



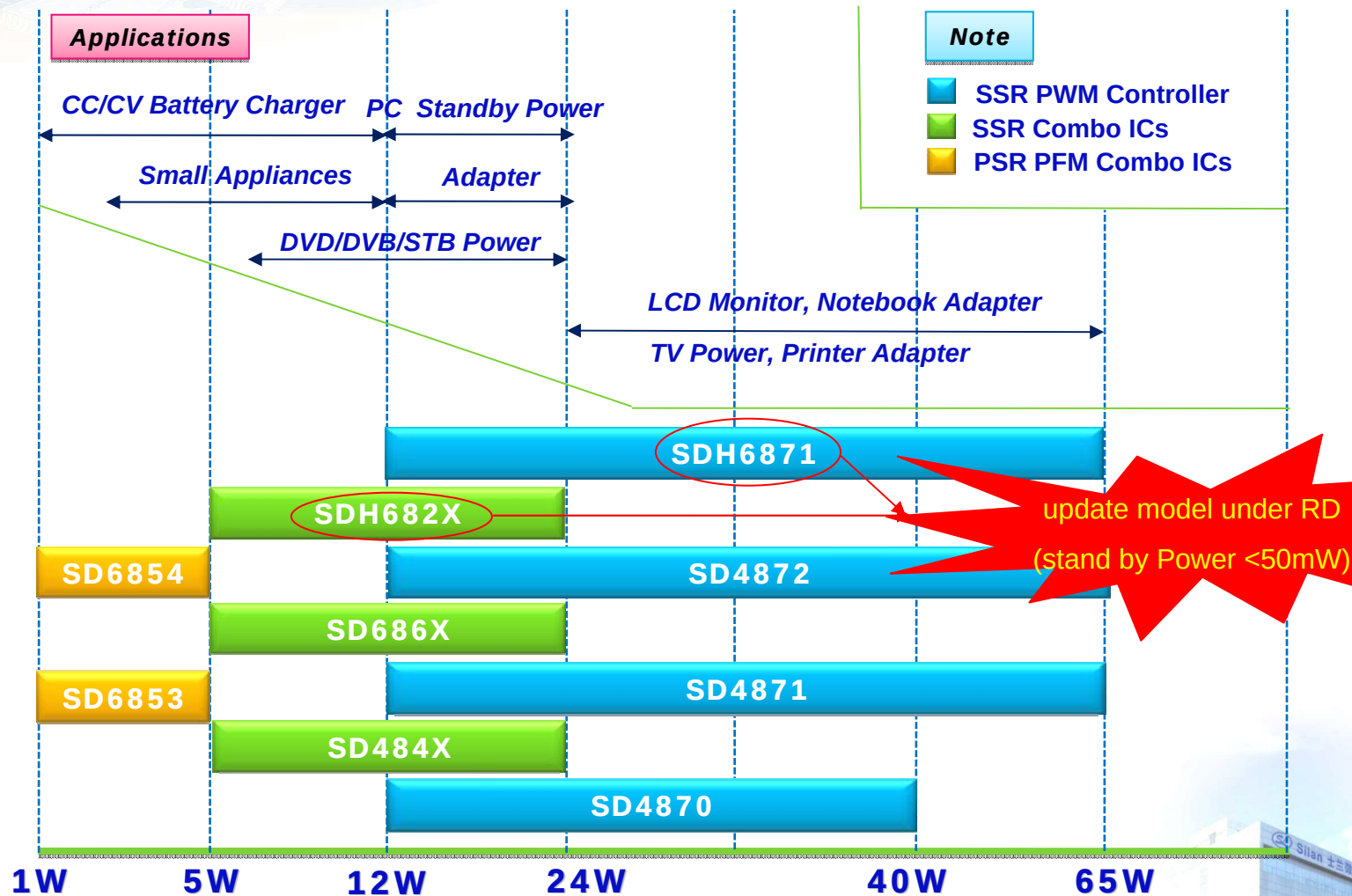
www.silan.com.cn

AC-DC Product Line

20110831



Silan AC/DC Product Profile & EE Applications





Silan AC-DC Product Introductions

□ PSR PFM Combo ICs: 1W-5W

- ◆ SD685X Series

□ SSR PWM Combo ICs: 5W-24W

- ◆ SD484X Series

- ◆ SD686X Series

- ◆ SDH682X/A Series

□ SSR PWM Controller: 12W-65W

- ◆ SD4870

- ◆ SD4871

- ◆ SD4872

- ◆ SDH6871





PSR PFM Comb ICs-SD6853 SD6854

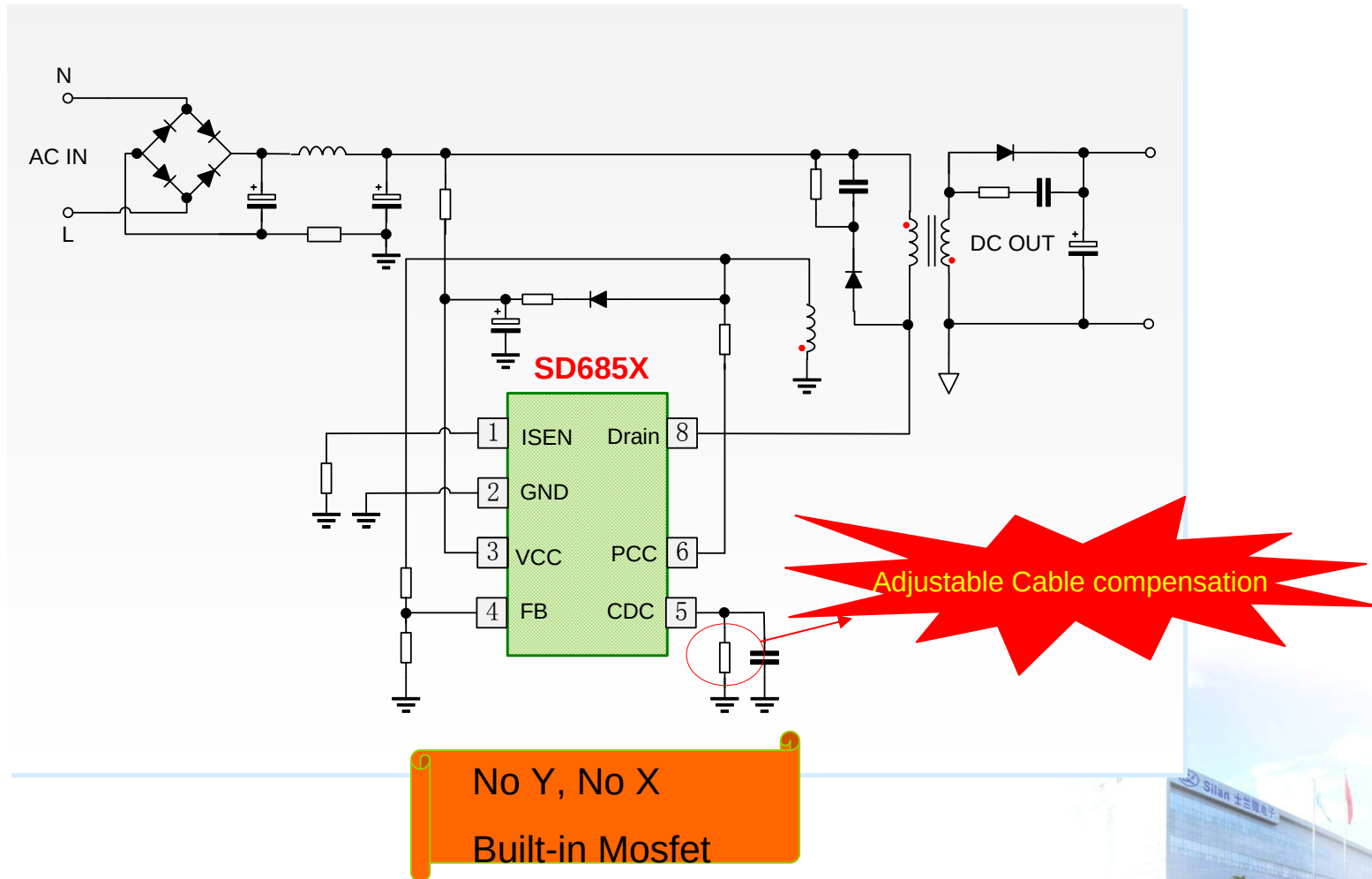
Feature	SD6853	SD6854	AP3706	iW1676
Built-in Mosfet	Y	Y	N	N
Cable compensation	adjustable	adjustable	Fixed	Fixed
Valley turn on	Y	Y	Y	Y
Soft Start	N	N	Y	Y
Switching Frequency	2~55kHz	2~55kHz	2~55kHz	2~64kHz
Frequency Jitter	N	N	N	N
OVP (Vcc)	Y	Y	Y	Y
OLP	Y	Y	Y	Y
OTP	Y	Y	N	N
Package	DIP8	DIP8	SOT-23	SOIC8/DIP8
Availability	MP	MP		

Performance comparison Matrix





SD685X Circuit Diagram

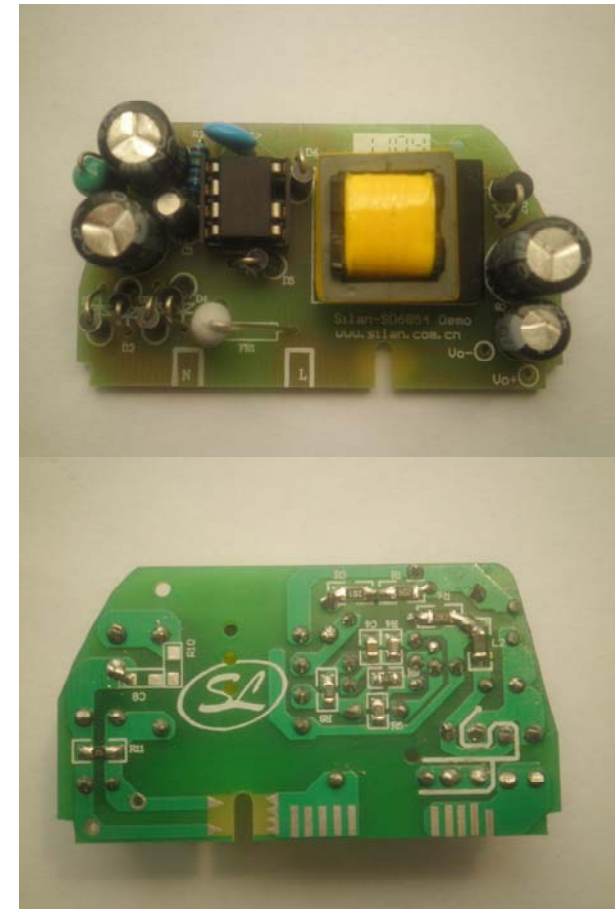




SD6854 5V 1A DEMO Board

➤ Key Features:

- ✓ Standby Power under 66mW at 230VAC
- ✓ Average Efficiency is 72%, meet with EPA2.0
- ✓ No X cap, No CM Choke, only one DM Choke
- ✓ Simple structure
- ✓ Auto recovery for OCP/SCP /OVP/OTP
- ✓ EN55022 Class B / CISPR22B Under 6dB



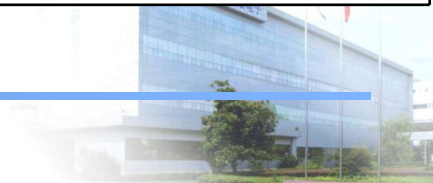
Size:56mm*32mm*15mm



SD6854 5V 1A DEMO Board

➤ Specification

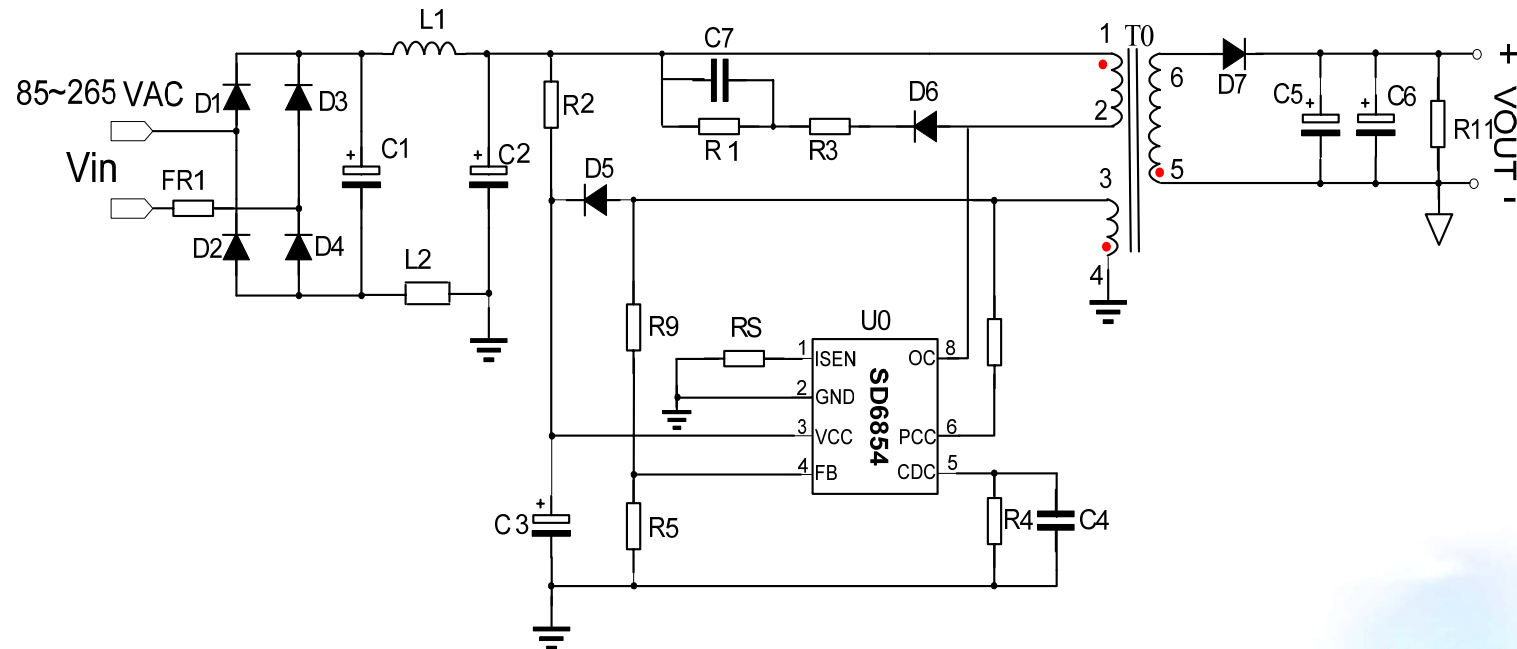
Specification	Symbol	Min.	Typ.	Max.	Unit	Remark
Input Voltage	Vin	90	220	265	VAC	2 wire
Input frequency	f	47	50/60	63	Hz	
Average efficiency	η	72.1	--	72.3	%	Vin=115/230Vac, Io=1A, with cable.
Standby Power(230Vac)		--	0.066	--	W	Vin=230Vac
Output voltage	Vo	--	5	--	V	Measure with cable
Output current	Io	1.0	--	1.2	A	
Output voltage regulation	Vo	4.75	5	5.25	V	Measure with cable
Output voltage ripple	V-ripple	--	82	--	mV	Measured with cable, 20MHz bandwidth
Turn-on delay time	--	--	2.88	--	s	
Power consumption (SCP)	--	--	0.3	--	W	
OCP	--	--	1.2	--	A	





