COSEL

参考資料

TEST DATA OF LDA150W-24-H

(100V INPUT)

Regulated DC Power Supply

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COSEL CO.,LTD.

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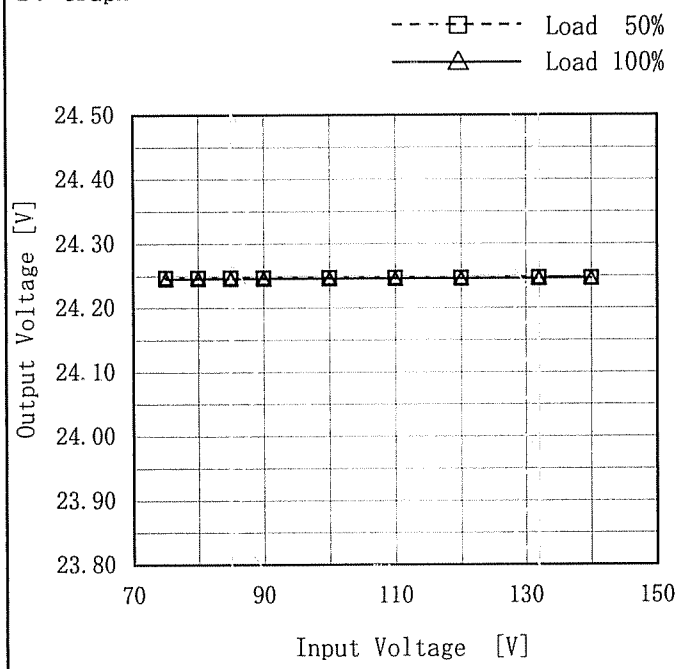
Model	LDA150W-24-H
Item	Line Regulation 静的入力変動
Object	+24V6.3A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

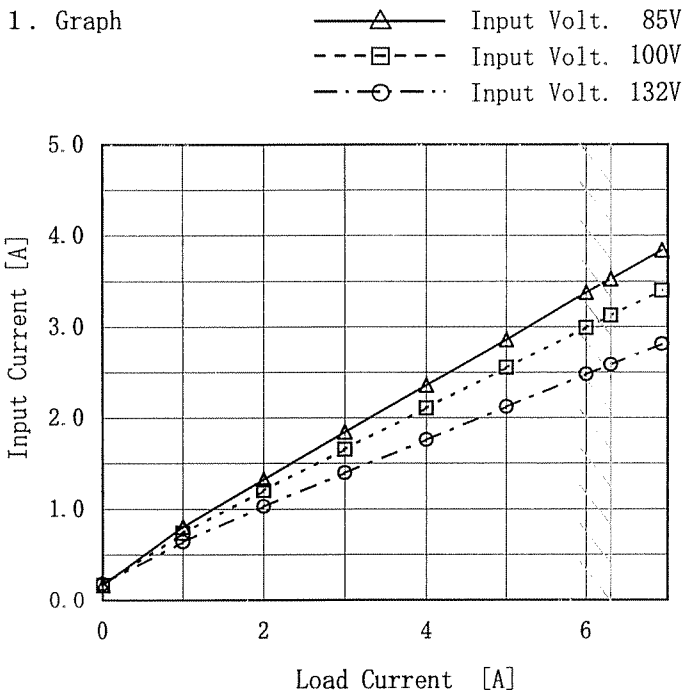
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
75	24.247	24.245
80	24.247	24.246
85	24.247	24.246
90	24.247	24.246
100	24.247	24.246
110	24.247	24.246
120	24.247	24.246
132	24.247	24.246
140	24.247	24.246

