



TEST DATA OF ADA1000F

ADA1000F-48
(100V INPUT)

Regulated DC power supply
Mar. 19, 2003

Approved by : Kuniaki Nagahara
Kuniaki Nagahara Design Manager

Prepared by : Toshihisa Miura
Toshihisa Miura Design Engineer

INPUT : AC 85~132V

OUTPUT : V1: 48V 16.5A

コーセル株式会社
COSEL CO.,LTD.

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Model		ADA1000F (ADA1000F-48)	Temperature Testing Circuitry	25℃ Figure A
Item		Line Regulation 静的入力変動		
Object		V1:+48V16.5A		

1. Graph

---□--- Load 50%

—△— Load 100%

Output Voltage [V]

Input Voltage [V]

2. Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
75	47.892	47.861
80	47.889	47.859
85	47.888	47.857
90	47.886	47.856
100	47.884	47.854
110	47.882	47.853
120	47.880	47.851
132	47.878	47.850
140	47.876	47.848

Note: Slanted line shows the range of the rated input voltage.

(注) 斜線は定格入力電圧範囲を示す。

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Model		ADA1000F (ADA1000F-48)	
Item		Input Current (by Load Current) 入力電流 (負荷電力特性)	
Object			

1. Graph

—△—

Input Volt.

85 V

---□---

Input Volt.

100 V

- -○- -

Input Volt.

132 V

Input Current [A]

20.0

15.0

10.0

5.0

0.0

0

200

400

600

800

Load Power [W]

Load Power [W]	Input Current [A] (85V)	Input Current [A] (100V)	Input Current [A] (132V)
0.0	0.370	0.310	0.270
158.4	2.480	2.110	1.600
316.8	4.460	3.820	2.860
475.2	6.450	5.480	4.120
633.6	8.550	7.170	5.410
792.0	10.670	8.970	6.710
871.2	11.760	9.870	7.360

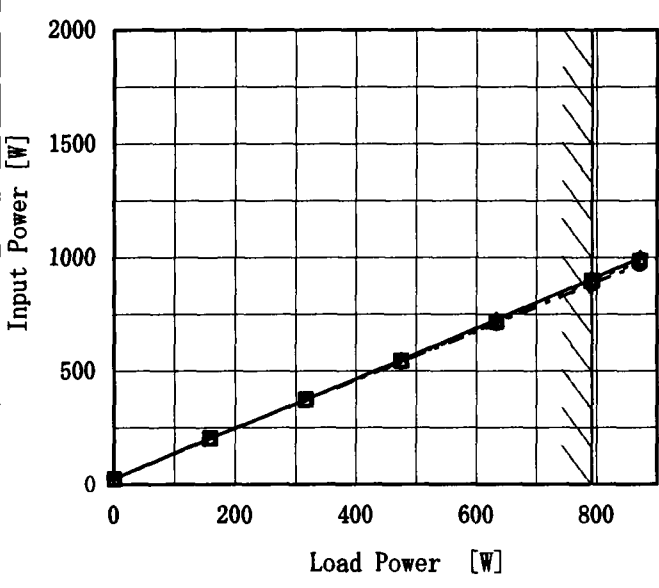
Note: Slanted line shows the range of the rated load power.

(注) 斜線は定格電力範囲を示す。

Load Power [W]	Input Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
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—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

2. Values

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Model		ADA1000F (ADA1000F-48)		Temperature		25℃																																																				
Item		Input Power (by Load Power) 入力電力（負荷電力特性）		Testing Circuitry		Figure A																																																				
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Model		ADA1000F (ADA1000F-48)	Temperature Testing Circuitry	25℃ Figure A
Item		Efficiency (by Input Voltage) 効率 (入力電圧特性)		
Object				

