



# TEST DATA OF ADA1000F

ADA1000F-24  
(100V INPUT)

Regulated DC power supply  
Jan. 22, 2003

Approved by : Kuniaki Nagahara  
Kuniaki Nagahara Design Manager

Prepared by : Toshihisa Miura  
Toshihisa Miura Design Engineer

INPUT : AC 85~132V

OUTPUT : V1: 24V 33A

コーセル株式会社  
COSEL CO.,LTD.

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Model		ADA1000F (ADA1000F-24)		Temperature		25°C	
Item		Line Regulation 静の入力変動		Testing Circuitry		Figure A	
Object		V1:+24V33A					

1. Graph

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□

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Load 50%

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△

---

Load 100%

Output Voltage [V]

24.30

24.20

24.10

24.00

23.90

23.80

23.70

23.60

70

90

110

130

150

Input Voltage [V]

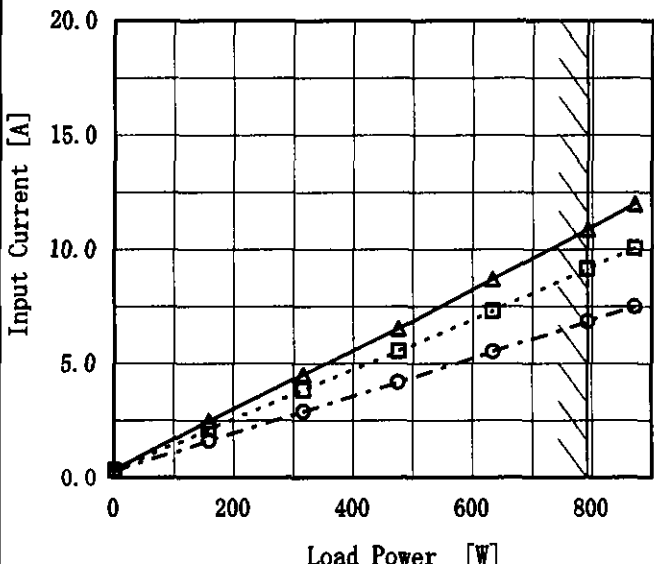
Note: Slanted line shows the range of the rated input voltage.

(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	24.041	24.027
80	24.041	24.027
85	24.040	24.027
90	24.039	24.026
100	24.039	24.026
110	24.038	24.026
120	24.038	24.026
132	24.038	24.026
140	24.037	24.025

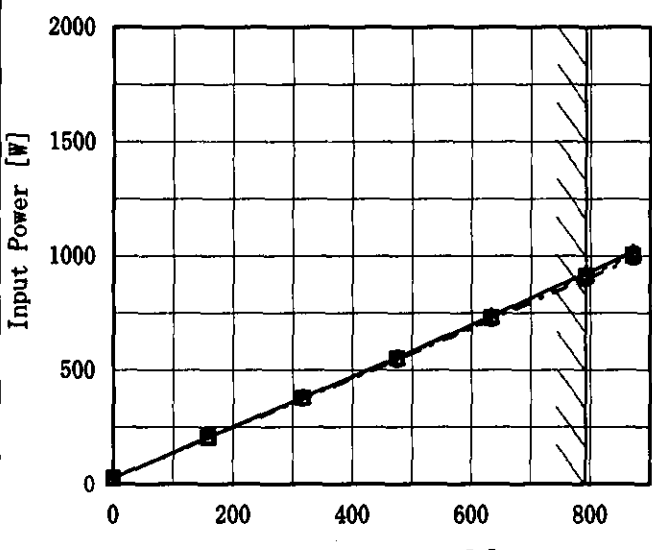
# COSEL

Model		ADA1000F (ADA1000F-24)		Temperature		25℃																																																				
Item		Input Current (by Load Current) 入力電流 (負荷電力特性)		Testing Circuitry		Figure A																																																				
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1. Graph				2. Values																																																						
<div><div>—△—</div>Input Volt. 85 V</div> <div><div>---□---</div>Input Volt. 100 V</div> <div><div>---○---</div>Input Volt. 132 V</div> 				<table><tr><th rowspan="2">Load Power [W]</th><th colspan="3">Input 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>0.0</td><td>0.360</td><td>0.320</td><td>0.280</td></tr><tr><td>158.4</td><td>2.480</td><td>2.130</td><td>1.610</td></tr><tr><td>316.8</td><td>4.510</td><td>3.840</td><td>2.890</td></tr><tr><td>475.2</td><td>6.530</td><td>5.550</td><td>4.180</td></tr><tr><td>633.6</td><td>8.700</td><td>7.310</td><td>5.520</td></tr><tr><td>792.0</td><td>10.890</td><td>9.160</td><td>6.840</td></tr><tr><td>871.2</td><td>11.990</td><td>10.070</td><td>7.510</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>				Load Power [W]	Input Current [A]			Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]	0.0	0.360	0.320	0.280	158.4	2.480	2.130	1.610	316.8	4.510	3.840	2.890	475.2	6.530	5.550	4.180	633.6	8.700	7.310	5.520	792.0	10.890	9.160	6.840	871.2	11.990	10.070	7.510	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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— 2 —

BC-3462

# COSEL

Model		ADA1000F (ADA1000F-24)		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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# COSEL

Model		ADA1000F (ADA1000F-24)
Item		Efficiency (by Input Voltage) 効率 (入力電圧特性)
Object		
1. Graph		<div> <div> <div>---</div> <div>□</div> <div>---</div> </div> <div>Load 50%</div> </div> <div> <div>---</div> <div>△</div> <div>---</div> </div> <div>Load 100%</div>

# COSEL

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Model	ADA1000F (ADA1000F-24)
Item	Efficiency (by Load Power) 効率 (負荷電力特性)
Object	

1. Graph

—△—

Input Volt.

