

# TEST DATA OF ADA750F

ADA750F-30  
(100V INPUT)

Regulated DC power supply  
Jan. 27, 2003

Approved by : Kuniaki Nagahara  
Kuniaki Nagahara Design Manager

Prepared by : Katsumi Ishikawa  
Katsumi Ishikawa Design Engineer

INPUT : AC 85~132V

OUTPUT : V1: 30V 20A

**コーセル株式会社**  
**COSEL CO.,LTD.**

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Model

ADA750F (ADA750F-30)

Item

Line Regulation  
静的入力変動

Object

V1:+30V20A

1. Graph

---□--- Load 50%

—△— Load 100%

Output Voltage [V]

30.40

30.30

30.20

30.10

30.00

29.90

29.80

29.70

70

90

110

130

150

Input Voltage [V]

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。

2. Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
75	30.150	30.139
80	30.149	30.139
85	30.149	30.139
90	30.148	30.139
100	30.148	30.139
110	30.148	30.139
120	30.148	30.138
132	30.147	30.138
140	30.146	30.138

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Model	ADA750F (ADA750F-30)																																																					
Item	Input Current (by Load Current) 入力電流 (負荷電力特性)	Temperature	25°C																																																			
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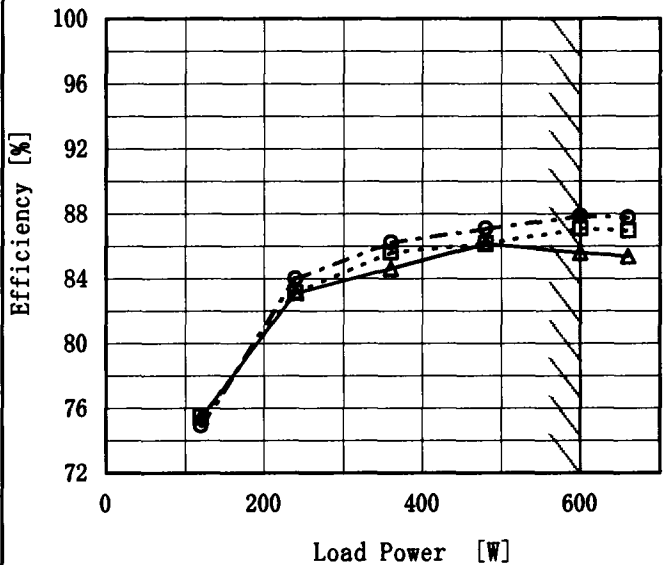
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Model		ADA750F (ADA750F-30)		Temperature		25℃																																	
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# COSEL

Model

ADA750F (ADA750F-30)

Item

Power Factor (by Input Voltage)  
力率 (入力電圧特性)

Object

Temperature

25℃

Testing Circuitry

Figure A

1. Graph

---□--- Load 50%

—△— Load 100%

Power Factor

Input Voltage [V]

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

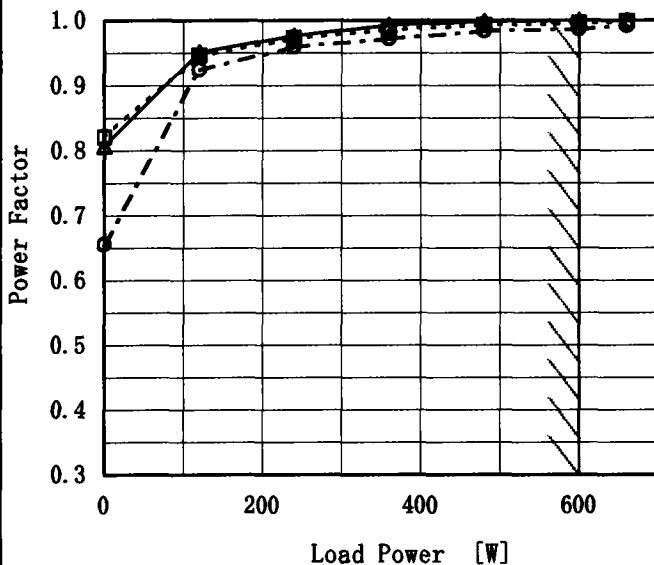
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2. Values

Input Voltage [V]	Power Factor	
	Load 50%	Load 100%
75	0.986	0.999
80	0.992	0.999
85	0.986	0.999
90	0.981	0.999
100	0.983	0.996
110	0.978	0.993
120	0.975	0.993
132	0.970	0.988
140	0.970	0.986



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Model		ADA750F (ADA750F-30)		Temperature		25℃																																																				
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Model		ADA750F (ADA750F-30)		Temperature		25℃	
Item		Hold-Up Time (by Load Power) 出力保持時間 (負荷電力特性)		Testing Circuitry		Figure A	
Object							

1. Graph

—△—

Input Volt. 85V

---□---

Input Volt. 100V

---○---

Input Volt. 132V

Hold-Up Time [mS]

1000

100

10

1

0

200

400

600

Load Power [W]

This duration covers from Shut-off of input voltage to the moment when output voltage descends to the rated range of voltage accuracy.