1. Graph

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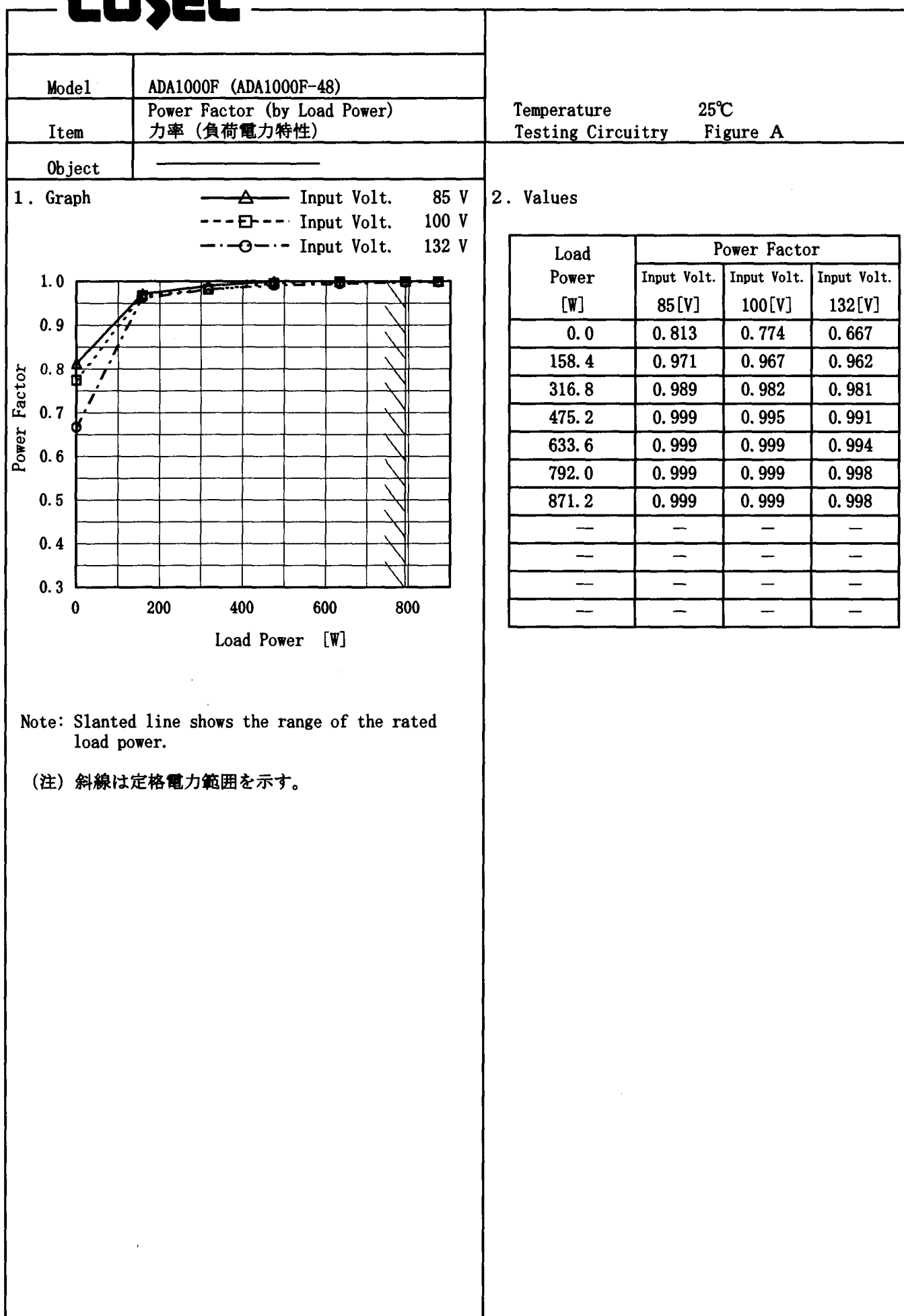
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Model	ADA1000F (ADA1000F-48)																																																					
Item	Hold-Up Time (by Load Power) 出力保持時間 (負荷電力特性)																																																					
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Model		ADA1000F (ADA1000F-48)		Temperature		25℃	
Item		Instantaneous Interruption Compensation (by Load Power)		Testing Circuitry		Figure A	
Object							

1. Graph

—△—

Input Volt. 85V

---□---

Input Volt. 100V

---○---

Input Volt. 132V

Instantaneous Compensation Time [mS]

Load Power [W]

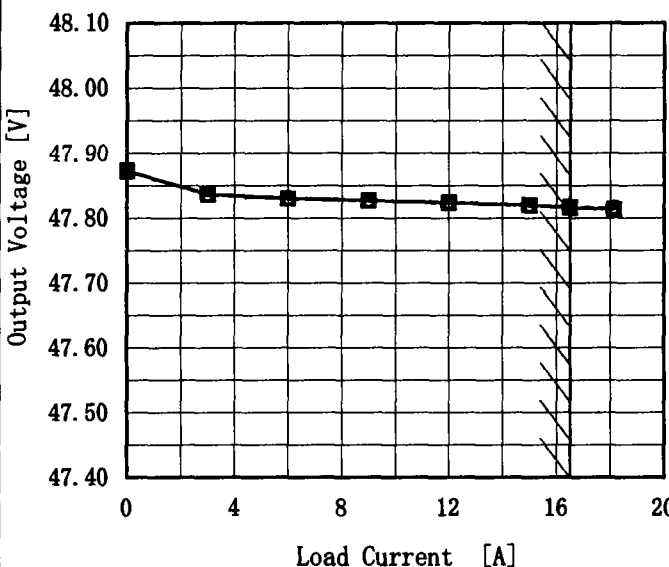
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(注) 斜線は定格電力範囲を示す。

