



# 深圳市龙圣电子有限公司

SHENZHEN UNIONTOP ELECTRONIC CO., LTD

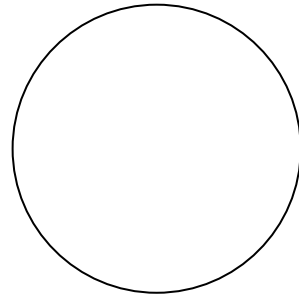
PRODUCT:	Output 12V5.0A Desk Top Switching Power Supply
MODEL:	UTLS-12000500
PART NO:	
VER:	A/1
CUSTOMER:	
DATE:	

应用规格	电气用品安全法适合品
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返卻希望日:            年        月        日

发行印

受 领 印 栏	
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\*未签回而下订单即视同认可!

生 产 工 厂

发 行 部 署							
工 程					品 管	业 务	
责 任 者		检 印		经 办			

NO.	变更年月日	变 更 内 容	检 印	担 当

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 工厂地址: 广东省深圳市布吉水经社区八约二街3号龙圣电子



DESCRIPTION

Switching Power  
Supply

SHEET NO.

1 OF 10

VER:

A/1

MODEL NO.

UTLS-12000500

PART NO.

- 1、 INPUT REQUIREMENT
- 2、 OUTPUT SPECIFICATION
- 3、 MECHANICAL
- 4、 RELIABILITY
- 5、 ENVIRONMENT
- 6、 OUTLOOKING
- 7、 SAFETY
- 8、 DIMENSION
- 9、 LABEL
- 10、 PACKING
- 11、 QC CHECK
- 12、 SAMPLE PRIMARY TEST REPORT
- 13、 SAMPLE TEST REPORT
- 14、 ENERGY STAR TEST REPORT

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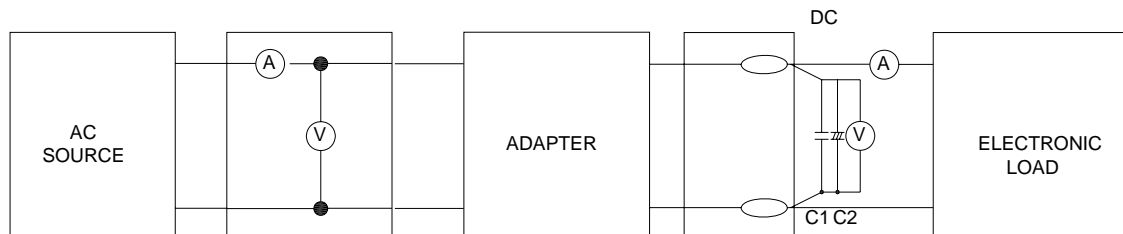
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**1、 INPUT REQUIREMENT**

ITEM	SPECIFCATION	MIN	TYP.	MAX
NORMAL AC INPUT VOLTAGE	SINGLE PHASE	100Vac	110Vac/220Vac	240Vac
AC INPUT VOLTAGE RANGE	SINGLE PHASE	90Vac	110Vac/220Vac	264Vac
AC INPUT FREQUENCY	SINGLE PHASE	47Hz	50/60Hz	63Hz
AC INPUT CURRENT	TYPICAL INPUT VOLTAGE&OUTPUT AT FULL LOAD.			2000mA
AC INRUSH CURRENT	TYPICAL INPUT VOLTAGE&OUTPUT AT FULL LOAD, 25℃	30A		80A
EFFICIENCY	TYPICAL INPUT VOLTAGE&OUTPUT AT FULL LOAD.	78%		