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

出力保持時間とは、入力電圧断から出力電圧が定電圧精度の範囲を保持しているところまでの時間。

(注) 斜線は定格電力範囲を示す。

2. Values

Load Power [W]	Hold-Up Time [mS]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0	—	—	—
120	173	178	185
240	85	89	95
360	53	57	62
480	38	40	45
600	28	31	35
660	24	27	31
--	—	—	—
--	—	—	—
--	—	—	—
--	—	—	—

# COSEL

Model		ADA750F (ADA750F-30)		Temperature 25℃ Testing Circuitry Figure A																																																		
Item		Instantaneous Interruption Compensation (by Load Power) 瞬時停電保障 (負荷電力特性)																																																				
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1. Graph		<div><div>—△— Input Volt. 85V</div><div>---□--- Input Volt. 100V</div><div>-·-○-·- Input Volt. 132V</div></div> <div>Instantaneous Compensation Time [mS]</div> <div>Load Power [W]</div>		2. Values																																																		
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Load Power [W]	Time [mS]																																																					
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]																																																			
0	—	—	—																																																			
120	132	145	162																																																			
240	40	52	69																																																			
360	36	48	43																																																			
480	24	34	41																																																			
600	17	25	33																																																			
660	14	20	28																																																			
--	—	—	—																																																			
--	—	—	—																																																			
--	—	—	—																																																			
--	—	—	—																																																			
Note: Slanted line shows the range of the rated load power.																																																						
(注) 斜線は定格電力範囲を示す。																																																						

