, OVP, SCP, OTP function
- DEMO Size : 59mm*18.6mm*14.5mm

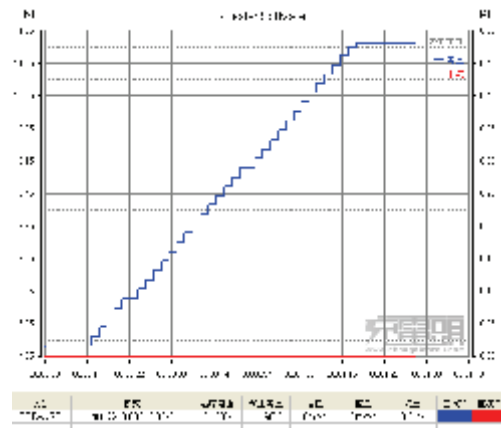
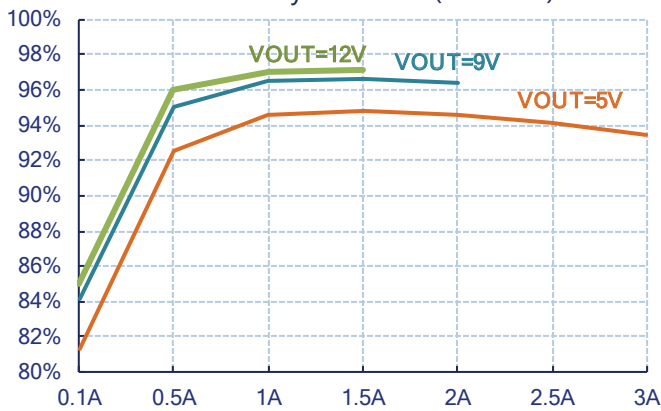
Certification

- EMI radiation and conduction meet EN55022

Typical Application Diagram and Performance



Efficiency vs. Current(VIN=12V)



Physical Picture



SP1220F 5V/4.8A Car Charger

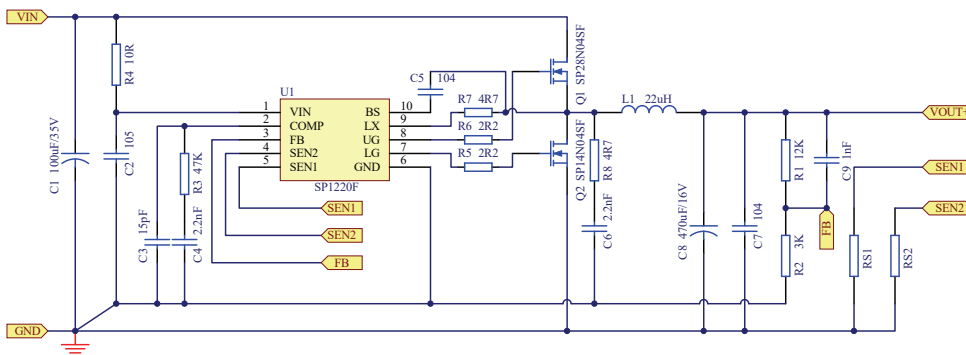
Features

- Input Voltage : 12V / 24V
- Output Power : 24W , 5V/4.8A
- Peak Efficiency : 96%
- External Current Limiting Precision : $\pm 5\%$
- Integrated output OCP, OVP, SCP, OTP function
- DEMO Size : 60mm*21mm*16.6mm

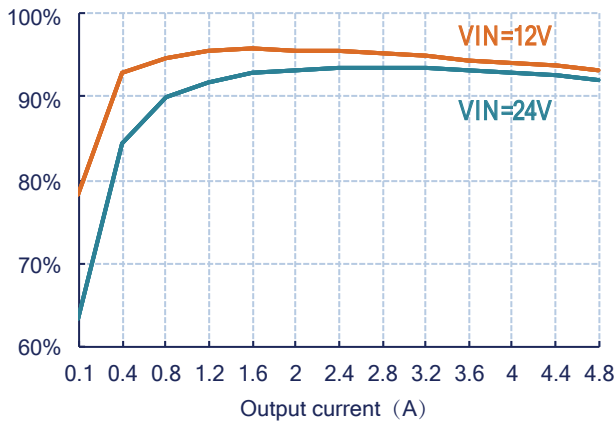
Certification

- EMI radiation and conduction meet EN55022

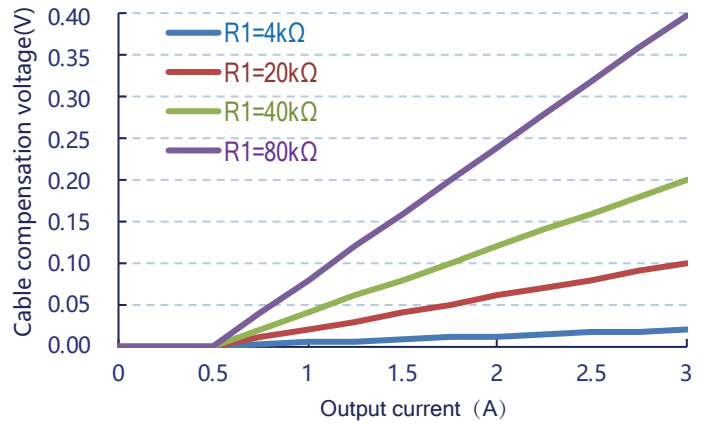
Typical Application Diagram and Performance