85 V

---□---

Input Volt.

100 V

- - -○- - -

Input Volt.

132 V

The graph plots Efficiency [%] on the y-axis (ranging from 72 to 100 in increments of 4) against Load Power [W] on the x-axis (ranging from 0 to 800 in increments of 200). Three data series are shown: 85V (solid line with triangles), 100V (dashed line with squares), and 132V (dotted line with circles). All series show an upward trend in efficiency as load power increases, starting from approximately 76% efficiency at 150W and reaching a plateau of about 85-88% efficiency at 800W. A slanted line from (0, 72) to (800, 96) indicates the rated load power range.

Load Power [W]	85V Efficiency [%]	100V Efficiency [%]	132V Efficiency [%]
158.4	76.1	75.8	76.8
316.8	82.7	83.1	84.1
475.2	85.3	85.6	86.7
633.6	85.5	86.5	87.4
792.0	85.4	86.3	87.8
871.2	85.3	86.4	87.8

Temperature
25℃

Testing Circuitry
Figure A

2. Values

Load Power [W]	Efficiency [%]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.0	—	—	—
158.4	76.1	75.8	76.8
316.8	82.7	83.1	84.1
475.2	85.3	85.6	86.7
633.6	85.5	86.5	87.4
792.0	85.4	86.3	87.8
871.2	85.3	86.4	87.8
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

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

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# COSEL

Model		ADA1000F (ADA1000F-24)		Temperature		25℃																																	
Item		Power Factor (by Input Voltage) 力率 (入力電圧特性)		Testing Circuitry		Figure A																																	
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1. Graph	<div> <div> <div>—△—</div> <div>Input Volt.</div> <div>85 V</div> </div> <div> <div>---□---</div> <div>Input Volt.</div> <div>100 V</div> </div> <div> <div>---○---</div> <div>Input Volt.</div> <div>132 V</div> </div> </div> <p>Power Factor</p> <p>Load Power [W]</p>																																																					
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Model		ADA1000F (ADA1000F-24)		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																																																				
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1. Graph				2. Values																																																						
<div><div>—△— Input Volt. 85V</div><div>---□--- Input Volt. 100V</div><div>---○--- Input Volt. 132V</div></div> <div><div>Hold-Up Time [mS]</div><div><div>Load Power [W]</div></div></div> <div><div>This duration covers from Shut-off of input voltage to the moment when output voltage descends to the rated range of voltage accuracy.</div><div>Note: Slanted line shows the range of the rated load power.</div></div> <div><div>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。</div><div>(注) 斜線は定格電力範囲を示す。</div></div>				<table><tr><th rowspan="2">Load Power [W]</th><th colspan="3">Hold-Up Time [mS]</th></tr><tr><th>Input Volt. 85[V]</th><th>Input Volt. 100[V]</th><th>Input Volt. 132[V]</th></tr><tr><td>0.0</td><td>—</td><td>—</td><td>—</td></tr><tr><td>158.4</td><td>172</td><td>176</td><td>181</td></tr><tr><td>316.8</td><td>85</td><td>88</td><td>92</td></tr><tr><td>475.2</td><td>55</td><td>57</td><td>61</td></tr><tr><td>633.6</td><td>38</td><td>41</td><td>44</td></tr><tr><td>792.0</td><td>28</td><td>31</td><td>34</td></tr><tr><td>871.2</td><td>24</td><td>27</td><td>31</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>				Load Power [W]	Hold-Up Time [mS]			Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]	0.0	—	—	—	158.4	172	176	181	316.8	85	88	92	475.2	55	57	61	633.6	38	41	44	792.0	28	31	34	871.2	24	27	31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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# COSEL

LOREL

Model	ADA1000F (ADA1000F-24)
Item	Instantaneous Interruption Compensation (by Load Power) 瞬時停電保障 (負荷電力特性)
Object	

Temperature
25℃

Testing Circuitry
Figure A

1. Graph

—△—

Input Volt. 85V

---□---

Input Volt. 100V

-·-○-·-

Input Volt. 132V

The graph plots Instantaneous Compensation Time [mS] on a logarithmic y-axis (1 to 1000) against Load Power [W] on a linear x-axis (0 to 800). Three data series are shown for different input voltages: 85V (triangles), 100V (squares), and 132V (circles). All three series show a decreasing trend in compensation time as load power increases. A slanted line is drawn across the graph, indicating the range of rated load power from approximately 150W to 850W.