# COSEL

Model		ADA750F (ADA750F-30)	
Item		Load Regulation 静的負荷変動	
Object		V1:+30V20A	

1. Graph

—△— Input Volt. 85 V

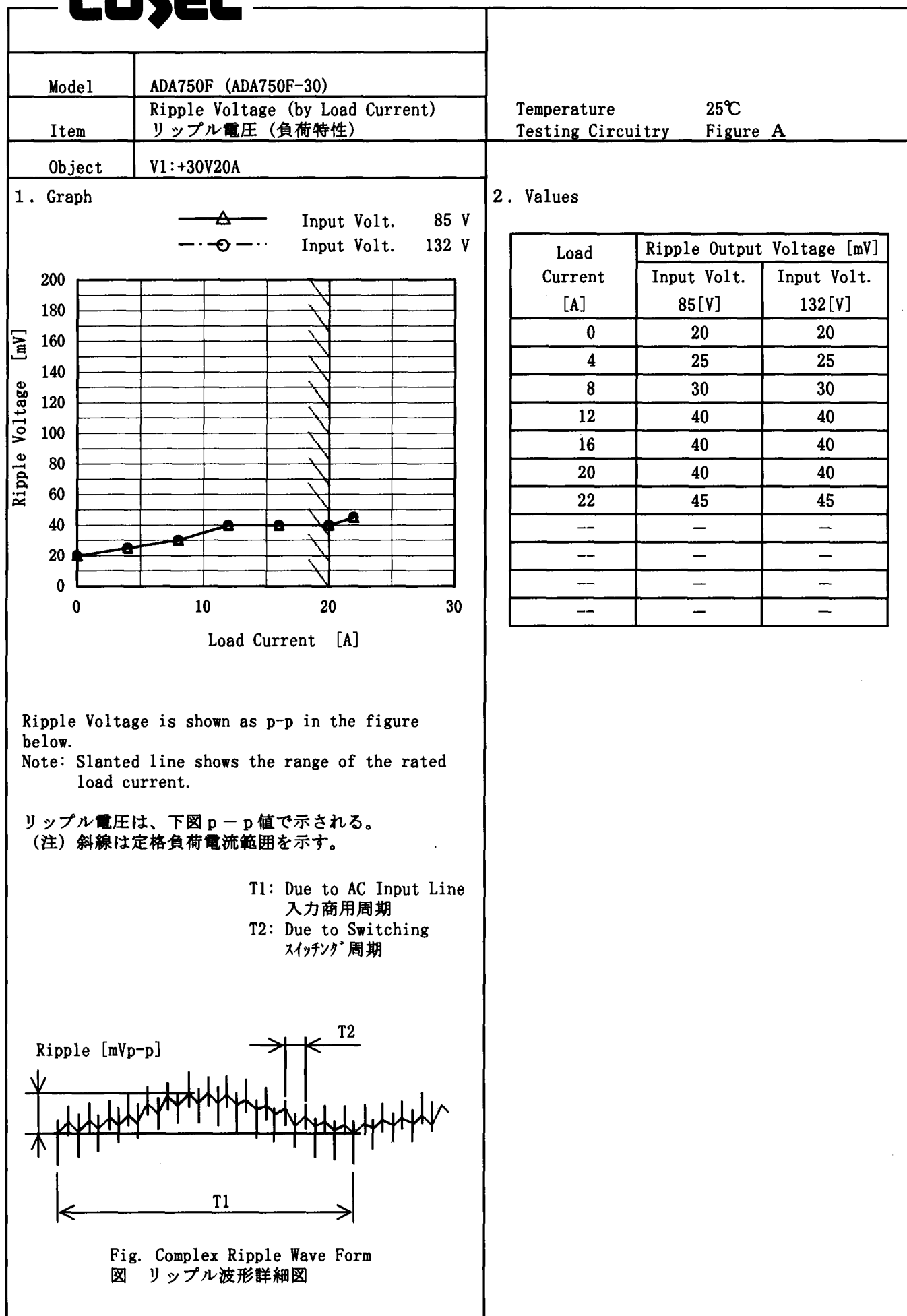
---□--- Input Volt. 100 V

-·-○-·- Input Volt. 132 V

Output Voltage [V]

</

# COSEL



# COSEL

Model	ADA750F (ADA750F-30)	Temperature	25°C
Item	Ripple-Noise リップルノイズ	Testing Circuitry	Figure A
Object	V1:+30V20A		

1. Graph

—△— Input Volt. 85 V  
 - - - ○ - - - Input Volt. 132 V

Ripple-Noise [mV]

Load Current [A]

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

Ripple-Noise [mVp-p]

T1

T2

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	25	25
4	30	30
8	35	35
12	45	45
16	45	45
20	50	50
22	55	55
--	--	--
--	--	--
--	--	--
--	--	--

