DATA SHEET
AUG 30, 2007

SFS5 Series AC-DC Converter Compact Miniature Type

RoHS Compliant

PCB mount type

Chassis mount type

Features

- UL, CB, CE Approved
- RoHS directive compliance
- Encapsulated, compact case
- High efficiency
- Universal input
- Surface mounting technology
- 100kHz fixed frequency
- Fixed output voltage
- Thermal shutdown
- Output short circuit protection
- Low output ripple & noise
- Isolated output(3kVAC)
- Overvoltage protection(O.V.P.)
- Overcurrent protection(O.C.P.)
- Low no-load power consumption
- 5Years warranty

Environmental

- Operating temperature range: -10℃~70℃
- Storage temperature range: -20℃~80℃
- Humidity: 20%~90%RH
- Vibration: 10-55Hz at 10G(98m/s²), 3minutes period, 60minutes each one X, Y and Z axis
- Impact: 50G(490m/s²), 11ms, once each along X, Y and Z axis
- Cooling method: natural air convection

Safety

- UL (UL60950-1, CSA C 22.2 NO. 60950-1)
- UL No: E227474
- CE (EN 60950-1) / CB (IEC 60950-1)

Option

- Chassis mount type: euro style terminal-block

Description

SFS5 Series dramatically reduces standby & no-load energy waste. This Series are compact size and high reliability. Built-in small EMI filter. So it needs for external EMI filter

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Electrical specifications		
INPUT	Voltage	AC85~264V (or DC 110~340V) 50/60Hz (note)
	Current	0.15A Max. @ 110VAC / 0.08A Max. @ 220VAC
	Frequency	47~440Hz Max. (50~60Hz typ.)
	Efficiency	75% Typ.
	Inrush current (at cold start)	20A Max. @ 120VAC. / 40A Max. @ 240VAC
	Leakage current	0.5mA Max. @ 110VAC / 0.75mA Max. @ 220VAC

OUTPUT	Voltage tolerance (accuracy)	±2% Max.
	Ripple and noise	±1% Typ.
	Line regulation	±1% Typ.
	Load regulation	±1% Typ.
	Dynamic load regulation	±3% Typ.
	Temperature regulation	±1% Typ.
	No load power consumption	0.3W Max.
	Rising time	100ms Max.
	Hold up time	10ms Min.

Protection circuit	
Over voltage protection	Clamp, 130~150%
Over current protection	Works at over 105% of rating & recovers automatically
Over temperature protection	150℃ Latching, Recovering

Isolation specifications	
Isolation Resistance	DC 500V, 100MOhms Min.
Input-Output Isolation Voltage	AC 3KV, 1minute, 10mA

General specifications	
Switching frequency	100kHz
Calculated MTBF	$4.5*10^5$hrs
Weight	40g or less

NOTE: For cases that conform various safety specifications(UL, CSA, CE, CB etc). it require input voltage and frequency range will be 100-240Vac, 50~60Hz.

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Ordering information

SF□5-12□

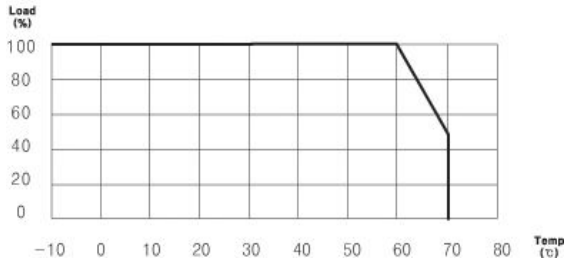
- Series name
  - S: single
  - D: dual
- Output power
- Output voltage
- If chassis mount type, 'C' added

Input	Output	Maximum power	Ripple & Noise paximum	Efficiency typical	Model number
AC85~264V or DC110~340V	3.3V@1.25A	4.125W	80mVp-p	68%	SFS5-3R3
	5V@1.0A	5.0W	80mVp-p	75%	SFS5-5
	12V@0.42A	5.0W	120mVp-p	77%	SFS5-12
	15V@0.33A	5.0W	150mVp-p	77%	SFS5-15
	24V@0.21A	5.0W	200mVp-p	77%	SFS5-24

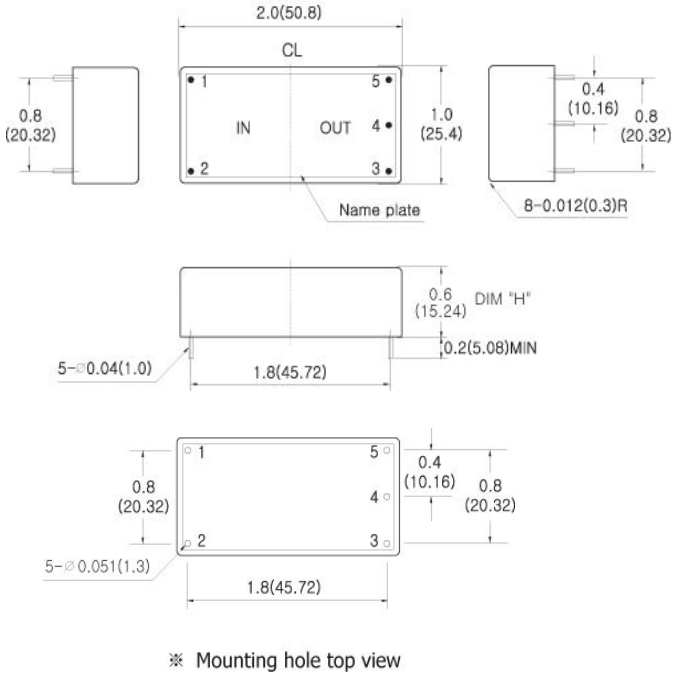
Pin assignments

1. AC(N)
2. AC(L)
3. No pin
4. -V
5. +V

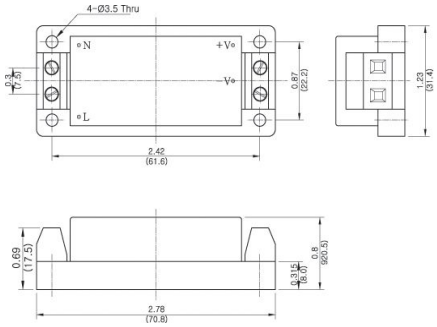
Derating curve



Dimensions



※ Mounting hole top view



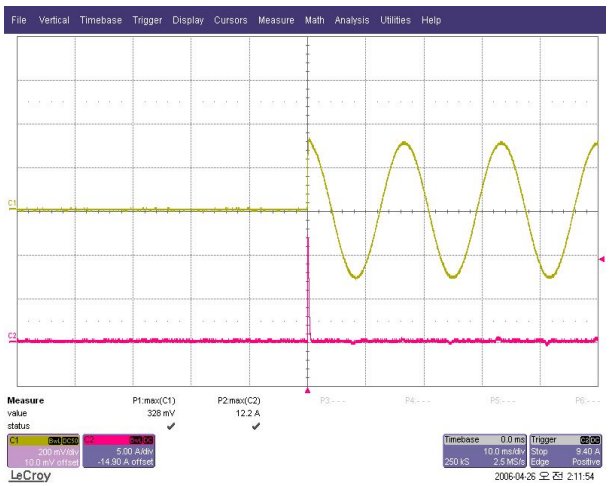
Chassis Mount Type

NOTES

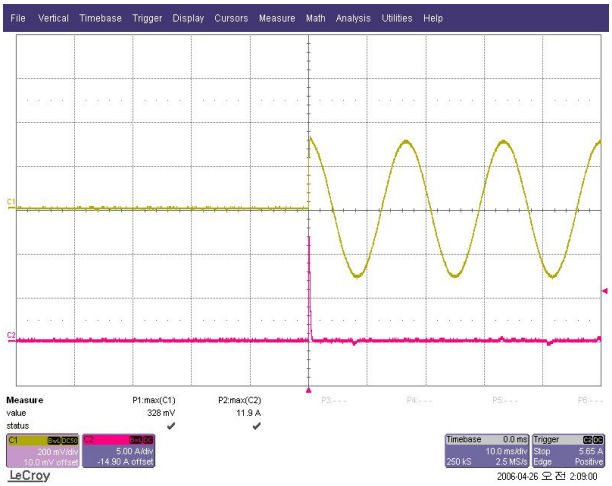
1. All dimensions are inch(mm).
2. Weight : 40g or less
3. Case material : PBT, 94V-0 Rated
4. Construction : encapsulated, Soft Pot
5. Dimension "H"
   0.6(15.24) for 5watt / SFS5 version

Inrush Current

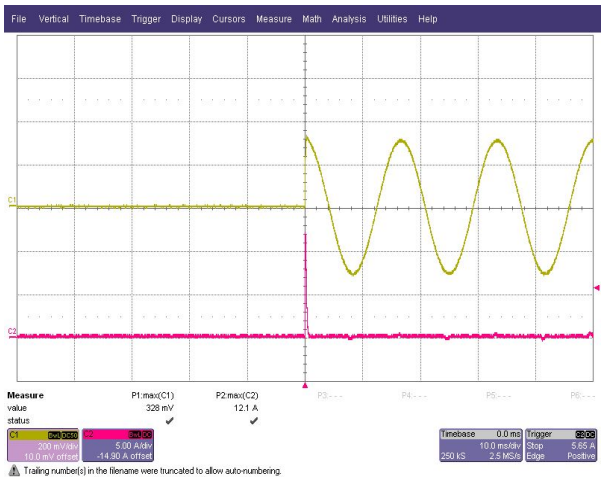
TEST CONDITION	- 240Vac input - Full load output - PHASE 90°input start, current measure