Load Power [W]	85V [mS]	100V [mS]	132V [mS]
158.4	120	125	138
316.8	79	79	81
475.2	52	56	60
633.6	37	40	41
792.0	27	30	31
871.2	22	24	29

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

(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	120	125	138
316.8	79	79	81
475.2	52	56	60
633.6	37	40	41
792.0	27	30	31
871.2	22	24	29
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

# COSEL

LOREL

Model ADA1000F (ADA1000F-24)

Item Load Regulation  
静的負荷変動

Object V1:+24V33A

Temperature 25°C  
Testing Circuitry Figure A

1. Graph

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

2. Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.0	24.049	24.049	24.049
6.0	24.034	24.034	24.034
12.0	24.032	24.031	24.031
18.0	24.028	24.027	24.027
24.0	24.025	24.024	24.024
30.0	24.021	24.021	24.021
33.0	24.019	24.019	24.019
36.3	24.017	24.017	24.017
—	—	—	—
—	—	—	—
—	—	—	—

Output Voltage [V]

Load Current [A]

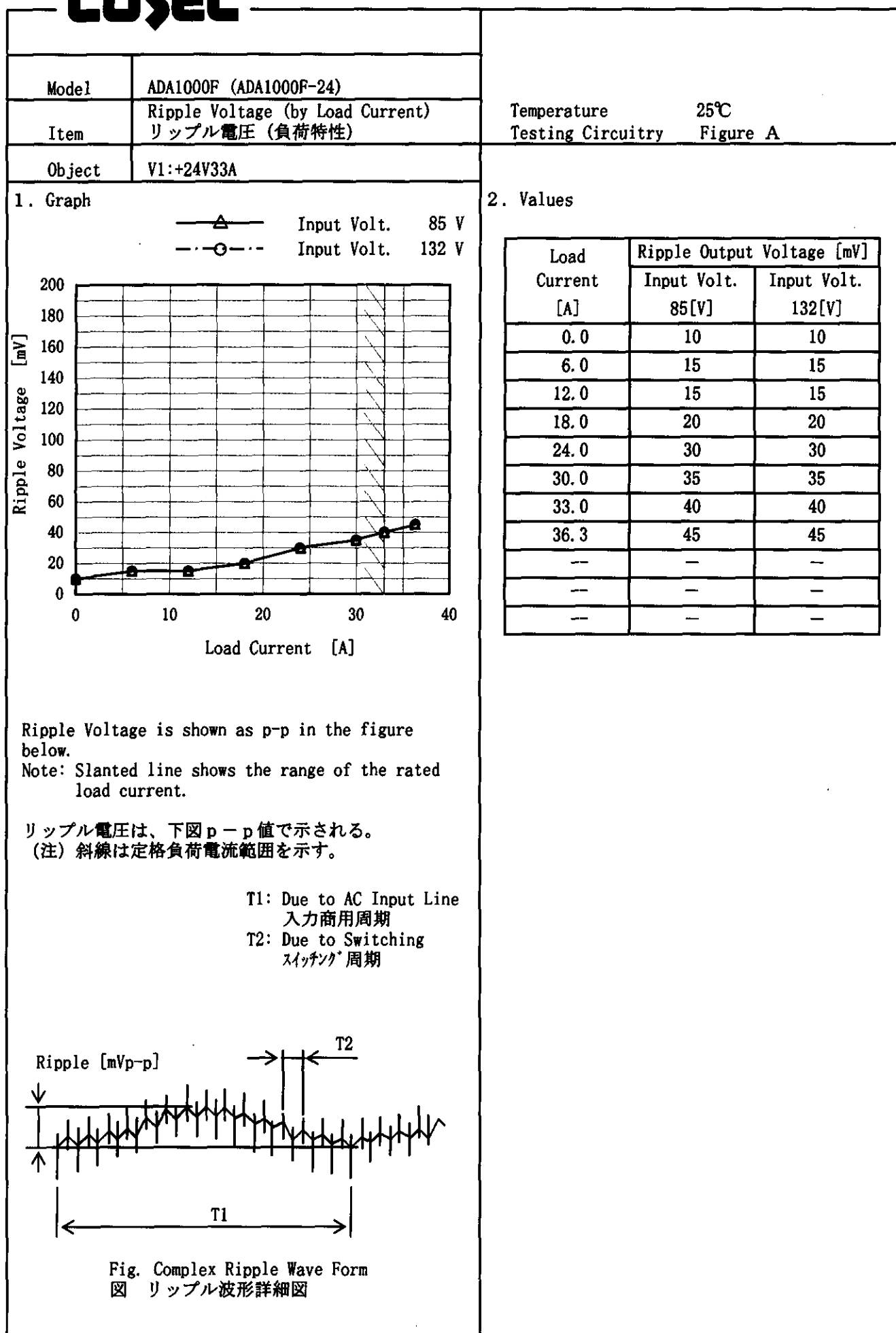
Note: Slanted line shows the range of the rated load current.