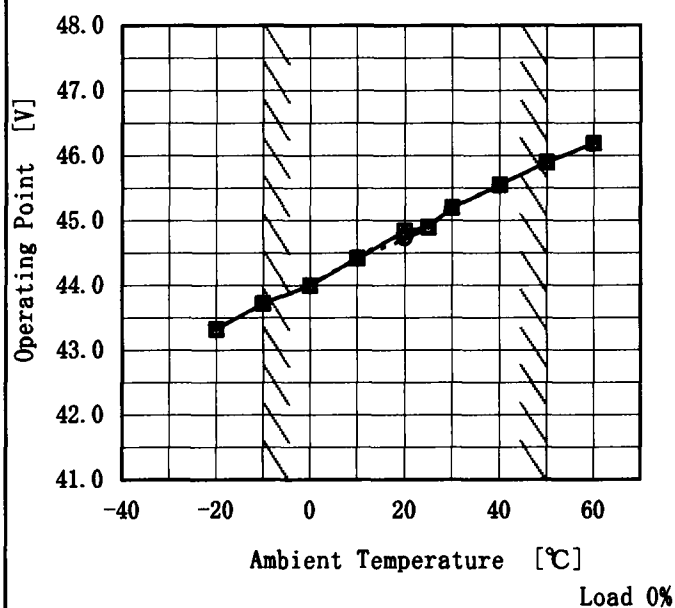
**COSEL**

Model	ADA750F (ADA750F-30)																																																													
Item	Overcurrent Protection 過電流保護		Temperature 25℃ Testing Circuitry Figure A																																																											
Object	V1:+30V20A																																																													
1. Graph		2. Values																																																												
<div><div><div></div><div></div><div></div></div><div><div>Input Volt. 85 V</div><div>Input Volt. 100 V</div><div>Input Volt. 132 V</div></div></div> <div><div>Output Voltage [V]</div><div><div>40</div><div>20</div><div>0</div></div><div><div>0</div><div>10</div><div>20</div><div>30</div><div>40</div><div>50</div></div><div>Load Current [A]</div></div>		<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>30.0</td><td>37.20</td><td>37.39</td><td>37.62</td></tr><tr><td>28.5</td><td>37.45</td><td>37.64</td><td>37.87</td></tr><tr><td>27.0</td><td>37.76</td><td>37.98</td><td>38.21</td></tr><tr><td>24.0</td><td>38.40</td><td>38.48</td><td>38.71</td></tr><tr><td>21.0</td><td>38.90</td><td>38.96</td><td>39.19</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]	30.0	37.20	37.39	37.62	28.5	37.45	37.64	37.87	27.0	37.76	37.98	38.21	24.0	38.40	38.48	38.71	21.0	38.90	38.96	39.19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
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28.5	37.45	37.64	37.87																																																											
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24.0	38.40	38.48	38.71																																																											
21.0	38.90	38.96	39.19																																																											
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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 21V to 0V.</p> <p>21V~0V間は、間欠モードとなる。</p>																																																														

# COSEL

Model	ADA750F (ADA750F-30)
Item	Overvoltage Protection 過電圧保護
Object	V1:+30V20A

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

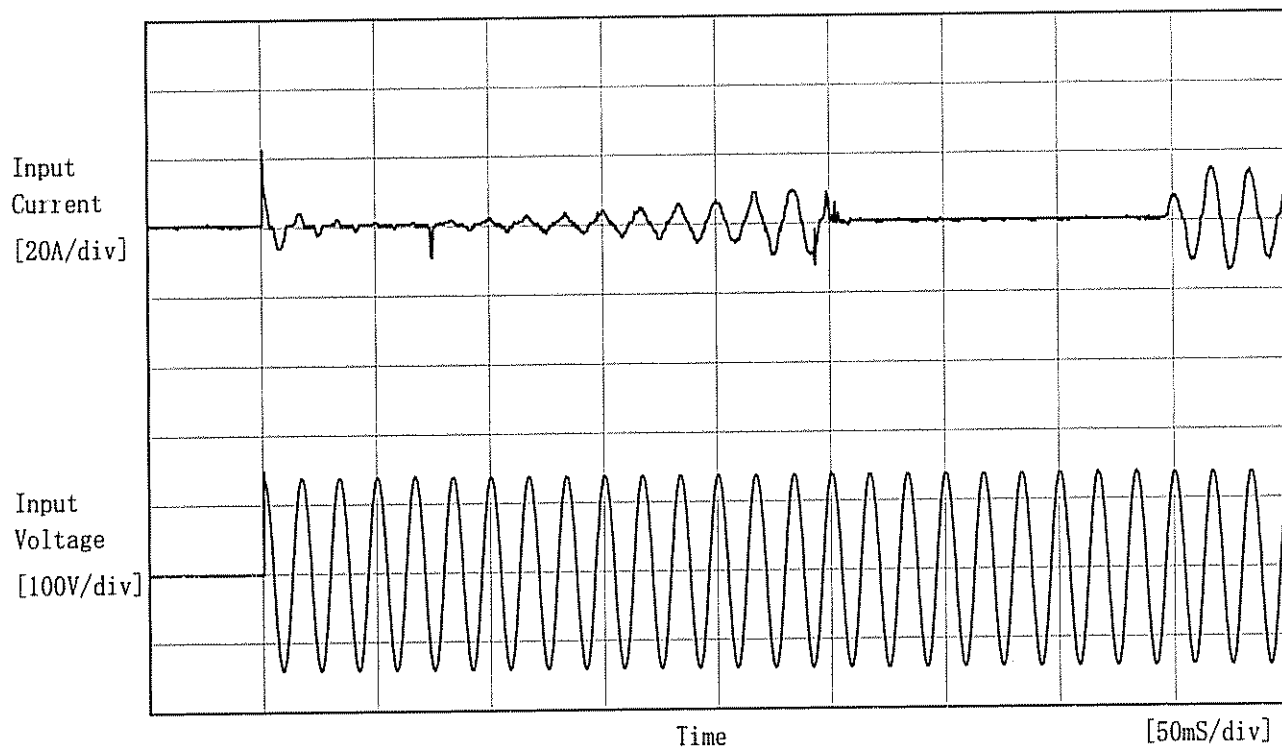
2. Values

Ambient Temperature [°C]	Operating Point [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	43.32	43.32	43.32
-10	43.72	43.72	43.72
0	44.00	44.00	44.00
10	44.42	44.42	44.43
20	44.84	44.84	44.72
25	44.90	44.90	44.90
30	45.20	45.20	45.20
40	45.55	45.55	45.55
50	45.90	45.90	45.90
60	46.19	46.19	46.19
--	—	—	—