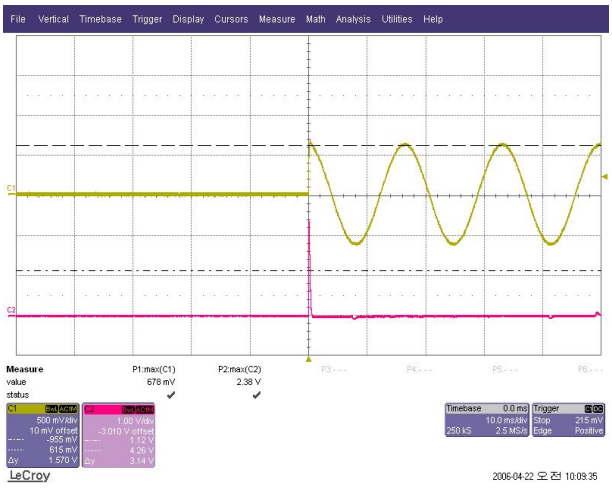
SFS5-3R3 12.2A



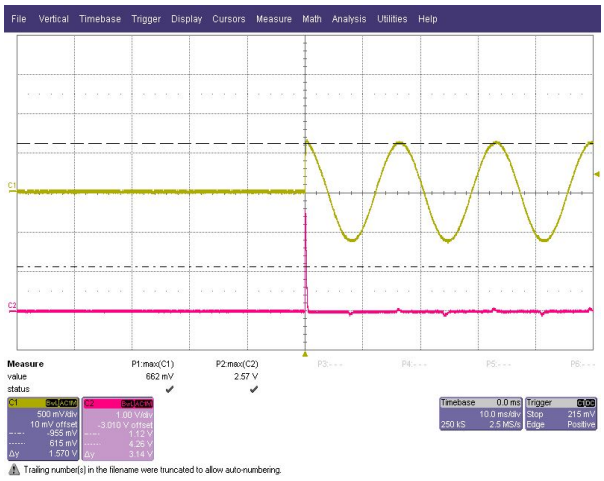
SFS5-5 11.9A



SFS5-12 12.1A



SFS5-15 11.9A



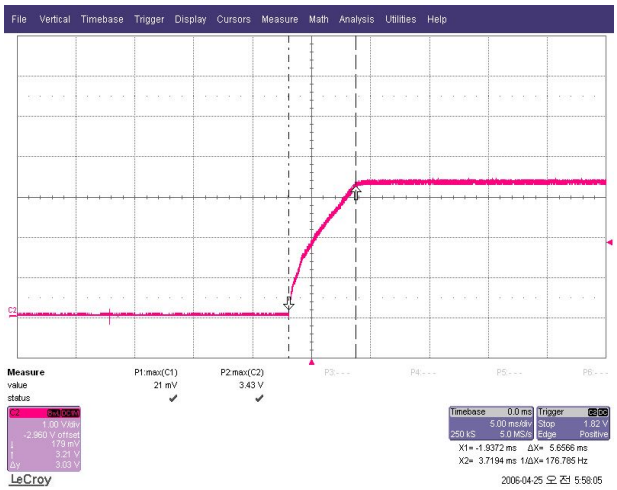
SFS5-24 12.85A

Inrush current concerns wrong to fuse, input rectifier, power-switch, circuit break and parts. It degrades the another circuit voltage and occurs system error. If you defuse inrush current. You add NTC or Inrush current limiter to external circuit.

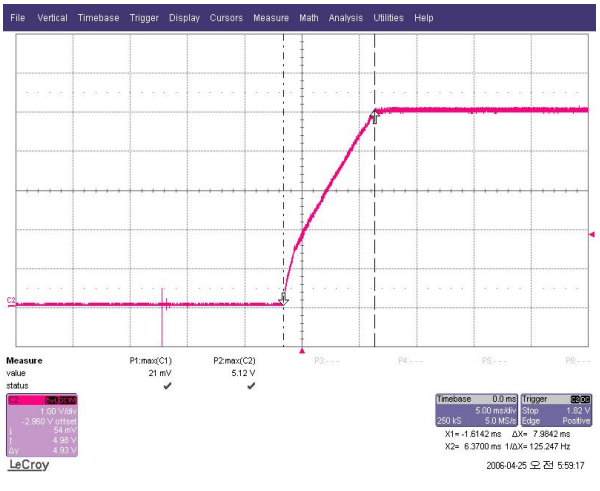
High rating voltage input
Max20A @ 120Vac
Max40A @ 240Vac

Rising Time

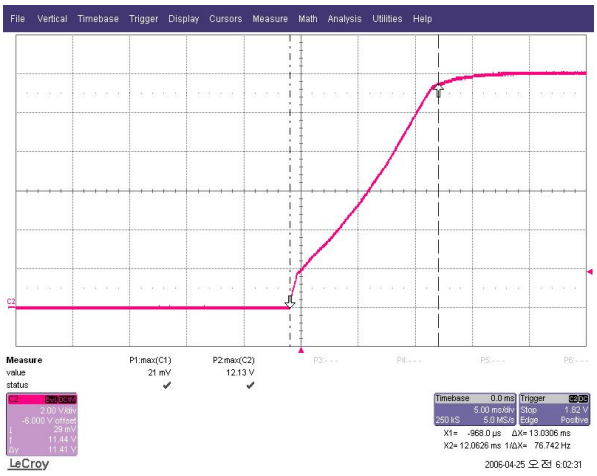
TEST CONDITION	- 220Vac Input - Full Load Output - Output Voltage 10% ~ 90% Rising Time Measure



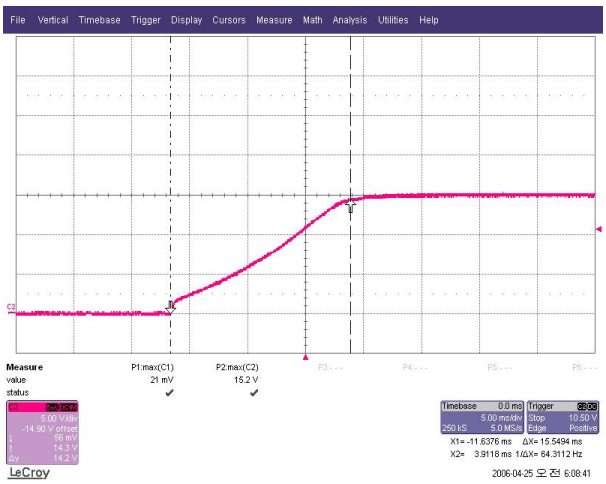
SFS5-3R3 5.66mS



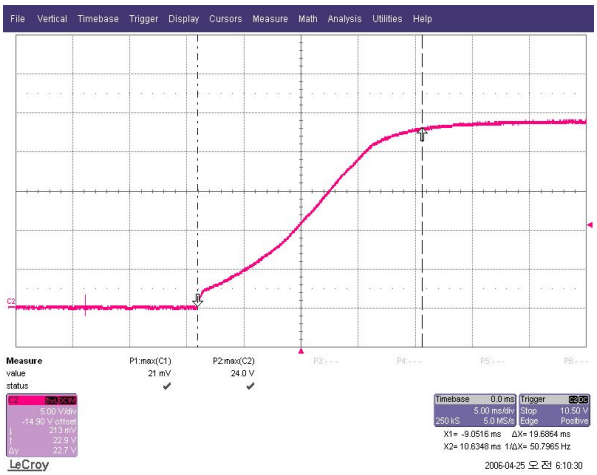
SFS5-5 7.98mS



SFS5-12 13.0mS



SFS5-15 15.6mS

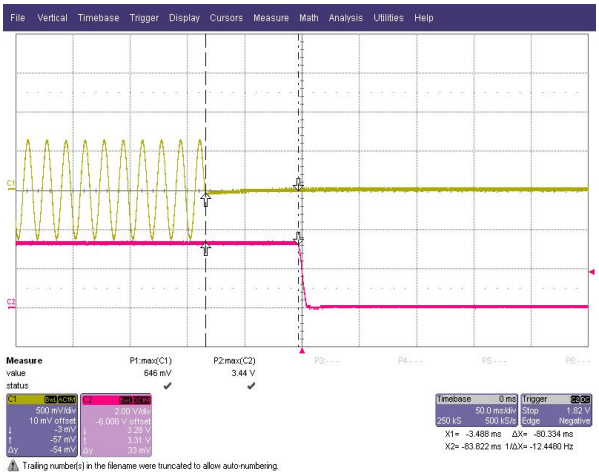


SFS5-24 19.7mS

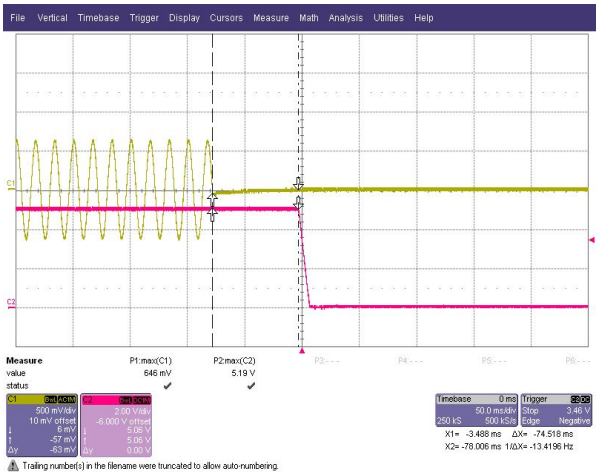
Max 100ms between output voltage 10%~90%

Hold up Time

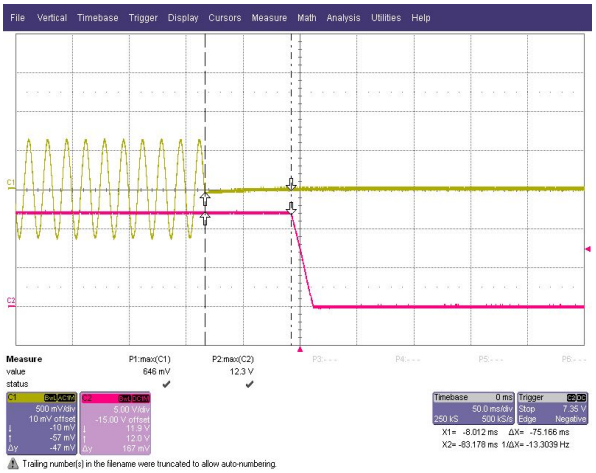
TEST CONDITION	- 220Vac Input - Full Load Output -When Input off Phase 360°, Output Voltage off Time Measure