**2、 OUTPUT SPECIFICATION**

ITEM	SPECIFCATION	MIN	TYP.	MAX
NORMAL DC OUTPUT VOLTAGE			12VDc	
DC OUTPUT VOLTAGE RANGE	TYPICAL OUTPUT VOLTAGE	11.4V		12.6V
LOAD CURRENT RANGE		0.0 A		5.0 A
PEAK LOAD CURRENT	TIME<60S			1 A
RIPPLE	TYPICAL INPUT VOLTAGE, TYPICAL LOAD CURRENT, 25℃			300mV
HOLD-UP TIME	AT TYPICAL INPUT VOLTAGE AND FULL LOAD	10ms		30ms
TURN-ON DELAY	TYPICAL INPUT VOLTAGE AND TOP LOAD CURRENT			3S
OVER CURRENT PROTECTION	AUTO RECOVERY			7.5 A
SHORT CIRCUIT PROTECTION	THE ADAPTER SHALL NOT DAMAGE BY SHORT THE DC OUTPUT TO GROUND			
OVER VOLTAGE PROTECTION			1 V	1 V
NO LOAD POWER DISSIPATION				0.5W

**\*TEST MEASURES**


C1 : 0.1uF CERAMICS CAPACITOR  
 C2 : 10uF/50V ALUMINUM CAPACITOR



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SHEET NO.

3 OF 10

VER:

A/1

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### 3、MECHANICAL

ITEM	SPECIFICATION OR TEST CONDITION	ACCEPTANCE CRITERIA
BENDING TEST	NORMAL TEMPERATURE THE CORD SHALL WITHSTAND WEIGHT OF 200g, SWINGING FROM LEFT TO RIGHT AT AN ANGLE OF 60 DEG. 1000CYCLE TIMES MIN. S/R SHALL WITHSTAND WEIGHT OF 1N. SWINGING FROM LEFT TO RIGHT AT AN ANGLE OF 60DEG. 1000CYCLE TIMES MIN. BENDING SPEED 40CYCLE/MINUTE	NO SHORT CIRCUIT NO BREAKAGE OF THE CORD
VIBRATION	FREQUENCY RANGE:10~55Hz AMPLITUDE:1.5mm ACCELERATION:1G SWEEP 1MINUTE FOR X,Y,Z,AXIS EACH	THERE SHALL BE NO ABNORMALITY ON THE APPEARANCE STRUCTURE AND OPERATING

### 4、RELIABILITY

ITEM	SPECIFICATION OR TEST CONDITION	ACCEPTANCE CRITERIA
TEMPERATURE UP WITH TYPICAL LOAD	TEST AT SURFACE OF THE CASE WITH TYPICAL AC INPUT AND TYPICAL LOAD IN OUTPUT 50/60Hz	TEMPERATURE UP UNDER 35 DEGREES
HI-POT TEST	INPUT TO OUTPUT GRADUALLY RAISED FROM 0 TO THE 2121Vdc/1500Vac AND HELD AT THAT VALUE FOR 1Minute,10mA	NO DAMAGE
INSULATION RESISTANCE	INPUT TO OUTPUT,DC 500V	>50M $\Omega$
MTBF	TYPICAL INPUT&FULL LOAD,25 $^{\circ}$ C	50000HOURS
LIFE	TYPICAL INPUT&FULL LOAD,40 $^{\circ}$ C TYPICAL INPUT&FULL LOAD,25 $^{\circ}$ C	1YEARS ABOVE 2YEARS ABOVE
BURN-IN	AT 30 $^{\circ}$ C( $\pm$ 10 $^{\circ}$ C),NORMAL INPUT VOLTAGE	2~4 HOURS

### 5、ENVIRONMENT

ITEM	SPECIFICATION OR TEST CONDITION	min.	typ.	max.
OPERATING TEMPERATURE		0 $^{\circ}$ C		40 $^{\circ}$ C
STORAGE TEMPERATURE		-20 $^{\circ}$ C		85 $^{\circ}$ C
OPERATING HUMIDITY	NON-CONDENSING	5%RH		90%RH
STORAGE HUMIDITY	NON-CONDENSING	5%RH		90%RH

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SHEET NO.