SD6854 5V 1A DEMO Board

➤ Application circuit





SD6854 5V 1A DEMO Board

➤ Standby Power

Input Voltage	90V	115V	230V	265V
Standby Power	50mW	52mW	66mW	71mW

➤ Efficiency(%) With cable:AWG26,1.5m

Input Voltage	25% Load	50% Load	75% Load	100% Load	Average
90V	73.2	72.0	70.8	69.3	71.3
115V	73.7	72.8	71.8	70.9	72.3
230V	72.4	72.6	72.0	71.3	72.1
265V	71.4	72.0	71.5	71.4	72.1

Small stand by power, less than 100mW
Average efficiency meet EPA2.0 standard

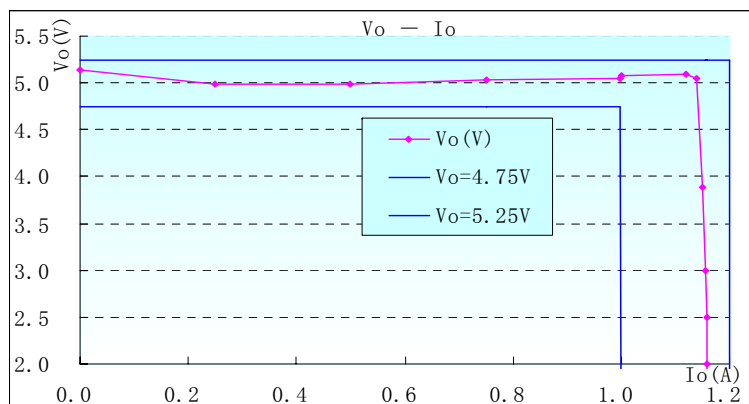




SD6854 5V 1A DEMO Board

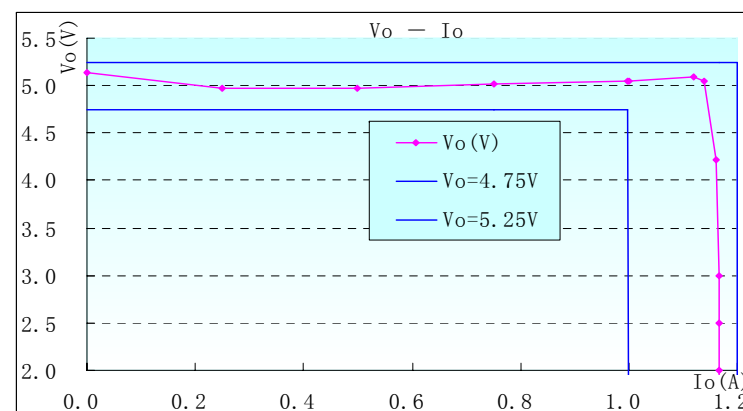
➤ Output VI Characteristics

Input Voltage	Vo(0.25A)	Vo(0.50A)	Vo(0.75A)	Vo(1.0A)	OCP(A)
90V	4.993	4.994	5.035	5.079	1.141
115V	4.994	4.993	5.032	5.076	1.156
230V	5.000	4.994	5.030	5.071	1.166
265V	5.005	5.000	5.034	5.074	1.159



Vin=115Vac

CC/CV accuracy: $\pm 5\%$



Vin=230Vac

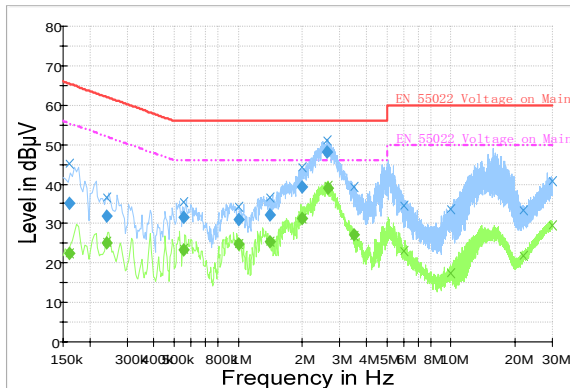




SD6854 5V 1A DEMO Board

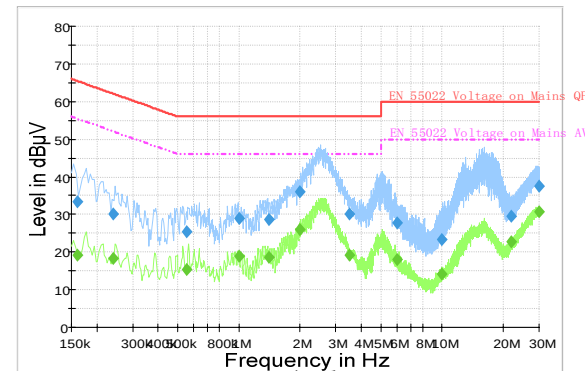
➤ Conduction Test Result

EN55022 Mains (0.15-30MHz) Auto_L



230Vac 5V 1A Line

EN55022 Mains (0.15-30MHz) Auto_L

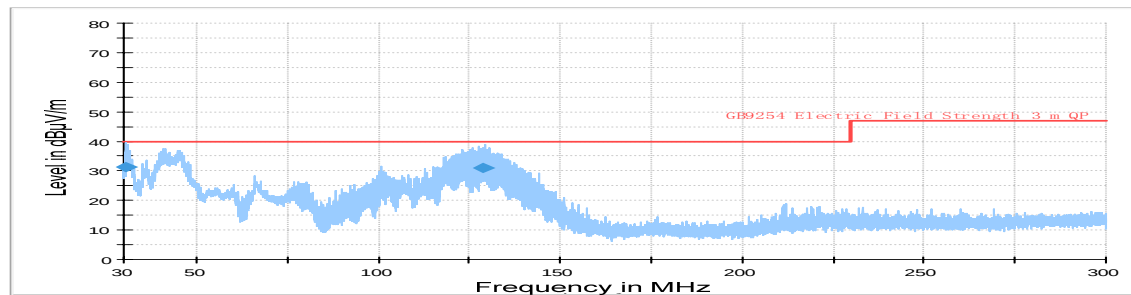


230Vac 5V 1A Neutral

➤ Radiation Test Result

EMI have 6dB margin(EN22022 class B)

GB9254 Electric Field Strength (30-1000MHz) Auto



230Vac 5V 1A





Electrical target

- ◆ Meets EPS 2.0 Level 5
- ◆ Ultra low Standby Power Consumptions(7mW)
- ◆ Low Tolerance of CV/CC(1.5% / 2.5%)
- ◆ Fast Dynamic Load response
- ◆ Recovery Time of Overshoot/Undershoot 15mS
- ◆ No Audible Noise from No Load to Full Load
- ◆ Maximum Switching Frequency 120KHz above
- ◆ Power Switcher Using BJT only
- ◆ Build In High Voltage Start Up Switch
- ◆ Frequency jitter

Cost down

- ◆ No Need External MOSFET
- ◆ No X, No Y, No CM choke
- ◆ No snubber or TVS
- ◆ Shrinking Core Size
- ◆ Sliming the finished product
- ◆ Driving BJT 13003/13007/13009
- ◆ Save The Delivery Cost





SSR PWM Combo ICs-SD484X SD686X SDH682X

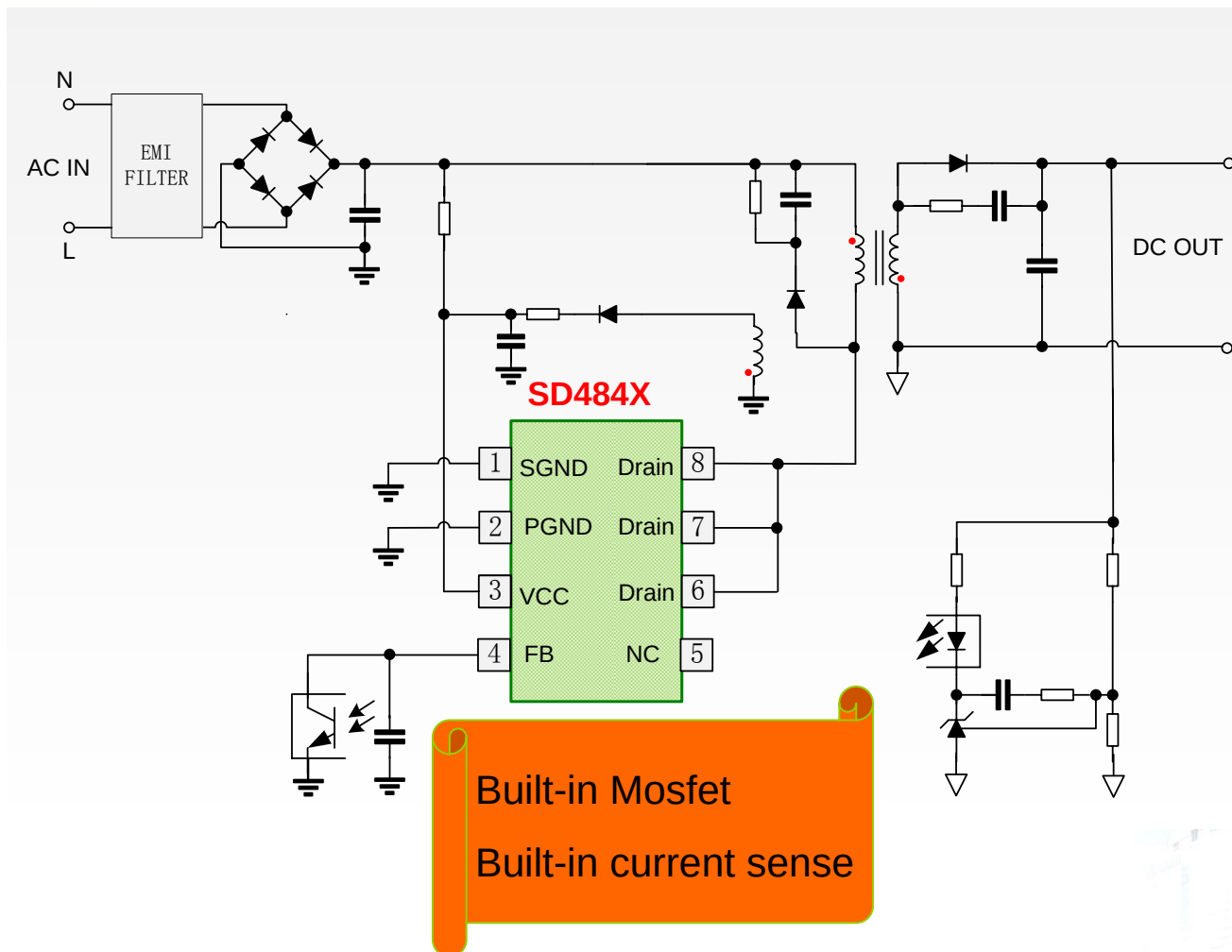
Feature	SD484X	SD686X	SDH682X	ICE2AX65	FSBH0X70
Built-in Mosfet	Y	Y	Y	Y	Y
Built-in current sense	Y	Y	Y	N	Y
Soft Start	Y	Y	Y	Y	Y
High Voltage Start up	N	N	Y	N	Y
Switching Frequency	67KHz	25~67KHz	25~100KHz	22~67KHz	18~100KHz
Frequency Jitter	Y	Y	Y	Y	Y
OVP (Vcc)	Y	Y	Y	Y	Y
OVP (Line)	N	N	Y	N	Y
OLP	Y	Y	Y	Y	Y
OTP	Y	Y	Y	Y	Y
Brown In /Out	N	N	Y	N	Y
OCP Compensation	N	Y	Y	N	Y
Slope Compensation	N	N	Y	N	Y
Package	DIP8	DIP8	DIP8	DIP8	DIP8
Availability	MP	MP	Sample		

Performance comparison Matrix





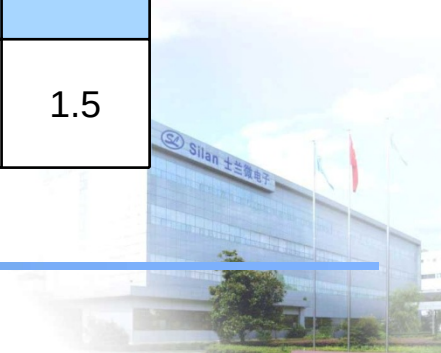
SD484X Series Circuit Diagram





SD484X Series Output Power Range

Part No.	190V-265V		85V-265V		Ron	Ipeak
	Adapter	Out Frame	Adapter	Out Frame		
SD4840	7W	9W	5W	7.2W	16.8	0.6
SD4841	10W	14W	8W	12W	9.6	0.75
SD4842	12W	17W	10W	14W	6	0.9
SD4843	14W	19W	12W	15W	4.8	1.2
SD4844	16W	21W	14W	18W	3.6	1.5

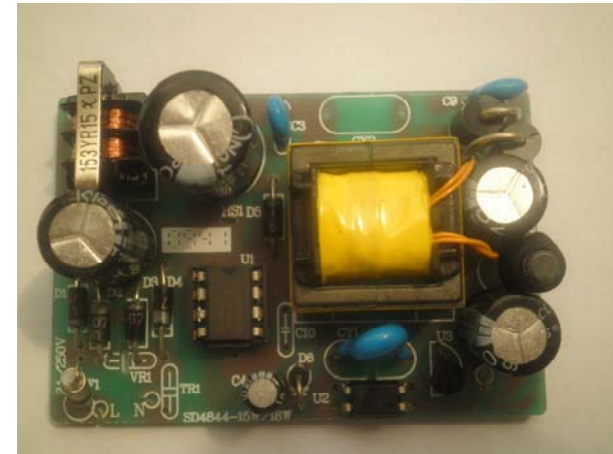




SD4844 12V 1.5A DEMO Board

➤ Key Features

- ✓ Standby Power under 0.3W at 230VAC
- ✓ Average Efficiency is 81%, meet with EPA2.0
- ✓ No X cap, No DM Choke, Only one CM Choke
- ✓ Simple structure
- ✓ Auto recovery for OCP/SCP /OVP/OTP
- ✓ EN55022 Class B / CISPR22B Under 6dB



