



TEST DATA OF LDA150W-5
(100V INPUT)

Regulated DC Power Supply

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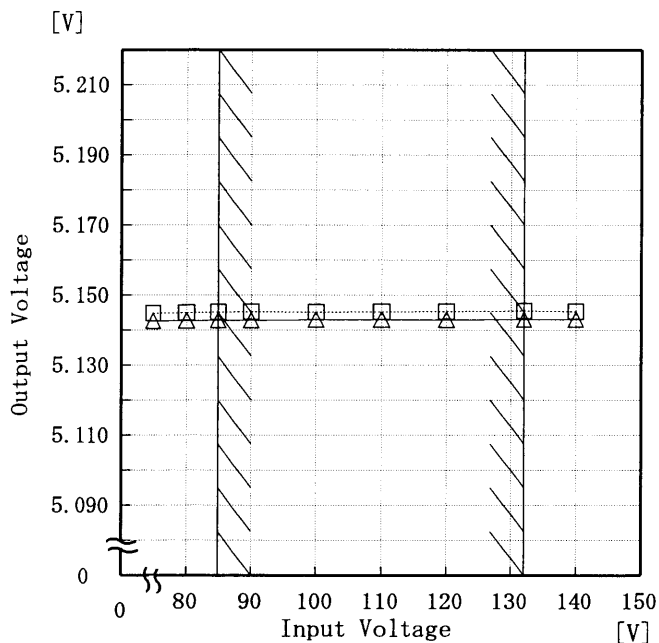
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Model	LDA150W-5
Item	Line Regulation 静的入力変動
Object	+5.0V30A

Temperature 25°C
Testing Circuitry Figure A

1. Graph
 □ Load 50%
 △ Load 100%



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	5.145	5.143
80	5.145	5.143
85	5.145	5.143
90	5.145	5.143
100	5.145	5.143
110	5.145	5.143
120	5.145	5.143
132	5.146	5.143
140	5.145	5.143

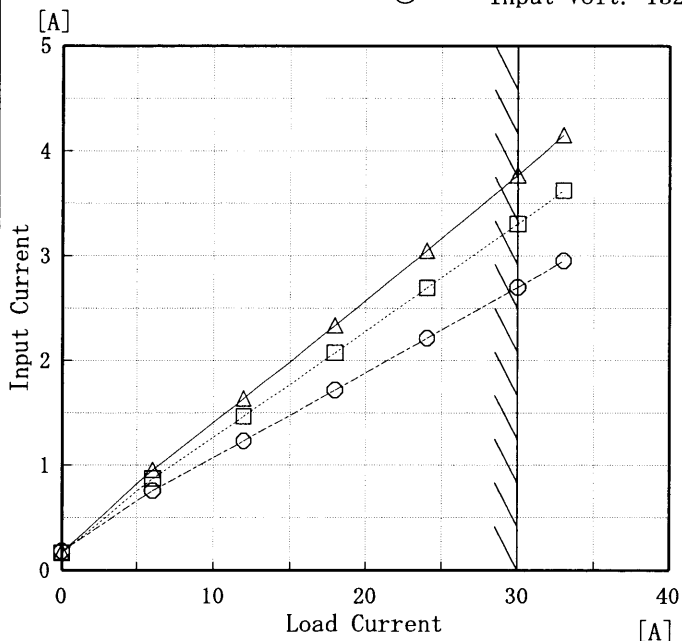


Model	LDA150W-5
Item	Input Current (by Load Current) 入力電流 (負荷特性)
Output	—————

Temperature 25°C
Testing Circuitry Figure A

1. Graph

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



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。

2. Values

Load Current [A]	Input Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0	0.171	0.165	0.182
6	0.957	0.873	0.757
12	1.636	1.467	1.232
18	2.336	2.075	1.717
24	3.050	2.693	2.212
30	3.769	3.305	2.699
33	4.150	3.624	2.953
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—



Model LDA150W-5		Temperature 25°C																																																							
Item	Input Power (by Load Current) 入力電力 (負荷特性)	Testing Circuitry Figure A																																																							
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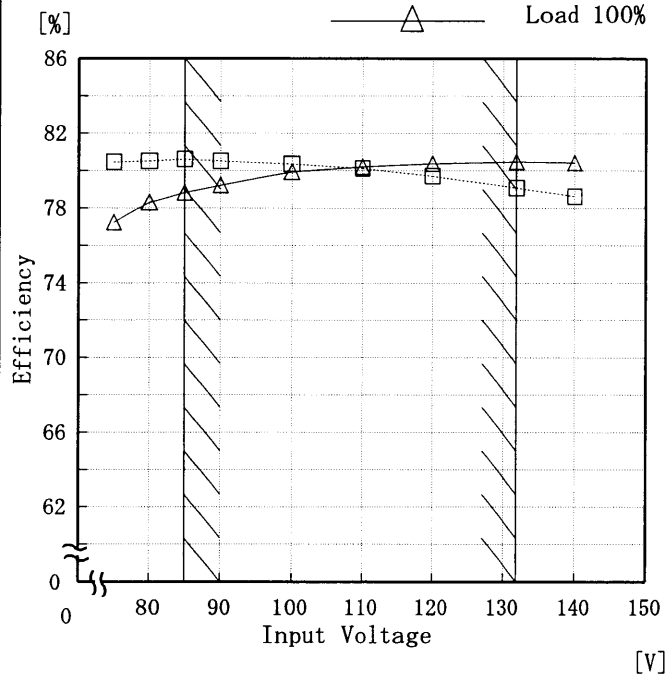