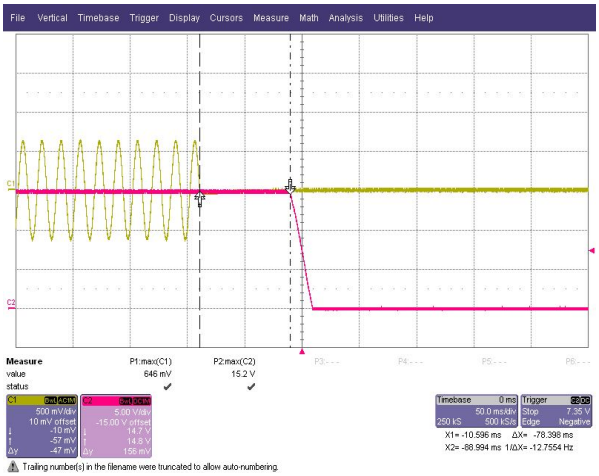
SFS5-3R3 80mS



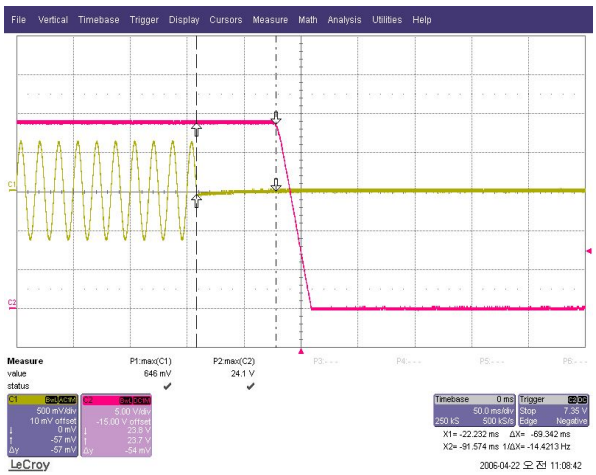
SFS5-5 75mS



SFS5-12 75mS



SFS5-15 78mS



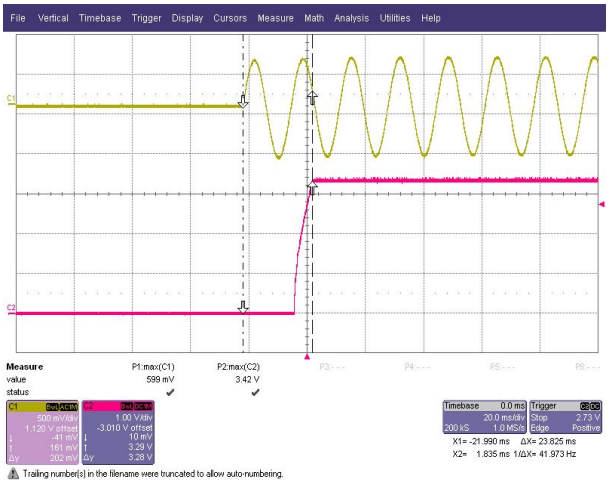
SFS5-24 69mS

The amount of time that a power supply's output-voltage remains within the specified-voltage ranges after it's input voltage interrupts.

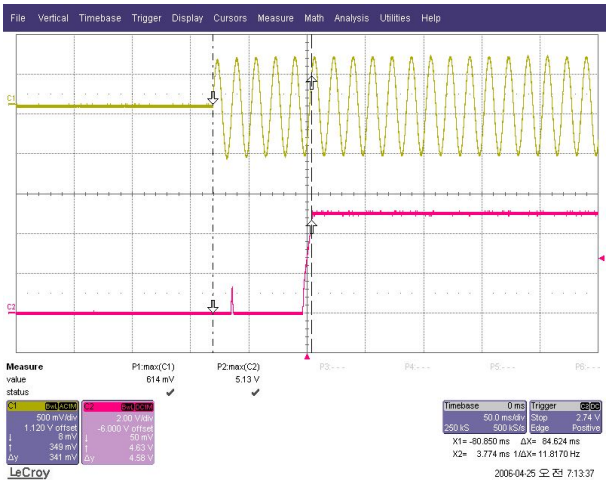
Low rating voltage
Min10ms @100Vac

Start up Time

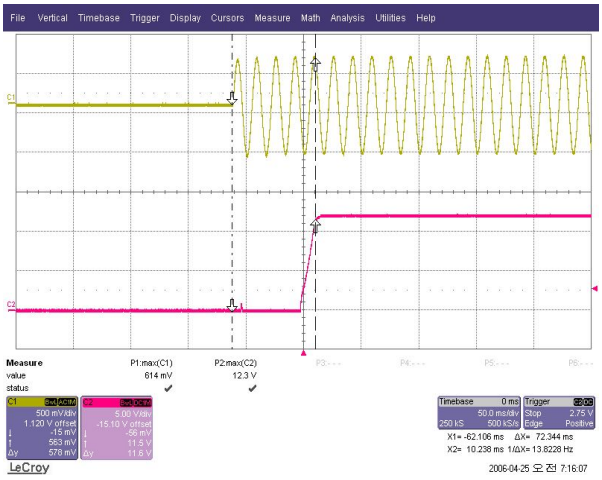
TEST CONDITION	- 220Vac Input - Full Load Output -When Input on Phase 360°, Output Voltage 100% rise Time Measure



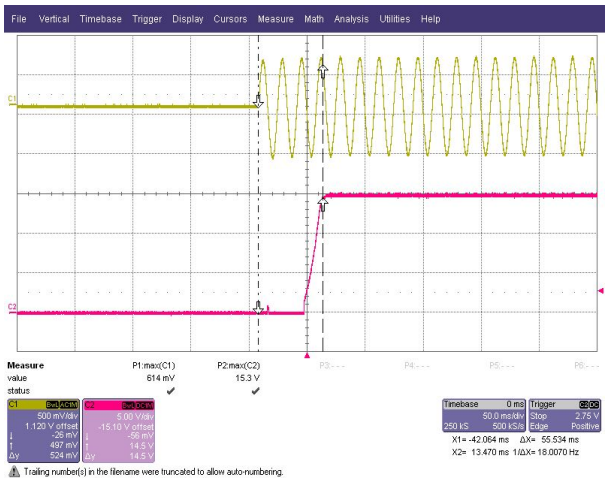
SFS5-3R3 23.8mS



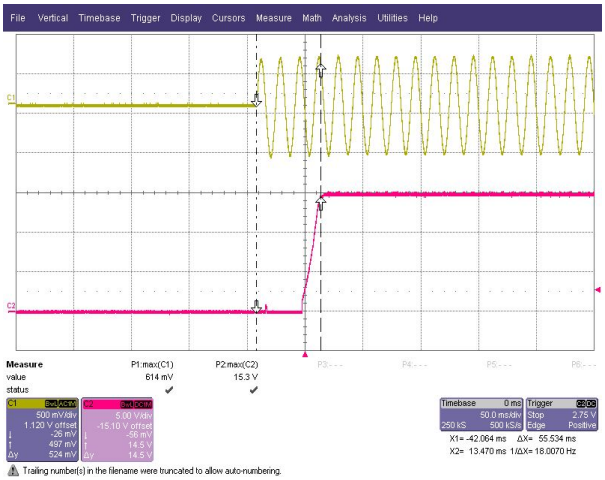
SFS5-5 84.6mS



SFS5-12 72.3mS



SFS5-15 55.5mS

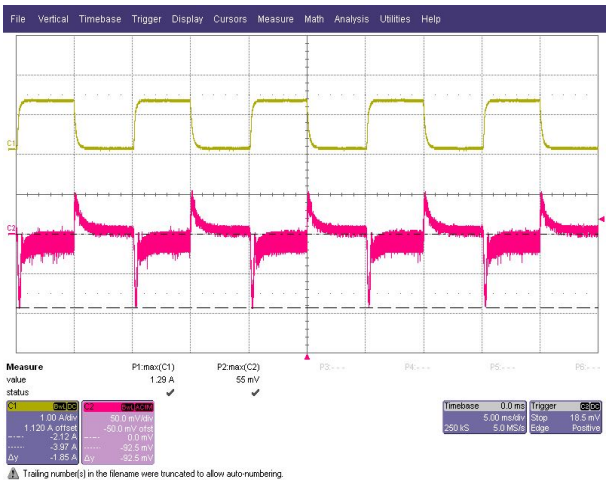


SFS5-24 32.9mS

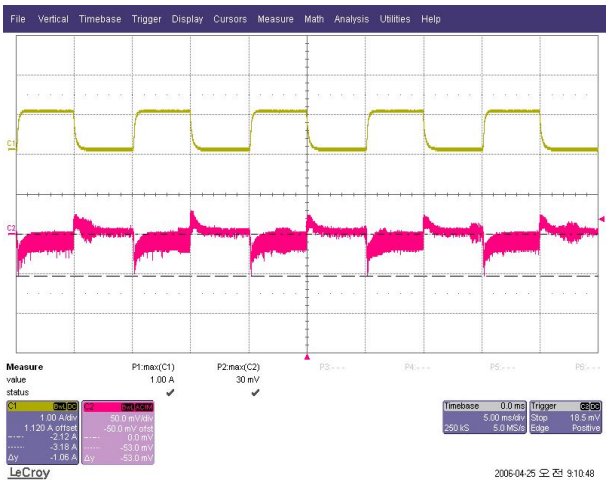
Amount of delay time and rise time. After input-voltage injects.