# COSEL

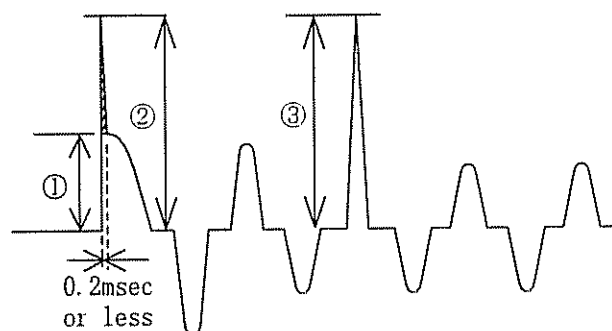
Model	ADA750F (ADA750F-30)	Temperature	25°C
Item	Inrush Current 突入電流	Testing Circuitry	Figure A
Object	_____		



Input Voltage 100 V  
Frequency 60 Hz  
Load 100 %

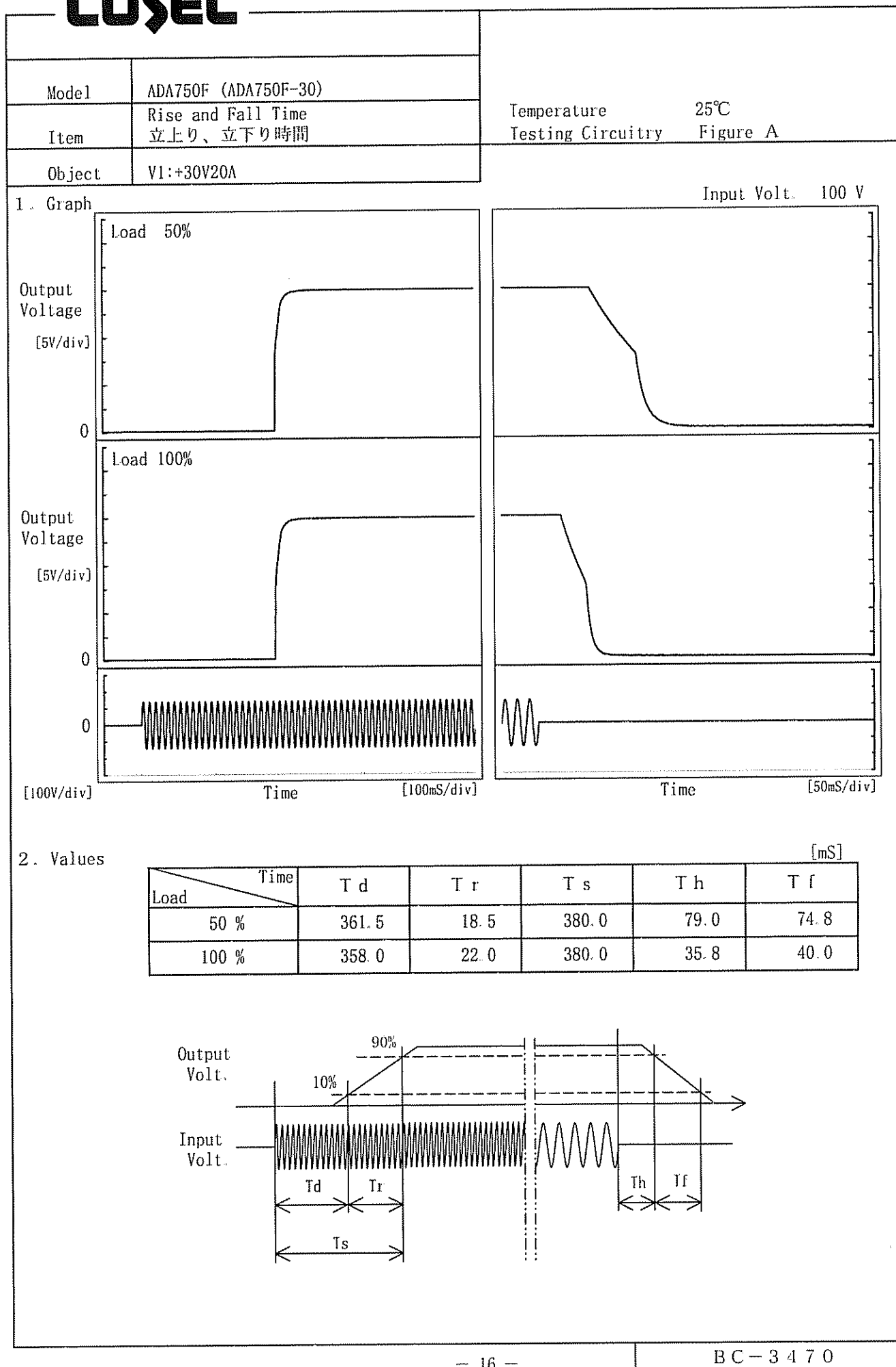
Inrush Current

- ① 13.8 [A]
- ② 22.3 [A] (0.2msec or less)\*1
- ③ 8.4 [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**

# COSEL

ROSEL

Model	ADA750F (ADA750F-30)
Item	Ambient Temperature Drift 周囲温度変動
Object	V1:+30V20A

1. Graph

—△—

Input Volt.

85 V

---□---

Input Volt.

100 V

--○--

Input Volt.

132 V

Ambient Temperature [°C]

Load 100%

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

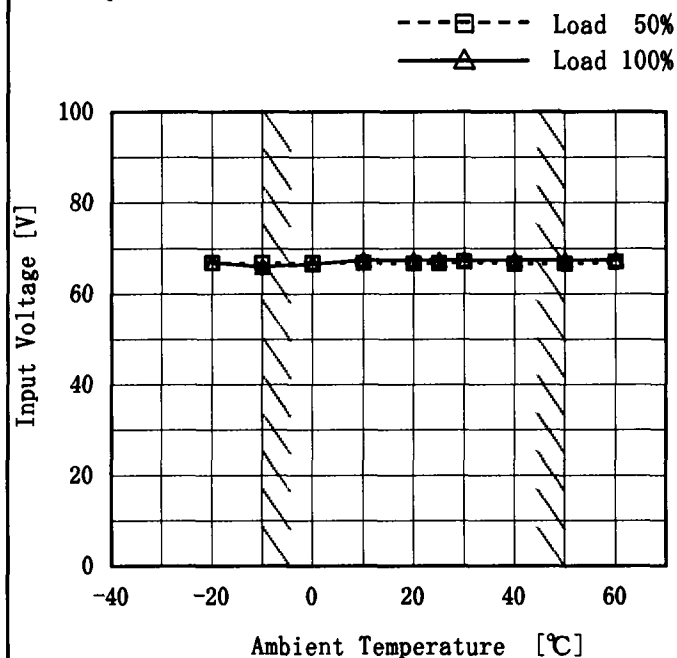
2. Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	30.173	30.173	30.173
-10	30.165	30.164	30.164
0	30.163	30.162	30.162
10	30.155	30.155	30.156
20	30.157	30.157	30.157
25	30.156	30.156	30.156
30	30.156	30.157	30.157
40	30.156	30.155	30.154
50	30.145	30.144	30.143
60	30.117	30.115	30.115
--	—	—	—

# COSEL

Model	ADA750F (ADA750F-30)
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	V1:+30V20A

## 1. Graph



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

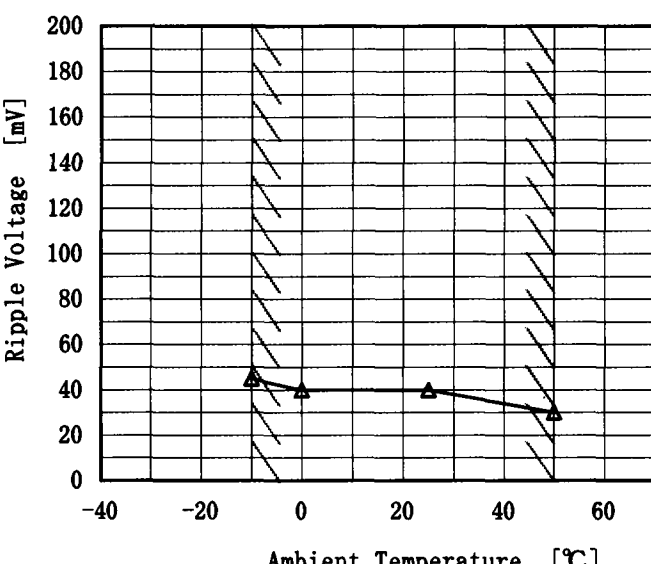
(注) 斜線は定格周囲温度範囲を示す。

## Testing Circuitry Figure A

## 2. Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	67	67
-10	67	66
0	67	67
10	67	67
20	67	67
25	67	67
30	67	67
40	67	67
50	67	67
60	67	67
--	—	—