Efficiency vs. Output Current



Cable Compensation vs. Output Current (RCS=33mΩ)



Physical Picture



SP1223F 5V/3.4A Car Charger

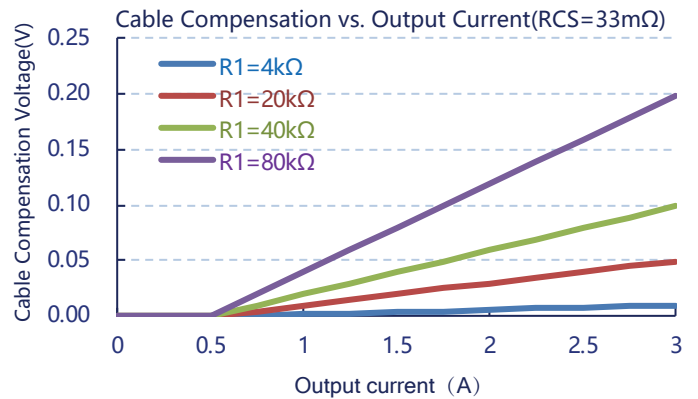
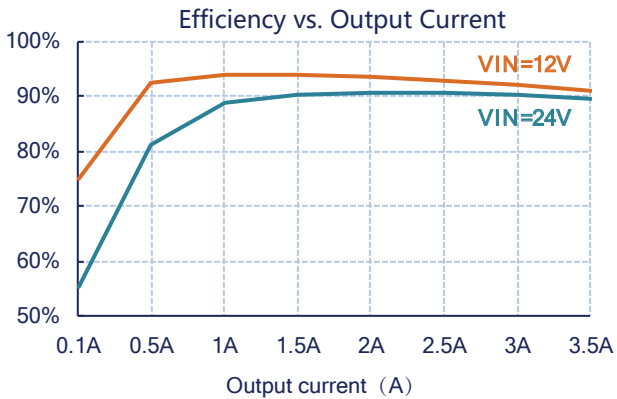
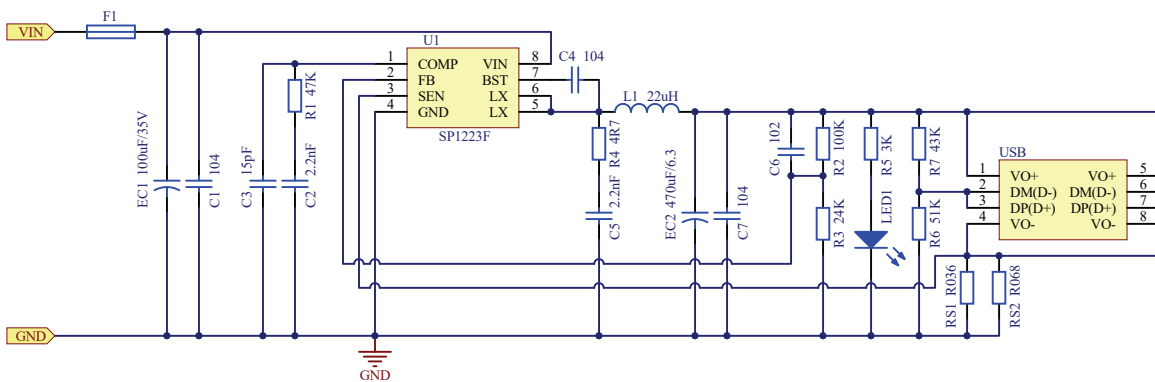
Features

- Input Voltage : 12V / 24V
- Output Power : 17W , 5V/3.4A
- Peak Efficiency : 94%
- External current limiting precision $\pm 5\%$
- Integrated output OCP, OVP, SCP, OTP function
- DEMO size : 47mm*19mm*16.6mm