(注) 斜線は定格負荷電流範囲を示す。

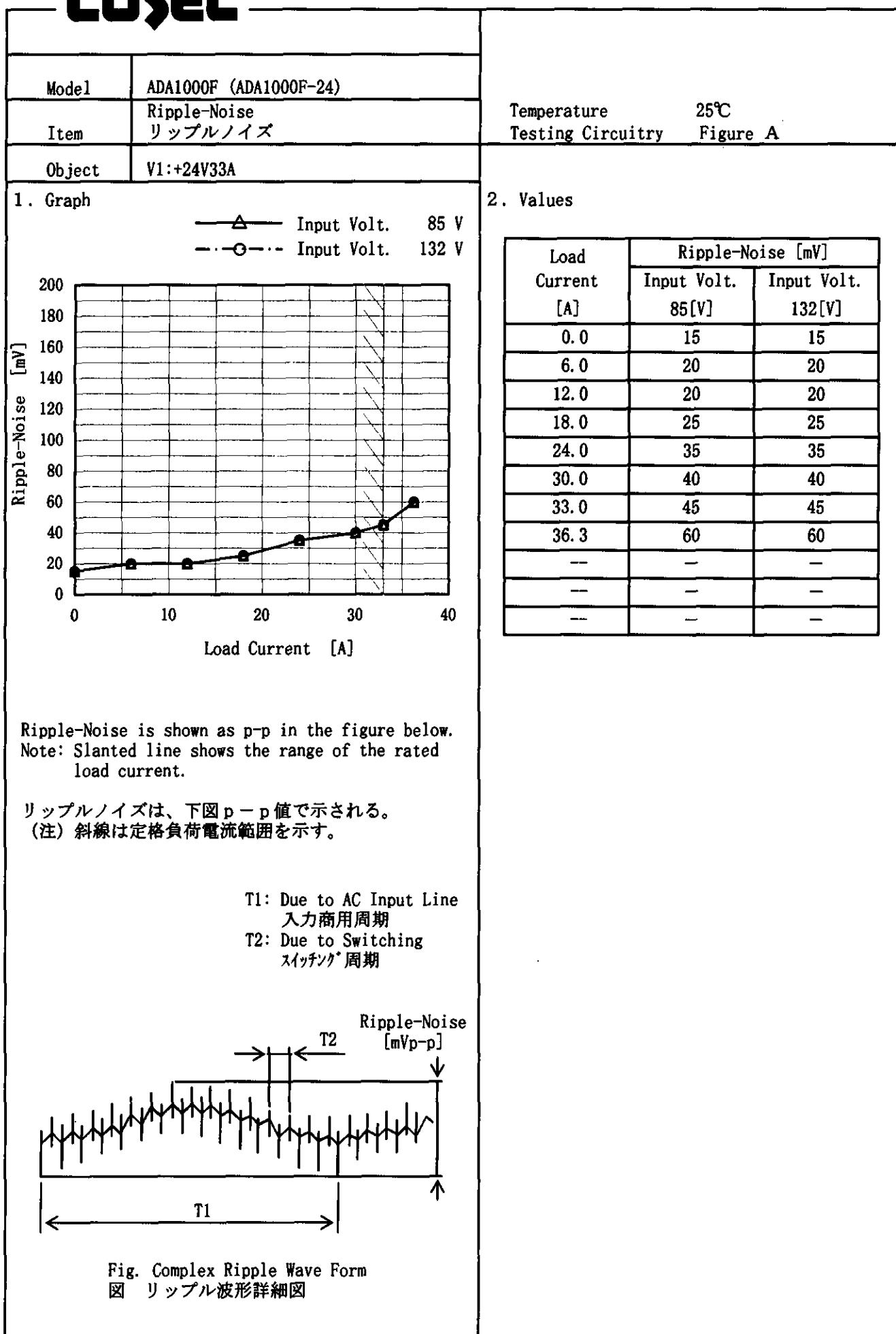
Note: Slanted line shows the range of the rated load current.

(注) 斜線は定格負荷電流範囲を示す。

# COSEL






# COSEL



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Model	ADA1000F (ADA1000F-24)																																																													
Item	Overcurrent Protection 過電流保護	Temperature	25℃																																																											
Object	V1:+24V33A	Testing Circuitry	Figure A																																																											
1. Graph		2. Values																																																												
<div><div><div></div><div></div><div></div></div><div>Input Volt. 85 V Input Volt. 100 V Input Volt. 132 V</div></div> <p>Output Voltage [V]</p> <p>Load Current [A]</p> <p>Note: Slanted line shows the range of the rated load current. (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 16.8V to 0V. 16.8V~0V間は、間欠モードとなる。</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>24.0</td><td>82.56</td><td>83.75</td><td>84.80</td></tr><tr><td>22.8</td><td>91.03</td><td>91.15</td><td>91.44</td></tr><tr><td>21.6</td><td>91.61</td><td>91.85</td><td>92.08</td></tr><tr><td>19.2</td><td>93.03</td><td>93.22</td><td>93.23</td></tr><tr><td>16.8</td><td>94.31</td><td>94.23</td><td>94.10</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]	24.0	82.56	83.75	84.80	22.8	91.03	91.15	91.44	21.6	91.61	91.85	92.08	19.2	93.03	93.22	93.23	16.8	94.31	94.23	94.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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1. Graph		Input Volt.	85 V
		Input Volt.	100 V
		Input Volt.	132 V