4 OF 10

VER:

A/1

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UTLS-12000500

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## 6、OUTLOOKING

DIMENSION :109(L)\*61.5(W)\*32.5(H)mm

WEIGHT : ABOUT 270.6g

AC INPUT TYPE : Desk Top

DC OUTPUT TYPE :5.5\*2.5\*10 S TYPE



DC OUTPUT CABLE :UL1185 18AWG/2C BLACK

INDICATION : LABEL

CASE MATERIAL : ABS+PC

PCB MATERIAL :/

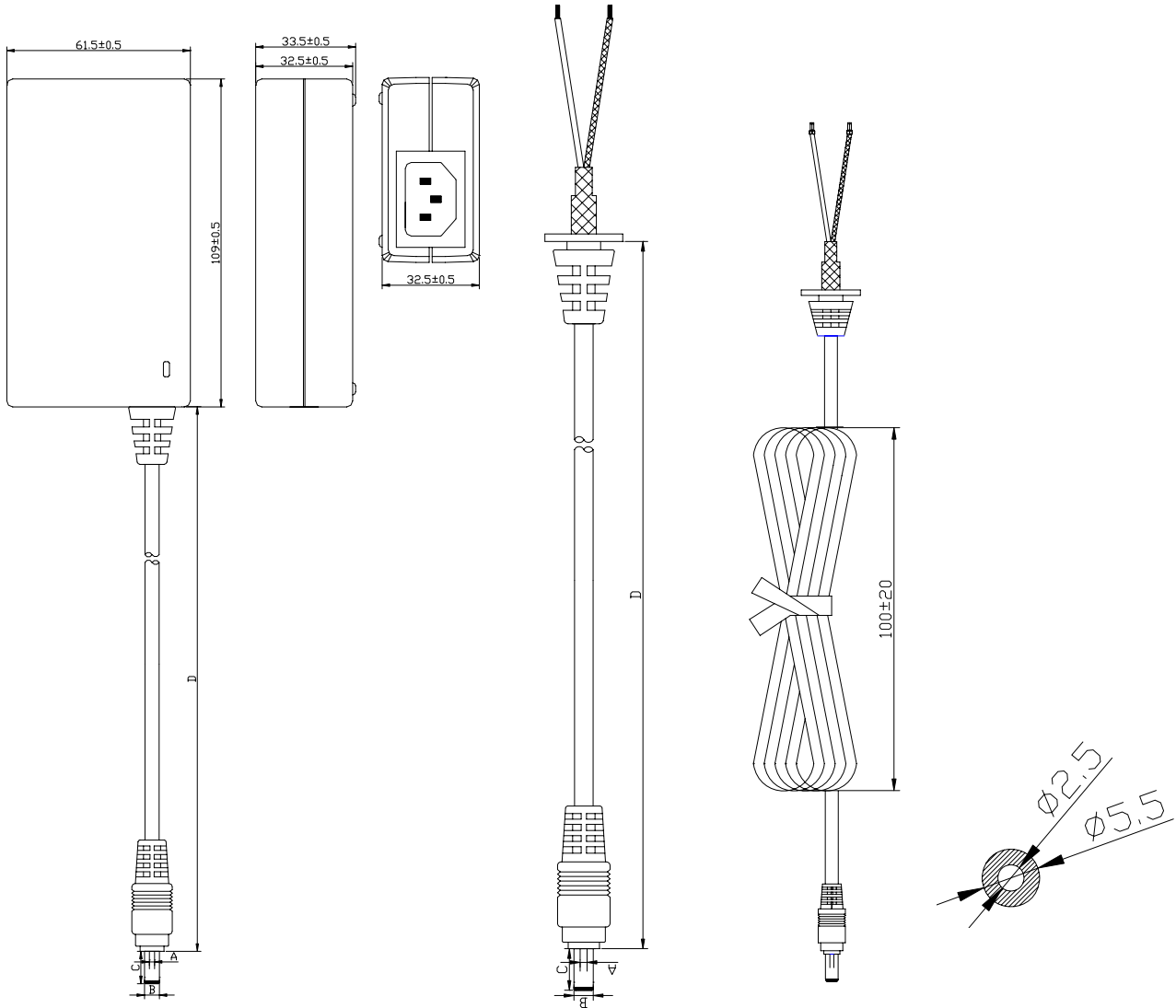
## 7、SAFETY

Item	Country	Certified	Standard	Present
UL	USA		UL60950-1 2 <sup>nd</sup>	<input type="checkbox"/>
CUL	Canada		CSA C22.2 NO.60950-1	<input type="checkbox"/>
FCC	USA	MEET	PART 15 CLASS B	<input checked="" type="checkbox"/>
VDE/GS	Europe		EN 60950-1 2 <sup>nd</sup>	<input type="checkbox"/>
CE	Europe	MEET	EN 60950-1 2 <sup>nd</sup>	<input checked="" type="checkbox"/>