COSEL

Model	LDA150W-24-H
Item	Input Current (by Load Current) 入力電流（負荷特性）
Object	――――――

Temperature 25℃
Testing Circuitry Figure A

1．Graph



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

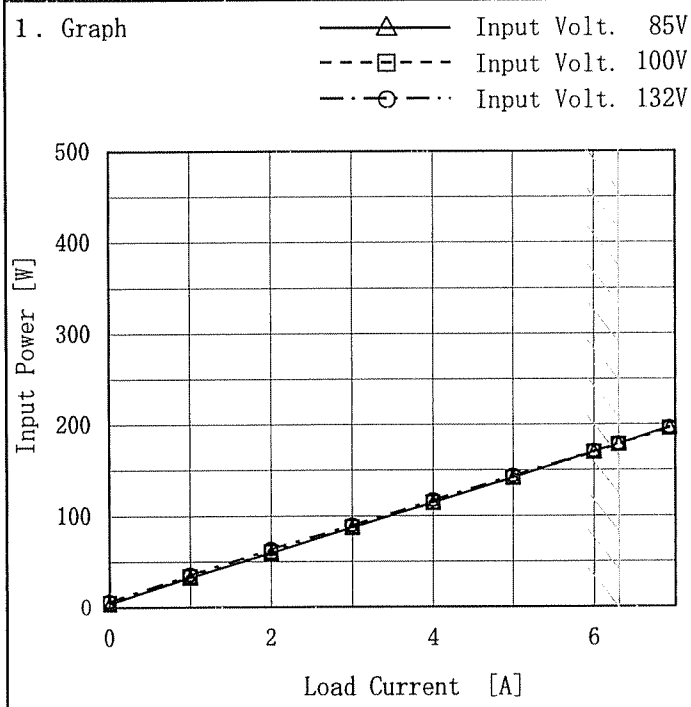
Load Current [A]	Input Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	0.161	0.164	0.178
1.00	0.806	0.733	0.642
2.00	1.326	1.202	1.028
3.00	1.843	1.656	1.399
4.00	2.356	2.106	1.758
5.00	2.855	2.552	2.124
6.00	3.378	2.988	2.480
6.30	3.522	3.123	2.586
6.93	3.840	3.396	2.810
—	—	—	—
—	—	—	—

COSEL

Model	LDA150W-24-H
Item	Input Power (by Load Current) 入力電力（負荷特性）
Object	――――――

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

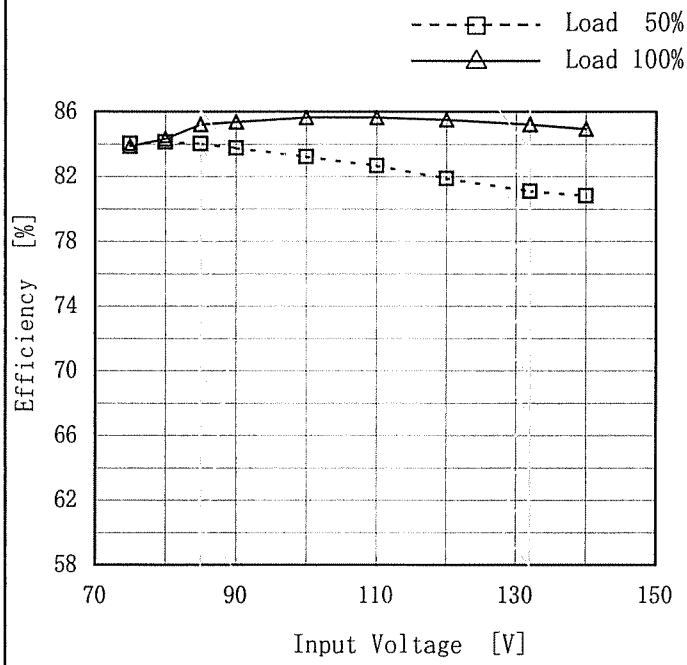
Load Current [A]	Input Power [W]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	3.8	4.5	6.4
1.00	32.6	33.5	35.9
2.00	59.3	60.4	63.5
3.00	87.0	87.7	89.8
4.00	114.3	114.6	117.0
5.00	141.9	141.9	143.7
6.00	170.1	169.5	170.7
6.30	178.5	177.9	178.8
6.93	197.0	195.6	196.2
—	—	—	—
—	—	—	—