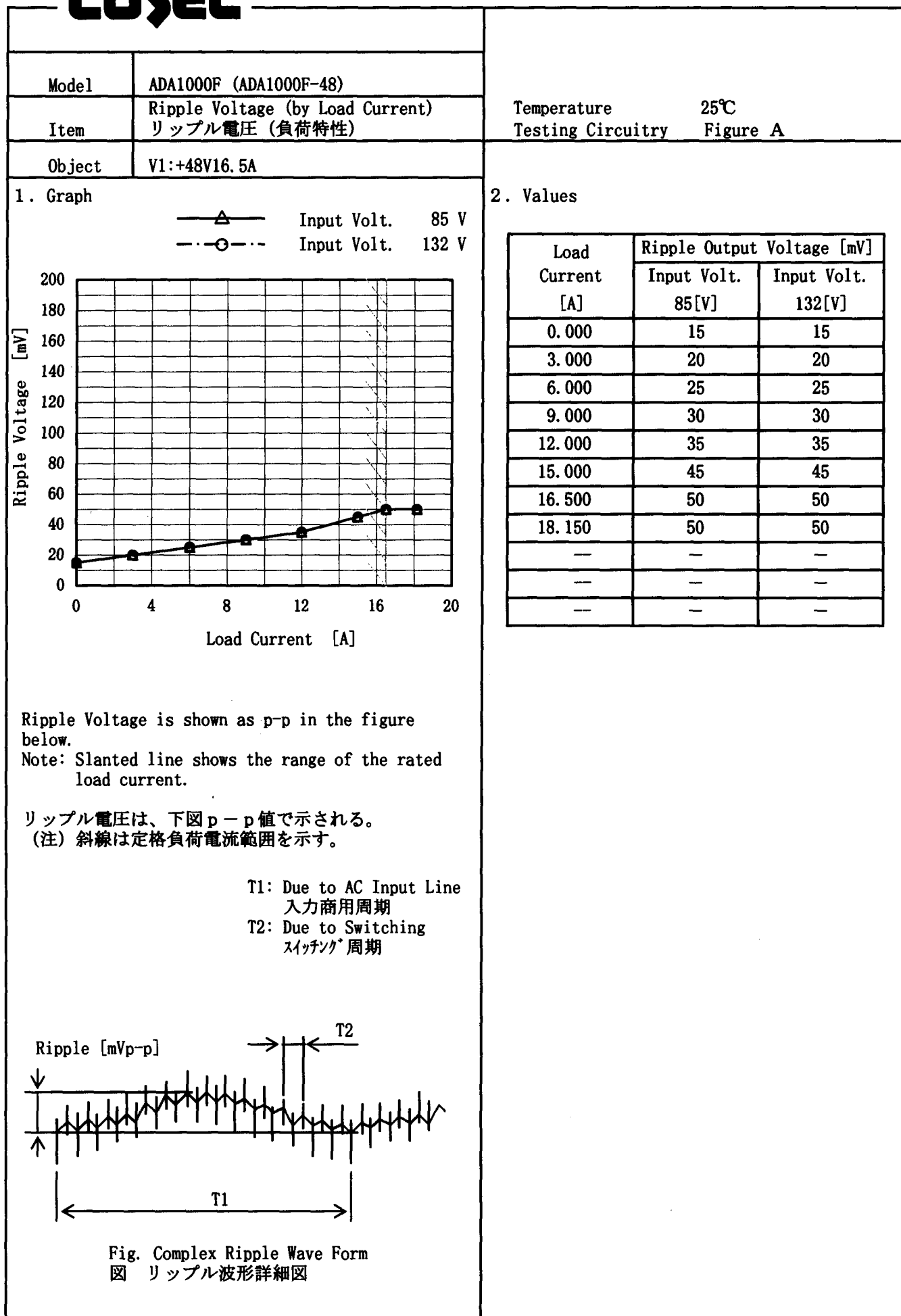
2. Values

Load Power [W]	Time [mS]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.0	—	—	—
158.4	98	113	137
316.8	50	52	54
475.2	36	41	43
633.6	30	32	35
792.0	26	29	32
871.2	23	26	29
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

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	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]																																																							
0.000	47.873	47.874	47.873																																																							
3.000	47.837	47.836	47.836																																																							
6.000	47.831	47.830	47.830																																																							
9.000	47.827	47.827	47.827																																																							
12.000	47.824	47.824	47.824																																																							
15.000	47.820	47.820	47.820																																																							
16.500	47.816	47.817	47.817																																																							
18.150	47.814	47.814	47.815																																																							
—	—	—	—																																																							
—	—	—	—																																																							
—	—	—	—																																																							
<div>Note: Slanted line shows the range of the rated load current.</div> <div>(注) 斜線は定格負荷電流範囲を示す。</div>																																																										

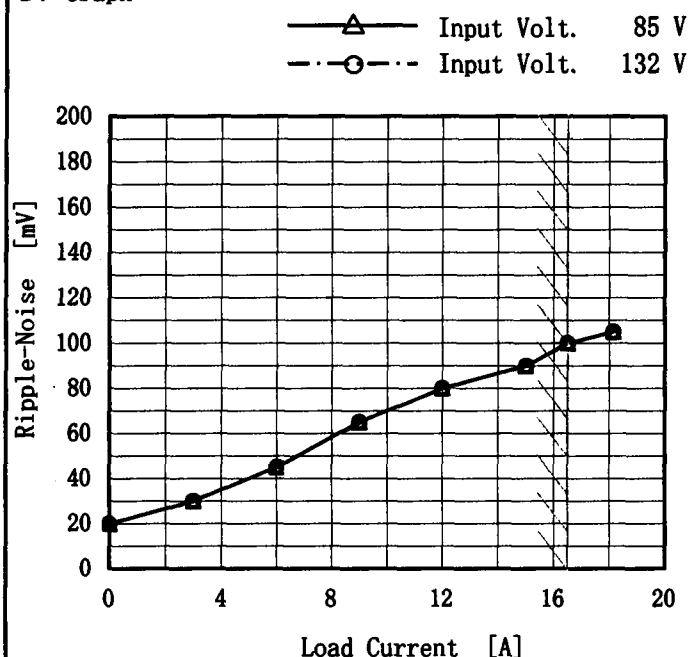
COSEL



COSEL

Model	ADA1000F (ADA1000F-48)
Item	Ripple-Noise リップルノイズ
Object	V1:+48V16.5A

1. Graph



Ripple-Noise is shown as p-p in the figure below.
 Note: Slanted line shows the range of the rated load current.