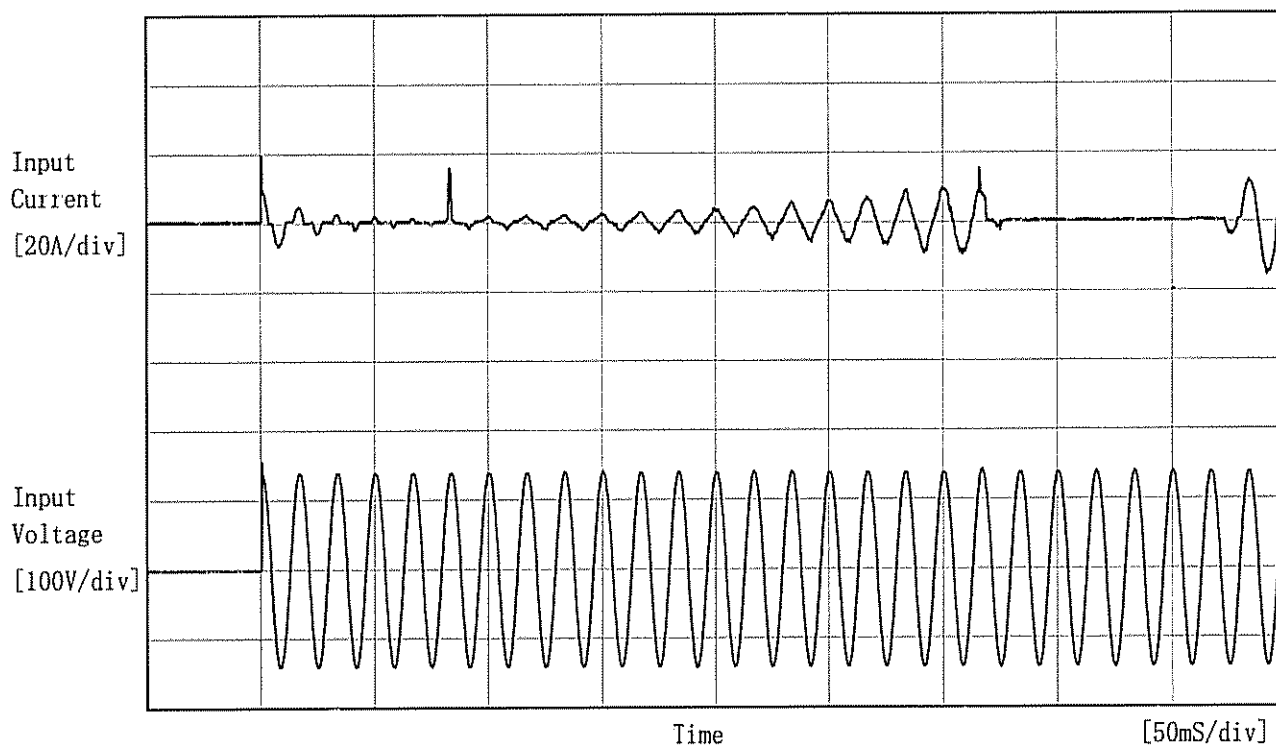


Ambient Temperature [°C]	Operating Point [V]		
	Input Volt.	Input Volt.	Input Volt.
	85[V]	100[V]	132[V]
-20	32.41	32.41	32.41
-10	32.70	32.70	32.70
0	32.99	32.99	32.99
10	33.22	33.22	33.22
20	33.40	33.40	33.40
25	33.51	33.51	33.51
30	33.69	33.69	33.69
40	33.92	33.92	33.92
50	34.15	34.15	34.15
60	34.39	34.39	34.39
--	—	—	—



# COSEL

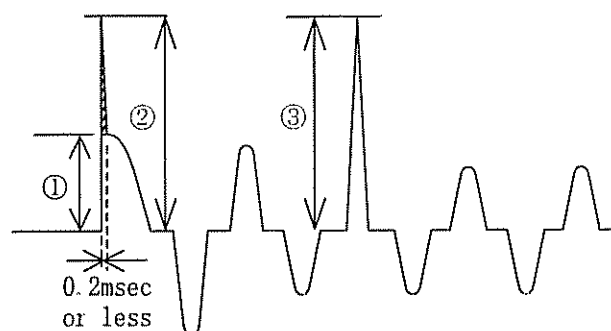
Model	ADA1000F (ADA1000F-24)	Temperature	25°C
Item	Inrush Current 突入電流	Testing Circuitry	Figure A
Object	_____		



Input Voltage 100 V  
Frequency 60 Hz  
Load 100 %

Inrush Current

- ① 10.5 [A]
- ② 19.3 [A] (0.2msec or less)\*1
- ③ 15.9 [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-24)	Temperature	25°C
Item	Dynamic Load Response 動的負荷変動	Testing Circuitry	Figure A
Object	V1: +24V33A		

Input Volt. AC100 V

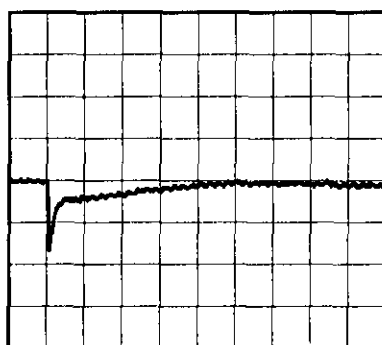
Cycle 1000 ms

Load Current

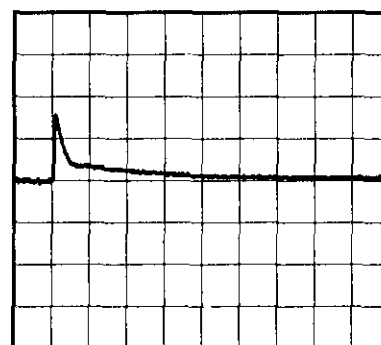
Min. Load (0A)  $\longleftrightarrow$ 

Load 100% (33A)

100 mV/div



10 ms/div

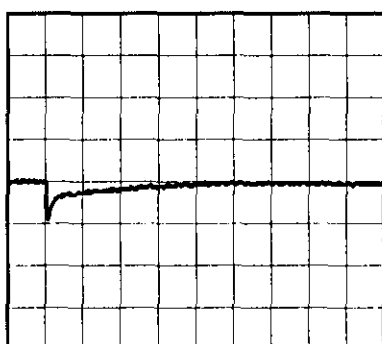


10 ms/div

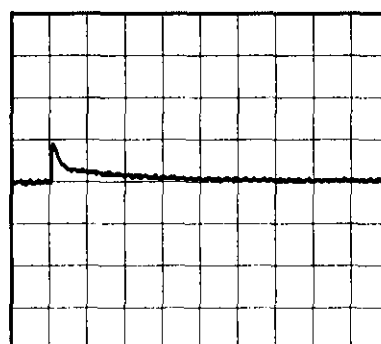
Min. Load (0A)  $\longleftrightarrow$ 

Load 50% (16.5A)