COSEL

Model	LDA150W-24-H
Item	Efficiency (by Input Voltage) 効率（入力電圧特性）
Object	————————

Temperature 25℃
Testing Circuitry Figure A

1．Graph



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

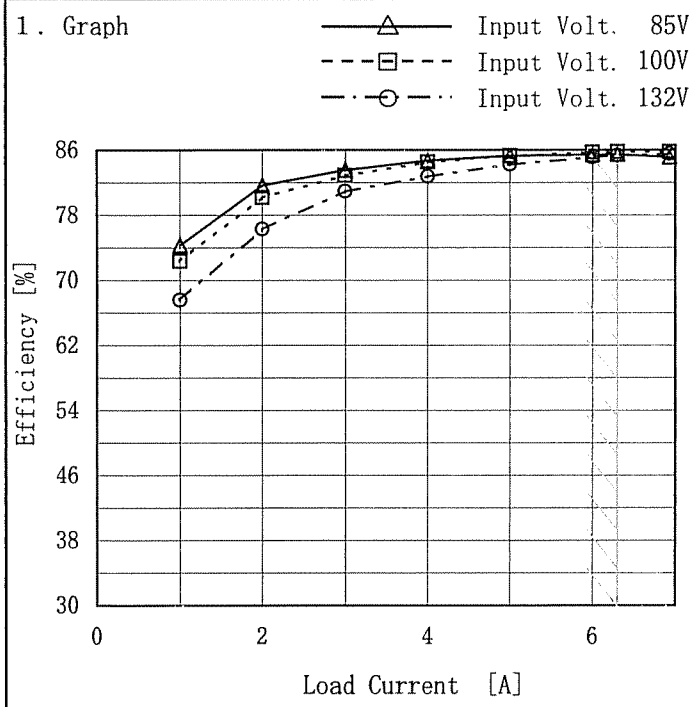
Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
75	84.0	83.9
80	84.1	84.3
85	84.0	85.2
90	83.8	85.4
100	83.2	85.7
110	82.7	85.7
120	81.9	85.5
132	81.1	85.2
140	80.8	84.9

COSEL

Model	LDA150W-24-H
Item	Efficiency (by Load Current) 効率（負荷特性）
Object	————————

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

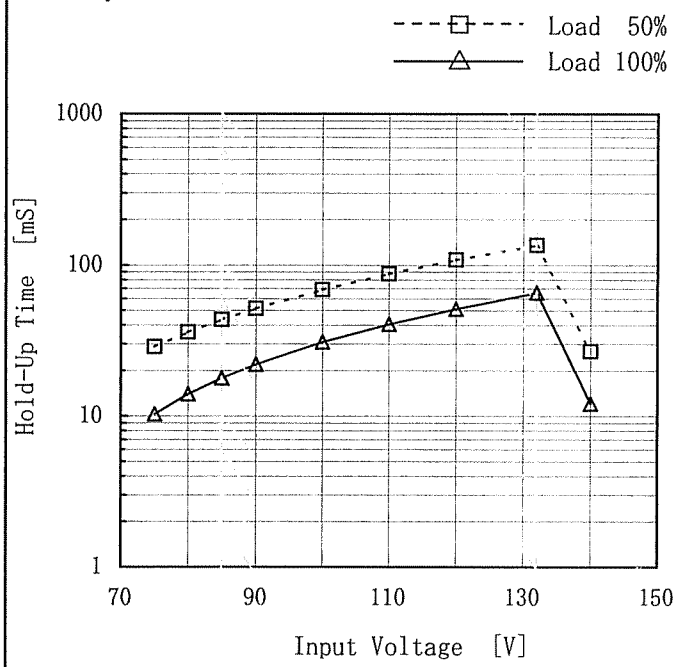
Load Current [A]	Efficiency [%]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	—	—	—
1.00	74.3	72.3	67.6
2.00	81.6	80.2	76.3
3.00	83.5	82.9	80.9
4.00	84.7	84.5	82.8
5.00	85.3	85.3	84.2
6.00	85.4	85.7	85.1
6.30	85.5	85.8	85.3
6.93	85.1	85.7	85.5
—	—	—	—
—	—	—	—

COSEL

Model	LDA150W-24-H
Item	Hold-Up Time 出力保持時間
Object	+24V6.3A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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 input voltage.