リップルノイズは、下図 p-p 値で示される。
 (注) 斜線は定格負荷電流範囲を示す。

T1: Due to AC Input Line
 入力商用周期
 T2: Due to Switching
 スイッチング周期

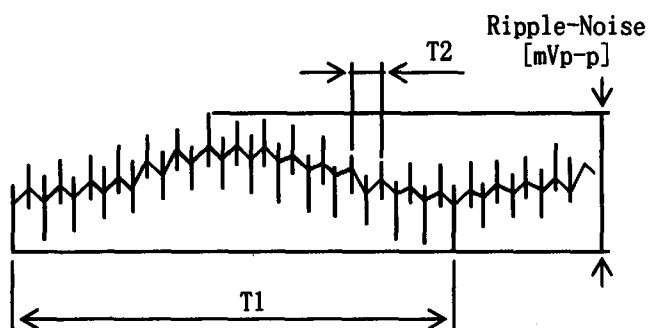


Fig. Complex Ripple Wave Form
 図 リップル波形詳細図

2. Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 85[V]	Input Volt. 132[V]
0.000	20	20
3.000	30	30
6.000	45	45
9.000	65	65
12.000	80	80
15.000	90	90
16.500	100	100
18.150	105	105
—	—	—
—	—	—
—	—	—

COSEL

Model	ADA1000F (ADA1000F-48)																																																													
Item	Overcurrent Protection 過電流保護	Temperature	25℃																																																											
Object	V1:+48V16.5A	Testing Circuitry	Figure A																																																											
1. Graph		2. Values																																																												
<div><div>————— Input Volt. 85 V</div><div>————— Input Volt. 100 V</div><div>..... Input Volt. 132 V</div></div> <p>Output Voltage [V]</p> <p>Load Current [A]</p>		<table><tr><th rowspan="2">Output Voltage [V]</th><th colspan="3">Load Current [A]</th></tr><tr><th>Input Volt. 85[V]</th><th>Input Volt. 100[V]</th><th>Input Volt. 132[V]</th></tr><tr><td>48.0</td><td>43.13</td><td>43.58</td><td>43.68</td></tr><tr><td>45.6</td><td>44.01</td><td>44.11</td><td>44.30</td></tr><tr><td>43.2</td><td>44.26</td><td>44.43</td><td>44.63</td></tr><tr><td>38.4</td><td>44.96</td><td>45.07</td><td>45.18</td></tr><tr><td>33.6</td><td>45.54</td><td>45.59</td><td>45.61</td></tr><tr><td>—</td><td>—</td><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td><td>—</td><td>—</td></tr></table>		Output Voltage [V]	Load Current [A]			Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]	48.0	43.13	43.58	43.68	45.6	44.01	44.11	44.30	43.2	44.26	44.43	44.63	38.4	44.96	45.07	45.18	33.6	45.54	45.59	45.61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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<p>Note: Slanted line shows the range of the rated load current.</p> <p>(注) 斜線は定格負荷電流範囲を示す。</p> <p>Intermittent operation occurs when the output voltage is from 33.6V to 0V.</p> <p>33.6V~0V間は、間欠モードとなる。</p>																																																														

COSEL

Model		ADA1000F (ADA1000F-48)	
Item		Overvoltage Protection 過電圧保護	
Object		V1:+48V16.5A	

1. Graph

—△—

Input Volt.

85 V

---□---

Input Volt.