Certification

- EMI radiation and conduction meet EN55022

Typical Application Diagram and Performance



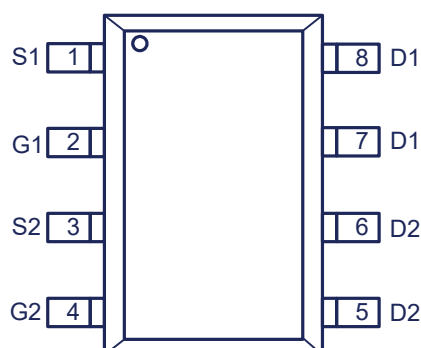
Physical Picture



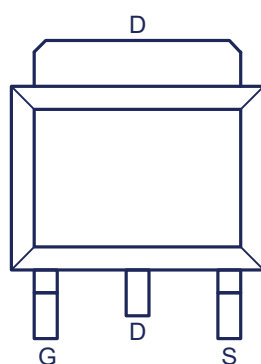
N Channel MOSFET

Part Number	BV _{DSS} (MIN)	I _{DS} TA=25°C	R _{DS(on)} (TYP)		V _{TH} (TYP)	C _{iss} (TYP)	Q _g (TYP)	Package	
	V		A	mΩ					
				V _{GS} =4.5V					V _{GS} =10V
SP08N04ST	40	10.5	8.2	6.2	1.5	2344	18.6	TO-252-2L	
SP08N04SF	40	10.5	8.2	6.2	1.5	2344	18.6	SOP8	
SP14N04ST	40	10	14	10	1.5	1305	10.5	TO-252-2L	
SP14N04SF	40	10	14	10	1.5	1305	10.5	SOP8	
SP23N03SF	30	9	23	16	1.5	350	4.0	SOP8	
SP28N04SF	40	5.5	28	22	1.5	590	5.7	SOP8	
SP17N04DF	40	10	17	13	1.5	1305	10.5	SOP8 Dual N MOSFET	
	40	5.5	31	25	1.5	590	5.7		
SP26N03DF	30	9	26	19	1.5	350	4.0	SOP8 Dual N MOSFET	
	30	9	26	19	1.5	350	4.0		
SP31N04DF	40	5.5	31	25	1.5	590	5.7	SOP8 Dual N MOSFET	
	40	5.5	31	25	1.5	590	5.7		

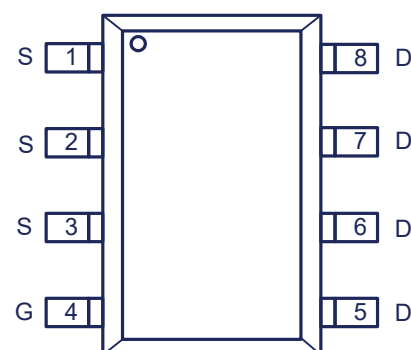
Pin Configuration



SP17N04DF



SP14N04ST



SP14N04SF



Audio Products

Part Number	Input Voltage	Operation Current	Frequency	Function	Typical Application	Package
	V	mA	Hz			
SP31101	1.8–9	2.7	200–3.5 K	Speech Companding	Wireless Telephone	SOP16/DIP16
SP571	6–18	3.2	15–20 K	Speech Companding	Wireless Microphone	SOP16W/DIP16
SP572	1.8–9	1.7	200–3.5 K	Speech Companding	Wireless Telephone	SOP16W/DIP16
SP575	3–7	4.2	15–20 K	Speech Companding	Wireless Microphone	SOP20/SSOP20
SP1235	10–14	22	10.7 M	IF Amplifier	FM Radio	SOP16/DIP16
SP1140	7.5–16	21	10.7 M	IF Amplifier	FM Radio	SOP16/ZIP16



Radio Controlled Clock

Part Number	Frequency	Operation Current	Sensitivity	Receiving Mode	Package
	Hz				
SP6007	40 K–120 K	<90uA	0.4uV	WWVB, DCF77, JY40, JY60, MSF, HBG	DICE
SP6011	40 K–100 K	<60uA	0.4uV	WWVB, DCF77, JY40, JY60, MSF, HBG, BPC	DICE



Time Service Tower



Radio Controlled Clock



Audio Decoder IC

Part Number	Input Voltage	Function	Package
SP3303	3.3V	MP3/WMA/WAV	LQFP64
SP3306	3.3V	APE/FLAC/MP3/WMA/WAV	LQFP64
SP3308	3.3V	APE/FLAC/MP3/WMA/WAV integrated Bluetooth Protocol	LQFP64

Features

- Support APE/FLAC/MP3/WMA/WAV audio decoder format
- Bluetooth 2.1+EDR protocol stack, compatible blue-tooth 3.0
- Support L2CAP、A2DP (AVCTP、AVDTP、AVRCP)
- A precision 24 bits DAC intended for high quality sound
- Fully compatible with Windows and Mac OS system
- Firmware can be update through SD card, USB disk, PC
- Support TFT true color and STN monochrome LCD screen
- Built in headphone amplifier drive 40mW/16Ω earphone
- Comprehensive SDK easy for users re-development
- Multi channel SAR ADC LF voltage sense & key control
- USB 2.0 OTG controller and transceiver analog circuit
- High performance EQ post process, reduce the cost
- Multi GPIO for detect and control peripheral devices easy for users extend capabilities

Application

- Vehicle sound
- Portable digital sound
- Multi-media sound
- AV power amplifier
- Radio recorder
- Card headphone
- Blue-tooth card sound
- Stereophonic sound
- Vehicle blue-tooth speaker
- Stereo patch controller
- Wireless card headphone with blue-tooth
- Wireless blue-tooth intelligent lighting



Products Powered by SP3308





China Add: 801 of United Creative East Building, No.901 Yinxiu Road,
Binhu District,Wuxi,Jiangsu, China

India Add: # Unit-403,Tower-1,4th Floor,A-13/2,3,4,Highway Tower,
Sector-62,Noida-201301(U.P.),India

Tel: +86 510 85166075

Fax: +86 510 85166176

E-mail: wally@westech-cn.com

Website: www.westech-cn.com



More Information