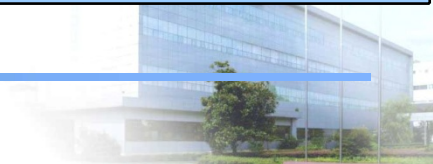
Size:66mm*44mm*30mm



SD4844 12V 1.5A DEMO Board

➤ Specification

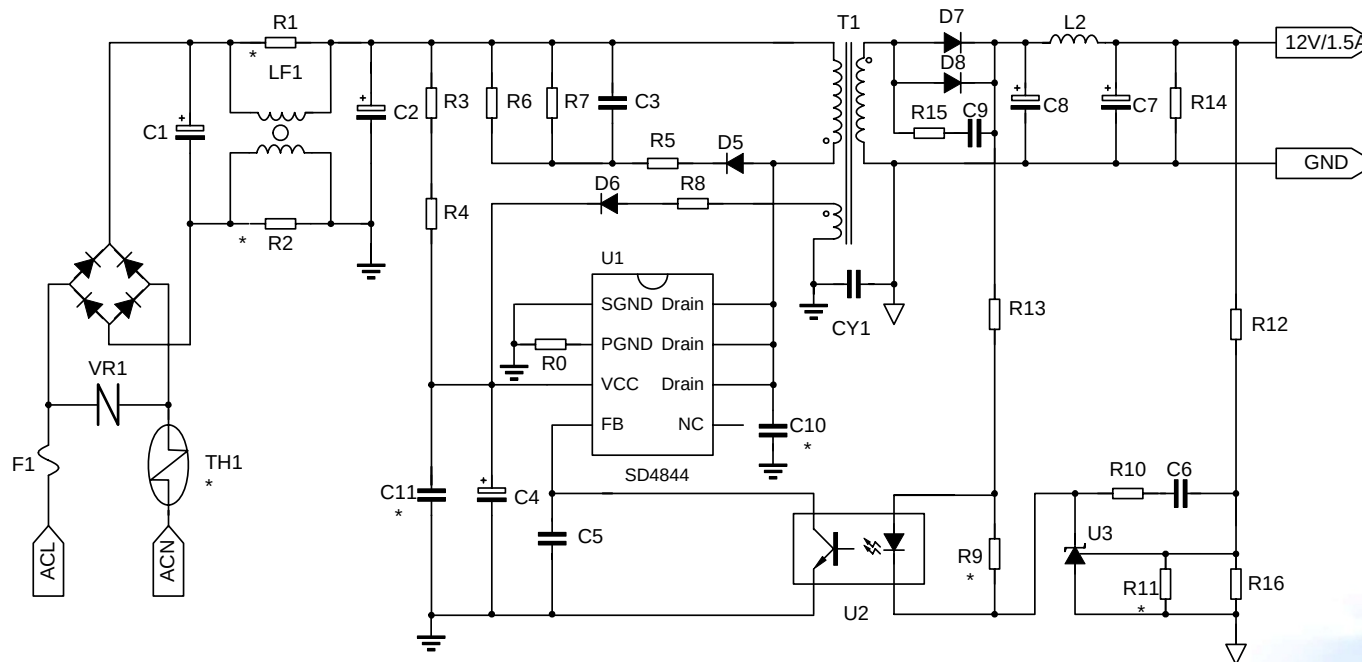
Specification	Symbol	Min.	Typ.	Max.	Unit	Remark
Input Voltage	Vin	90	220	265	VAC	2 wire
Input frequency	f	47	50/60	63	Hz	
Average efficiency	η	80.8	--	81.9	%	Vin=115/230VacIo=1.5A,measure at PCB
Standby Power(230Vac)		--	0.22	--	W	Vin=230Vac
Output voltage	Vo	--	12	--	V	Measure at PCB
Output current	Io	0	--	1.5	A	
Output voltage regulation	Vo	11.8	12	12.4	V	Measure at PCB
Output voltage ripple	V-ripple	--	60	--	mV	Measured at PCB, bandwidth is 20MHz
Dynamic load	--	--	--	300	mV	Measured at PCB, bandwidth is 20MHz
Turn-on delay time	--	--	--	0.98	s	
Hold time	--	13.2	--	--	ms	
Rise time	--	--	20	50	ms	
Power consumption(SCP)	--	--	3	--	W	
OCP	--	2.2	--	3.2	A	





SD4844 12V 1.5A DEMO Board

➤ Application circuit





SD4844 12V 1.5A DEMO Board

➤ Standby Power

Input Voltage	90V	115V	230V	265V
Standby Power	127mW	131mW	221mW	257mW

➤ Efficiency(%)

Input Voltage	25% Load	50% Load	75% Load	100% Load	Average
90V	79.4	81.5	82.9	80.1	81.0
115V	80.1	82.8	82.4	82.4	81.9
230V	76.5	81.4	82.3	82.8	80.8
265V	74.3	79.9	81.6	82.7	79.6

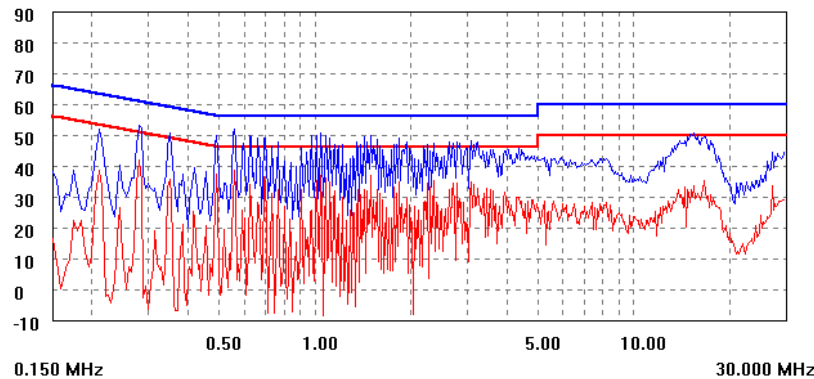
Small stand by power, less than 300mW
Average efficiency meet EPA2.0 standard



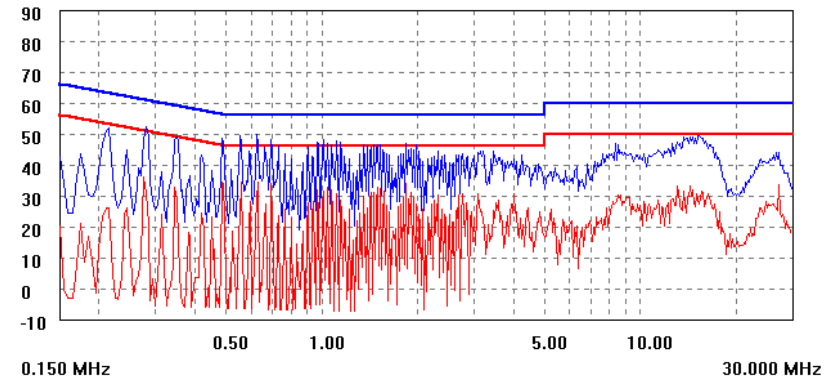


SD4844 12V 1.5A Demo Board

➤ Conduction Test Result

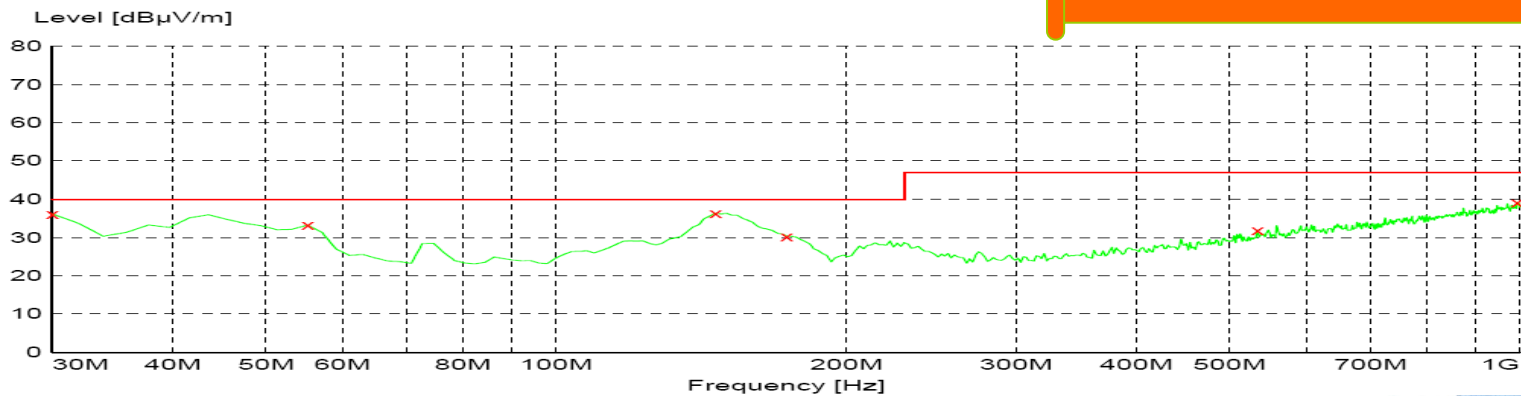


230Vac 12V 1.5A Line



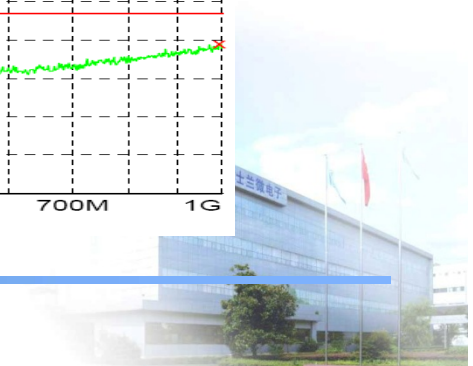
230Vac 12V 1.5A Neutral

➤ Radiation Test Result



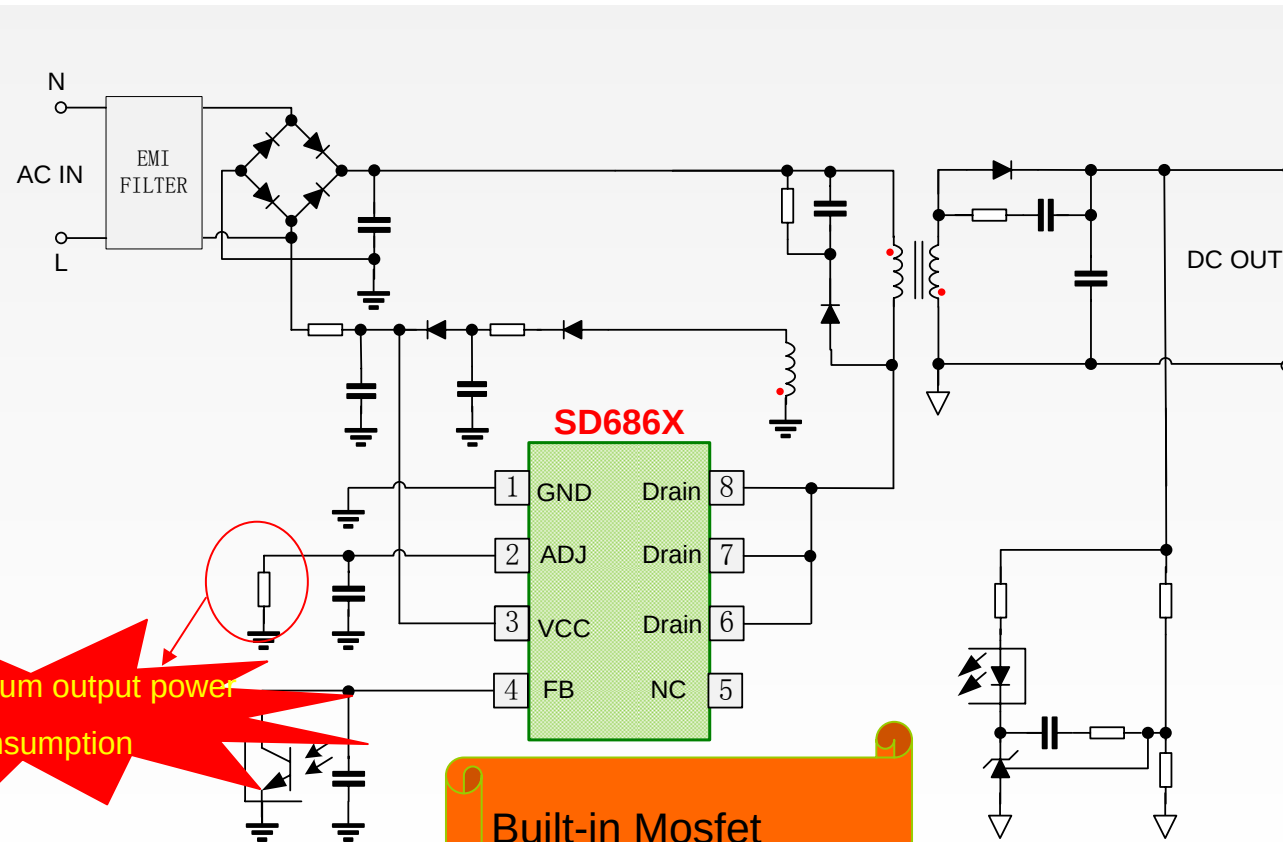
230Vac 12V 1.5A

EMI have 6dB margin(EN22022 class B)





SD686X Series Circuit Diagram



Adjust maximum output power

No power consumption

Built-in Mosfet
Built-in current sense





SD686X Series Output Power Range

Part No.	190V-265V		85V-265V		Ron	Ipeak
	Adapter	Out Frame	Adapter	Out Frame		
SD6861	10W	14W	8W	12W	9.6	0.75
SD6863	14W	19W	12W	15W	4.0	1.2
SD6864	20W	24W	18W	21W	2.8	1.5
SD6865	26W	30W	24W	27W	1.8	1.8

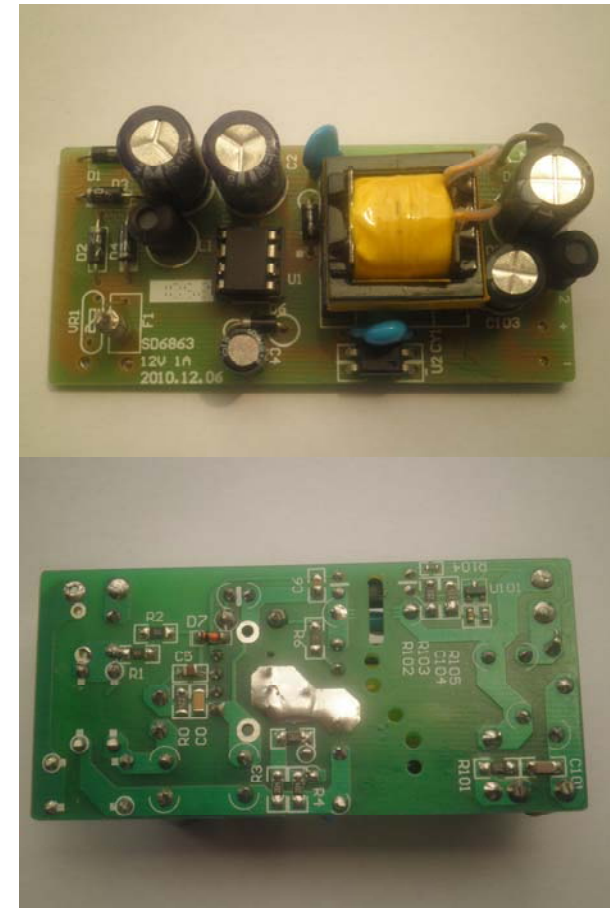




SD6863 12V 1A DEMO Board

➤ Key Features:

- ✓ Standby Power under 72mW at 230VAC
- ✓ Average Efficiency is 84.4%, meet with EPA2.0
- ✓ No X cap, No CM Choke, only one DM Choke
- ✓ Simple structure
- ✓ Auto recovery for OCP/SCP /OVP/OTP
- ✓ EN55022 Class B / CISPR22B Under 6dB



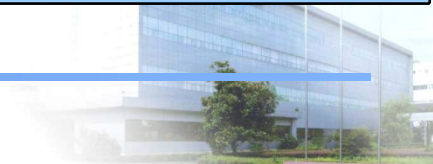
Size:66mm*35mm*20mm



SD6863 12V 1A DEMO Board

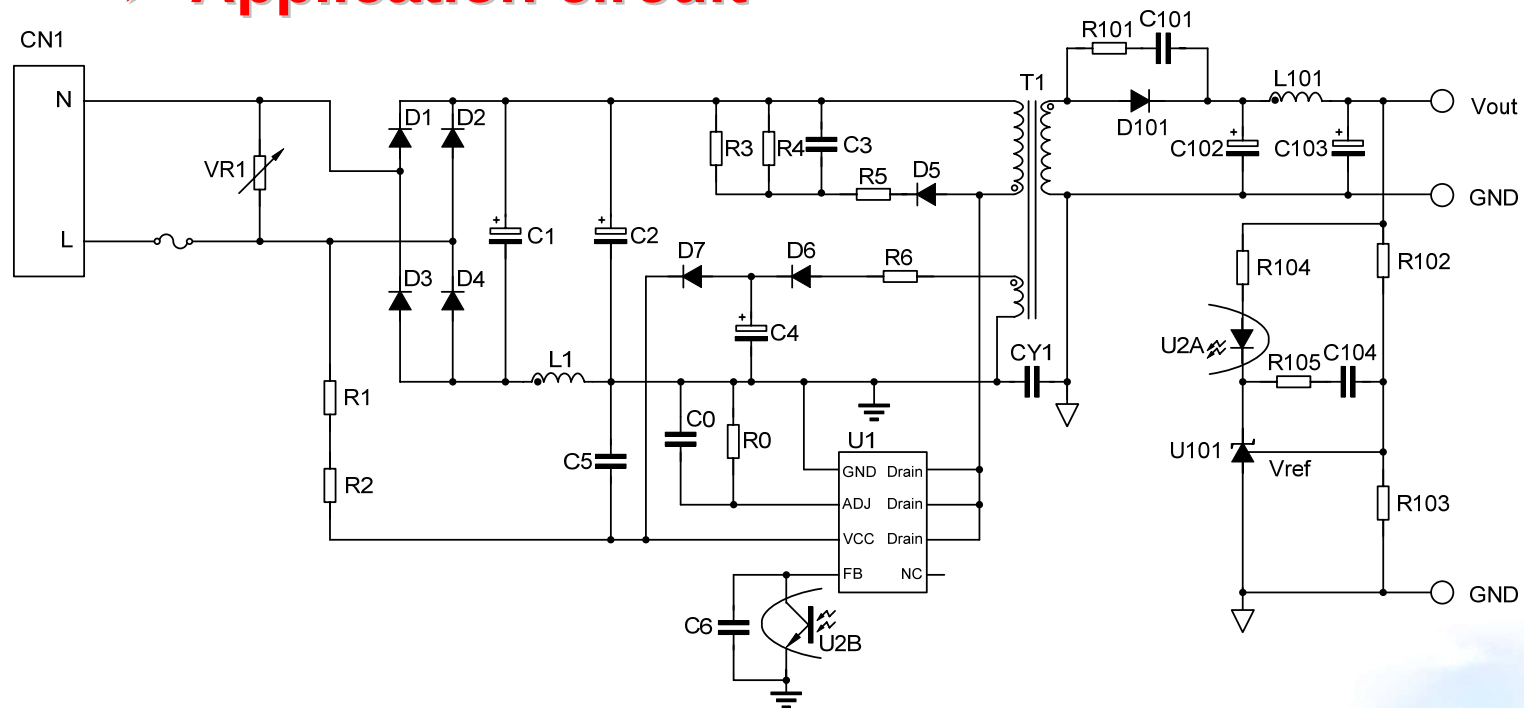
➤ Specification

Specification	Symbol	Min.	Typ.	Max.	Unit	Remark
Input Voltage	Vin	90	220	265	VAC	2 wire
Input frequency	f	47	50/60	63	Hz	
Average efficiency	η	84.4	--	84.5	%	Vin=115/230Vac, Io=1A, measure at PCB
Standby Power(230Vac)		--	0.072	--	W	Vin=230Vac
Output voltage	Vo	--	12	--	V	Measure at PCB
Output current	Io	0	--	1	A	
Output voltage regulation	Vo	11.8	12	12.4	V	Measure at PCB
Output voltage ripple	V-ripple	--	48	--	mV	Measured at PCB, bandwidth is 20MHz
Dynamic load	--	--	268	--	mV	Measured at PCB, bandwidth is 20MHz
Turn-on delay time	--	--	--	1.56	s	
Hold time	--	13.2	--	--	ms	
Rise time	--	--	--	6.5	ms	
Power consumption(SCP)	--	--	2.7	--	W	
OCP	--	--	2.0	--	A	



SD6863 12V 1A Demo Board

➤ Application circuit





SD6863 12V 1A DEMO Board

➤ Standby Power

Input Voltage	90V	115V	230V	265V
Standby Power	46mW	52mW	72mW	83mW

➤ Efficiency(%)

Input Voltage	25% Load	50% Load	75% Load	100% Load	Average
85V	83.7	84.9	84.9	83.9	84.3
115V	81.9	85.3	85.5	85.1	84.5
230V	82.5	84.8	85.0	85.1	84.4
265V	81.9	81.6	84.3	85.2	83.3

Small stand by power, less than 100mW

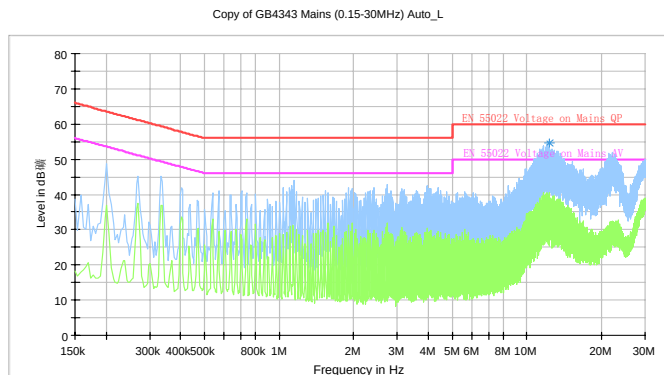
High average efficiency, meet EPA2.0 standard



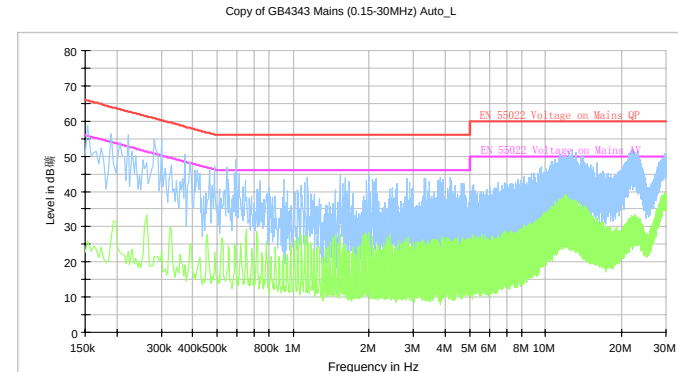


SD6863 12V 1A Demo Board

➤ Conduction Test Result

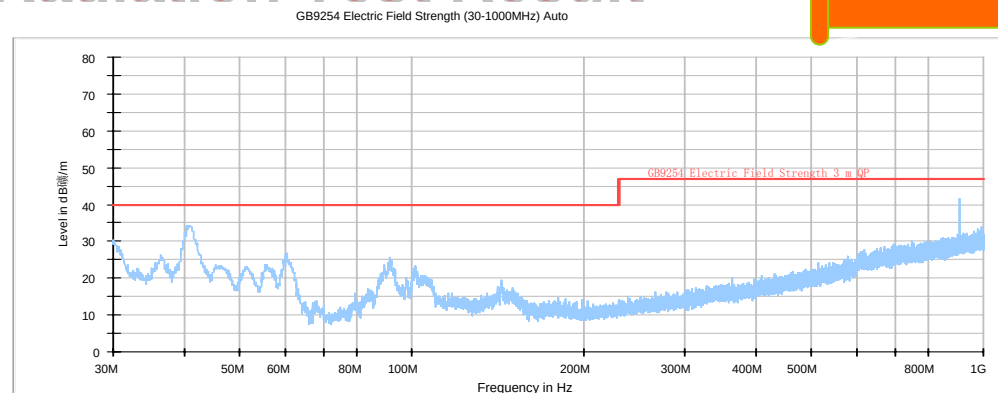


230Vac 12V 1A Line



230Vac 12V 1A Neutral

➤ Radiation Test Result



230Vac 12V 1A

EMI have 6dB margin(EN22022 class B)





Key Features

- ◆ Energy Star 2.0 standard
- ◆ High voltage start-up, low standby power
- ◆ Input voltage detection
- ◆ Adaptive decreasing of frequency at light load, improve average efficiency
- ◆ Frequency jitter for low EMI
- ◆ Overvoltage, overload and over temperature protection
- ◆ Under voltage lockout
- ◆ Built-in high voltage MOSFET
- ◆ Built-in Slope compensation circuit
- ◆ Burst mode in no load
- ◆ Cycle-by-cycle current limit

Applications

- ◆ Standby power: PC, server
- ◆ Adapter, printer, audio/video products, etc.
- ◆ Set-top box: DVB, DVD

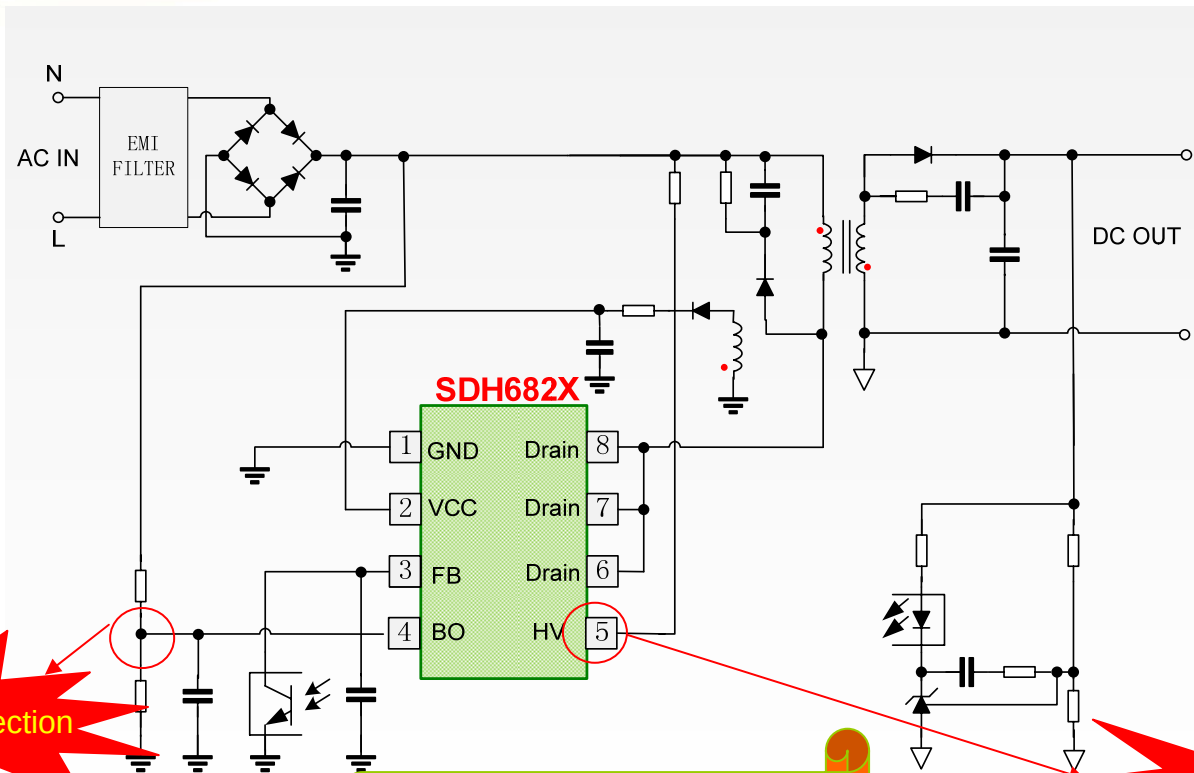
Star product

Stand by power less than 50mW
using update model





SDH682X Series Circuit Diagram



Line voltage detection

Built-in Mosfet
Built-in current sense
Brown out/in
Pin to Pin with FSBH0X70

High voltage start





SDH682X Series Output Power Range

Part No.	190V-265V		85V-265V		Ron	Ipeak
	Adapter	Out Frame	Adapter	Out Frame		
SDH6821	10W	14W	8W	12W	9.6	0.75
SDH6823	14W	19W	12W	15W	4.0	1.2
SDH6824	20W	24W	18W	21W	2.8	1.5