100 V

---○---

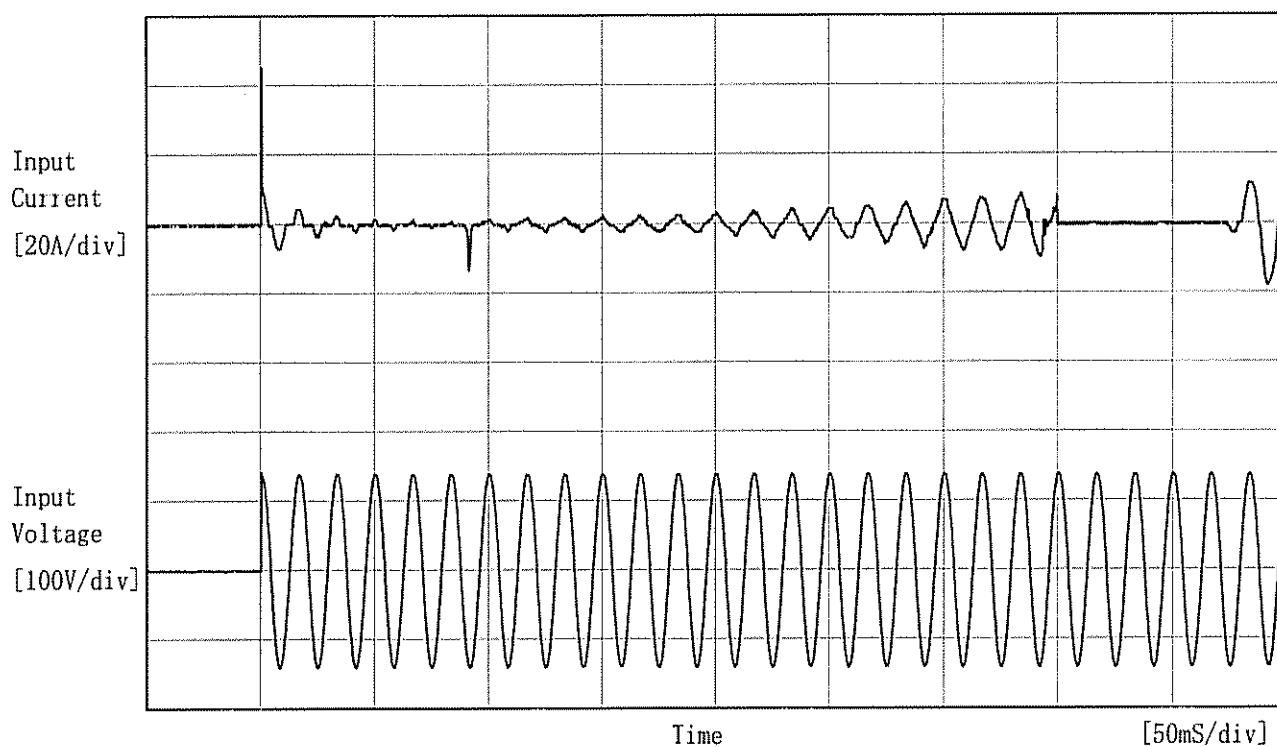
Input Volt.

132 V

Operating Point [V]

COSEL

Model	ADA1000F (ADA1000F-48)	Temperature	25°C
Item	Inrush Current 突入電流	Testing Circuitry	Figure A
Object	_____		



Input Voltage 100 V

Frequency 60 Hz

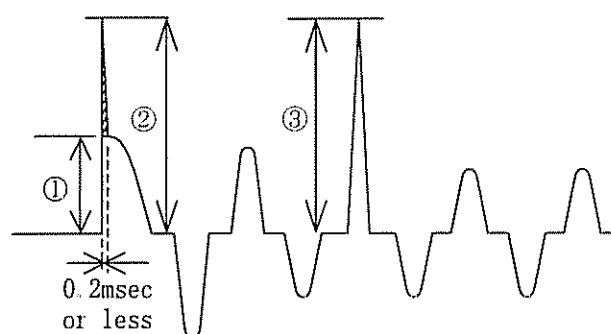
Load 100 %

Inrush Current

① 12.0 [A]

② 45.3 [A] (0.2msec or less)*1

③ 13.2 [A]



*1 The specification of the inrush current (primary surge) means that the surge current to a built-in noise filter (0.2msec or less : waveform ②) is excluded.