Model	LDA150W-5
Item	Efficiency (by Input Voltage) 効率 (入力電圧特性)
Object	_____

Temperature 25°C
Testing Circuitry Figure A

1. Graph

-----□----- Load 50%
-----△----- Load 100%



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

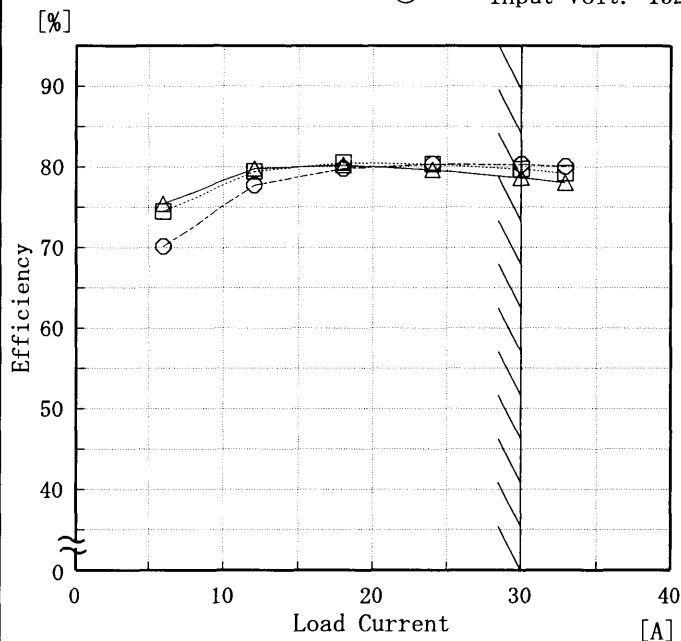
Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
75	80.5	77.2
80	80.5	78.3
85	80.6	78.8
90	80.5	79.2
100	80.4	79.9
110	80.1	80.2
120	79.7	80.4
132	79.1	80.5
140	78.6	80.4



Model	LDA150W-5
Item	Efficiency (by Load Current) 効率 (負荷特性)
Output	—————

Temperature 25°C
Testing Circuitry Figure A

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



2. Values

Load Current [A]	Efficiency [%]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
6	75.4	74.5	70.1
12	79.8	79.4	77.7
18	80.2	80.5	79.8
24	79.6	80.3	80.3
30	78.6	79.7	80.3
33	78.0	79.2	80.0
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

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

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Model		LDA150W-5	Temperature 25°C Testing Circuitry Figure A																																
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<p>Model LDA150W-5</p> <p>Item Instantaneous Interruption Compensation 瞬時停電保障</p> <p>Object +5.0V30A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p>																																																			
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Model		LDA150W-5	Temperature		25°C																																															
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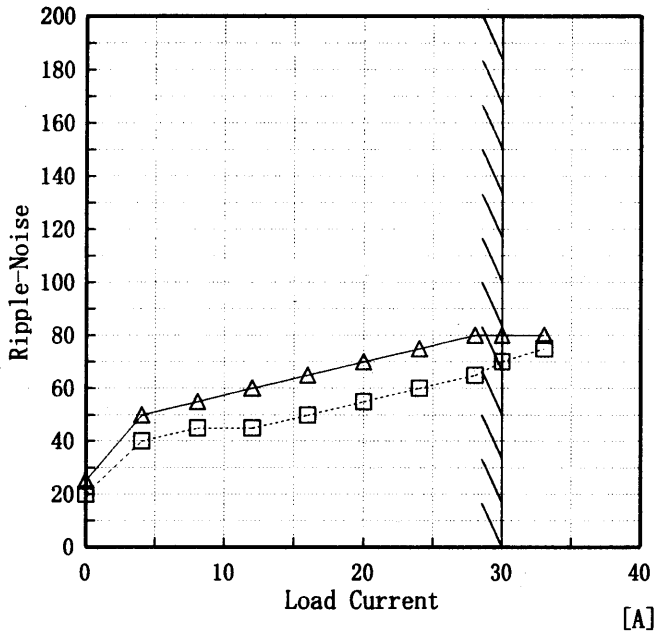


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24.00	45	40																																					
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33.00	55	50																																					
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<p>Ripple Voltage is shown as p-p in the figure below.</p> <p>Note: Slanted line shows the range of the rated load current.</p> <p>リップル電圧は、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。</p> <p>T1: Due to AC Input Line 入力商用周期 T2: Due to Switching スイッチング周期</p> <p style="text-align: center;">Ripple [mVp-p]</p> <p style="text-align: center;">T1</p> <p style="text-align: center;">T2</p>																																							
<p>Fig. Complex Ripple Wave Form 図 リップル波形詳細図</p>																																							



Model	LDA150W-5	Temperature	25°C
Item	Ripple-Noise リップルノイズ	Testing Circuitry	Figure A
Object	+5.0V30A		

1. Graph
 [mV]
 -----□----- Input Volt. 85V
 -----△----- Input Volt. 132V



2. Values

Load current [A]	Input Volt. 85 [V]	Input Volt. 132 [V]
	Ripple-Noise [mV]	Ripple-Noise [mV]
0.00	20	25
4.00	40	50
8.00	45	55
12.00	45	60
16.00	50	65
20.00	55	70
24.00	60	75
28.00	65	80
30.00	70	80
33.00	75	80
—	—	—