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）斜線は定格入力電圧範囲を示す。

2. Values

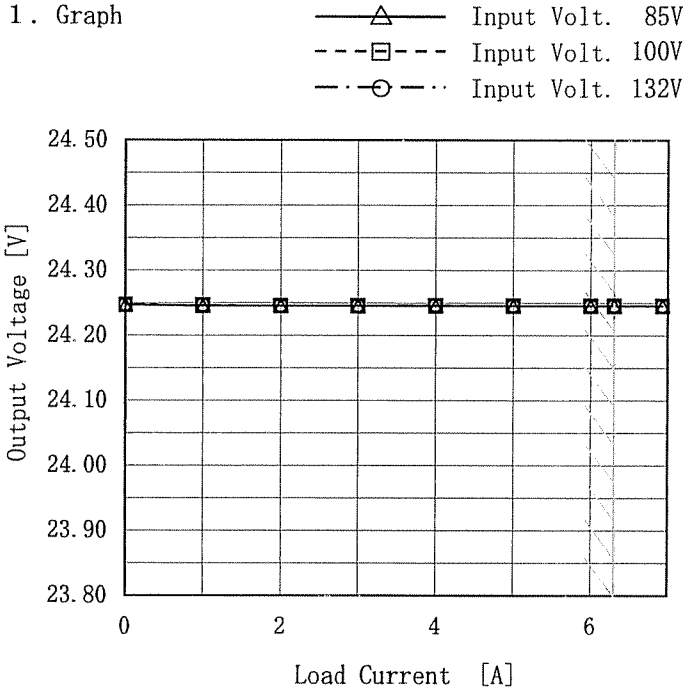
Input Voltage [V]	Hold-Up Time [mS]	
	Load 50%	Load 100%
75	29	10
80	36	14
85	44	18
90	52	22
100	69	31
110	88	41
120	108	51
132	135	66
140	27	12

COSEL

Model	LDA150W-24-H
Item	Load Regulation 静的負荷変動
Object	+24V6.3A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

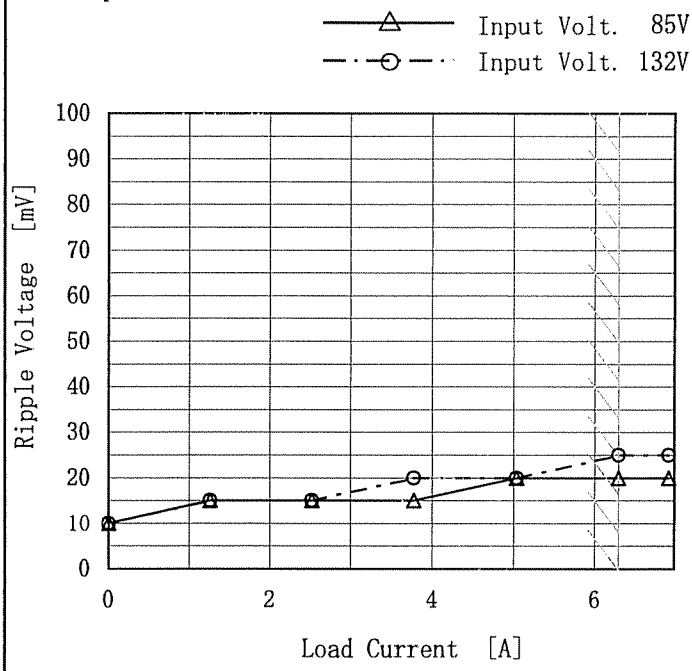
Load Current [A]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	24.247	24.247	24.247
1.00	24.246	24.246	24.246
2.00	24.246	24.246	24.246
3.00	24.246	24.246	24.246
4.00	24.246	24.246	24.246
5.00	24.246	24.246	24.246
6.00	24.246	24.246	24.246
6.30	24.246	24.246	24.246
6.93	24.245	24.246	24.246
—	—	—	—