100 mV/div

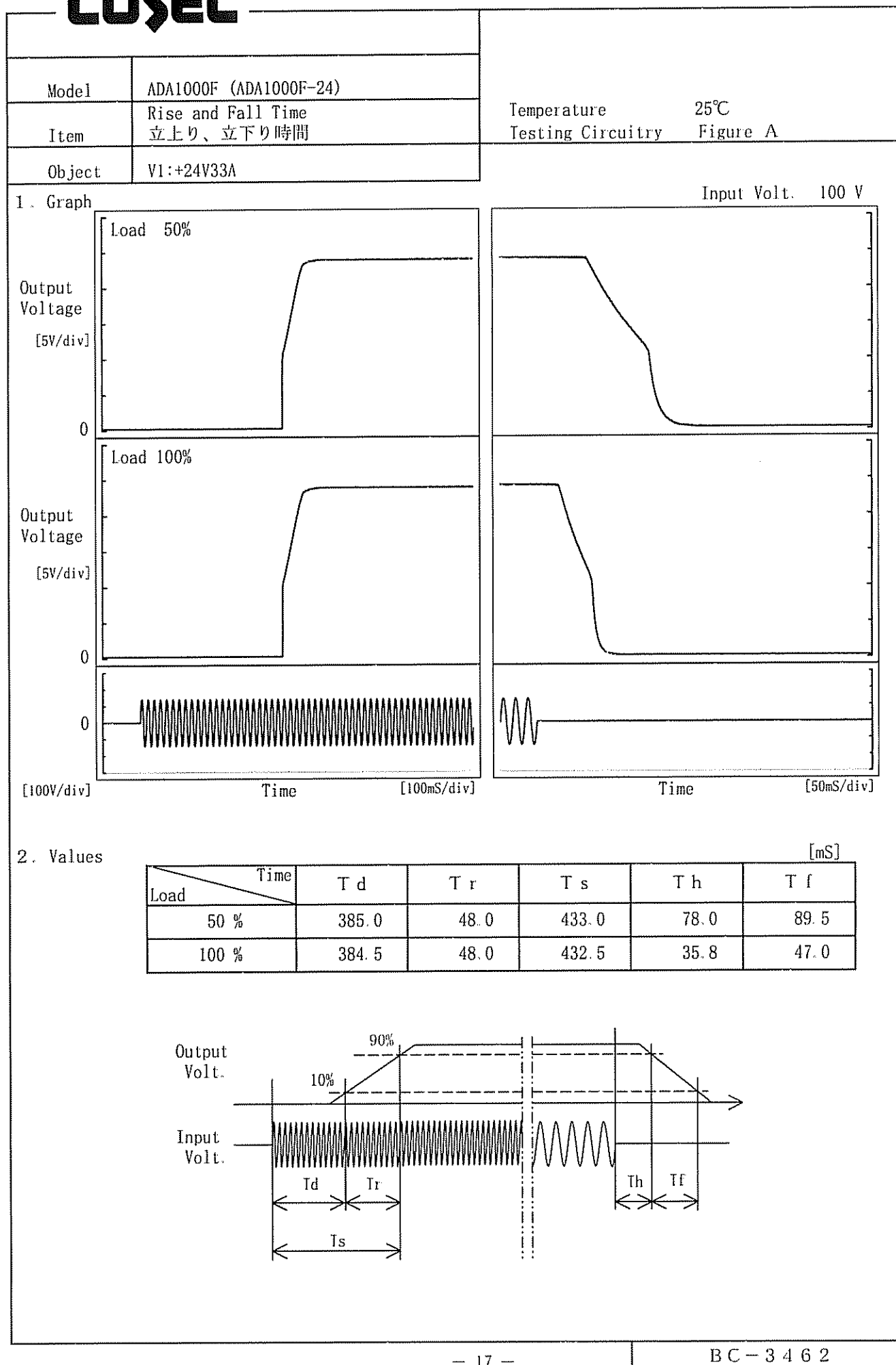


10 ms/div



10 ms/div

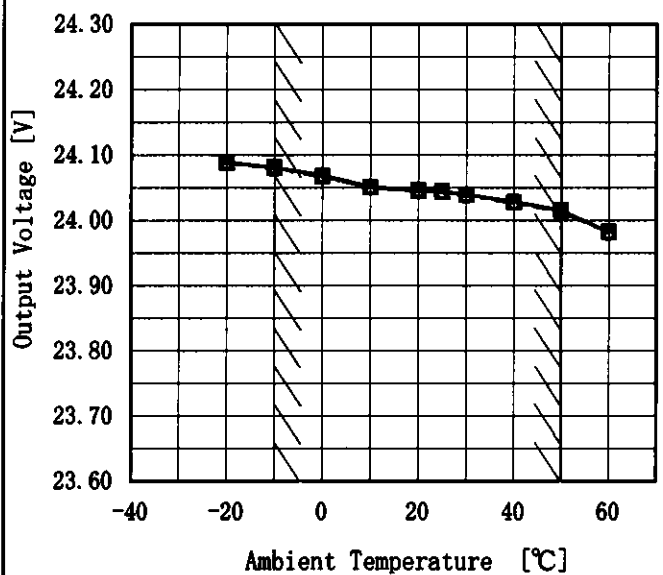
# COSEL



# COSEL

Model	ADA1000F (ADA1000F-24)
Item	Ambient Temperature Drift 周囲温度変動
Object	V1:+24V33A