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

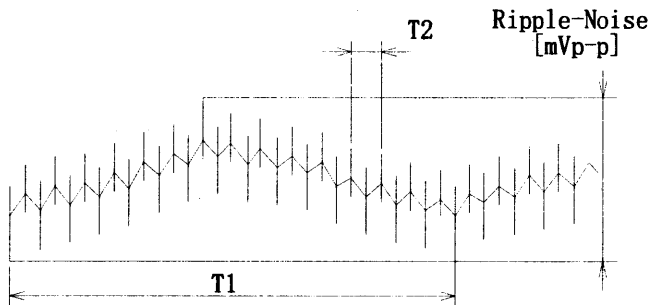


Fig. Complex Ripple Wave Form
 図 リップル波形詳細図

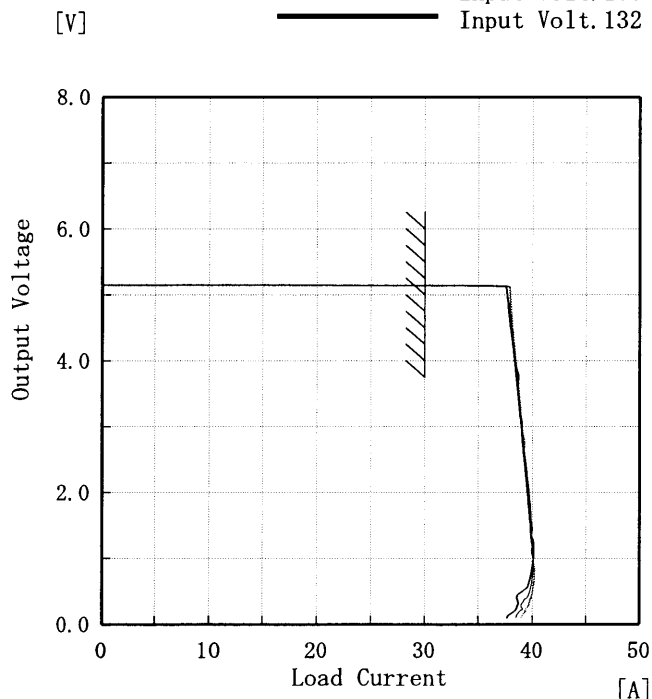


Model	LDA150W-5
Item	Overcurrent Protection 過電流保護
Object	+5.0V30A

Temperature 25°C
Testing Circuitry Figure A

1. Graph

Input Volt. 85 V
 Input Volt. 100 V
 Input Volt. 132 V



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。

2. Values

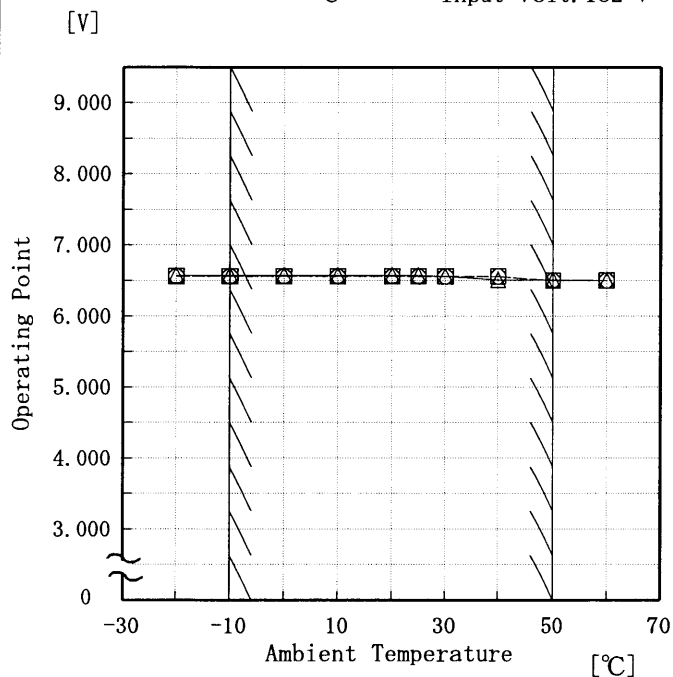
Output Voltage [V]	Load Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
	5.00	37.98	37.65
4.75	38.07	37.83	37.88
4.50	38.17	37.98	38.03
4.00	38.42	38.32	38.37
3.50	38.75	38.62	38.65
3.00	39.02	39.01	38.93
2.50	39.24	39.18	39.28
2.00	39.50	39.48	39.62
1.50	39.84	39.77	39.94
1.00	40.12	40.05	40.12
0.50	40.07	39.80	39.17
0.00	38.85	38.49	37.72



Model	LDA150W-5
Item	Overvoltage Protection 過電圧保護
Object	+5.0V30A

Testing Circuitry Figure A

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



Load 0%

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

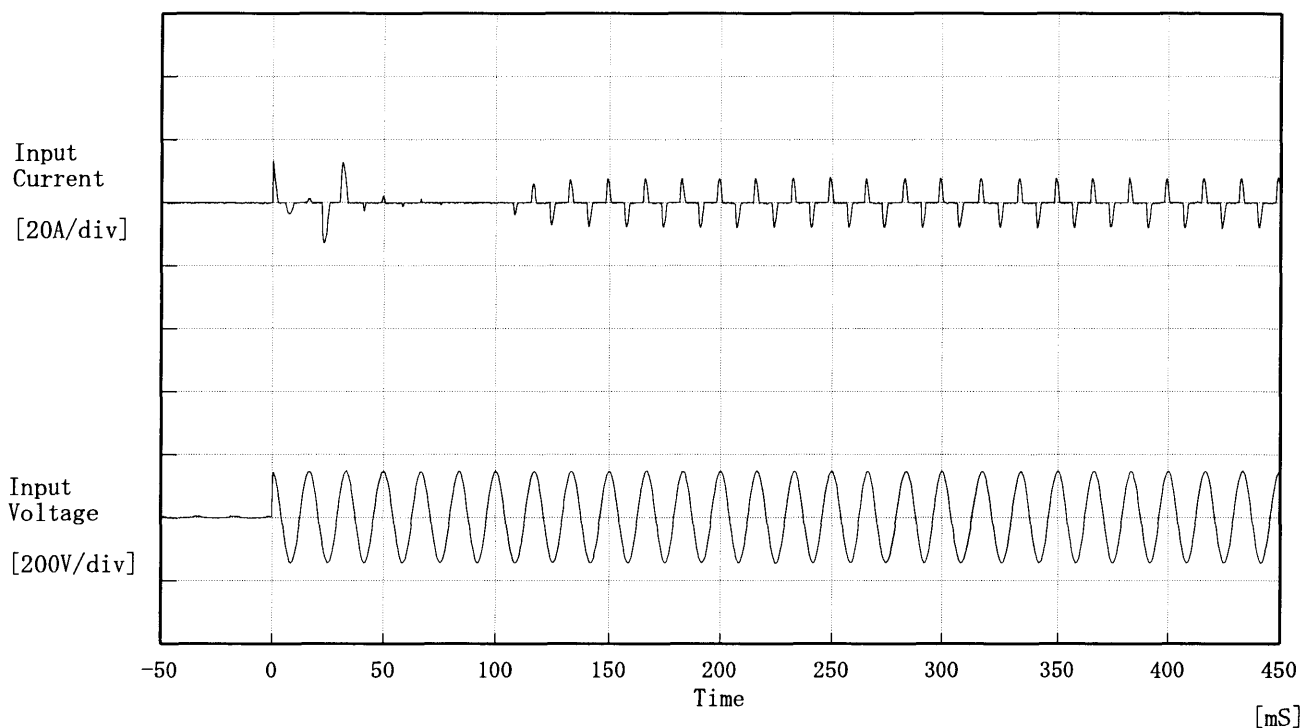
(注)斜線は定格周囲温度範囲を示す。

2. Values

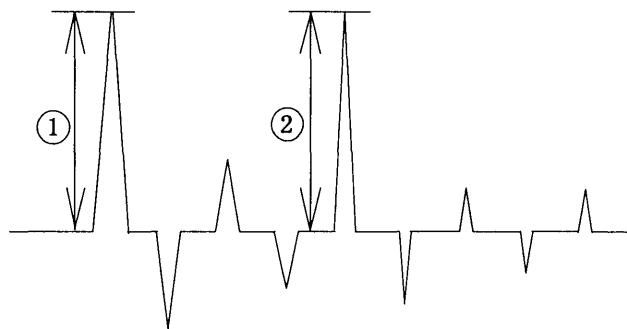
Ambient Temperature [°C]	Operating Point [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	6.57	6.56	6.56
-10	6.57	6.56	6.56
0	6.57	6.56	6.56
10	6.57	6.56	6.56
20	6.57	6.56	6.56
25	6.57	6.56	6.56
30	6.56	6.56	6.56
40	6.51	6.56	6.56
50	6.51	6.50	6.50
60	6.50	6.50	6.50
—	—	—	—