COSEL

Model	LDA150W-24-H
Item	Ripple Voltage (by Load Current) リップル電圧（負荷特性）
Object	+24V6.3A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

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。

T1: Due to AC Input Line
入力商用周期
T2: Due to Switching
ｽｲｯﾁﾝｸﾞ周期

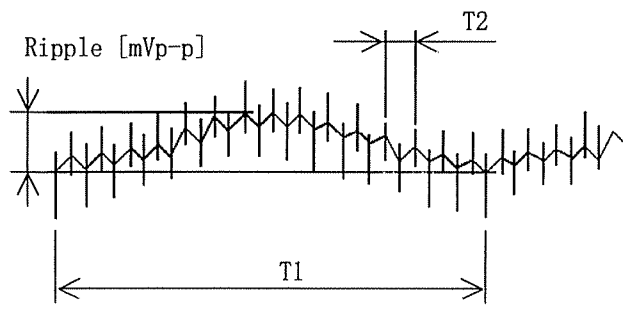


Fig. Complex Ripple Wave Form
図　リップル波形詳細図

2. Values

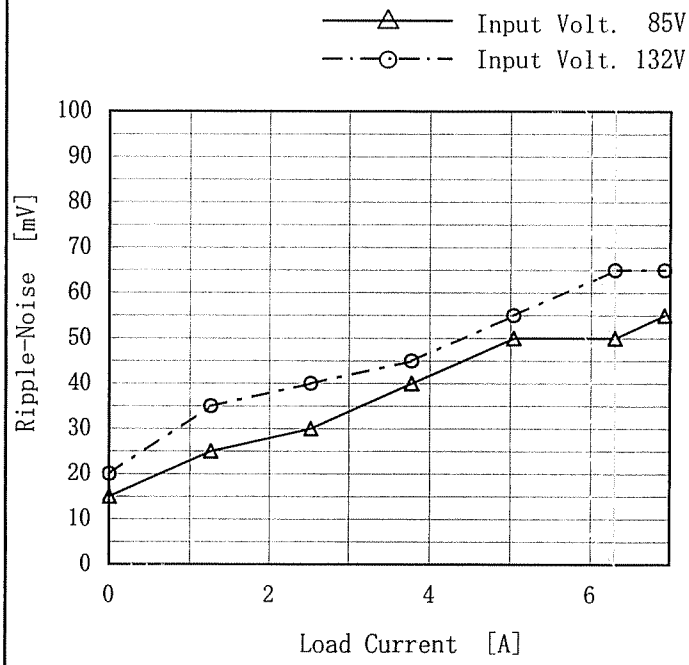
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.00	10	10
1.26	15	15
2.52	15	15
3.78	15	20
5.04	20	20
6.30	20	25
6.93	20	25
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	LDA150W-24-H
Item	Ripple-Noise リップルノイズ
Object	+24V6.3A