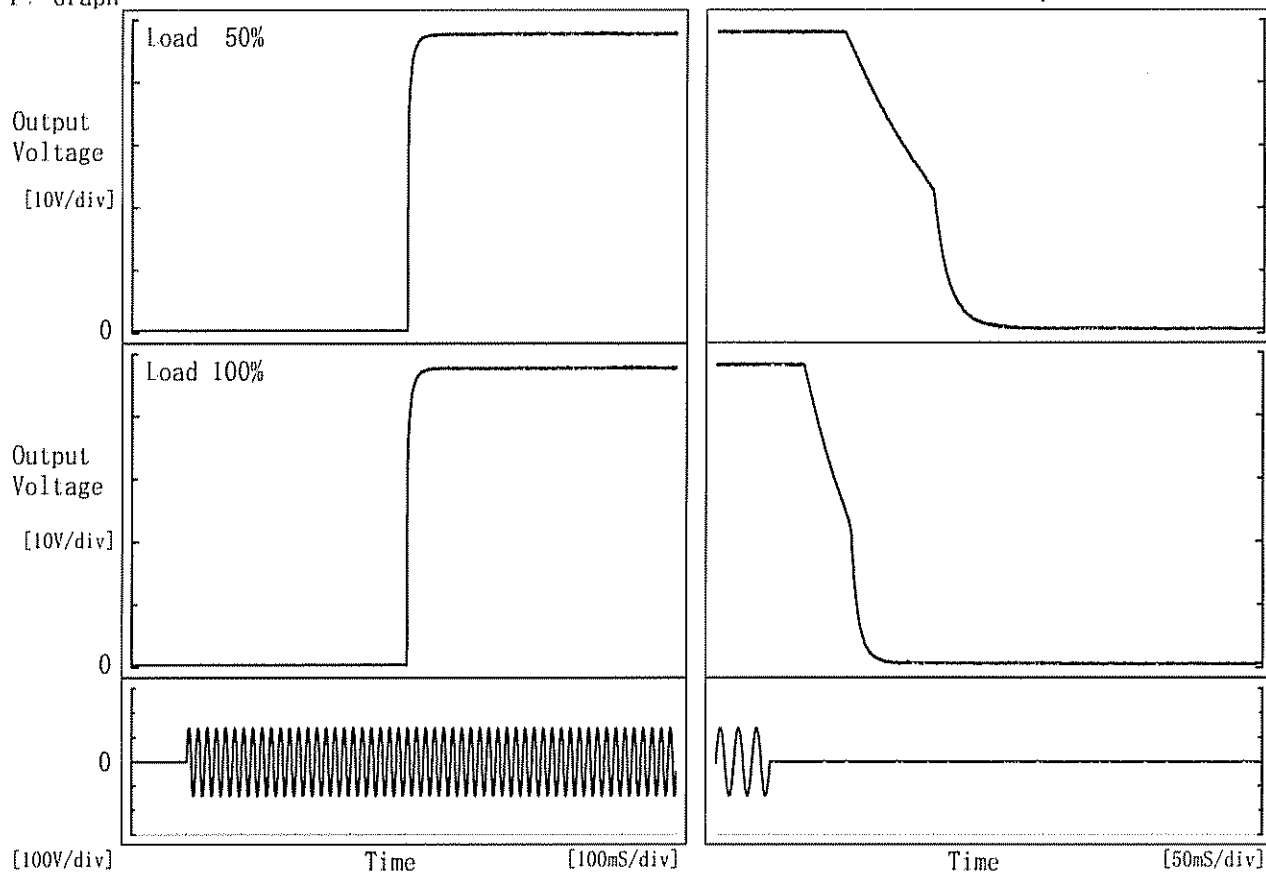
本製品の突入電流(1次サージ)の仕様は、内蔵ノイズフィルタ部へのサージ電流(0.2msec以下:波形②)を除きます。

COSEL

Model	ADA1000F (ADA1000F-48)	Temperature	25°C
Item	Rise and Fall Time 立上り、立下り時間	Testing Circuitry	Figure A
Object	V1:+48V16.5A		

1. Graph

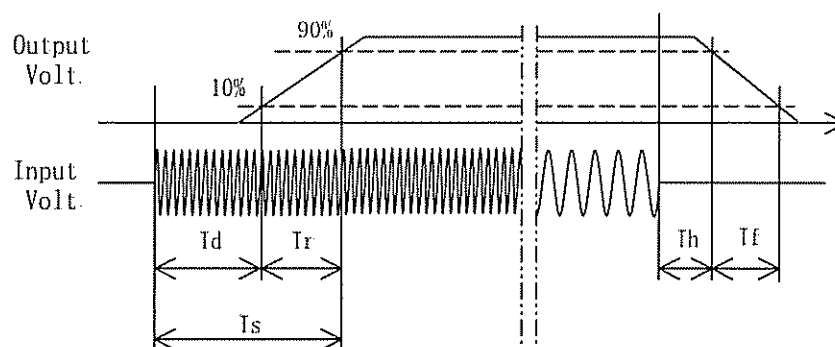
Input Volt. 100 V



2. Values

[mS]

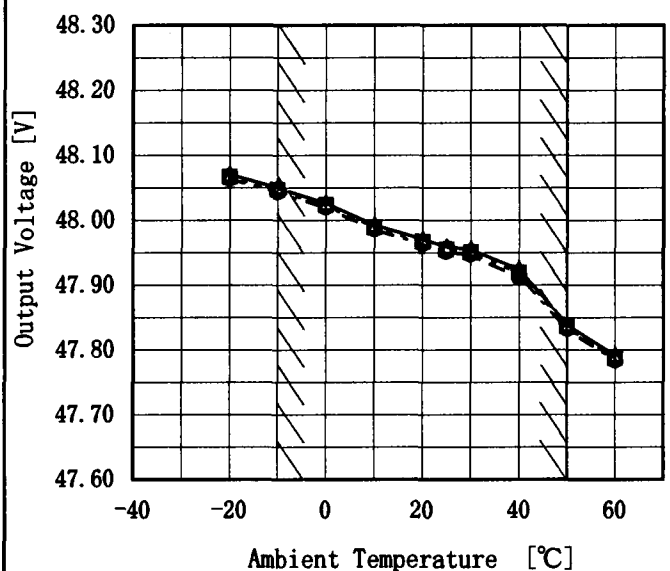
Load \ Time	T _d	T _r	T _s	T _h	T _f
50 %	403.5	9.5	413.0	79.3	90.5
100 %	403.0	9.5	412.5	36.8	47.5



COSEL

Model	ADA1000F (ADA1000F-48)
Item	Ambient Temperature Drift 周囲温度変動
Object	V1:+48V16.5A

1. Graph
- △— Input Volt. 85 V
 ---□--- Input Volt. 100 V
 ---○--- Input Volt. 132 V



Note: Slanted line shows the range of the rated ambient temperature.