Model	LDA150W-5	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 13.22 [A]
 ② 8.38 [A]



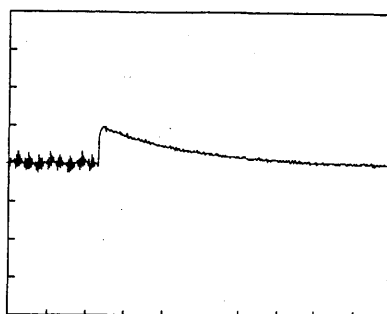
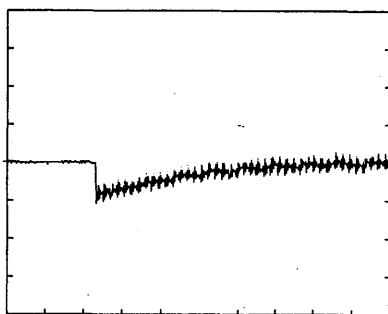


Model		LDA150W-5	Temperature		25°C
Item		Dynamic Load Responce 動的負荷変動	Testing Circuitry		Figure A
Object		+5.0V30A			

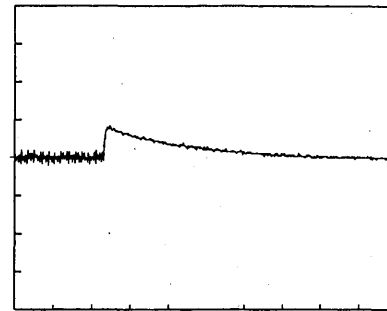
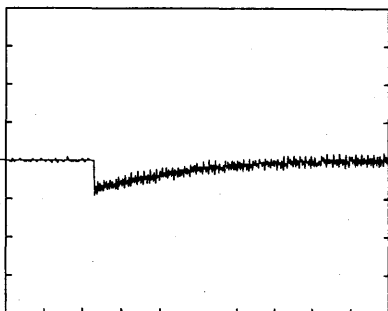
Input Volt. 100 V
Cycle 1000 mS



Load 0% ↔
Load 100 %



Load 0% ↔
Load 50 %



100 mV/div

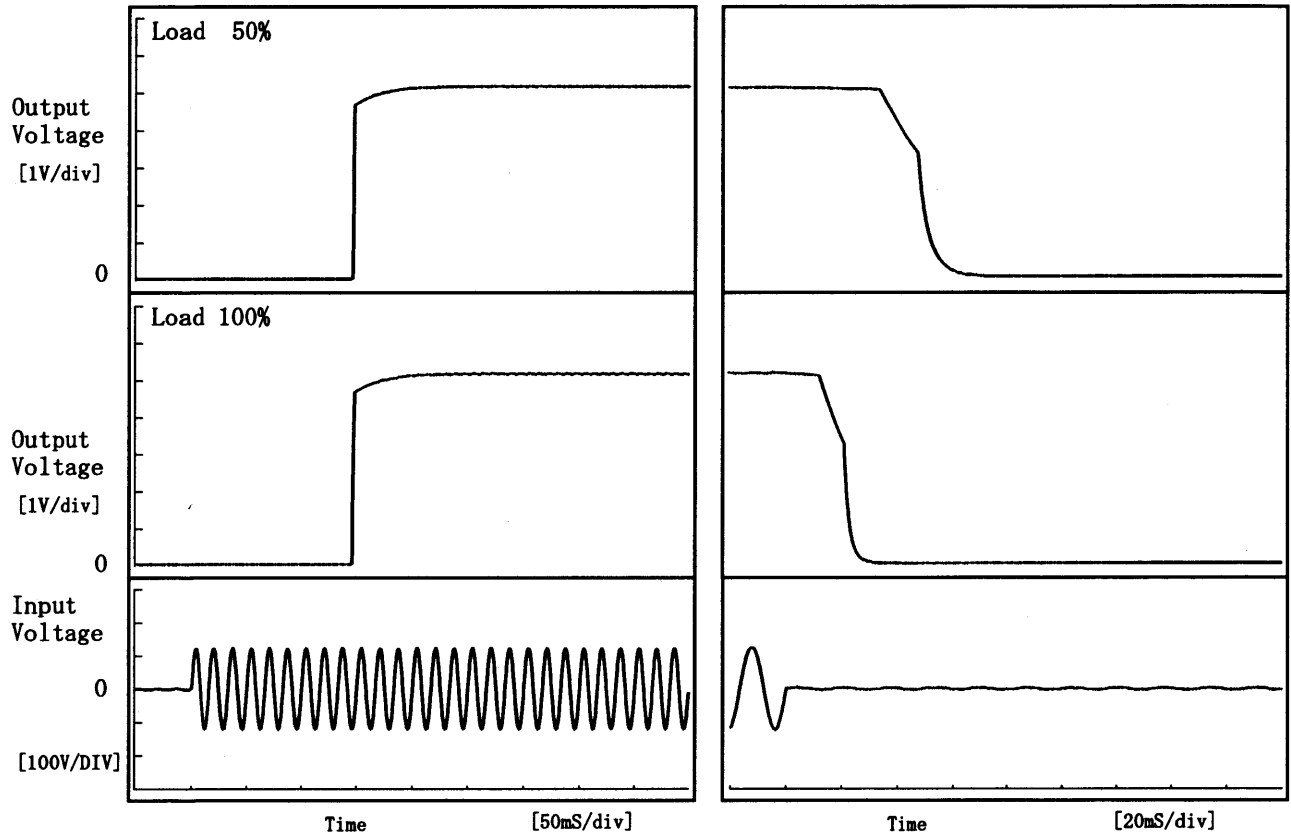
10 mS/div



Model	LDA150W-5	Temperature	25°C
Item	Rise and Fall Time 立上り、立下り時間	Testing Circuitry	Figure A
Object	+5.0V30A		