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

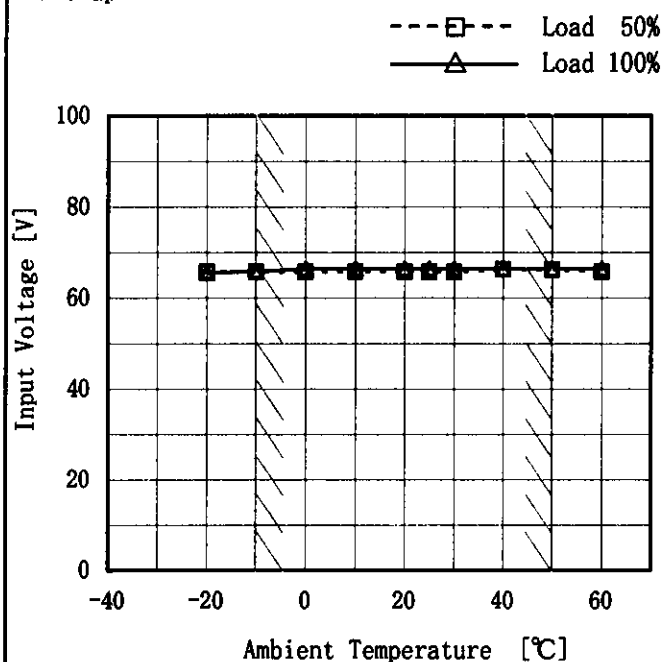
2. Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	24.089	24.088	24.089
-10	24.081	24.081	24.080
0	24.069	24.068	24.068
10	24.051	24.051	24.051
20	24.046	24.046	24.046
25	24.044	24.044	24.043
30	24.040	24.039	24.039
40	24.029	24.028	24.028
50	24.016	24.015	24.015
60	23.983	23.982	23.982
—	—	—	—

# COSEL

Model	ADA1000F (ADA1000F-24)
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	V1:+24V33A

## 1. Graph



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

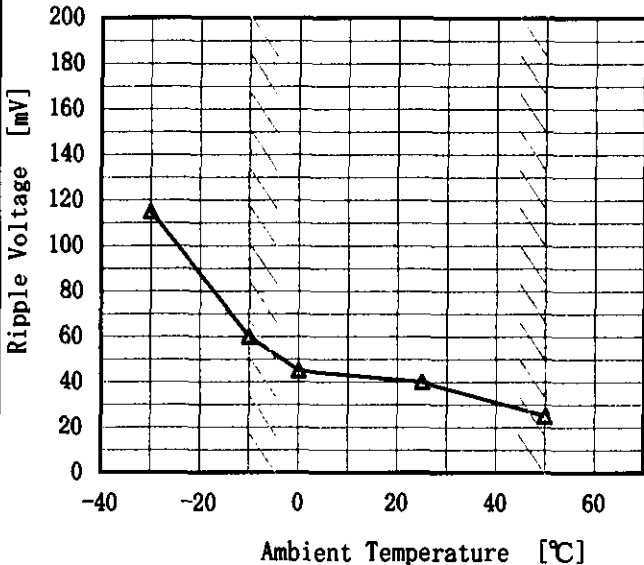
(注) 斜線は定格周囲温度範囲を示す。

## 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-24)																											
Item	Ripple Voltage (by Ambient Temp.) リップル電圧 (周囲温度特性)																											
Object	V1:+24V33A																											
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>																												
<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>																												
		<table><tr><th>Ambient Temperature [°C]</th><th>Ripple Voltage [mV]</th></tr><tr><td>-30</td><td>115</td></tr><tr><td>-10</td><td>60</td></tr><tr><td>0</td><td>45</td></tr><tr><td>25</td><td>40</td></tr><tr><td>50</td><td>25</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]	-30	115	-10	60	0	45	25	40	50	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ambient Temperature [°C]	Ripple Voltage [mV]																											
-30	115																											
-10	60																											
0	45																											
25	40																											
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# COSEL

Model

ADA1000F (ADA1000F-24)

Item

Time Lapse Drift  
経時ドリフト

Object

V1:+24V33A

Temperature

25℃

Testing Circuitry

Figure A

1. Graph

Output Voltage [V]

24.30

24.20

24.10

24.00

23.90

23.80

23.70

23.60

0

2

4

6

8

10

Time [H]

Input Volt.

100V

Load

100%

2. Values

Time since start [H]	Output Voltage [V]
0.0	24.049
0.5	24.029
1.0	24.029
2.0	24.029
3.0	24.028
4.0	24.028
5.0	24.028
6.0	24.028
7.0	24.028
8.0	24.028

# COSEL

		Testing Circuitry    Figure A
Model	ADA1000F (ADA1000F-24)	
Item	Output Voltage Accuracy 定電圧精度	
Object	V1:+24V33A	

## 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 ~ 33A

\* 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 ~ 33A

\* 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	24.101	±50	±0.2
Minimum Voltage	50	85	33	24.001		



**COSEL**

		Temperature 25℃ Testing Circuitry Figure B
Model	ADA1000F (ADA1000F-24)	
Item	Leakage Current 漏洩電流	
Object		

## 1. Results

Standards	Leakage Current [mA]		
	Input Volt.	Input Volt.	Input Volt.
	85 [V]	100 [V]	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.	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。