# COSEL

Model	ADA750F (ADA750F-30)																										
Item	Ripple Voltage (by Ambient Temp.) リップル電圧 (周囲温度特性)	Testing Circuitry      Figure A																									
Object	V1:+30V20A																										
1. Graph		2. Values																									
<div><p style="text-align: center;">Ambient Temperature [°C]</p><p>Input Volt.    100 V</p><p>Load            100 %</p></div>		<table><tr><th>Ambient Temperature [°C]</th><th>Ripple Voltage [mV]</th></tr><tr><td>-10</td><td>45</td></tr><tr><td>0</td><td>40</td></tr><tr><td>25</td><td>40</td></tr><tr><td>50</td><td>30</td></tr><tr><td>--</td><td>--</td></tr><tr><td>--</td><td>--</td></tr><tr><td>--</td><td>--</td></tr><tr><td>--</td><td>--</td></tr><tr><td>--</td><td>--</td></tr><tr><td>--</td><td>--</td></tr><tr><td>--</td><td>--</td></tr></table>		Ambient Temperature [°C]	Ripple Voltage [mV]	-10	45	0	40	25	40	50	30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ambient Temperature [°C]	Ripple Voltage [mV]																										
-10	45																										
0	40																										
25	40																										
50	30																										
--	--																										
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<p>Note: Slanted line shows the range of the rated ambient temperature.</p> <p>(注) 斜線は定格周囲温度範囲を示す。</p>																											

**COSEL**

Model	ADA750F (ADA750F-30)		
Item	Time Lapse Drift 経時ドリフト	Temperature	25℃
Object	V1:+30V20A	Testing Circuitry	Figure A
1. Graph		2. Values	
<div><div>Output Voltage [V]</div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></di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# COSEL

		Testing Circuitry    Figure A
Model	ADA750F (ADA750F-30)	
Item	Output Voltage Accuracy 定電圧精度	
Object	V1:+30V20A	

## 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℃

Input Voltage : 85 ~ 132V

Load Current : 0 ~ 20A

\* 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℃

入力電圧 : 85 ~ 132V

負荷電流 : 0 ~ 20A

\* 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 [℃]	Input Voltage [V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-10	85	0	30.195	±26	±0.1
Minimum Voltage	50	132	20	30.143		

**COSEL**

Model	ADA750F (ADA750F-30)		
Item	Leakage Current 漏洩電流	Temperature	25℃
Object		Testing Circuitry	Figure B

## 1. Results

Standards	Leakage Current [mA]		
	Input Volt.	Input Volt.	Input Volt.
	85 [V]	100 [V]	132 [V]
(A) DEN-AN	0.19	0.22	0.28
(B) IEC60950	0.19	0.22	0.28

Standards	Leakage Current [mA]		
	Input Volt.	Input Volt.	Input Volt.
	170 [V]	240 [V]	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。