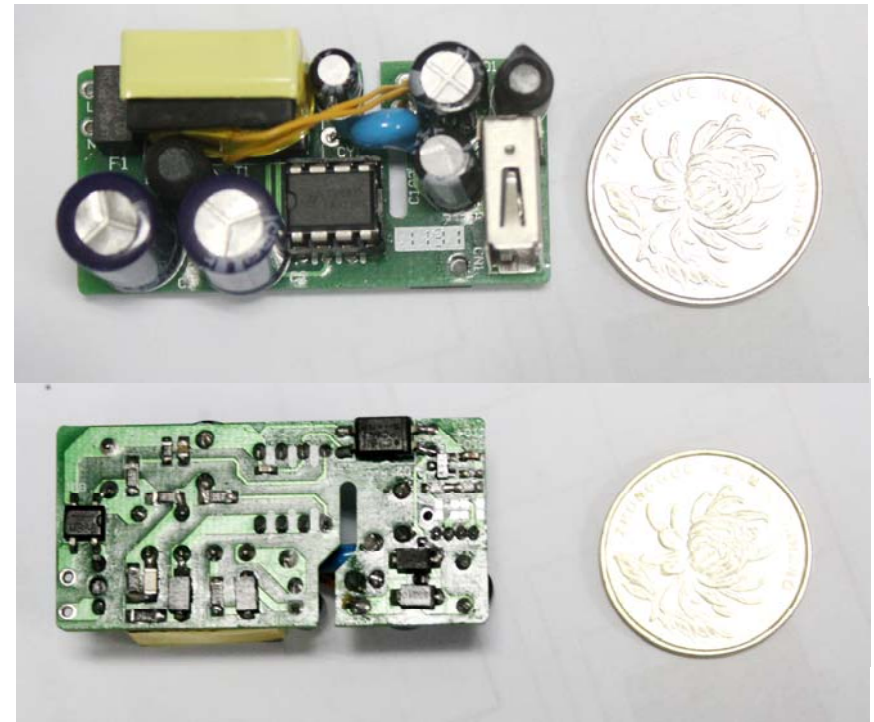




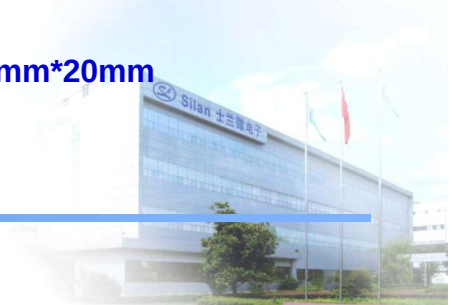
SDH6823 5V 2A Demo Board

➤ Key Features:

- ✓ Standby Power under 65mW at 230VAC
- ✓ Average Efficiency is 80.0%, meet with EPA2.0
- ✓ No X cap, No CM Choke, only one DM Choke
- ✓ Simple structure, Small size
- ✓ Brown in/out, Constant power limit
- ✓ Auto recovery for OCP/SCP /OVP/OTP
- ✓ EN55022 Class B / CISPR22B Under 6dB



Size:50mm*25mm*20mm

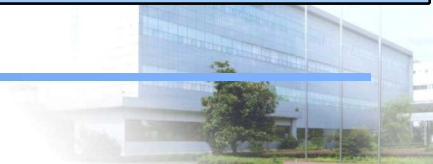




SDH6823 5V 2A Demo Board

➤ Specification

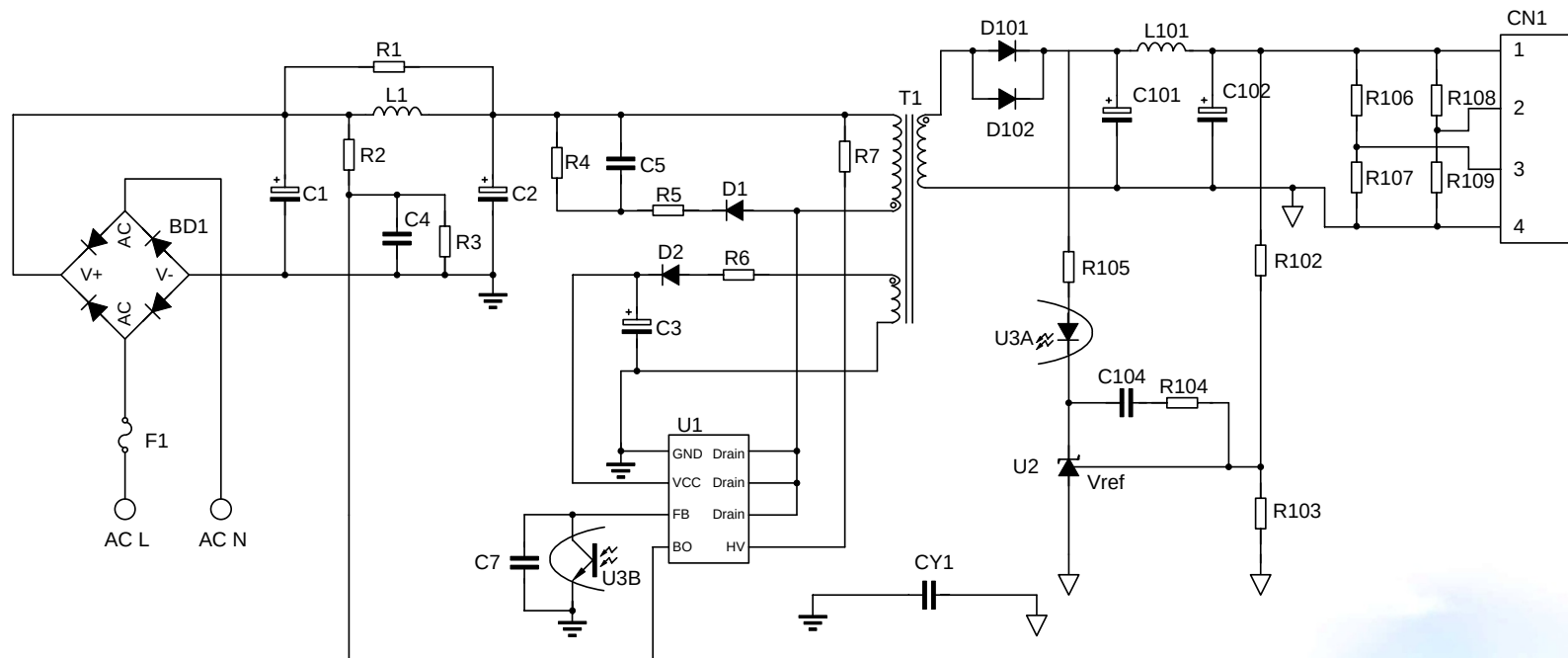
Specification	Symbol	Min.	Typ.	Max.	Unit	Remark
Input Voltage	Vin	90	220	265	VAC	2 wire
Input frequency	f	47	50/60	63	Hz	
Average efficiency	η	80.0	--	81.2	%	Vin=115/230Vac, Io=2A, measure at PCB
Standby Power(230Vac)		--	0.060	--	W	Vin=230Vac
Output voltage	Vo	--	5	--	V	Measure at PCB
Output current	Io	0	--	2	A	
Output voltage regulation	Vo	4.75	5	5.25	V	Measure at PCB
Output voltage ripple	V-ripple	--	25	--	mV	Measured at PCB, bandwidth is 20MHz
Dynamic load	--	--	170	--	mV	Measured at PCB, bandwidth is 20MHz
Turn-on delay time	--	--	--	1.02	s	
Hold time	--	11.6	--	--	ms	
Rise time	--	--	--	2	ms	
Power consumption(SCP)	--	--	--	0.45	W	
OCP	--	--	2.8	--	A	





SDH6823 5V 2A Demo Board

➤ Application circuit





SDH6823 5V 2A DEMO Board

➤ Standby Power

Input Voltage	90V	115V	230V	265V
Standby Power	55mW	57mW	65mW	70mW

➤ Efficiency(%)

Input Voltage	25% Load	50% Load	75% Load	100% Load	Average
90V	80.6	82.3	80.9	79.4	80.8
115V	80.7	81.8	81.6	80.8	81.2
230V	78.6	80.4	80.5	80.6	80.0
265V	77.7	79.1	80.5	80.7	79.5

Small stand by power, less than 100mW

High average efficiency, meet EPA2.0 standard

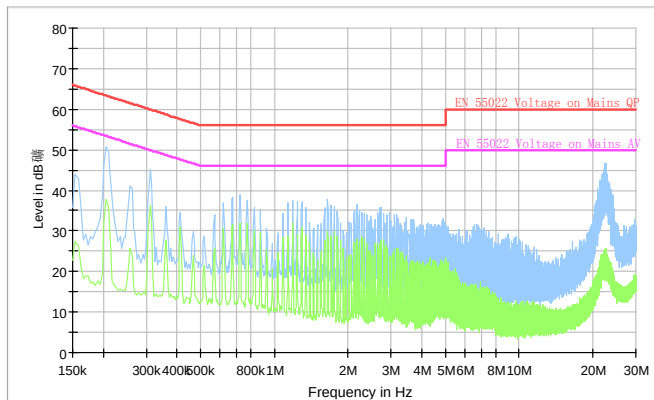




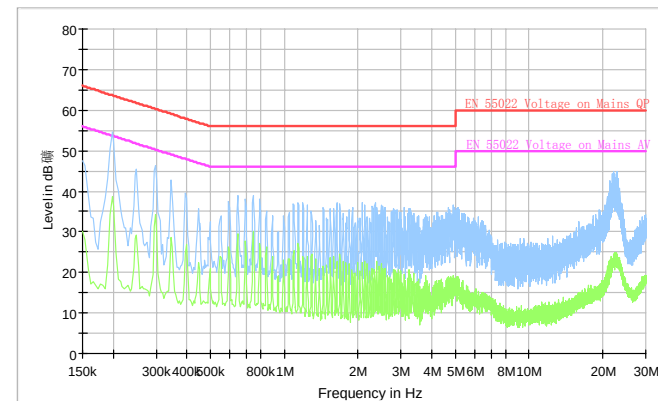
SDH6823 5V 2A Demo Board

➤ Conduction Test Result

EN55022 Mains (0.15-30MHz) Auto_L



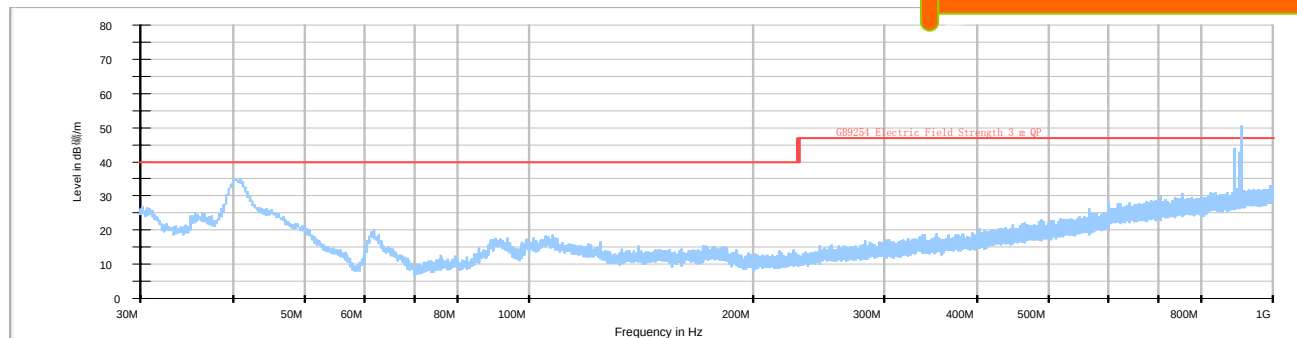
EN55022 Mains (0.15-30MHz) Auto_L



230Vac 5V 2A Line

➤ Radiation Test Result

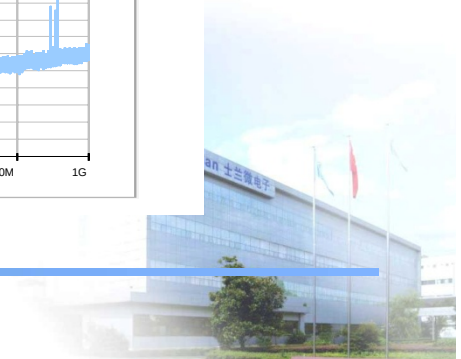
GB9254 Electric Field Strength (30-1000MHz) Auto



230Vac 5V 2A Neutral

EMI have 6dB margin(EN22022 class B)

230Vac 5V 2A





SSR PWM Controller-SD4870/71/72 SDH6871

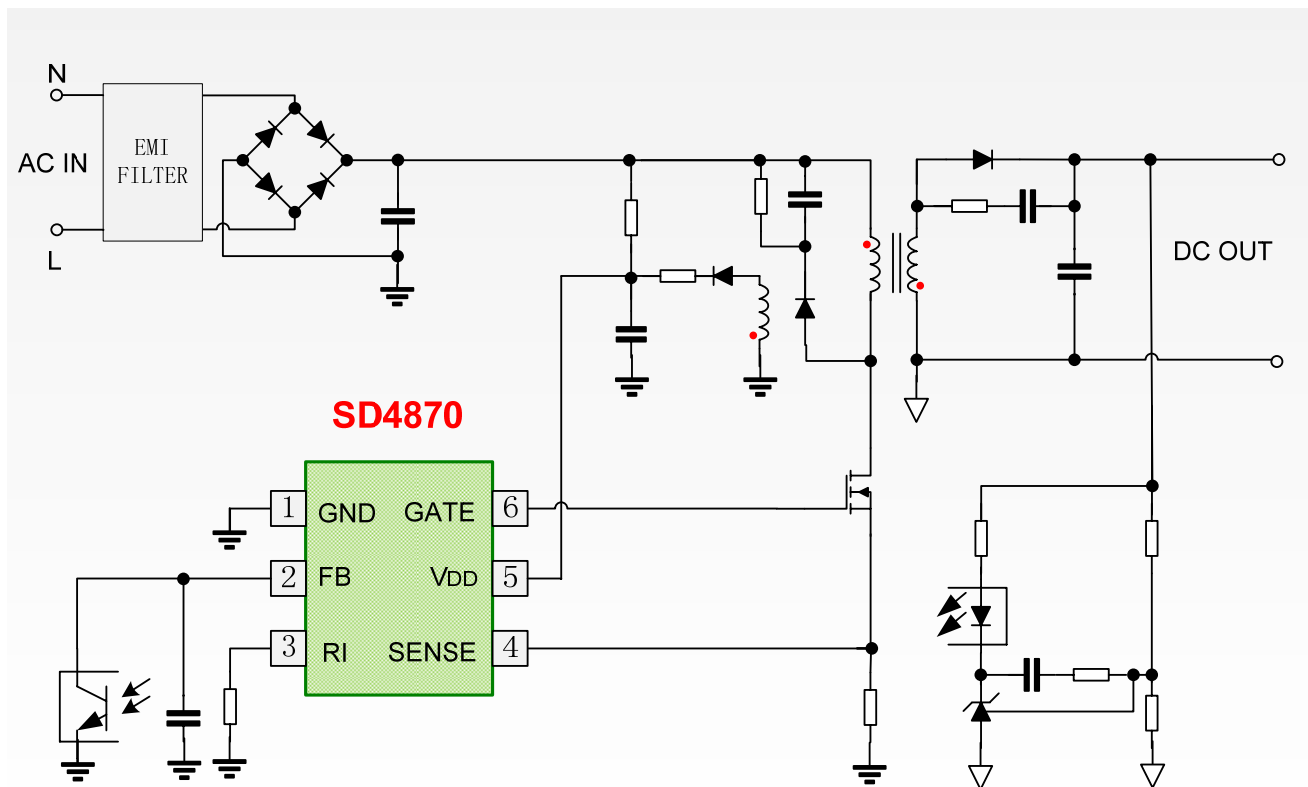
Feature	SD4870	SD4871	SD4872	SDH6871	OB2273	LD7576	FAN6755
Soft Start	N	Y	Y	Y	Y	N	Y
High Voltage Startup	N	N	N	Y	N	Y	Y
Switching Frequency	Program	Program	67KHz	67/132KHz	22~65KHz	20~65KHz	67/132KHz
Frequency Jitter	Y	Y	Y	Y	Y	Y	Y
OVP (Vcc)	Y	Y	Y	Y	Y	Y	Y
External OVP	N	N	Y	N	N	N	N
OVP (Line)	N	N	Y	Y	N	N	Y
OLP	Y	Y	Y	Y	Y	Y	Y
External OTP	N	N	Y	Y	N	N	Y
Brown In /Out	N	N	Y	Y	N	N	Y
OCP Compensation	Y	Y	Y	Y	Y	Y	Y
Slope Compensation	Y	Y	Y	Y	N	Y	Y
Package	SOT23-6	SOT23-6	SOP8	SOP7	SOT23-6	SOP8	SOP7
Availability	MP	Sample	Sample	Sample			