BS/UK	Britain		BS EN 60950-1 2 <sup>nd</sup>	<input type="checkbox"/>
SAA	Australia		AS/NZS 60950-1	<input type="checkbox"/>
CCC	China	MEET	GB4943	<input checked="" type="checkbox"/>
Ko	Korea	MEET	K60950	<input checked="" type="checkbox"/>
PSE	Japan		J60950 (H20)	<input type="checkbox"/>
Others				<input type="checkbox"/>

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8、 DIMENSION

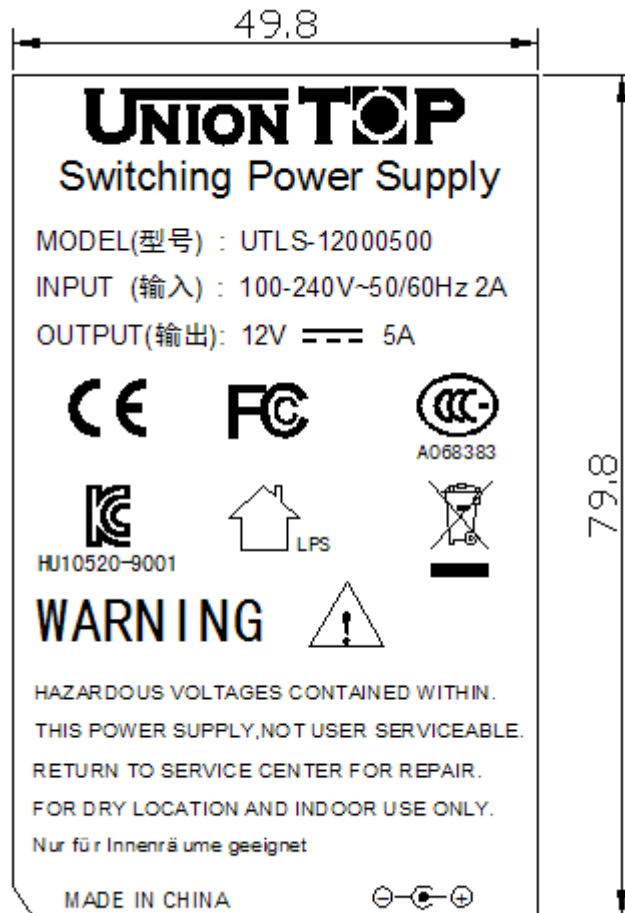


Unit : mm

	ΦA	ΦB	C	D
<b>DIMENSION</b>	2.5	5.5	10	1200
<b>TOLERANCE</b>	+0.1/-0	±0.1	±0.5	±50
<b>REMARK</b>	AWG18/2C UL1185 BLACK			

<b>UNION TOP</b>	DESCRIPTION	Switching Power Supply	SHEET NO.	6 OF 10
			VER:	A/1
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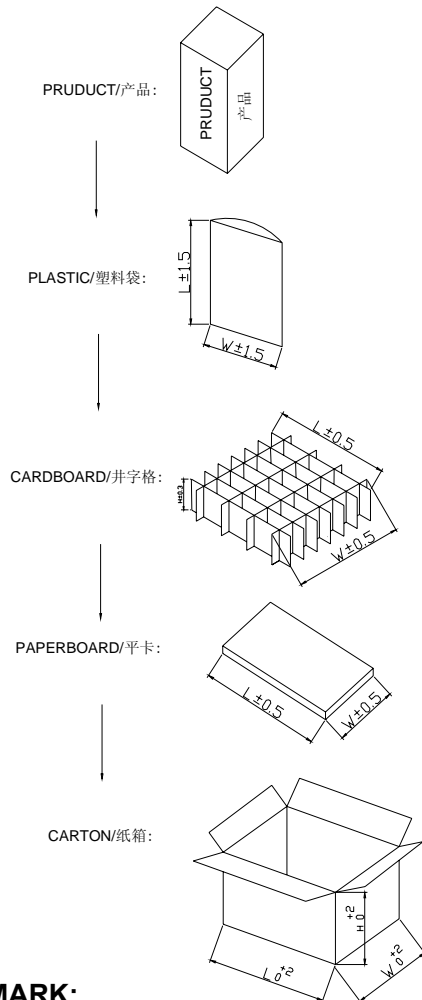
9、 LABEL