1. Graph

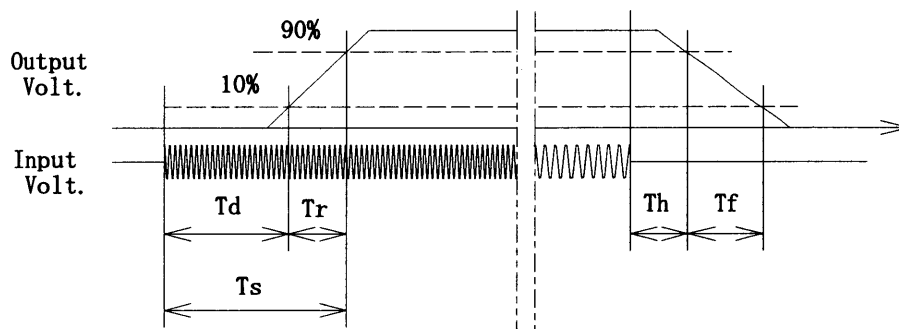
Input Volt. 85 V



2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	145.8	1.5	147.3	37.8	18.2
100 %	145.8	2.0	147.8	14.4	10.7



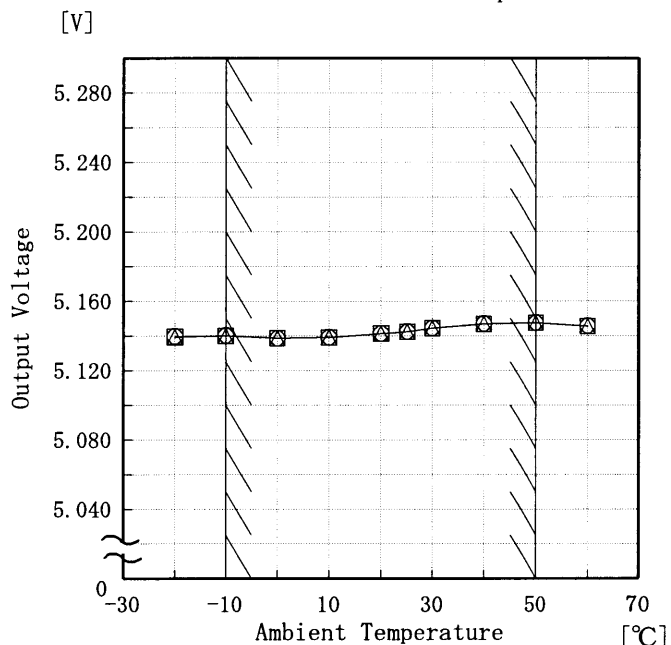


Model	LDA150W-5
Item	Ambient Temperature Drift 周囲温度変動
Object	+5.0V30A

Testing Circuitry Figure A

1. Graph

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



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。

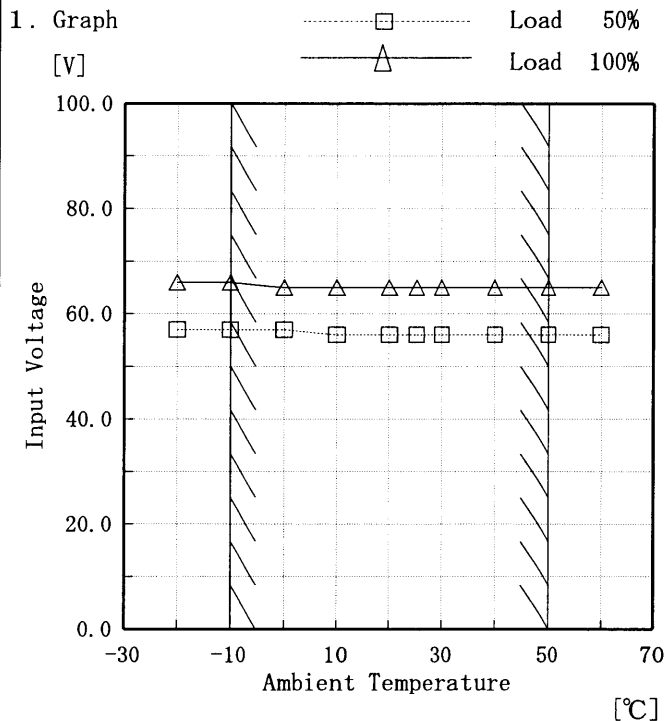
2. Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	5.139	5.140	5.140
-10	5.140	5.140	5.140
0	5.139	5.139	5.139
10	5.139	5.139	5.139
20	5.141	5.141	5.142
25	5.142	5.142	5.143
30	5.144	5.144	5.145
40	5.147	5.147	5.147
50	5.147	5.148	5.148
60	5.145	5.146	5.146
—	—	—	—



Model	LDA150W-5
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	+5.0V30A

Testing Circuitry Figure A



2. Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	57	66
-10	57	66
0	57	65
10	56	65
20	56	65
25	56	65
30	56	65
40	56	65
50	56	65
60	56	65
—	—	—

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

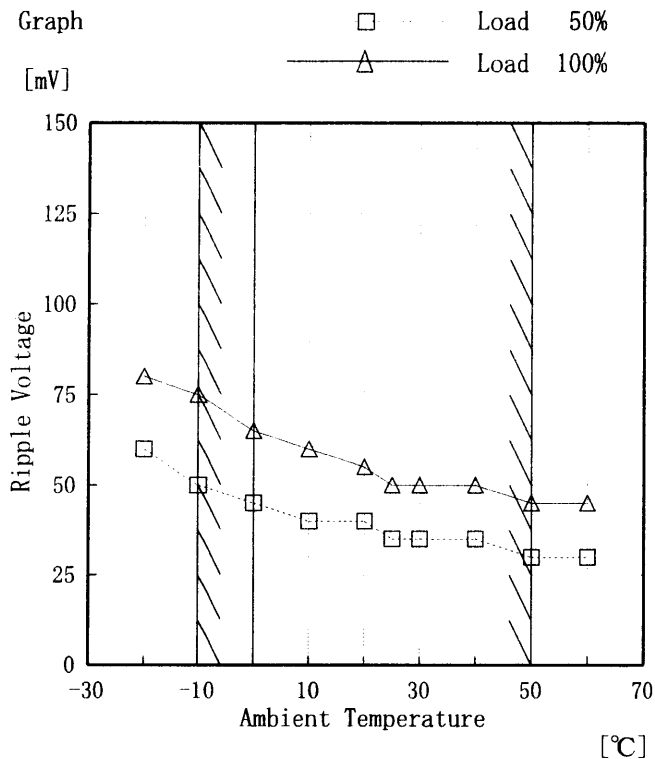
(注)斜線は定格周囲温度範囲を示す。



Model	LDA150W-5
Item	Ripple Voltage (by Ambient Temp.) リップル電圧 (周囲温度特性)
Object	+5.0V30A