Performance comparison Matrix





SD4870 Circuit Diagram

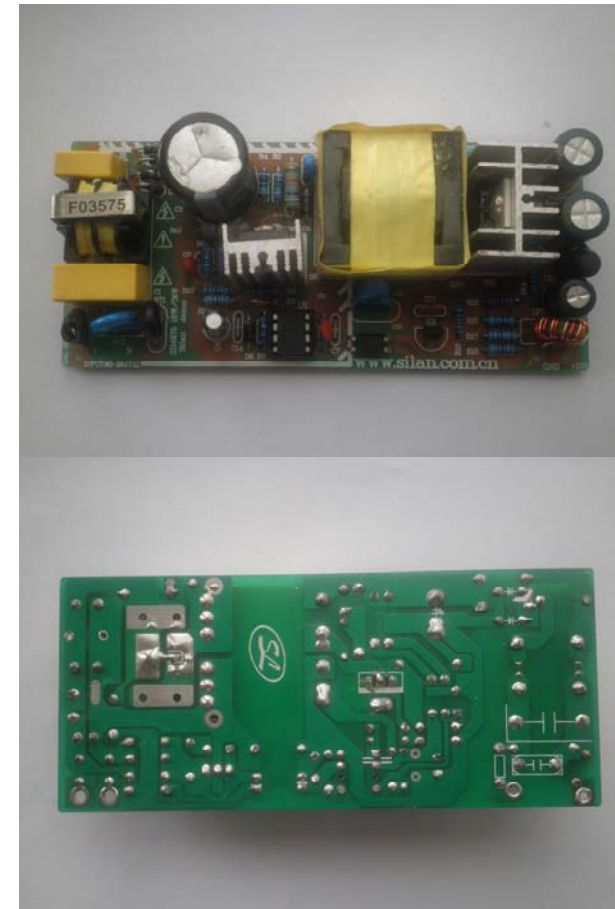




SD4870 12V 3A DEMO Board

➤ Key Features

- ✓ Standby Power under 0.3W at 230VAC
- ✓ Average Efficiency is 84.6%, meet with EPA2.0
- ✓ Simple EMI filter
- ✓ Auto recovery for OCP/SCP /OVP
- ✓ EN55022 Class B / CISPR22B Under 6 dB



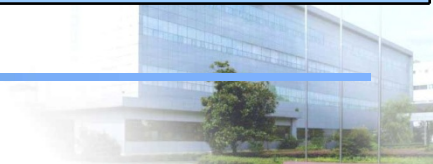
Size:118mm*52mm*25mm



SD4870 12V 3A DEMO Board

➤ Specification

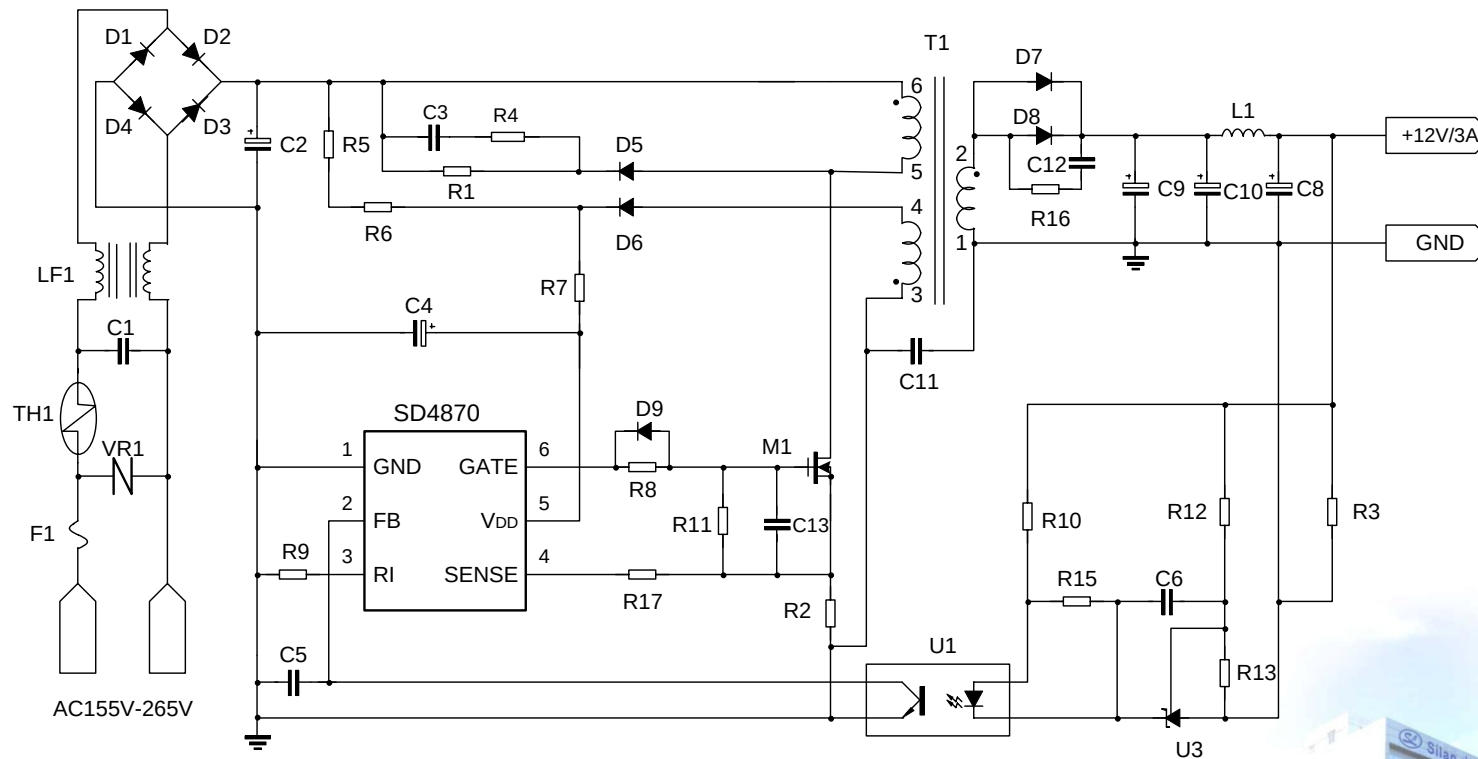
Specification	Symbol	Min.	Typ.	Max.	Unit	Remark
Input Voltage	Vin	90	220	265	VAC	2 wire
Input frequency	f	47	50/60	63	Hz	
Average efficiency	η	84.6	--	85.3	%	Vin=115/230Vac, Io=3A, measure at PCB
Standby Power(230Vac)		--	0.287	--	W	Vin=230Vac
Output voltage	Vo	--	12	--	V	Measure at PCB
Output current	Io	0	--	3	A	
Output voltage regulation	Vo	11.8	12	12.4	V	Measure at PCB
Output voltage ripple	V-ripple	--	116	--	mV	Measured at PCB, bandwidth is 20MHz
Dynamic load	--	--	200	--	mV	Measured at PCB, bandwidth is 20MHz
Turn-on delay time	--	--	--	1.94	s	
Hold time	--	12	--	--	ms	
Rise time	--	--	--	11	ms	
Power consumption(SCP)	--	--	--	1.88	W	
OCP	--	--	3.9	--	A	





SD4870 12V 3A DEMO Board

➤ Application circuit





SD4870 12V 3A DEMO Board

➤ Standby Power

Input Voltage	90V	115V	230V	265V
Standby Power	145mW	160mW	284mW	349mW

➤ Efficiency(%)

Input Voltage	25% Load	50% Load	75% Load	100% Load	Average
90V	84.2	83.4	82.1	80.0	82.4
115V	85.3	85.4	84.9	82.7	84.6
230V	83.8	85.7	86.0	85.7	85.3
265V	83.1	85.4	85.8	85.9	85.0

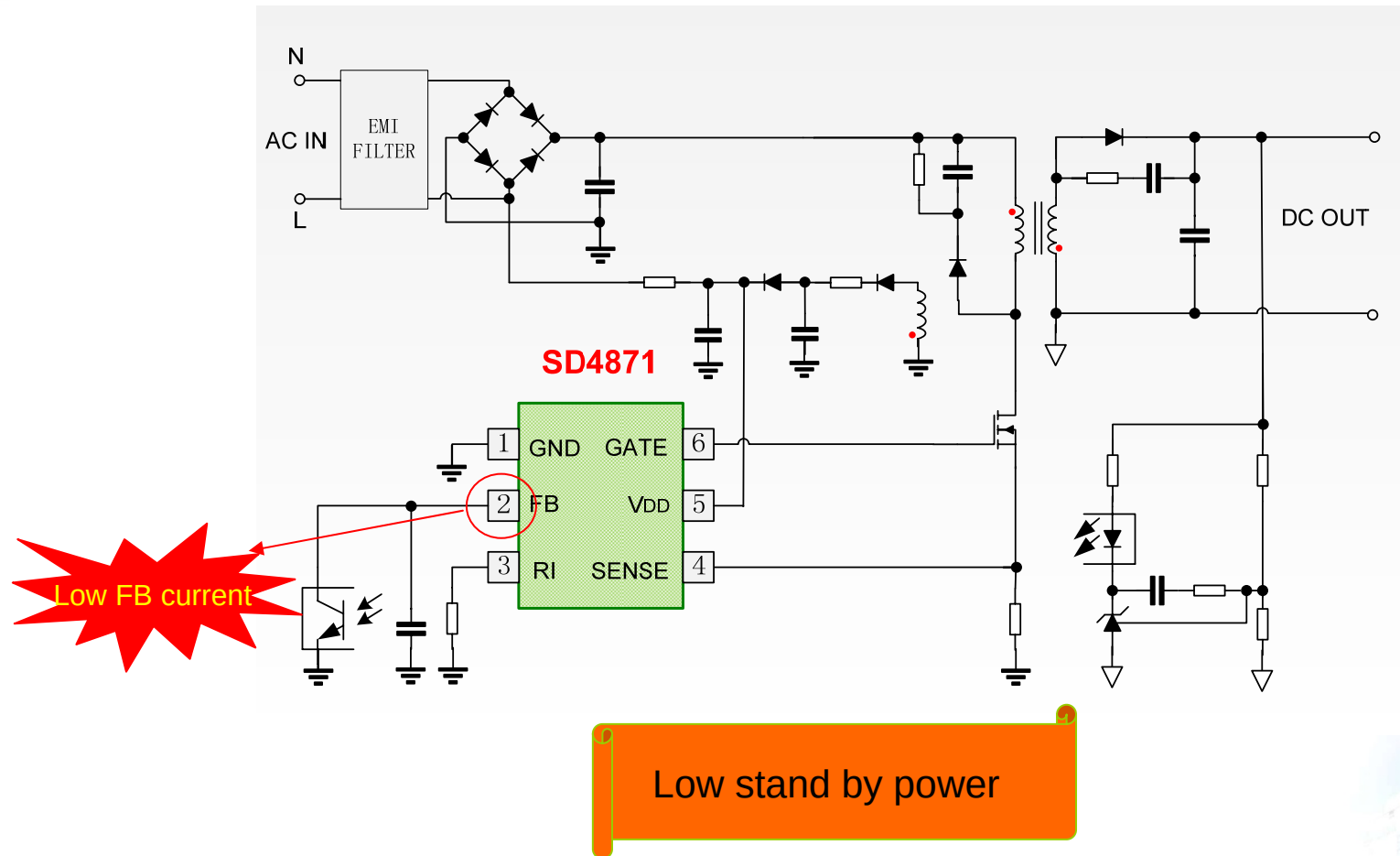
Small stand by power, less than 300mW

Average efficiency, meet EPA2.0 standard





SD4871 Circuit Diagram

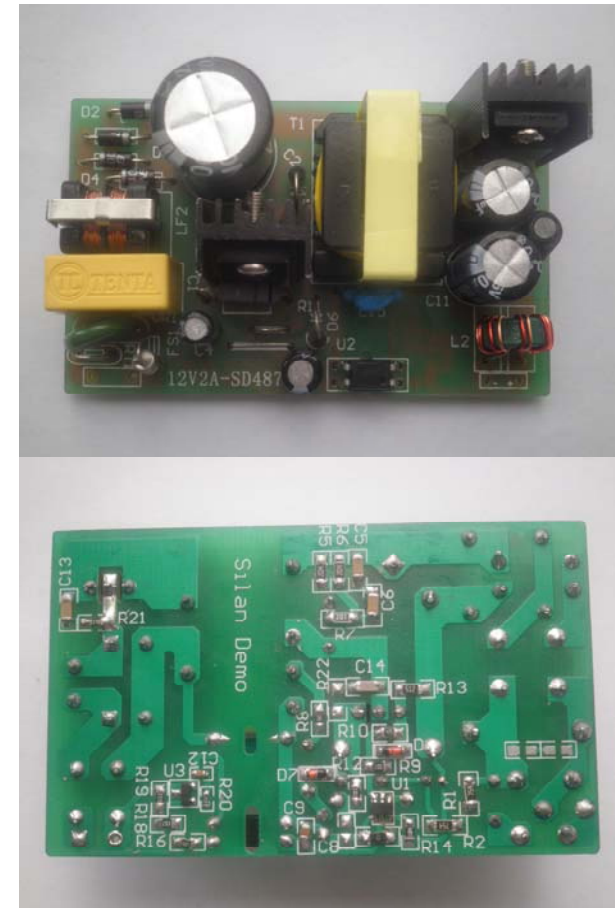




SD4871 12V 2A Demo Board

➤ Key Features:

- ✓ Standby Power under 75mW at 230VAC
- ✓ Average Efficiency is 85.2%, meet with EPA2.0
- ✓ Simple EMI filter
- ✓ Auto recovery for OCP/SCP /OVP/OTP
- ✓ EN55022 Class B / CISPR22B Under 6dB