**Notes:**

1. Thickness: 0.1mm min., inflammation classes 94V-2 or better.
2. Color: **Black background with Silver letters**
3. Tolerance: -0.2mm

10、PACKING



DIMENSION(UNIT IN cm):

	L	W	H
PLASTIC	12.5	19.0	/
CARDBOARD	46.0	420.0	13.5
PAPEROARD	46.0	42.0	/
CARTON	47.3	43.3	16.5

PACKING METHOD:

PAPERBOARD PLACEMENT METHOD	PUT A PAPERBOARD BETWEEN THE TOP AND BOTTOM,TOTAL 2PCS
PACKING METHOD	50PCS/LAYER X 1 LAYERS
QTY	50PCS
N.W.	270.6g
G.W.	15.5kg

REMARK:

1. STORAGE CONDITION

TEMPERATURE: -10℃~+60℃ RELATIVE HUMIDITY: 30%~80%

2. STORAGE PERIOD: 6 MONTHES

3. ANLISTATIG: NO REQUIREMENT

4. PLEASE ADVISE IF ANY COMMENTS ABOUT THE PACKING INFORMATION.

OTHERWISE,THIS INFORMATION IS DEFAULTED AS CUSTOMER APPROVAL,AND WILL BE APPLIED TO PRODUCTION.





DESCRIPTION

Switching Power  
Supply

SHEET NO.

8 OF 10

VER:

A/1

MODEL NO.

UTLS-12000500

PART NO.

## 11、QC CHECK

ALL OF THE QUANTITY SHALL BE CHECKED BEFORE SHIPMENT,CHECK ITEM AS BELOW:

- (1) DC PLUG POLE CHECK
- (2) OCP FUNCTION CHECK
- (3) DC OUTPUT VOLTAGE CHECK
- (4) HIPOT&INSULATION CHECK
- (5) OUTLOOKING CHECK

## 12、SAMPLE PRIMARY TEST REPORT

Test Items.	Test Condition	Unit	Sample Number and Test Result										Pass/ Fail	
			1#	2#	3#	4#	5#	6#	7#	8#	9#	10#		
Unload output voltage/(0.0A) <u>12±5%Vdc</u>	100Vac	V	12.35											PASS
	240Vac	V	12.34											PASS
Rated load output voltage/( <u>5.0A</u> ) <u>12±5%Vdc</u>	100Vac	V	11.67											PASS
	240Vac	V	11.67											PASS
Output ripple & noise voltage≤ <u>300mV</u> (test at full loading)	100Vac	mV	140											PASS
	240Vac	mV	160											PASS
Short-circuit protection test (Short at end of DC plug) (SCP≤ <u>6W</u> )	100Vac	W	0.3											PASS
	240Vac	W	0.45											PASS
Overcurrent Protection (OCP≤ <u>7.5A</u> )	100Vac	A	6.57											PASS
	240Vac	A	6.7											PASS
Efficiency test ( $\eta$ ≥ <u>78%</u> )	100Vac	%	80.26											PASS
	240Vac	%	82.64											PASS
Hi-pot test	2121Vdc or 1500Vac10mA/ 1Minute		OK											PASS

NOTES: The products which are no use in the three months need to aging test

三个月内完全不使用的产品需做老化测试

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DESCRIPTION	Switching Power Supply	SHEET NO.	9 OF 10
		VER:	A/1
	MODEL NO.	UTLS-12000500	PART NO.