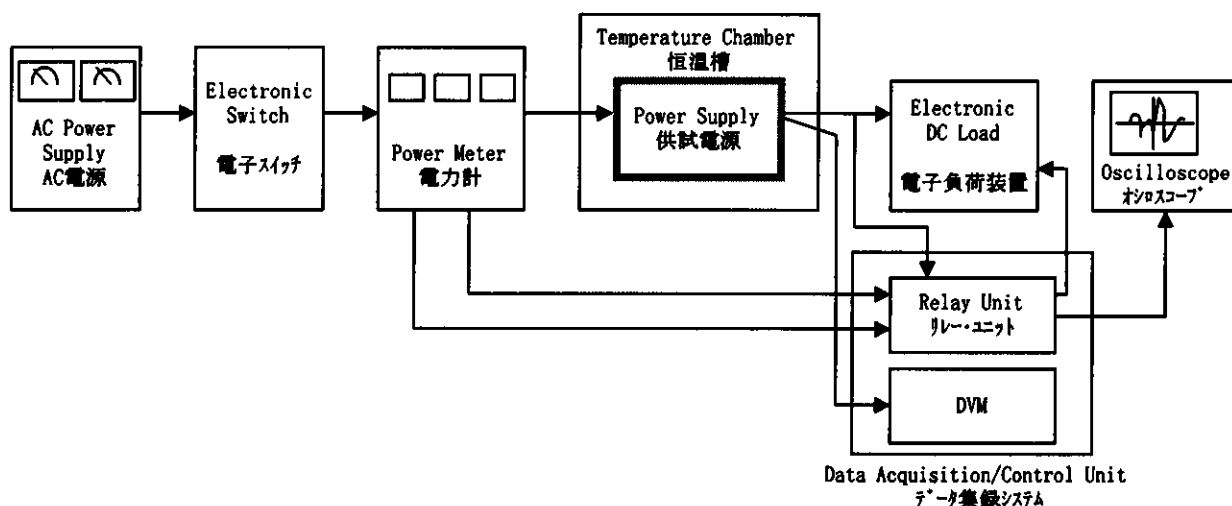


Figure A

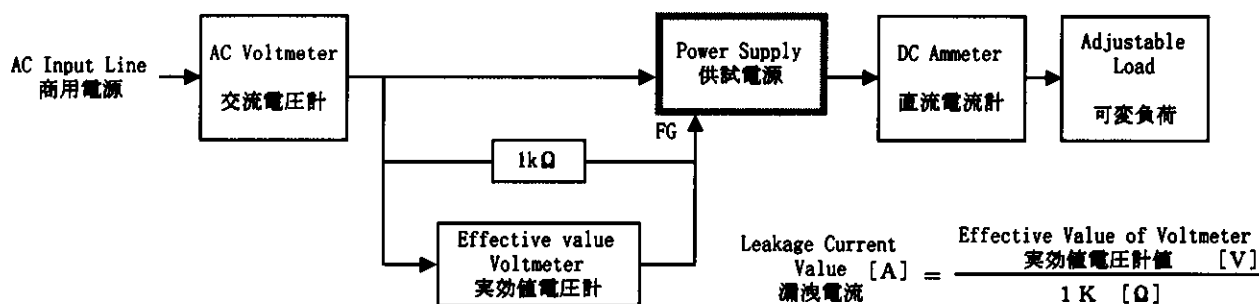


Figure B ( DEN-AN )

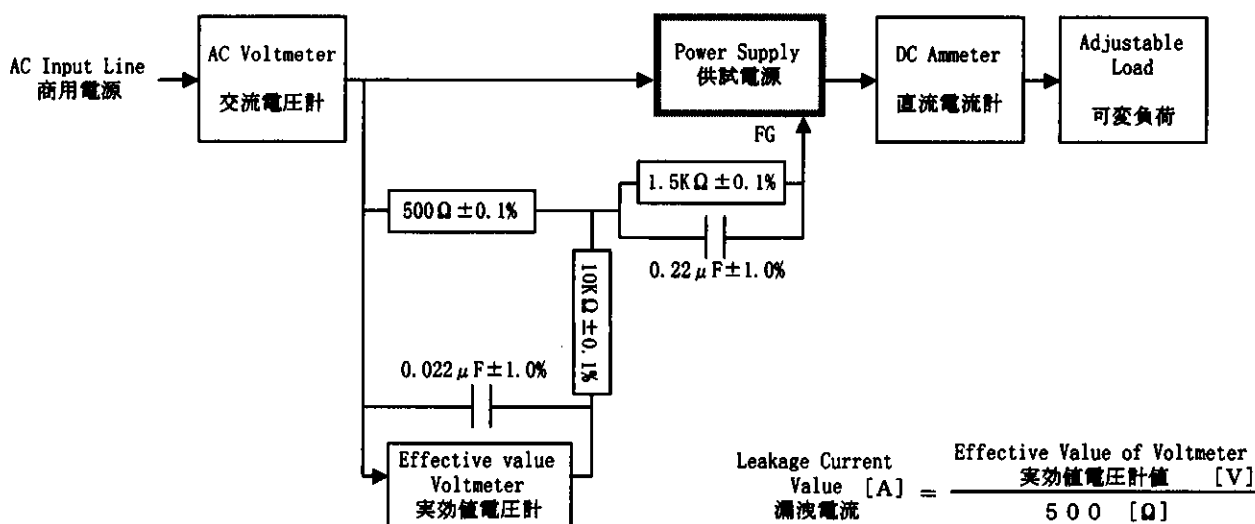


Figure B ( IEC60950 )