Dynamic Load

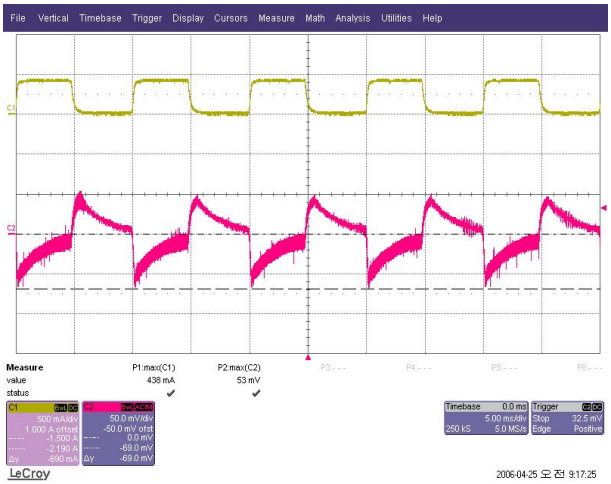
TEST CONDITION	- 220Vac Input - 0% Load ~ 100% Load Output - Freq. : 100Hz , - Duty : 0.5



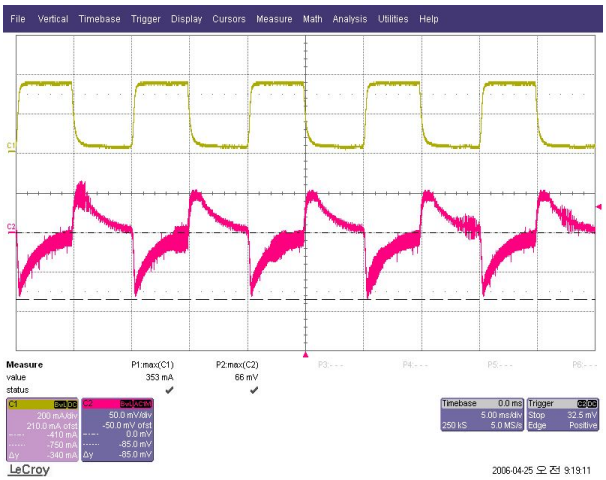
SFS5-3R3 92.5mV



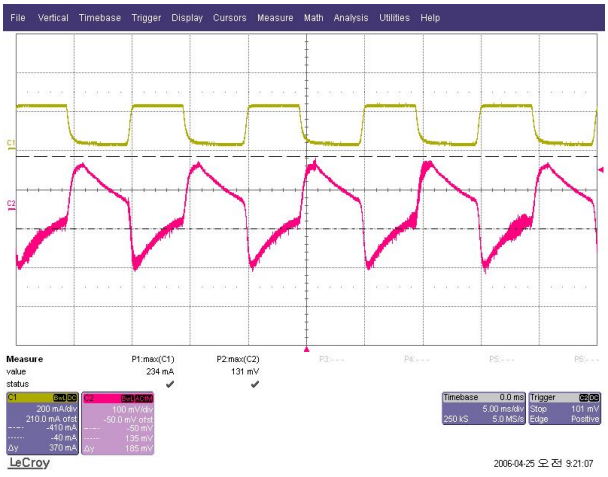
SFS5-5 53mV



SFS5-12 69mV



SFS5-15 85mV

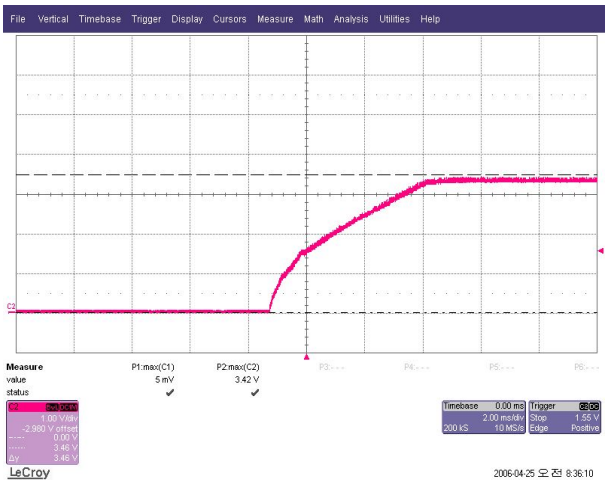


SFS5-24 135mV

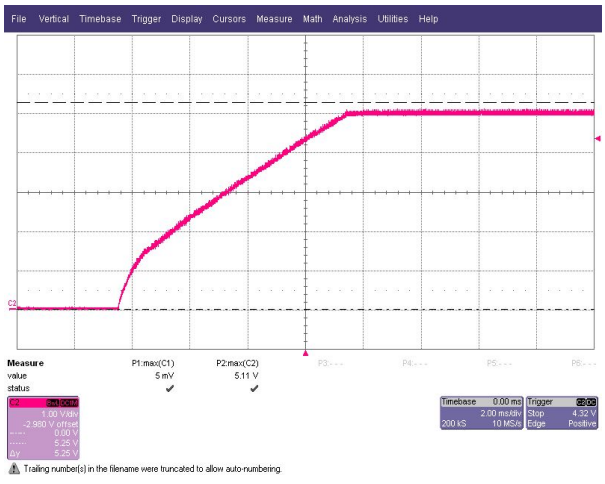
Considerate slew rate and frequency within ±3% output voltage value.

Over Shoot

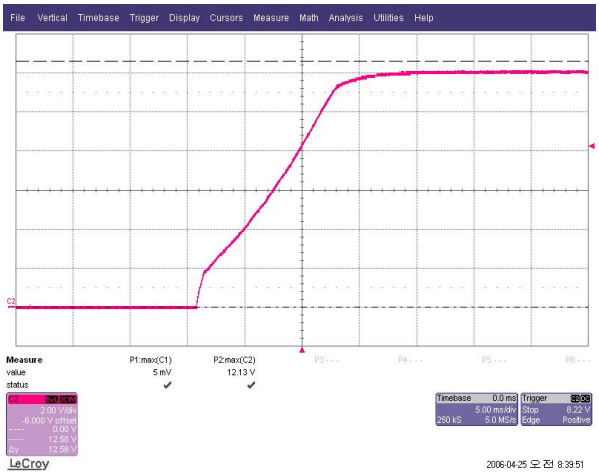
TEST CONDITION	- 220Vac Input - Full Load Output



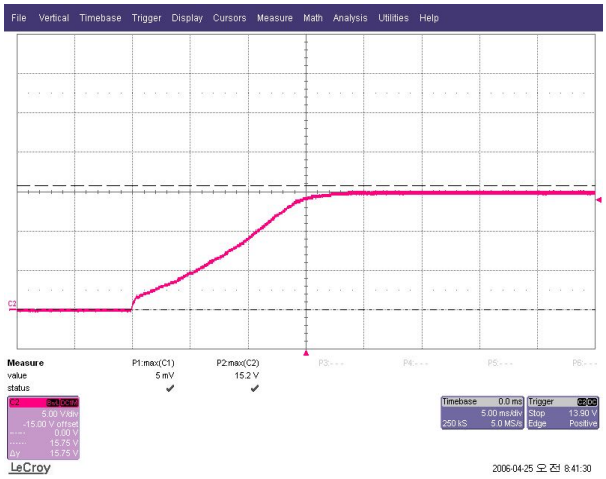
SFS5-3R3 0V



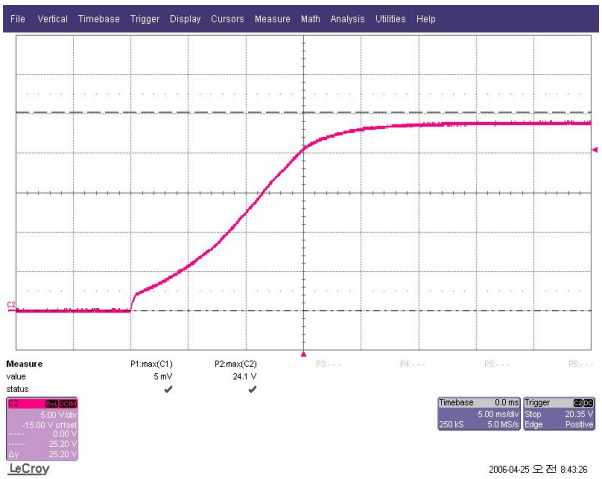
SFS5-5 0V



SFS5-12 0V



SFS5-15 0V

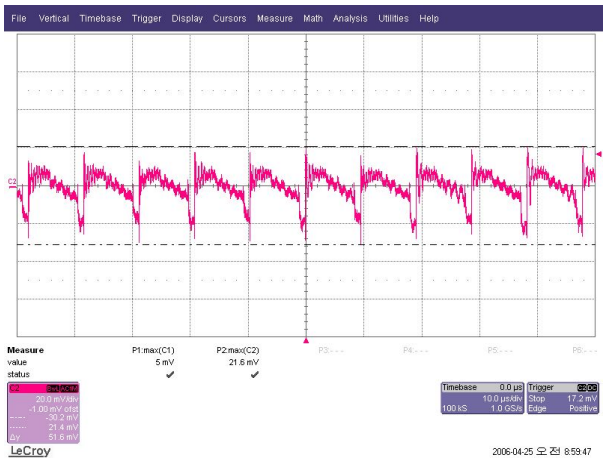


SFS5-24 0V

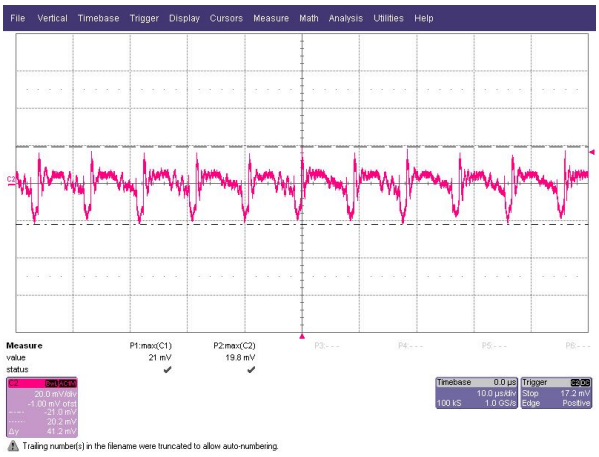
When turn-on, the output overshoot voltage shall not exceed 5% of normal Voltage value no Load or full Load connected.