### 13、SAMPLE TEST REPORT

Items No	Test Items	Unit	Test condition & result				Spec. Limit	Pass/ Fail
			90Vac 60Hz	115Vac 60Hz	230Vac 50Hz	264Vac 50Hz		
1	Unload input current	mA	24.1	30.3	50.7	58.4	—	-
2	Unload input power	W	0.14	0.16	0.28	0.45	≤ <u>0.5W</u>	PASS
3	Rated load input current	mA	1202	975.2	581	523	≤ <u>2000mA</u>	PASS
4	Rated load input power	W	73.24	71.38	70.21	70.46	—	-
5	Unload output voltage(0.0A)	V	12.34	12.33	12.33	12.33	<u>12±5%Vdc</u>	PASS
6	Rated load output voltage( <u>5.0 A</u> )	V	11.65	11.63	11.64	11.55	<u>12±5%Vdc</u>	PASS
7	Rated load Output ripple&noise voltage ( <u>300mV</u> )	mV	160	120	160	80	≤ <u>300mVp-p</u>	PASS
8	Short-circuit test (Pin&lout)	W	0.31	0.17	0.48	0.81	≤ <u>6W</u>	PASS
9	Over current protection	A	6.37	6.74	6.78	6.68	OCP ≤ <u>7.5A</u>	PASS
10	Output overshoot	%	5.75	5.83	5.75	6.5	≤ <u>10%</u>	PASS
11	Turn on delay time	mS	/	/	/	/	≤ <u>3000mS</u>	-
12	Hold up time	mS	/	/	/	/	≥10mS/(115Vac) ≥20mS/(230Vac)	-
13	Efficiency	%	79.53	81.46	82.89	81.96	≥ <u>78%</u>	PASS
14	Hi-pot test	Pri. to Sec. : 2121Vdc or 1500Vac, 1Minute, Cut off current ≤10mA						PASS
15	Max. and Light load change test	Max. load to Light load: OK    Light load to max. load: OK (90-264Vac)						
16	Burn-in	Burn-in 4 Hrs, The sample OK						
17	Appe. label and fusion	Appearance: <u>OK</u> ,    Label: <u>OK</u> ,    Fusion: <u>OK</u>						

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Switching Power  
Supply

SHEET NO.

10 OF 10

VER:

A/1

MODEL NO.

UTLS-12000500

PART NO.

## 14、ENERGY STAR TEST REPORT

Items No.	Test parameter	Unit	Input voltage 115Vac/60Hz						Spec. Limit	Pass /Fail
			100%	75%	50%	25%	0%	Aver.Eff		
1	Input current	mA	974	754	526	290	30.2		$\leq 2000\text{mA}$	Pass
2	Input power	W	71.2	52.98	35.07	17.71	0.15		-	-
3	Output current	A	5	3.75	2.5	1.25			-	-
4	Output voltage	V	11.56	11.67	11.9	12.04			-	-
5	Power factor	-	/	/	/	/			-	-
6	Efficiency	%	81.17	82.60	84.83	84.98		83.39	$\geq 78\%$	Pass

Items No.	Test parameter	Unit	Input voltage 230Vac/50Hz						Spec. Limit	Pass /Fail
			100%	75%	50%	25%	0%	Aver.Eff.		
1	Input current	mA	575	449	325	190	50.6		$\leq 2000\text{mA}$	Pass
2	Input power	W	70.29	52.39	35.23	18.31	0.28		-	-
3	Output current	A	5	3.75	2.5	1.25			-	-
4	Output voltage	V	11.59	11.79	11.99	12.14			-	-
5	Power factor	-	/	/	/	/			-	-
6	Efficiency	%	82.44	82.81	85.08	82.87		83.30	$\geq 78\%$	Pass

Note: 1. Aver.Eff.Spec.( $\geq 78\%$  Unload input power Spec.( $\leq 0.5\text{W}$ )for CEC LEVEL/)

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