(注) 斜線は定格周囲温度範囲を示す。

Testing Circuitry Figure A

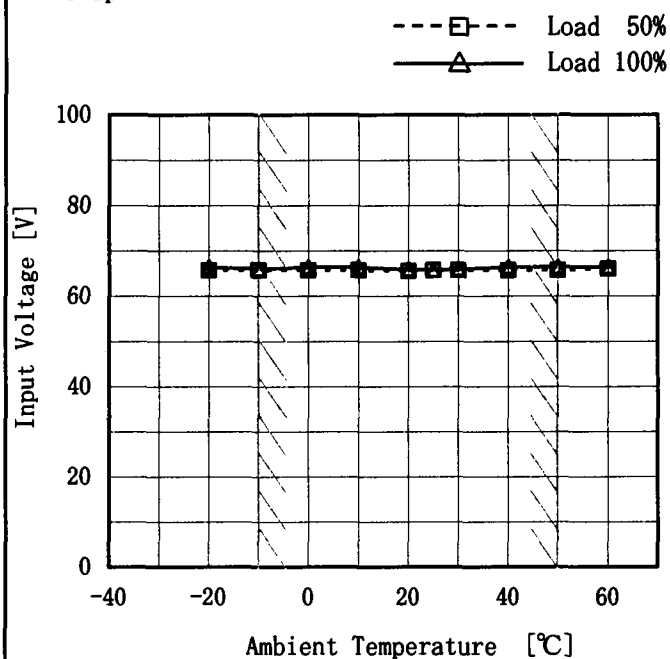
2. Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	48.070	48.067	48.064
-10	48.050	48.047	48.043
0	48.027	48.024	48.020
10	47.993	47.989	47.986
20	47.971	47.967	47.963
25	47.960	47.956	47.952
30	47.956	47.951	47.947
40	47.924	47.919	47.912
50	47.839	47.836	47.832
60	47.792	47.787	47.784
—	—	—	—

COSEL

Model	ADA1000F (ADA1000F-48)
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	V1:+48V16.5A

1. Graph



Note: Slanted line shows the range of the rated ambient temperature.

(注) 斜線は定格周囲温度範囲を示す。

Testing Circuitry Figure A

2. Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	66	66
-10	66	66
0	66	66
10	66	66
20	66	66
25	66	66
30	66	66
40	66	66
50	66	66
60	66	66
--	—	—

COSEL

		Testing Circuitry Figure A
Model	ADA1000F (ADA1000F-48)	
Item	Ripple Voltage (by Ambient Temp.) リップル電圧 (周囲温度特性)	
Object	V1:+48V16.5A	
1. Graph		2. Values
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COSEL

COSEL

Model	ADA1000F (ADA1000F-48)	Testing Circuitry Figure A
Item	Output Voltage Accuracy 定電圧精度	
Object	V1:+48V16.5A	

1. Output Voltage Accuracy

This is defined as the value of the output voltage, regulation load, ambient temperature and input voltage varied at random in the range as specified below.

Temperature : -10 ~ 50°C

Input Voltage : 85 ~ 132V

Load Current : 0 ~ 16.5A

* Output Voltage Accuracy = $\pm (\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

* Output Voltage Accuracy (Ration) = $\frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$

1. 定電圧精度

周囲温度、入力電圧、負荷電流を下記仕様内で、任意に変動させたときの出力電圧の変動をいう。

周囲温度 : -10 ~ 50°C

入力電圧 : 85 ~ 132V

負荷電流 : 0 ~ 16.5A

* 定電圧精度(変動値) = $\pm (\text{出力電圧の最高値} - \text{出力電圧の最低値}) / 2$

* 定電圧精度(変動率) = $\frac{\text{変動値}}{\text{定格出力電圧}} \times 100$

2. Values

Item	Temperature [°C]	Input Voltage [V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-10	85	0	48.059	±139	±0.3
Minimum Voltage	50	132	16.5	47.781		

COSEL

Model	ADA1000F (ADA1000F-48)		
Item	Leakage Current 漏洩電流	Temperature	25℃
Object		Testing Circuitry	Figure B

1. Results

Standards	Leakage Current [mA]		
	Input Volt. 85 [V]	Input Volt. 100 [V]	Input Volt. 132 [V]
(A) DEN-AN	0.16	0.19	0.25
(B) IEC60950	0.16	0.19	0.25

Standards	Leakage Current [mA]		
	Input Volt. 170 [V]	Input Volt. 240 [V]	Input Volt. 264 [V]
(B) IEC60950	—	—	—

2. Condition

Leakage current value is concluded after measuring each phases of AC input and by choosing the larger one.