Testing Circuitry Figure A

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。

2. Values

Ambient Temp. [°C]	Load 50%	Load 100%
	Ripple Output Volt. [mV]	Ripple Output Volt. [mV]
-20	60	80
-10	50	75
0	45	65
10	40	60
20	40	55
25	35	50
30	35	50
40	35	50
50	30	45
60	30	45
—	—	—



COSEL																								
Model	LDA150W-5																							
Item	Time Lapse Drift 経時ドリフト	Temperature 25°C Testing Circuitry Figure A																						
Object	+5.0V30A																							
1. Graph		2. Values																						
<p>[V]</p> <p style="text-align: center;">Time [H]</p> <p>Input Volt. 100V Load 100%</p>		<table border="1"> <thead> <tr> <th>Time since start [H]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>5.146</td></tr> <tr><td>0.5</td><td>5.146</td></tr> <tr><td>1.0</td><td>5.145</td></tr> <tr><td>2.0</td><td>5.146</td></tr> <tr><td>3.0</td><td>5.146</td></tr> <tr><td>4.0</td><td>5.146</td></tr> <tr><td>5.0</td><td>5.146</td></tr> <tr><td>6.0</td><td>5.146</td></tr> <tr><td>7.0</td><td>5.146</td></tr> <tr><td>8.0</td><td>5.146</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	5.146	0.5	5.146	1.0	5.145	2.0	5.146	3.0	5.146	4.0	5.146	5.0	5.146	6.0	5.146	7.0	5.146	8.0	5.146
Time since start [H]	Output Voltage [V]																							
0.0	5.146																							
0.5	5.146																							
1.0	5.145																							
2.0	5.146																							
3.0	5.146																							
4.0	5.146																							
5.0	5.146																							
6.0	5.146																							
7.0	5.146																							
8.0	5.146																							



Model		LDA150W-5	Testing Circuitry Figure A
Item	Output Voltage Accuracy	定電圧精度	
Object	+5.0V30A		

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 : 85~132 V

Load Current : 0~30 A

* 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 85~132 V

負荷電流 0~30 A

* 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 Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy (Ration) [%]
Maximum Voltage	50	100	0	5.153	±7	±0.2
Minimum Voltage	-10	100	30	5.140		



COSEL		
Model	LDA150W-5	
Item	Condensation 結露特性	Testing Circuitry Figure A
Object	+5.0V30A	

1. Condensation test

Testing procedure is as follows.

- ① Keeping and cooling the unit in a tank at -10°C for an hour with the input off.
- ② Taking it out of the tank and dewing itself in a room where the temperature is 25°C and the humidity is 40%RH.
- ③ Testing electrical characteristics of the unit to confirm there be no fault.

1. 結露特性試験

入力を切った状態で、恒温槽で-10°Cに冷却しておき、約1時間後に恒温槽から取り出し、室温25°C、湿度40%RHの状態におき結露させ、その電気的特性の測定を行い、異常のないことを確認する。

2. Values

Item	Data	Testing Conditions
Output Voltage [V]	5.144	Input Volt.: 100V, Load Current:30A
Line Regulation [mV]	2	Input Volt.: 85~132V, Load Current:30A
Load Regulation [mV]	4	Input Volt.: 100V, Load Current:0~30A



Model		LDA150W-5	Temperature 25°C Testing Circuitry Figure B
Item		Leakage Current 漏洩電流	
Object		_____	

1. Results

Standards	Leakage Current [mA]		
	Input Volt. 85 [V]	Input Volt. 100 [V]	Input Volt. 132 [V]
(A) DENTORI	0.17	0.20	0.24
(B) IEC60950	0.17	0.20	0.24

Standards	Leakage Current [mA]		
	Input Volt. 170 [V]	Input Volt. 230 [V]	Input Volt. 264 [V]
(B) IEC60950	—	—	—

2. Condition

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

交流入力 of 両相について測定し、その大きい方を漏洩電流測定値とする。



Model		LDA150F-5	Temperature 25°C Testing Circuitry Figure C
Item		Line Noise Tolerance 入力雑音耐量	
Object		+5.0V30A	

1. Results

Pulse Width [nS]	MODE	No protection failure should occur 保護回路の誤動作がない	DC-like Regulation of Output Voltage 出力電圧の直流的変動
50	COMMON	OK	no fluctuation
	NORMAL	OK	no fluctuation
1000	COMMON	OK	no fluctuation
	NORMAL	OK	no fluctuation

2. Conditions

Input Voltage : 100 V
 Pulse Voltage : 2000 V
 Pulse Cycle : 10 mS
 Pulse Input Duration : 1 min. or more
 Load : 100 %

COSEL

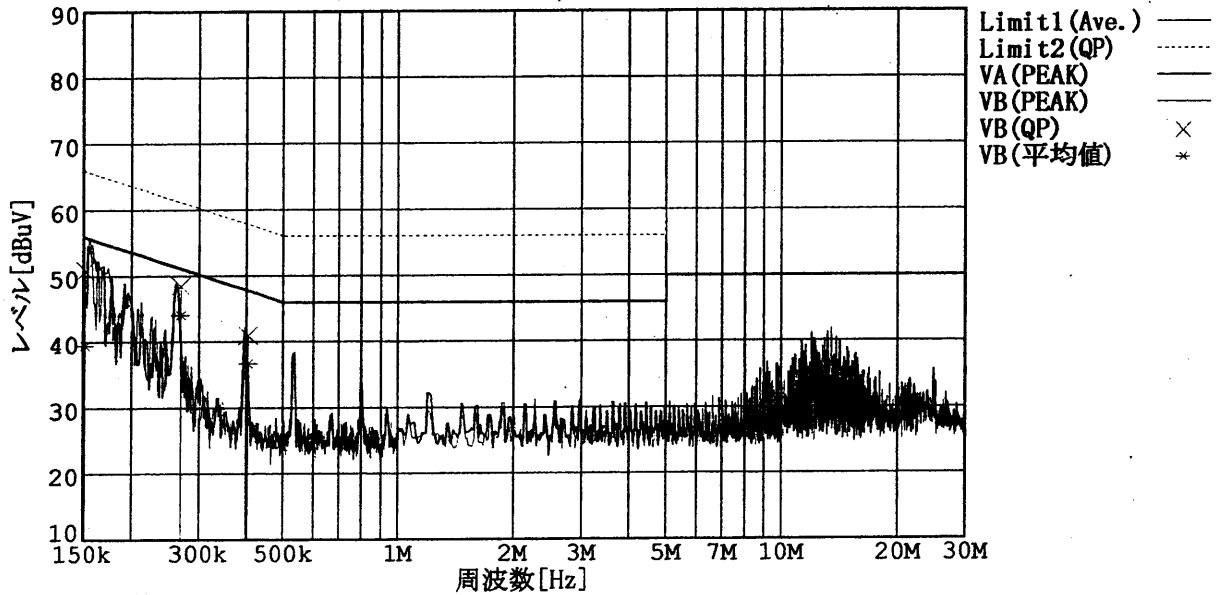
Model	LDA150W-5	Temperature	25°C
Item	Conducted Emission 雑音端子電圧	Testing Circuitry	Figure D
Object	_____		