Output Ripple & Noise

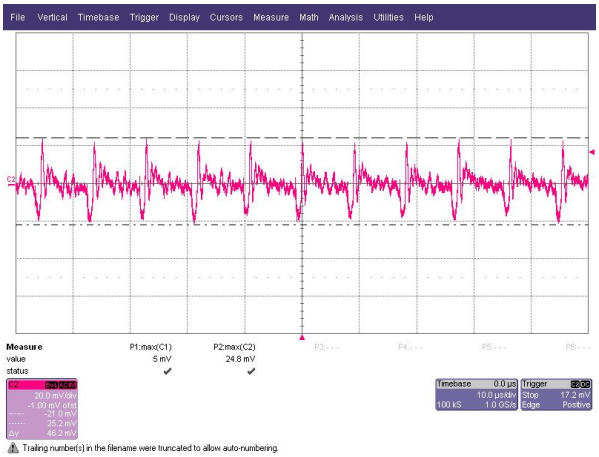
TEST CONDITION	- 220Vac Input - Full Load Output - Ele-cap(47uF)and Ceramic-cap(104), Output Terminal



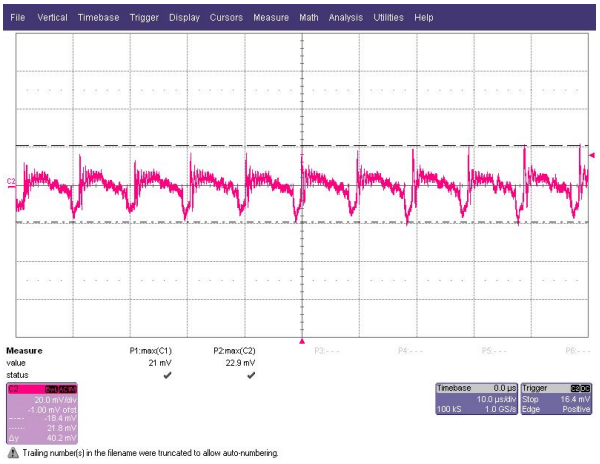
SFS5-3R3 51.6mVpp



SFS5-5 41.2mVpp



SFS5-12 46.2mVpp

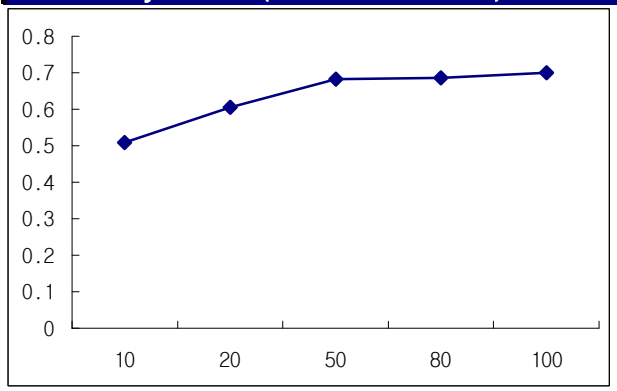


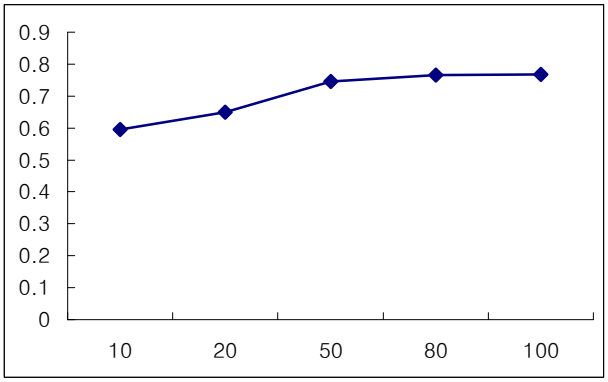
SFS5-15 40.2mVpp

SFS5-24 74.6mVpp

*Ripple&Noise: Oscilloscope bandwidth 20MHz.
The length of the output line should be shorter than 1meter and it needs to be twisted.

Efficiency Curve(Load Variation)



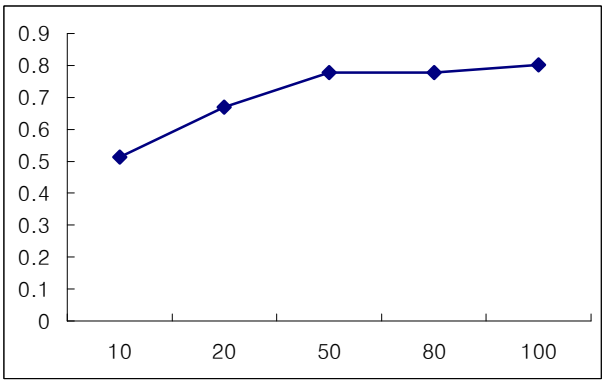


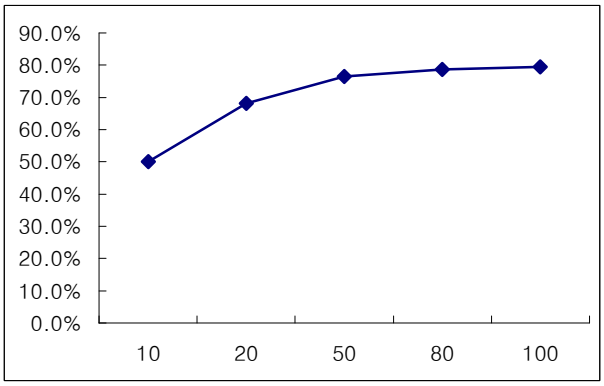
출력전류(%)	10	20	50	80	100
효율	50.8%	60.6%	68.2%	68.6%	70.0%

SFS5 - 3R3

출력전류(%)	10	20	50	80	100
효율	59.5%	65.0%	74.6%	76.5%	76.8%

SFS5 - 5



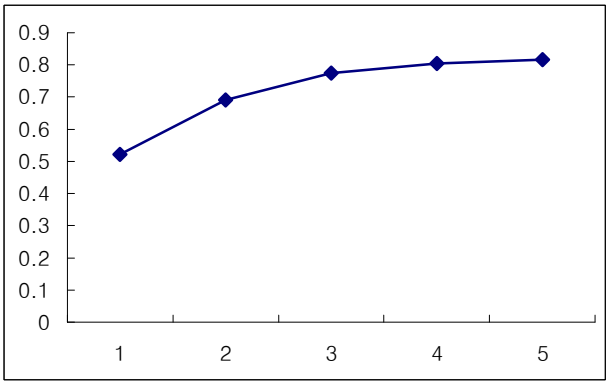


출력전류(%)	10	20	50	80	100
효율	51.4%	66.9%	77.7%	77.8%	80.2%

SFS5 - 12

출력전류(%)	10	20	50	80	100
효율	50.0%	68.1%	76.5%	78.7%	79.5%

SFS5 - 15

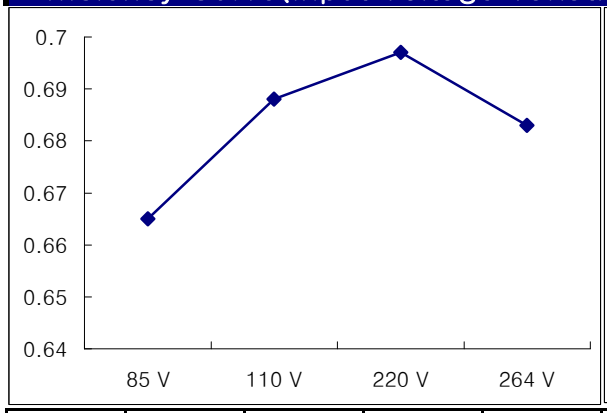


Input 220Vac, Variation of efficiency,
from minimum load to maximum load.

출력전류(%)	10	20	50	80	100
효율	52.1%	69.0%	77.5%	80.5%	81.6%

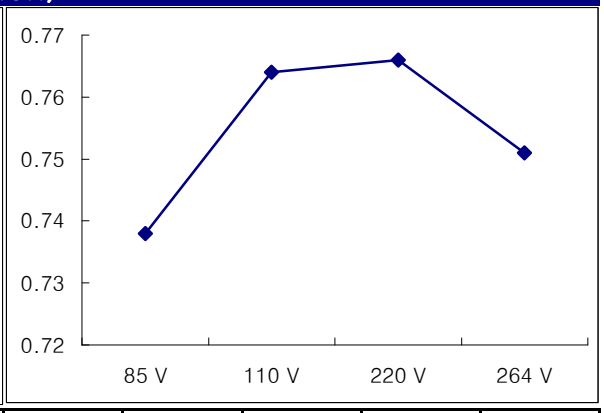
SFS5 - 24

Efficiency Curve(Input Voltage Variation)



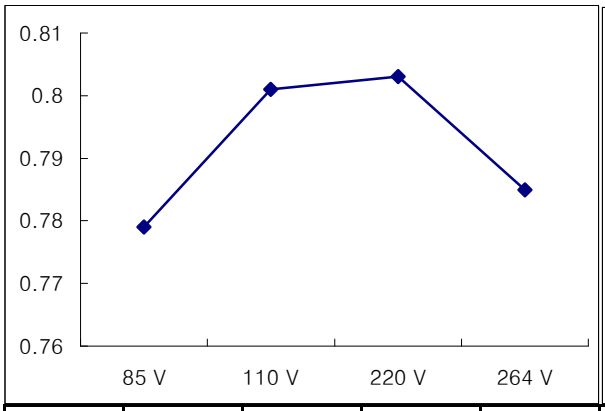
입력전압	85 V	110 V	220 V	264 V
효율(%)	66.5%	68.8%	69.7%	68.3%