交流入力各相について測定し、その大きい方を漏洩電流測定値とする。

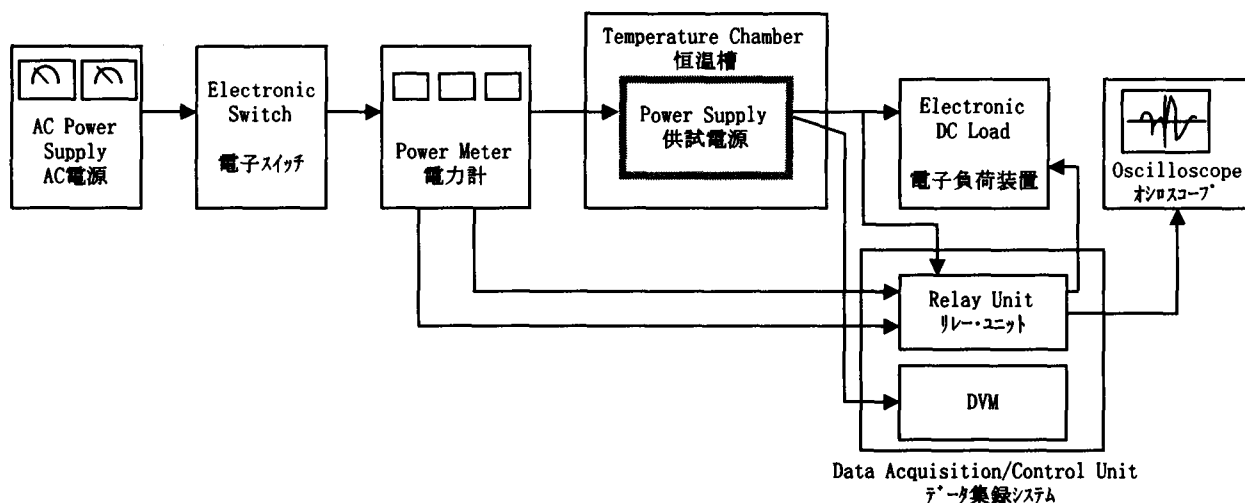


Figure A

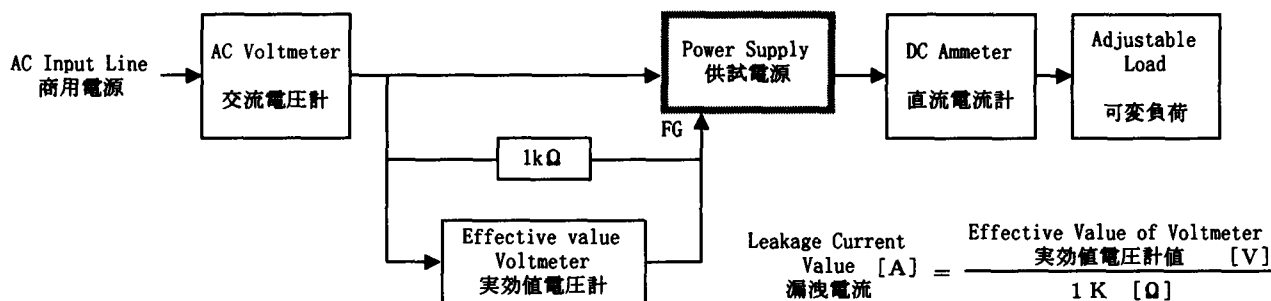


Figure B (DEN-AN)

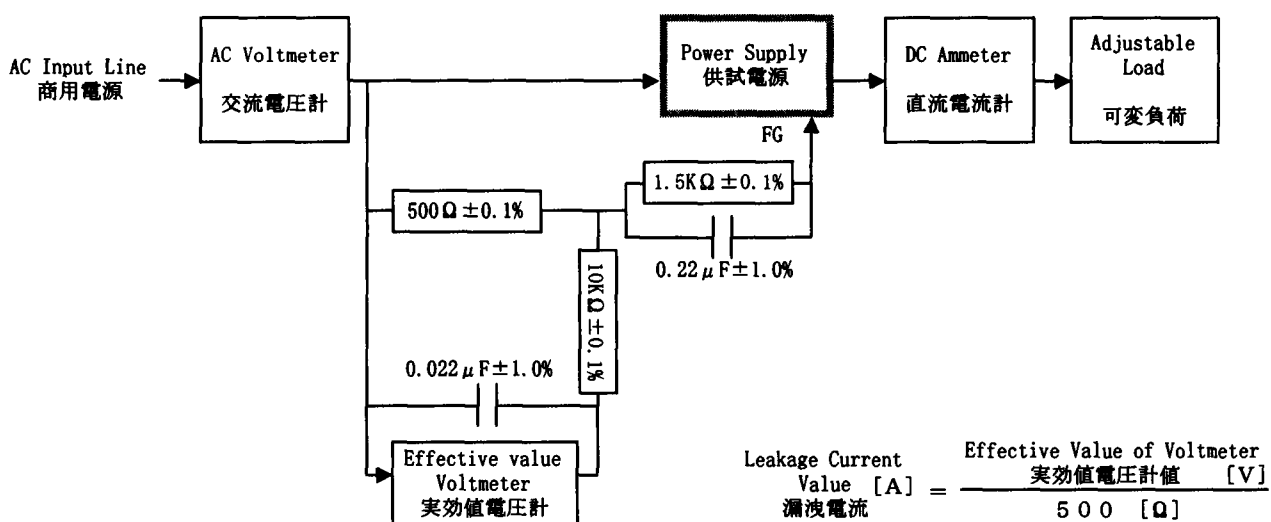


Figure B (IEC60950)