1. Graph

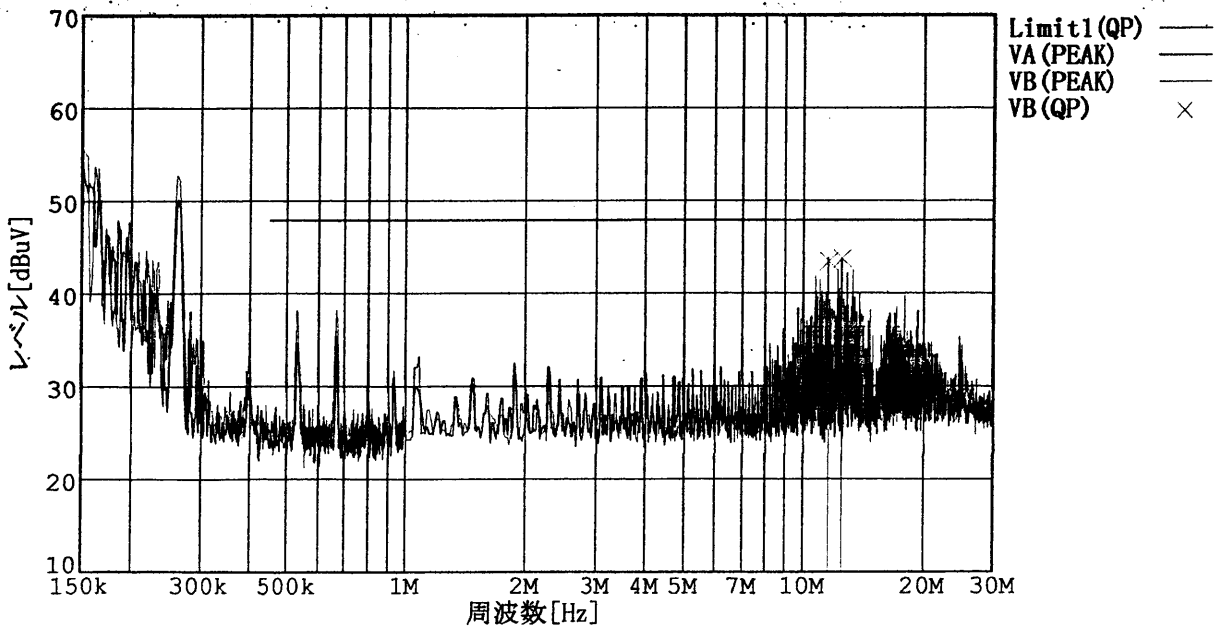
Remarks

Input Volt. 100 V (VCCI Class B)
120 V (FCC Class B)
Load 100 %

規格 1: [VCCI] Class B(平均值)
規格 2: [VCCI] Class B(QP)



規格 1: [FCC Part15] Class B



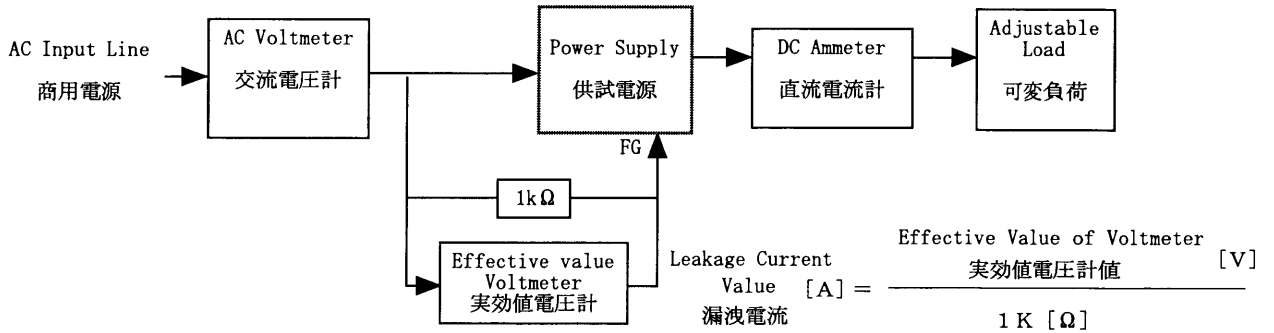
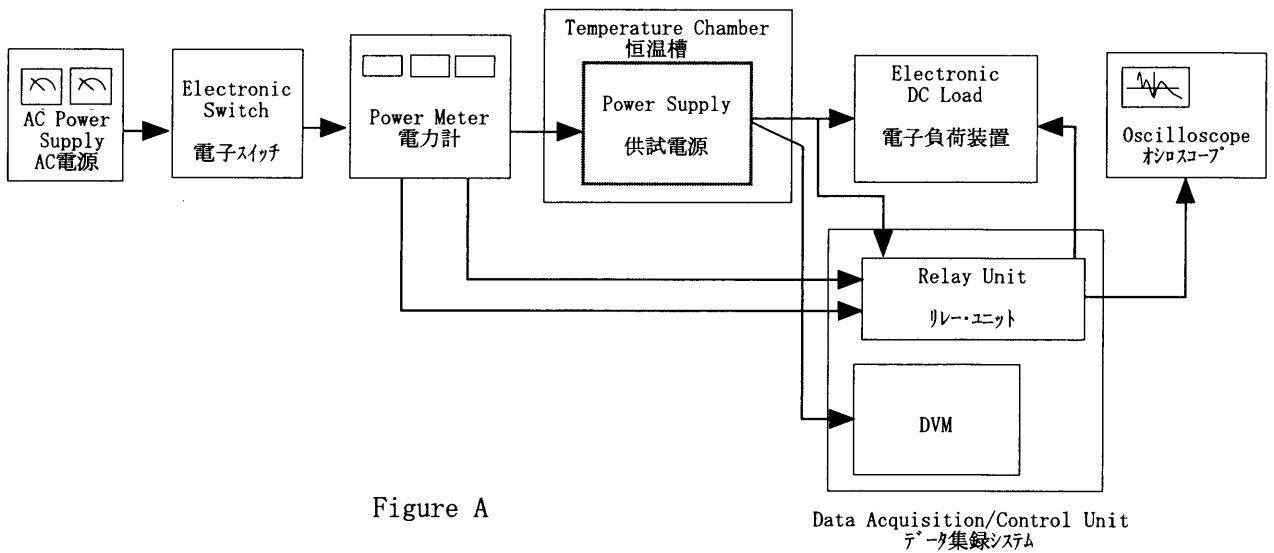