SFS5 - 3R3



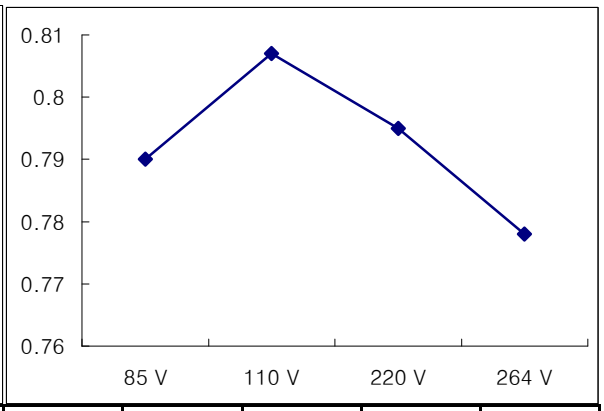
입력전압	85 V	110 V	220 V	264 V
효율(%)	73.8%	76.4%	76.6%	75.1%

SFS5 - 5



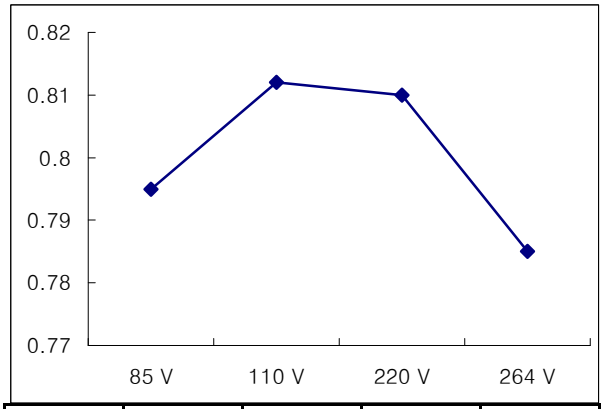
입력전압	85 V	110 V	220 V	264 V
효율(%)	77.9%	80.1%	80.3%	78.5%

SFS5 - 12



입력전압	85 V	110 V	220 V	264 V
효율(%)	79.0%	80.7%	79.5%	77.8%

SFS5 - 15



입력전압	85 V	110 V	220 V	264 V
효율(%)	79.5%	81.2%	81.0%	78.5%

SFS5 - 24

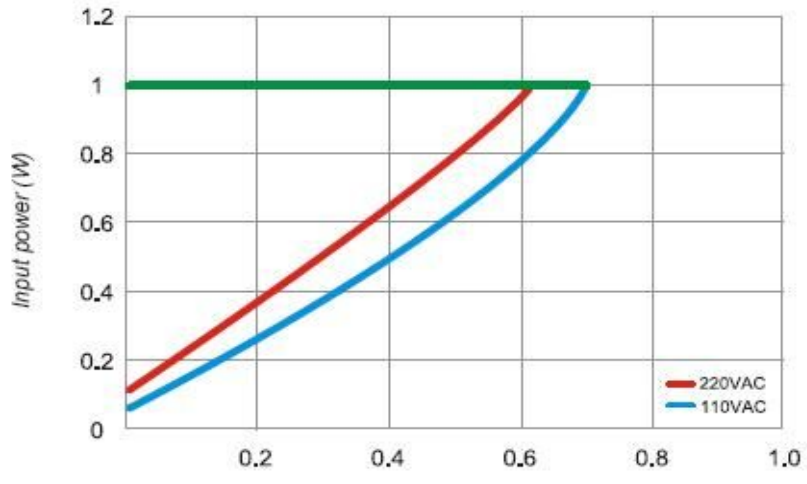
Variation of Efficiency, from Minimum input Voltage to Maximum input Voltage

No-Load Power Consumption

No load power consumption is the power used by a device. when it is disconnected from it's load and performing no function.

RATED OUTPUT POWER	NO-LOAD POWER CONSUMPTION		
	PHASE 1 01.01.2001	PHASE 2 01.01.2003	PHASE 3 01.01.2005
≥0.3W and < 15W	1.0W	0.75W	0.3W
≥15W and < 50W	1.0W	0.75W	0.5W
≥50W and < 75W	1.0W	0.75W	0.75W

Source : European commission code of conduct on efficiency of external power supplies(06.15.2000)

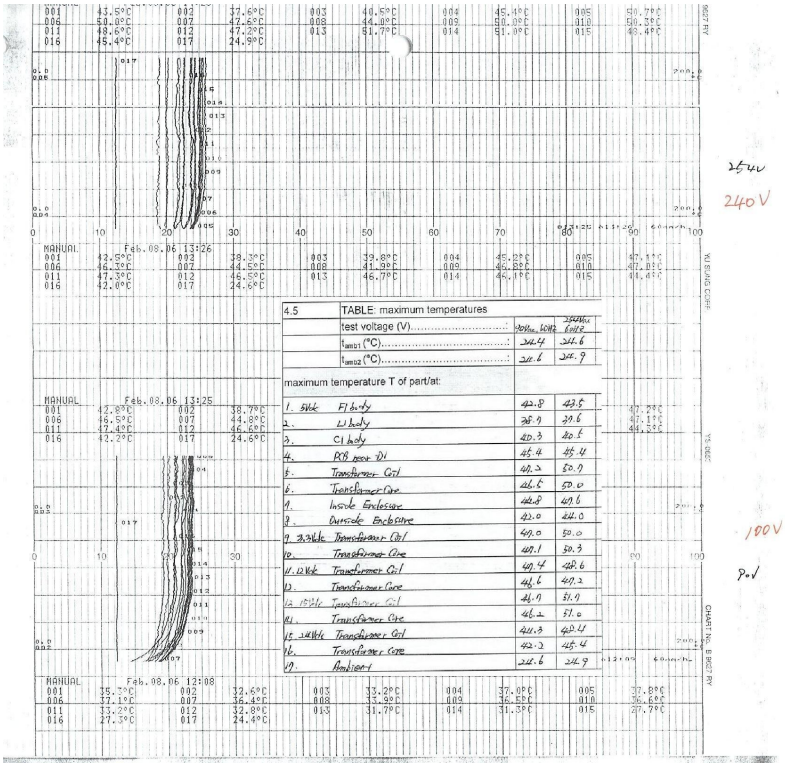


Available output power(W) 110VAC and 220VAC

Thermal Test

After power-supply SFS5 Series was molded, and Components Thermal measurement.
Operating the power- supply At normal temperature. Until the temperature of components is saturated.
Maximum permitted degreeof components ascertain the margins. We will calculate the maximum operation degree. Degree of ambient temperature rise up and load derate.

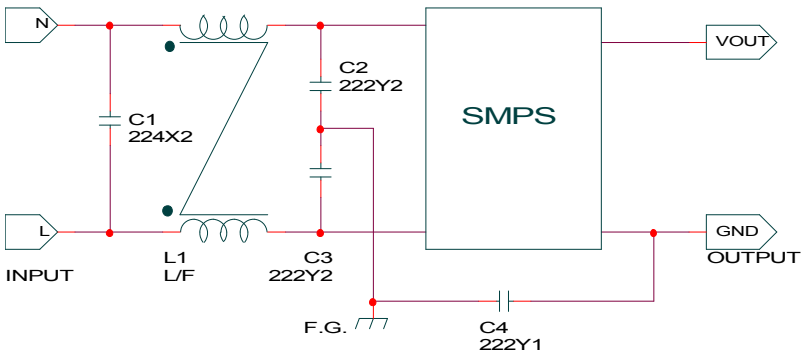
Test Voltage(V), 60Hz		90VAC	Δ℃	254VAC	Δ℃	REMARK
Tamb		24.6		24.9		
Temperature T of part						
1. 5Vdc F1 Body		42.8	18.2	43.5	18.6	
2. L1 Body		38.7	14.1	37.6	12.7	
3. C1 Body		40.3	15.7	40.5	15.6	
4. D1		45.4	20.8	45.4	20.5	
5. Transformer coil		47.2	22.6	50.7	25.8	
6. Transformer core		46.5	21.9	50.0	25.1	
7. Inside Enclosure		44.8	20.2	47.6	22.7	
8. Outside Enclosure		42.0	17.4	44.0	19.1	
9. 3.3Vdc Transformer coil		47.0	22.4	50.0	25.1	
10. Transformer core		47.1	22.5	50.3	25.4	
11. 12Vdc Transformer coil		47.4	22.8	48.6	23.7	
12. Transformer core		46.6	22.0	47.2	22.3	
13. 15Vdc Transformer coil		46.7	22.1	51.7	26.8	
14. Transformer core		46.2	21.6	51.0	26.1	
15. 24Vdc Transformer coil		44.3	19.7	48.4	23.5	
16. Transformer core		42.2	17.6	45.4	20.5	
17. Ambient		24.6	0.0	24.9	0.0	



Electro Magnetic Interference Application.

SFS5 Series are needed to reduce Electromagnetic Interference, use the external L-C noise filter at the input of the Converter.