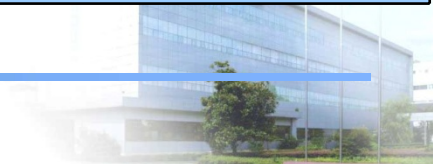
Size:66mm*35mm*20mm



SD4871 12V 2A Demo Board

➤ Specification

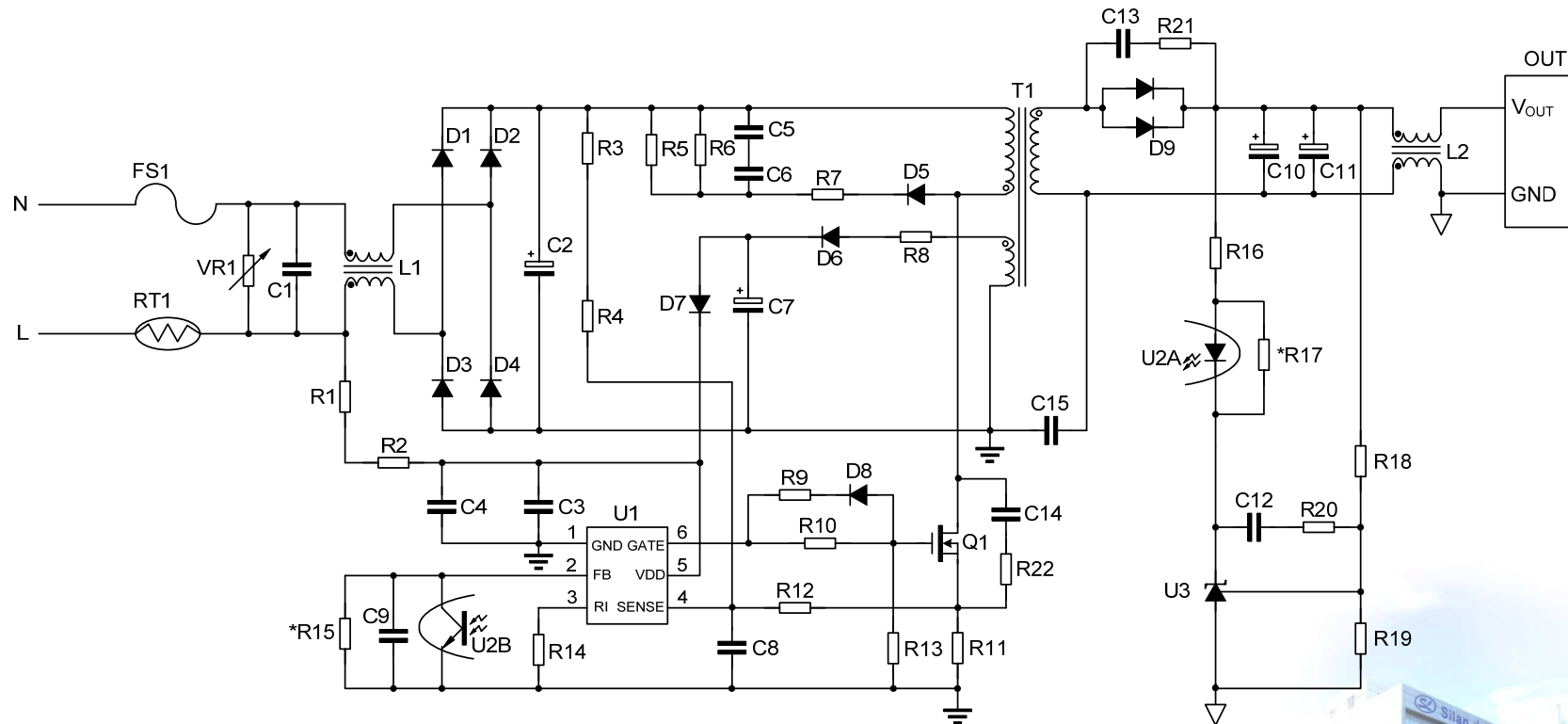
Specification	Symbol	Min.	Typ.	Max.	Unit	Remark
Input Voltage	Vin	90	220	265	VAC	2 wire
Input frequency	f	47	50/60	63	Hz	
Average efficiency	η	85.5	--	85.6	%	Vin=115/230Vac, Io=2A, measure at PCB
Standby Power(230Vac)		--	0.075	--	W	Vin=230Vac
Output voltage	Vo	--	12	--	V	Measure at PCB
Output current	Io	0	--	2	A	
Output voltage regulation	Vo	11.8	12	12.4	V	Measure at PCB
Output voltage ripple	V-ripple	--	88	--	mV	Measured at PCB, bandwidth is 20MHz
Dynamic load	--	--		--	mV	Measured at PCB, bandwidth is 20MHz
Turn-on delay time	--	--	--	0.92	s	
Hold time	--	27	--	--	ms	
Rise time	--	--	--	7	ms	
SCP power	--	--	--	2.9	W	
OCP	--	--	3.8	--	A	





SD4871 12V 2A DEMO Board

➤ Application circuit





SD4871 12V 2A DEMO Board

➤ Standby Power

Input Voltage	90V	115V	230V	265V
Standby Power	60mW	65mW	75mW	80mW

➤ Efficiency(%)

Input Voltage	25% Load	50% Load	75% Load	100% Load	Average
90V	85.3	85.0	84.7	82.9	84.5
115V	85.6	86.0	85.6	85.0	85.6
230V	84.1	85.5	85.5	85.6	85.2
265V	83.8	85.0	85.5	85.3	84.9

Small stand by power, less than 100mW

Average efficiency, meet EPA2.0 standard





Key Features

- ◆ Energy Star 2.0 standard
- ◆ Input voltage detection
- ◆ Adaptive decreasing of frequency at light load, improve average efficiency
- ◆ Frequency jitter for low EMI
- ◆ External programmable output over-voltage protection
- ◆ External programmable over-temperature protection
- ◆ Under voltage lockout
- ◆ Built-in Slope compensation circuit
- ◆ Burst mode in no load
- ◆ Cycle-by-cycle current limit

Star product

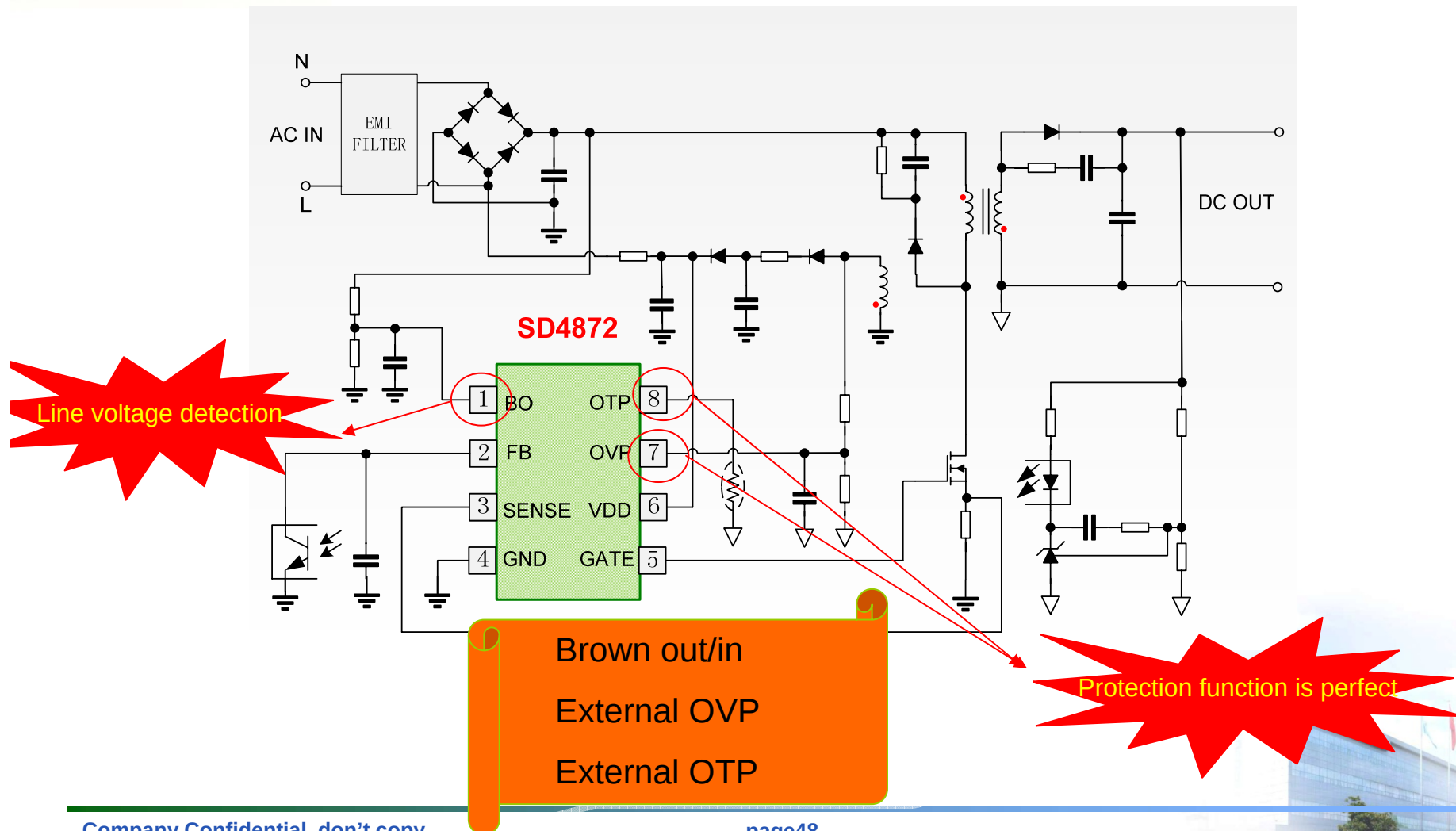
Applications

- ◆ Standby power: PC, server
- ◆ Adapter, printer, audio/video products, etc.
- ◆ Set-top box: DVB, DVD





SD4872 Circuit Diagram

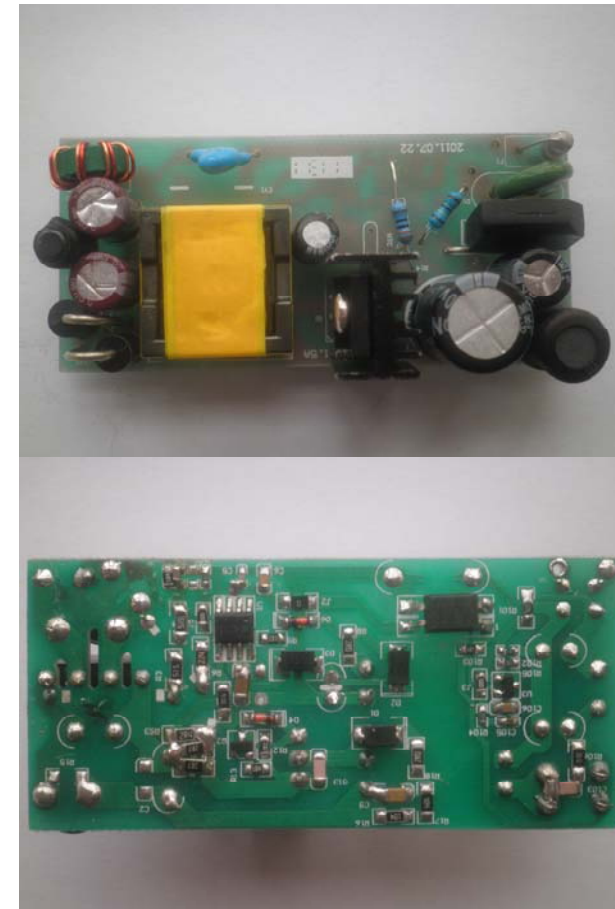




SD4872 12V 1.5A Demo Board

➤ Key Features:

- ✓ Standby Power under 57mW at 230VAC
- ✓ Average Efficiency is 84.0%, meet with EPA2.0
- ✓ Brown in/out, Constant power limit
- ✓ External OTP, OVP
- ✓ Simple EMI filter
- ✓ Auto recovery for OCP/SCP /OVP/OTP
- ✓ EN55022 Class B / CISPR22B Under 6dB



Size:75mm*35mm*20mm



SD4872 12V 1.5A Demo Board

➤ Specification

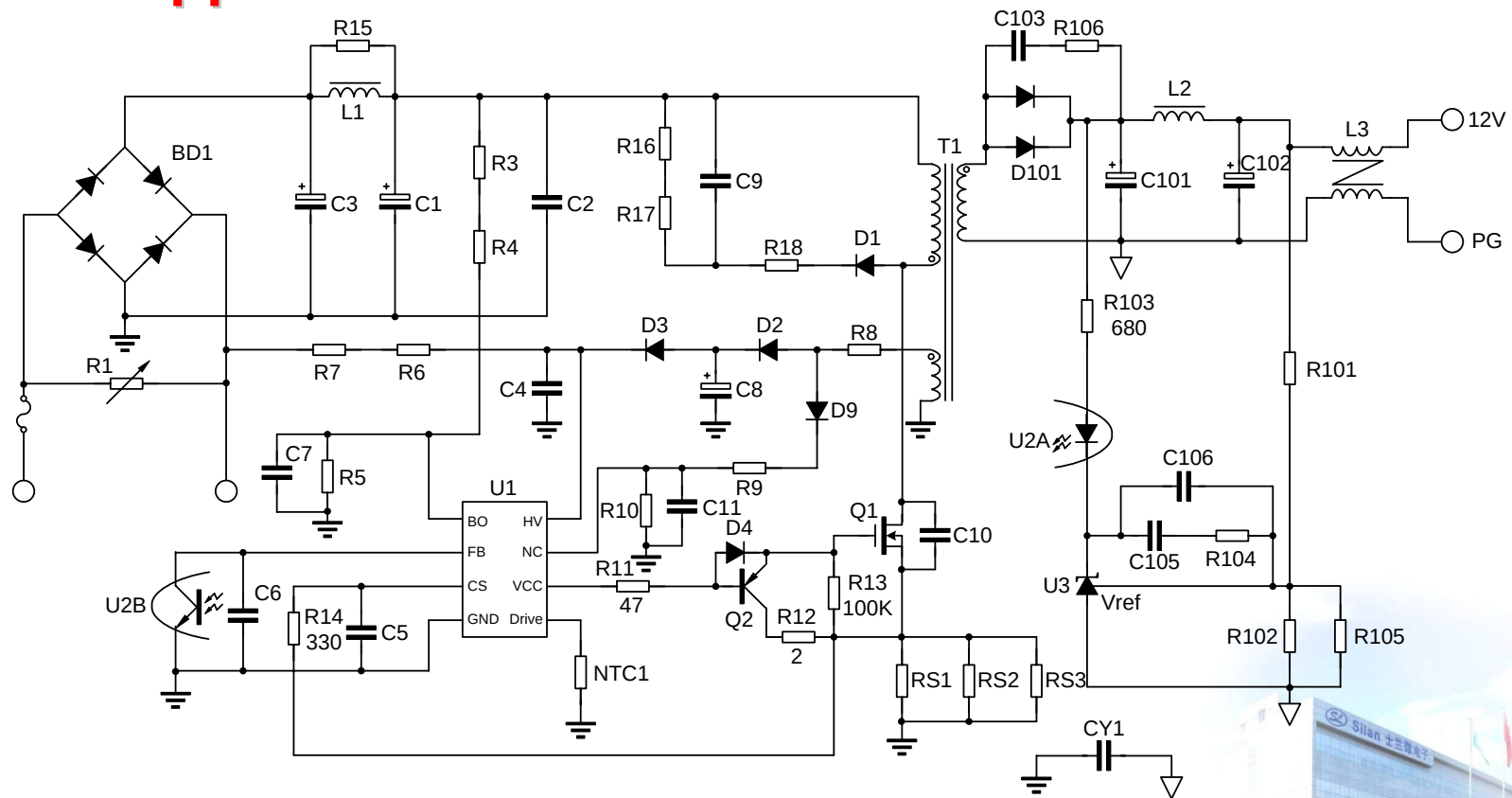
Specification	Symbol	Min.	Typ.	Max.	Unit	Remark
Input Voltage	Vin	90	220	265	VAC	2 wire
Input frequency	f	47	50/60	63	Hz	
Average efficiency	η	84.0	--	84.3	%	Vin=115/230Vac, Io=1.5A, measure at PCB
Standby Power(230Vac)		--	0.057	--	W	Vin=230Vac
Output voltage	Vo	--	12	--	V	Measure at PCB
Output current	Io	0	--	1.5	A	
Output voltage regulation	Vo	11.8	12	12.4	V	Measure at PCB
Output voltage ripple	V-ripple	--	48	--	mV	Measured at PCB, bandwidth is 20MHz
Dynamic load	--	--	220	--	mV	Measured at PCB, bandwidth is 20MHz
Turn-on delay time	--	--	--	1.6	s	
Hold time	--	11	--	--	ms	
Rise time	--	--	--	6.38	ms	
SCP power	--	--	--	2.6	W	
OCP	--	--	2.3	--	A	