Figure B (DENTORI)

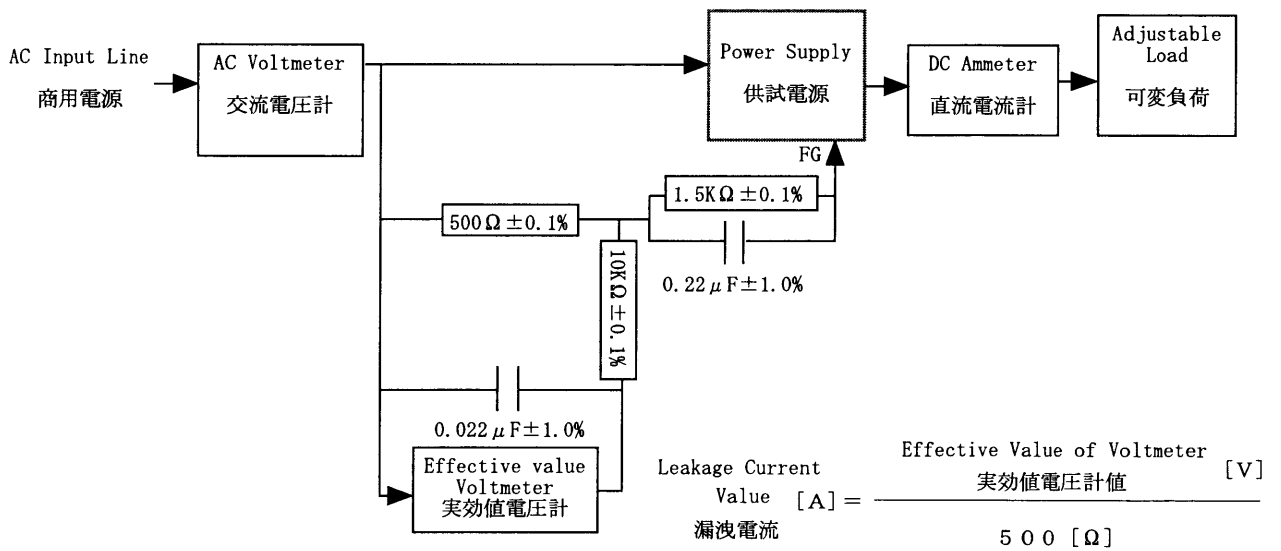


Figure B (IEC 60950)

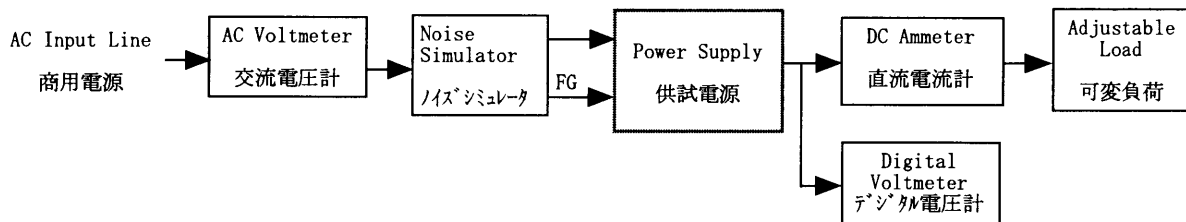


Figure C

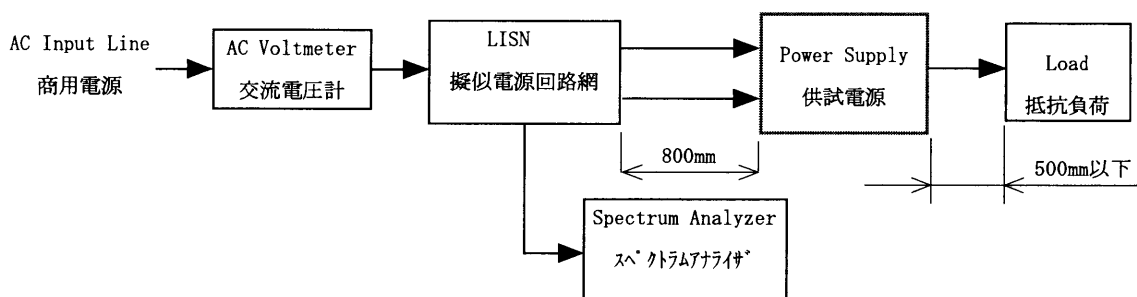


Figure D

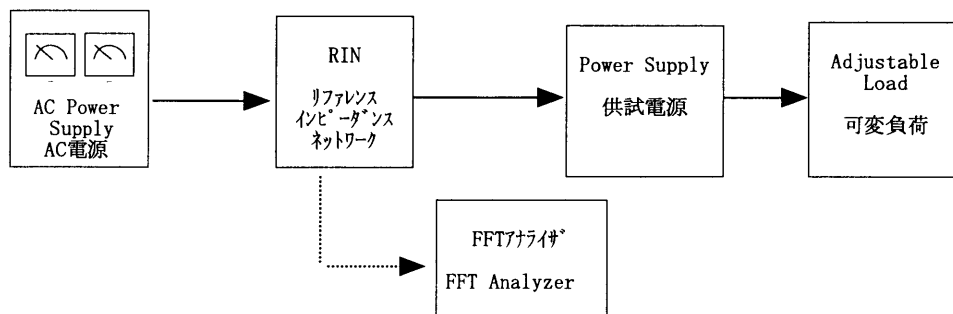


Figure E