1) Configuration



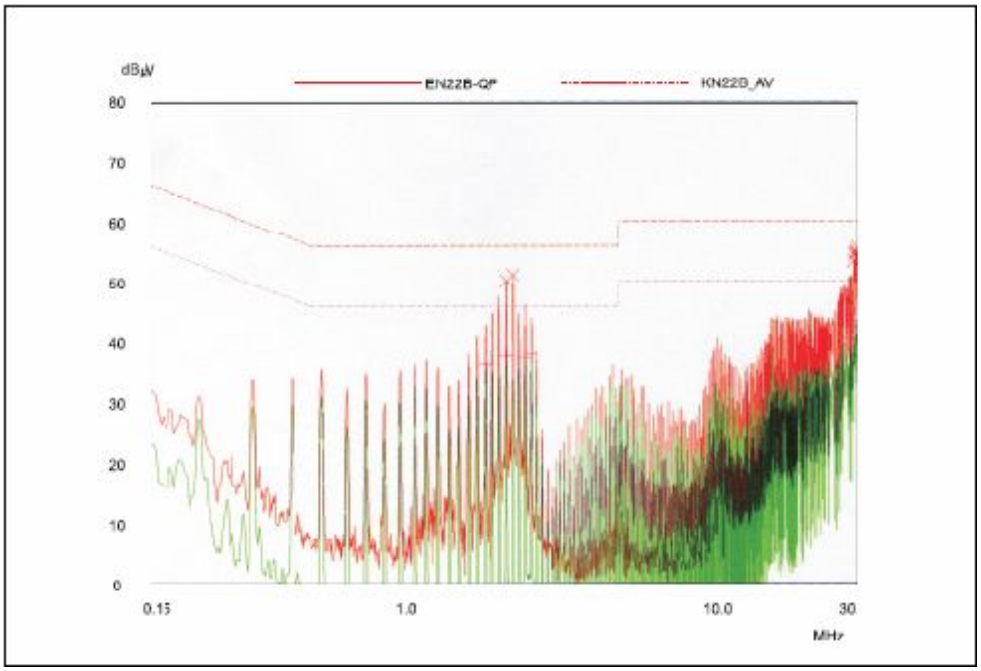
2) Components

L1 = 10~30mH Common Mode Line Filter

C1 = 220nF X2 Capacitor

C2,C3 = 2200pF Y2 Capacitor

C4 = 2200pF Y1 Capacitor



The CISPR 22 Standard @ SFS5-12

DRIFT

No	Time	Voltage(V)					Remarks
		3.3V	5V	12V	15V	24V	Vin
		1.25A	1.0 A	0.42 A	0.33 A	0.21A	220VAC
1	08:30	3.314	5.024	12.100	14.999	24.010	
2	09:00	3.310	5.022	12.077	14.996	23.980	
3	09:30	3.307	5.020	12.068	14.999	23.980	
4	10:00	3.304	5.019	12.067	15.000	23.990	
5	10:30	3.304	5.020	12.068	14.999	23.990	
6	11:00	3.306	5.020	12.070	14.999	23.990	
7	11:30	3.307	5.019	12.066	15.000	23.990	
8	12:00	3.306	5.020	12.068	14.999	23.990	
9	12:30	3.303	5.020	12.068	14.999	23.990	
10	13:00	3.306	5.020	12.067	14.998	23.990	
11	13:30	3.306	5.020	12.067	14.999	23.990	
12	14:00	3.304	5.020	12.062	14.998	23.990	
13	14:30	3.305	5.020	12.069	14.998	23.990	
14	15:00	3.306	5.020	12.070	14.997	23.990	
15	15:30	3.306	5.019	12.064	14.998	23.990	
16	16:00	3.305	5.019	12.068	14.999	23.990	
17	16:30	3.304	5.020	12.062	14.998	23.990	
18	17:00	3.306	5.020	12.063	14.998	23.990	

1 Primary Drift:(Maximum Value-Datum Value)÷Datum V×106(Power On~30minute)

3.3V	1208.4592 PPM
5 V	398.24771 PPM
12 V	1904.4465 PPM
15 V	200.05335 PPM
24V	1251.0425 PPM

2 Passage Drift : (Max ValueDatum Value) ÷ Datum V × 106 (30Minutes ~ Until 8hours 30minutes)

3.3V	-2114.804 PPM
5 V	-398.2477 PPM
12 V	-1242.03 PPM
15 V	266.7378 PPM
24V	417.01418 PPM

(Maximum Value - Minimum Value)

3.3V	0.007 V : 0.2%
5 V	0.003 V : 0.06%
12 V	0.015 V : 0.125%
15 V	0.004 V : 0.03%
24V	0.01 V : 0.04%

Calculating Reliable Values of MTBF

3.12.1 Calculating method

Calculated based on part count reliability projection of MIL-HDBK-217F Individual failure rates λg is given to each part and MTBF(Mean Time Between Failure) is calculated by the count of each part.

<Formula>:

$$MTBF = 1/\lambda epuip = 1/\left(\sum_{i=1}^{n} Ni(\lambda G \prod Q)i\right) * 10^{6} \text{ (Hours)}$$

λequip : Total Equipment Failure Rate (Failure/10^{6}Hours)

λG : Generic Failure Rate for The ith Generic Part (Failure/ 10^{6}Hours)

∏Q : Generic Quality Factor for The ith Generic Part (∏Q=1)

Ni : Quantity of ith Generic Part

n : Number of Different Generic Part Categories

3.12.2 MTBF Values

MTBF ≒484,937(Hours)

PART	Number	Failure Rate	Failure Rate*n	Remark
	n	λG(F/T)	λG×n(F/T)	
Logic ic	1	0.01500	0.01500	Seperate
Transistor, FET	1	0.09900	0.09900	Seperate
Diode	6	0.02200	0.13200	
Voltage Regulator	1	0.02400	0.02400	
Photo-coupler	1	0.07000	0.07000	
Diode Bridge	1	0.06600	0.19800	*3
Ele-capacitor	3	0.01900	0.05700	
Ceramic Capacitor	1	0.02600	0.02600	
MLCC	7	0.05300	0.37100	
Choke coil	1	0.00022	0.00022	
Switching trans	1	0.00420	0.00420	
Line Filter	2	0.00440	0.00880	
Resistor Chip	7	0.01600	0.11200	
Connector	5	0.05200	0.26000	
Reflow soldering	45	0.00014	0.00630	
Flow soldering	37	0.00780	0.28860	
PCB	1	0.37000	0.37000	SMT
Fuse	1	0.02000	0.02000	
Total Equipment Failure Rate λG×n(F/T)			2.06212	
MTBF = 10^{6} / λG(F/T)			484937.831	

Reliability Specification		
Dry heat	IEC60068-2-2	
Cold	IEC60068-2-1	
Thermal shock	IEC60068-2-14	
Temperature, humidity cycle	IEC60068-2-30, IEC60068-2-38	
Vibration	IEC 60068-2-6	
Mechanical shock	IEC 60068-2-27	
ElectroStatic Discharge immunity	IEC 61000-4-2	
Immunity to radio frequency EM-fields	IEC 61000-4-3	
Electrical fast transient/burst immunity	IEC 61000-4-4	
Surge immunity	IEC 61000-4-5	
B_{10} Life test	B10 Life is the time by which 10% of the product population will get failed	

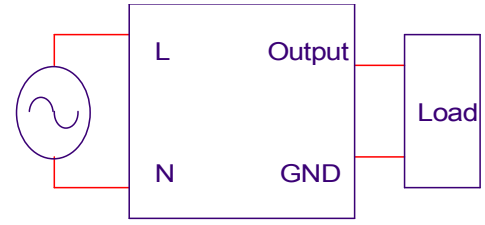
Power Plaza co., Ltd
#1401, Daeryung Techno Town 493-6
Gasan-Dong, Kumchon-Gu, Seoul, 153-774, Korea
Tel: 82_2_855_4955
Fax: 82_2_855_4954
E-mail: sales@powerplaza.co.kr

DATA SHEET SFS5 Series AC-DC Converter Compact Miniature Type

AUG 30, 2007

Instruction manual

1 Basic connection

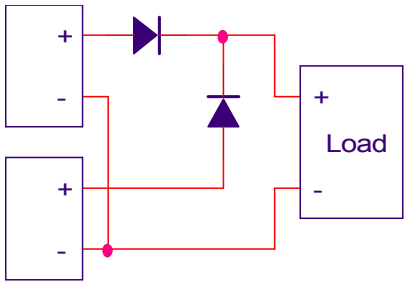


Input
AC85~264V
50~60Hz

NOTE: To avoid excessive voltage drop and for improved noise, short and thick wire should be used to connect the load.

2 Parallel Operation

This supply can be operated the following ways.



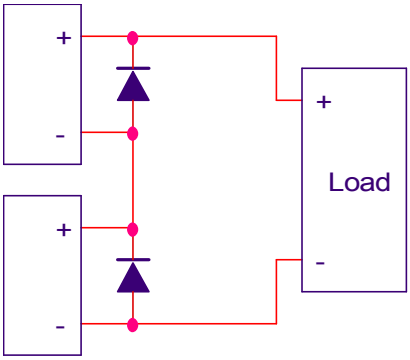
Choose a diode in accordance with voltage, power dissipation and heat radiation.

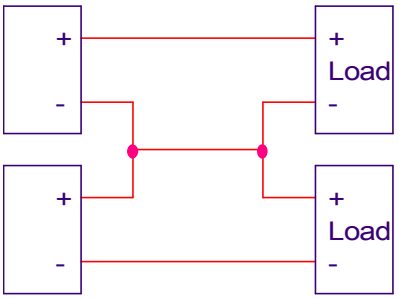
- Voltage : V > Vo × 3
- Current : I > Io × 3
- Design a propper heat sink according to power loss at diode (Pw = VF × Io)
- Use a schottky or fast recovery diode which has a low VF.

3 Series Operation

Choose a diode in accordance with voltage, power dissipation and heat radiation.

- Voltage : V > Vo × 3
- Current : I > Io × 3
- Design a propper heat sink according to power loss at diode (Pw = Vf × Io).
- Use a schottky or fast recovery diode which has a low VF.





4 Over Current Protection

Output current is grown, this is mainly due to the poor coupling between the - auxiliary windingand the poor winding. which prevents proper collapsing. when Vout goes low.

Instruction manual

5 Over Voltage Protection

SFS series are equipped with an over-voltage protection circuit by zener diode. If zener diode is opend, Vcc rise up, it becomes possible to implement an overvoltage-protection. Ratch on mode.

6 Over Temperature Protection

150℃ Latching, Recovering.

7 Line Regulation

Maximum line regulation is maximum output voltage change when the input volt is slowly varied with in the input voltage range.

8 Load Regulation

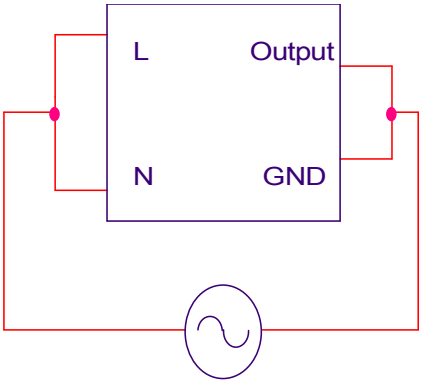
Maximum load regulation is maximum output voltage value change when varing the load current slowly within the standard output current range.

9 Isolation Resistance

The isolation resistance is more than 100MΩ at 500 VDC when tested with a DC isolation between the output and the case.
Make sure that during testing, the isolation tester does not produce a high pulse when the applied voltage is varied.
Ensure that the tester is fully discharged after the test.