SD4872 12V 1.5A DEMO Board

➤ Application circuit





SD4872 12V 1.5A DEMO Board

➤ Standby Power

Input Voltage	90V	115V	230V	265V
Standby Power	45mW	50mW	57mW	79mW

➤ Efficiency(%)

Input Voltage	25% Load	50% Load	75% Load	100% Load	Average
90V	84.0	84.7	84.1	82.3	83.7
115V	83.9	85.0	84.6	84.1	84.4
230V	82.0	84.2	85.2	84.9	84.1
265V	81.1	82.9	84.3	84.4	83.1

Small stand by power, less than 100mW

High average efficiency, meet EPA2.0 standard





Key Features

- ◆ Energy Star 2.0 standard
- ◆ High voltage start-up, low standby power
- ◆ Input voltage detection
- ◆ Adaptive decreasing of frequency at light load, improve average efficiency
- ◆ Frequency jitter for low EMI
- ◆ Overvoltage, overload and over temperature protection
- ◆ Under voltage lockout
- ◆ Built-in Slope compensation circuit
- ◆ Burst mode in no load
- ◆ Cycle-by-cycle current limit

Applications

- ◆ AC-DC adapter for notebook
- ◆ SMPS for DVD player, set-top box, etc

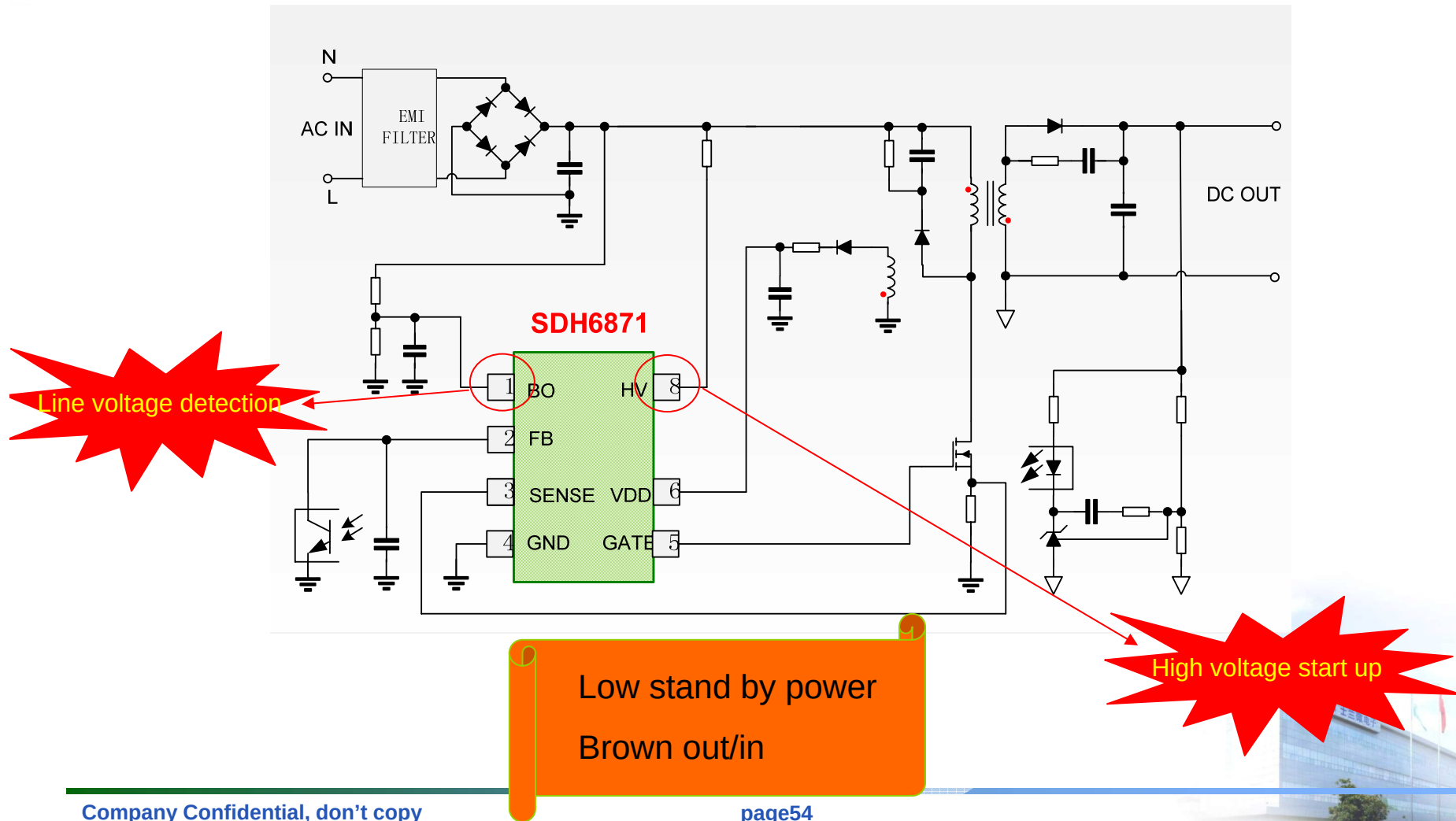
Star product

Stand by power less than 50mW
using update model





SDH6871 Circuit Diagram

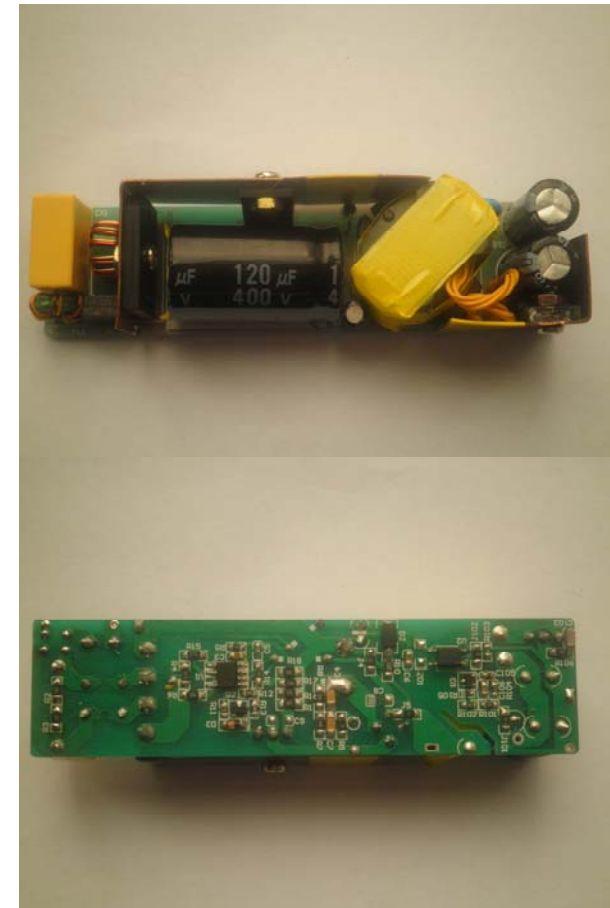




SDH6871 19V 3.42A Demo Board

➤ Key Features:

- ✓ Standby Power under 77mW at 230VAC
- ✓ Average Efficiency is 88.1%, meet with EPA2.0
- ✓ Brown in/out, Constant power limit
- ✓ Simple EMI filter
- ✓ Auto recovery for OCP/SCP /OVP/OTP
- ✓ EN55022 Class B / CISPR22B Under 6dB



Size:104mm*24mm*20mm



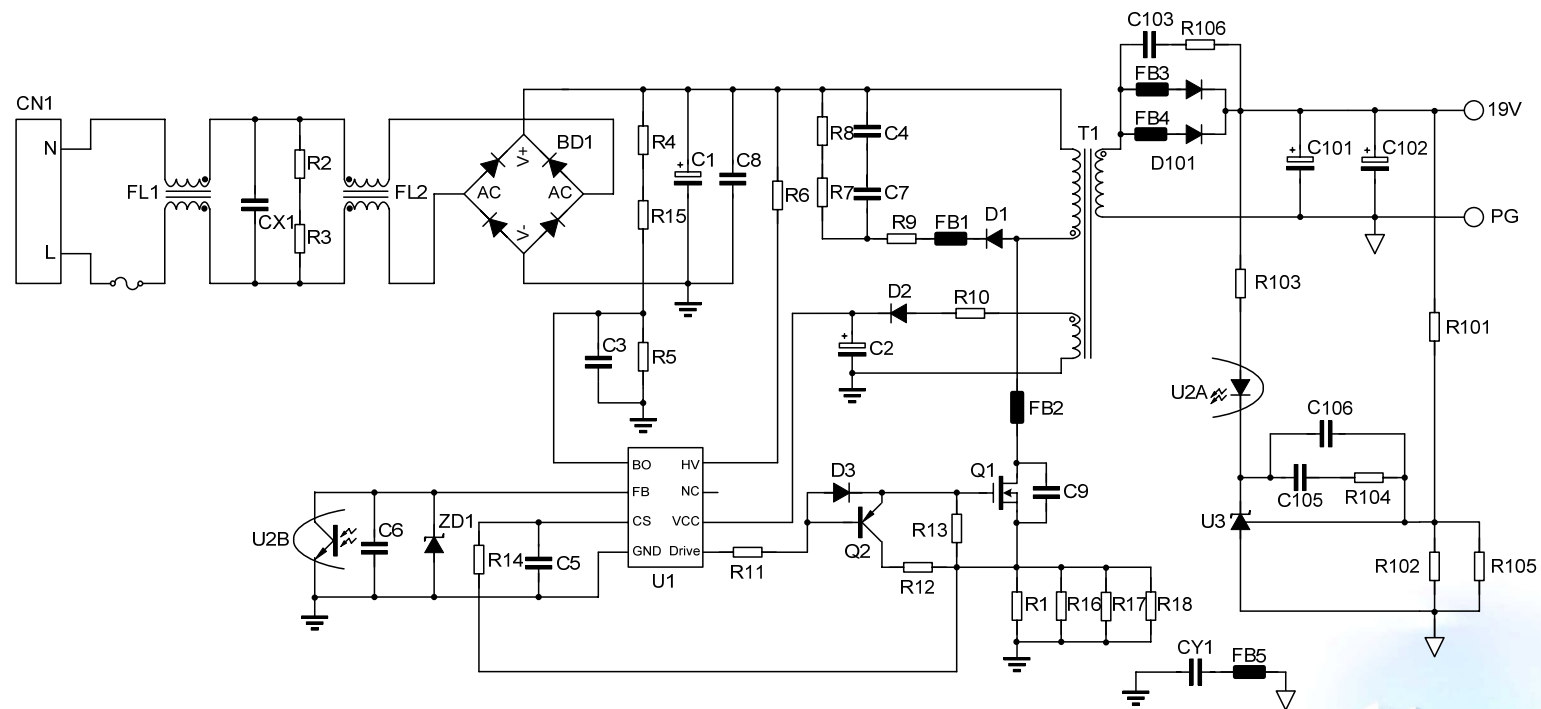
SDH6871 19V 3.42A Demo Board

➤ Specification

Specification	Symbol	Min.	Typ.	Max.	Unit	Remark
Input Voltage	Vin	90	220	265	VAC	2 wire
Input frequency	f	47	50/60	63	Hz	
Average efficiency	η	88.1	--	88.7	%	Vin=115/230Vac, Io=3.42A, measure at PCB
Standby Power		--	0.077	--	W	Vin=230Vac
Output voltage	Vo	--	19	--	V	Measure at PCB
Output current	Io	0	--	3.42	A	
Output voltage regulation	Vo	18	19	20	V	Measure at PCB
Output voltage ripple	V-ripple	--	160	--	mV	Measured at PCB, bandwidth is 20MHz
Dynamic load	--	--	300	--	mV	Measured at PCB, bandwidth is 20MHz
Turn-on delay time	--	--	--	1.92	s	
Hold time	--	10.4	--	--	ms	
Rise time	--	--	--	6.7	ms	
SCP power	--	--	--	2.6	W	
OCP	--	--	4.8	--	A	

SDH6871 19V 3.42A DEMO Board

➤ Application circuit





SDH6871 19V 3.42A DEMO Board

➤ Standby Power

Input Voltage	90V	115V	230V	265V
Standby Power	67mW	68mW	77mW	86mW

➤ Efficiency(%)

Input Voltage	25% Load	50% Load	75% Load	100% Load	Average
90V	87.8	87.4	86.6	85.2	86.7
115V	88.4	88.2	88.1	87.7	88.1
230V	88.0	88.8	89.0	89.1	88.7
265V	87.0	88.3	88.6	88.8	88.2

Small stand by power, less than 100mW

High average efficiency, meet EPA2.0 standard





Silan 士兰微电子

Thank you!