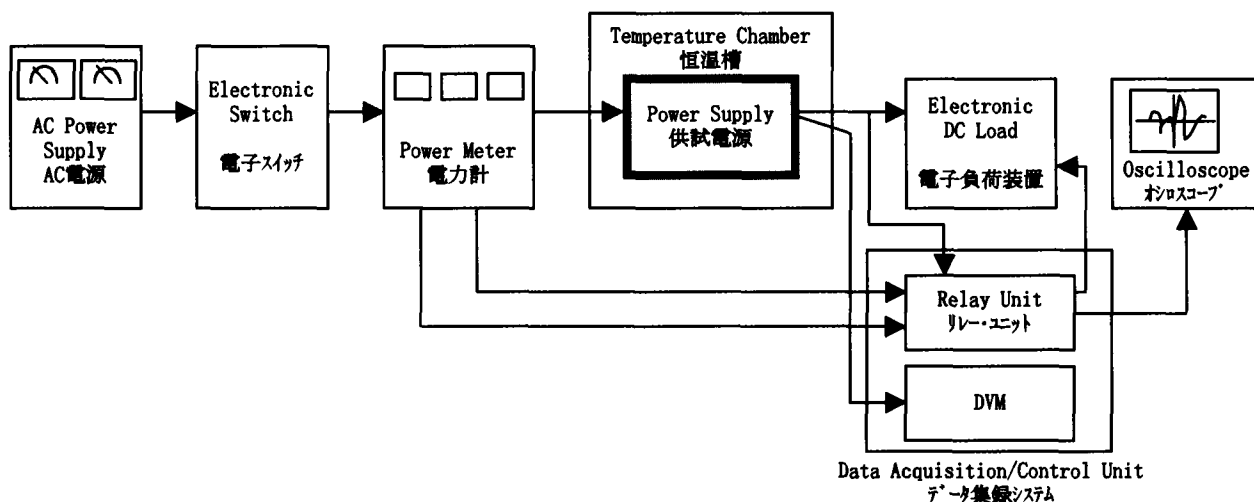


Figure A

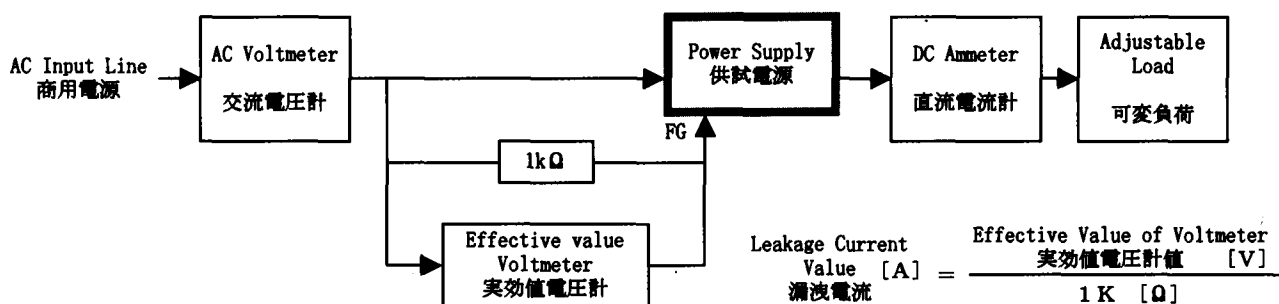


Figure B ( DEN-AN )

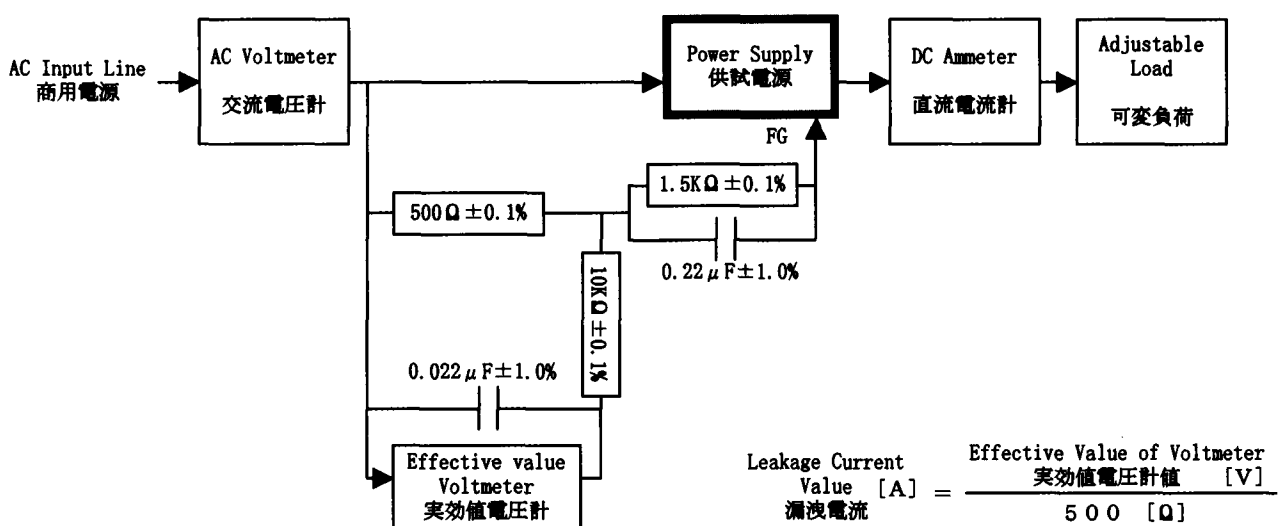


Figure B ( IEC60950 )