10 Withstand Voltage

SFS5 series are designed to withstand 3KVAC(10mA) 1 minute between input-output
For the withstand voltage test, the applied voltagemust be increased gradually from zero to the testing value, and then decreased gradually at shut down.
Especially stay away from use of a timer.
Where a pulse of several times the applied voltage can be generated.



11 No-Load Power Consumption

No-Load power is the energy used by a device when it is disconneted from it's load and performing no function.

12 Short Circuit Protection

By permanently monitering the feedback lineactivity, the IC is able to detect the presence of a short-circuit. immediately reducing the output power for a total system protection.
Once the short has disappeared, the controller resumes and goes back to normal operation.

DATA SHEET SFS5 Series AC-DC Converter Compact Miniature Type

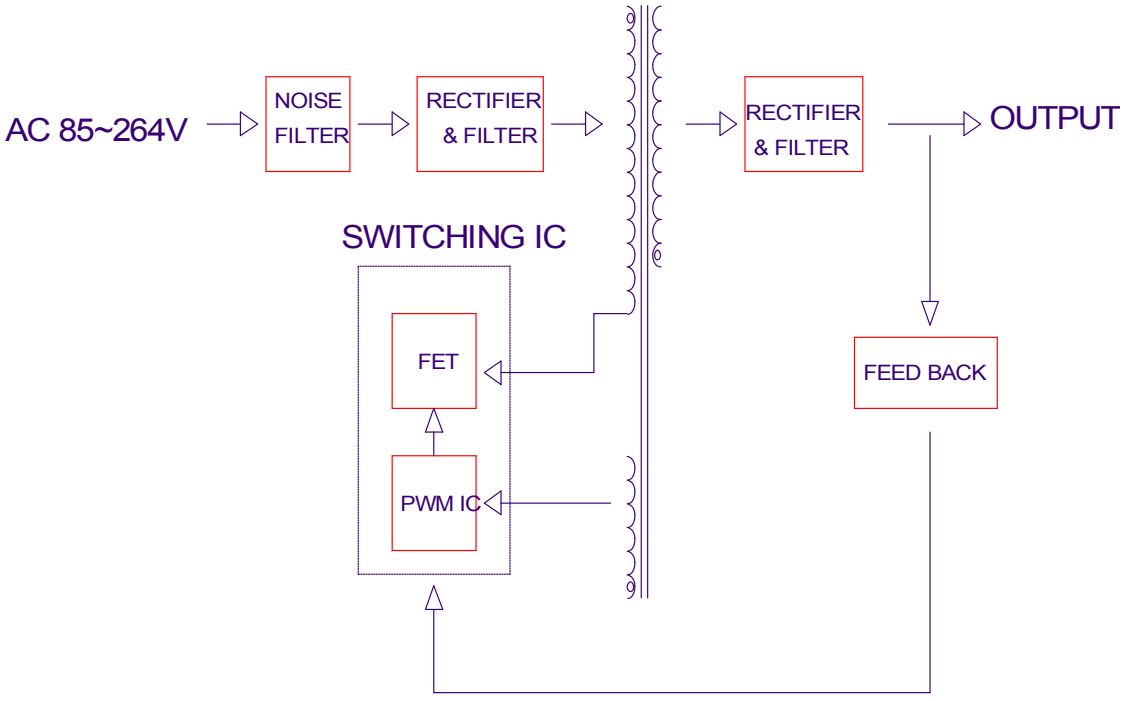
AUG 30, 2007

Instruction manual

13 Block Diagrams

Circuit topology : Flyback

Switching frequency : 100KHz(fixed)



Power Plaza co., Ltd

#1401, Daeryung Techno Town 493-6

Gasan-Dong, Kumchon-Gu, Seoul, 153-774, Korea

Tel: 82_2_855_4955

Fax: 82_2_855_4954

E-mail: sales@powerplaza.co.kr

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UL Certification

UL Korea Ltd.
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737 Yeoksam-dong Kangnam-gu
Seoul, 135-984
Korea
www.ulk.co.kr
tel: 822 2009 9000
fax: 822 2009 9400

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KUMCHON-GU, GASAN DONG
SEOUL 150-803 KOREA

Date: 03/07/2006
Subscriber: 40887001
File No: E227474
Project No: 06CA05106
PD No: 06G07609
Type: R
PO Number: KO, SEA-YOUNG

Subject: UL Certification Documents For Applicant

The following material resulting from the investigation under the above numbers is enclosed.

Document	Volume	Report Reference	Status	Date
Index	X1			
UL Test Report	X1	E227474-A2-UL-1	New	03/02/06

Please file revised Authorizations, Indices, and General Inspection Instructions in place of material of like identity. New Test Reports should be filed immediately following the last Test Report. Amendments or Corrections should be filed immediately before the Test Report to which they relate. Re-issued Test Reports should be filed immediately before all material related to the Test Report that it replaces.

NOTE: Manufacturers receive only the following sub-sections of the Applicant's complete Test Report, where applicable: Cover Page, Specific Inspection Criteria (BA through BE), Specific Technical Criteria (through section CF), Critical Components table, and Enclosures containing image supplements. Manufacturers do not receive Test Report information related to standard clause compliance or testing results.

NOTE: Manufacturers that require an Initial Product Inspection (IPI) will receive their copy of the Follow-Up Service Procedure directly from their assigned Inspection Center.

Please review this material and report any inaccuracies to HYEONGKYUN PARK (+822-2009-9000), referring to the above Project and/or PD Numbers.

c: SBO File

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dedicated to public safety and
committed to quality service

File		Volume	Page	Date:
E227474	Index	X1	1	02-Mar-06

Index

Product Type	Model/Type Reference	Report Reference #
Power Supply, Built-In AC/DC (PS3)	FS30-3R3, FSK-S30-3U; FS30-5, FSK-S30-5U; FS30-12, FSK-S30-12U; FS30-15, FSK-S30-15U; FS30-24, FSK-S30-24U	E227474-A1-UL-1
Power Supply, Built-In AC/DC (PS3)	SFS5-3R3, SFS5-5, SFS5-12, SFS5-15, SFS5-24	E227474-A2-UL-1

CE Certification

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV SÜD Product Service

EC-Attestation of Conformity

No. N8 06 03 46673 034

Holder of Certificate: **Power Plaza Co., Ltd.**
#1401,6th DaeryungTechno,493-6
153-803 Gasan-Dong,Kumchon-Gu,Seoul
KOREA

Product: **Power supplies (AC-DC Converter)**

Model(s): **SFS5-3R3, SFS5-5, SFS5-12, SFS5-15, SFS5-24**

Parameters:

Rated Input:	100-240 V a.c., 50/60 Hz, 0.15 A
Rated Output:	SFS5-3R3: 3.3 V d.c./1.25 A
	SFS5-5: 5 V d.c./1.0 A
	SFS5-12: 12.0 V d.c./0.42 A
	SFS5-15: 15.0 V d.c./0.33 A
	SFS5-24: 24.0 V d.c./0.21 A
Protection class:	I
Degree of protection against ingress of liquids:	IPX0(ordinary)

Tested according to: EN 60950-1:2001

This EC-Attestation of Conformity is issued on a voluntary basis according to the Low Voltage Directive 73/23/EEC relating to electrical equipment designed for use within certain voltage limits. It confirms that the listed equipment complies with the principal protection requirements of the directive. It refers only to the particular sample submitted for testing and certification. See also notes overleaf.

Test report no.: ITYA0107666

TÜV SÜD 238205

Date, 2006-03-09

CE After preparation of the necessary technical documentation as well as the conformity declaration the required CE marking can be affixed on the product. Other relevant directives have to be observed.

Page 1 of 1

TÜV Product Service GmbH · TÜV SÜD Gruppe · Zertifizierstelle · Ridlerstrasse 65 · 80339 München · Germany

CB Certification

IEC IECEE CB SCHEME

Ref. Certif. No.
DE 3 - 54285

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE
CERTIFICAT D'ESSAI OC

Product Produit	Power supplies (AC-DC Converter)
Name and address of the applicant Nom et adresse du demandeur	Power Plaza Co., Ltd. #1401,6th DaeryungTechno,493-6 153-803 Gasan-Dong,Kumchon-Gu,Seoul, KOREA
Name and address of the manufacturer Nom et adresse du fabricant	Power Plaza Co., Ltd., #1401,6th DaeryungTechno,493-6, 153-803 Gasan-Dong,Kumchon-Gu,Seoul, KOREA
Name and address of the factory Nom et adresse de l'usine	Power Plaza Co., Ltd., #1401,6th DaeryungTechno,493-6, 153-803 Gasan-Dong,Kumchon-Gu,Seoul, KOREA
Rating and principal characteristics Valeurs nominales et caractéristiques principales	Rated input voltage: 100-240 V AC Rated frequency: 50/60 Hz Rated input current: 0.15 A Rated output: SFS5-3R3: 3.3 V DC/1.25 A SFS5-5: 5 V DC/1.0 A SFS5-12: 12.0 V DC/0.42 A SFS5-15: 15.0 V DC/0.33 A SFS5-24: 24.0 V DC/0.21 A Protection class: Prepared for class I
Trade mark (if any) Marque de fabrique (si elle existe)	POWER PLAZA
Model/type Ref. Ref. de type	SFS5-3R3, SFS5-5, SFS5-12, SFS5-15, SFS5-24
Additional information (if necessary) Information complémentaire (si nécessaire)	
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60950-1:2001
as shown in the Test Report Ref. No. which form part of this certificate comme indiqué dans le Rapport d'essais numéro de référence qui constitue une partie de ce certificat	TÜV SÜD Product Service 077-207686-000

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme **National de Certification**

Date, 2006-03-14
CB 06 03 46673 035

Erich Thurner

TÜV SÜD Product Service GmbH · Certification Body · Ridlerstrasse 65 · D-80339 München

TÜV SÜD Product Service

CB-1 06.04

Page 1 of 1