Temperature 25℃
Testing Circuitry Figure A

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
ｽｲｯﾁﾝｸﾞ周期

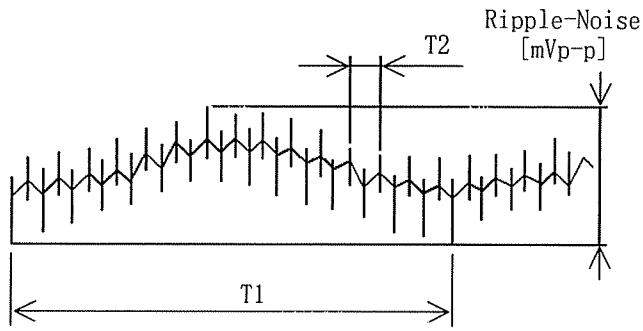


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

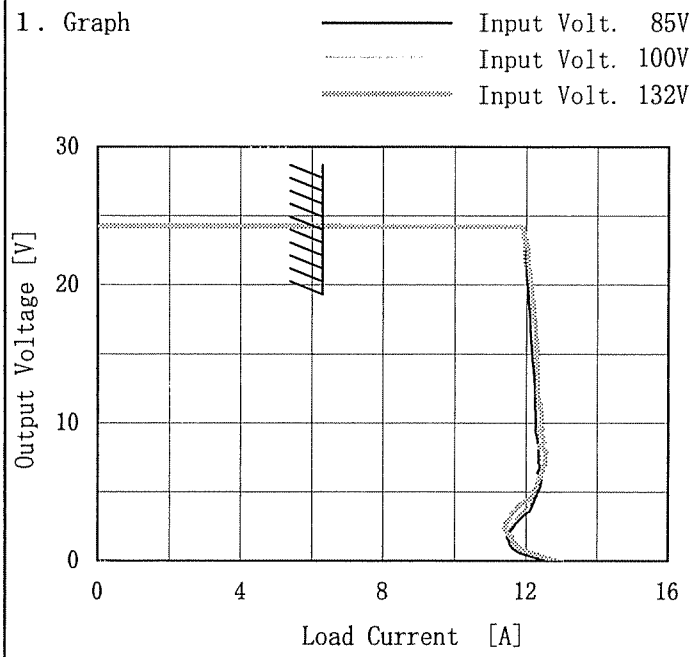
Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.00	15	20
1.26	25	35
2.52	30	40
3.78	40	45
5.04	50	55
6.30	50	65
6.93	55	65
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	LDA150W-24-H
Item	Overcurrent Protection 過電流保護
Object	+24V6.3A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

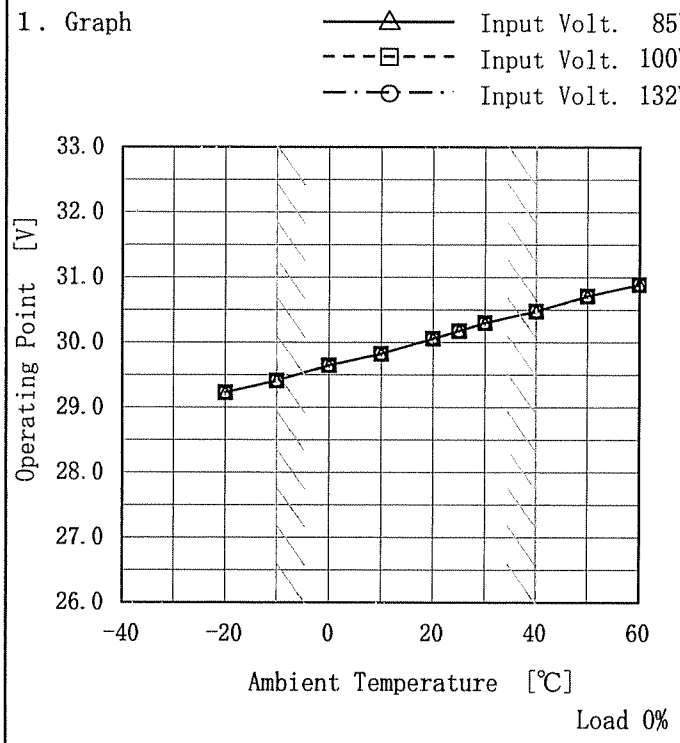
Output Voltage [V]	Load Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
24.0	11.97	11.88	11.92
22.8	12.00	11.91	12.02
21.6	12.01	11.95	12.06
19.2	12.05	12.07	12.17
16.8	12.11	12.12	12.26
14.4	12.18	12.22	12.30
12.0	12.25	12.25	12.32
9.6	12.26	12.33	12.46
7.2	12.35	12.32	12.53
4.8	12.29	12.26	12.22
2.4	11.65	11.56	11.43
0.0	12.93	13.04	13.15

COSEL

Model	LDA150W-24-H
Item	Overvoltage Protection 過電圧保護
Object	+24V6.3A

Testing Circuitry Figure A

1. Graph



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

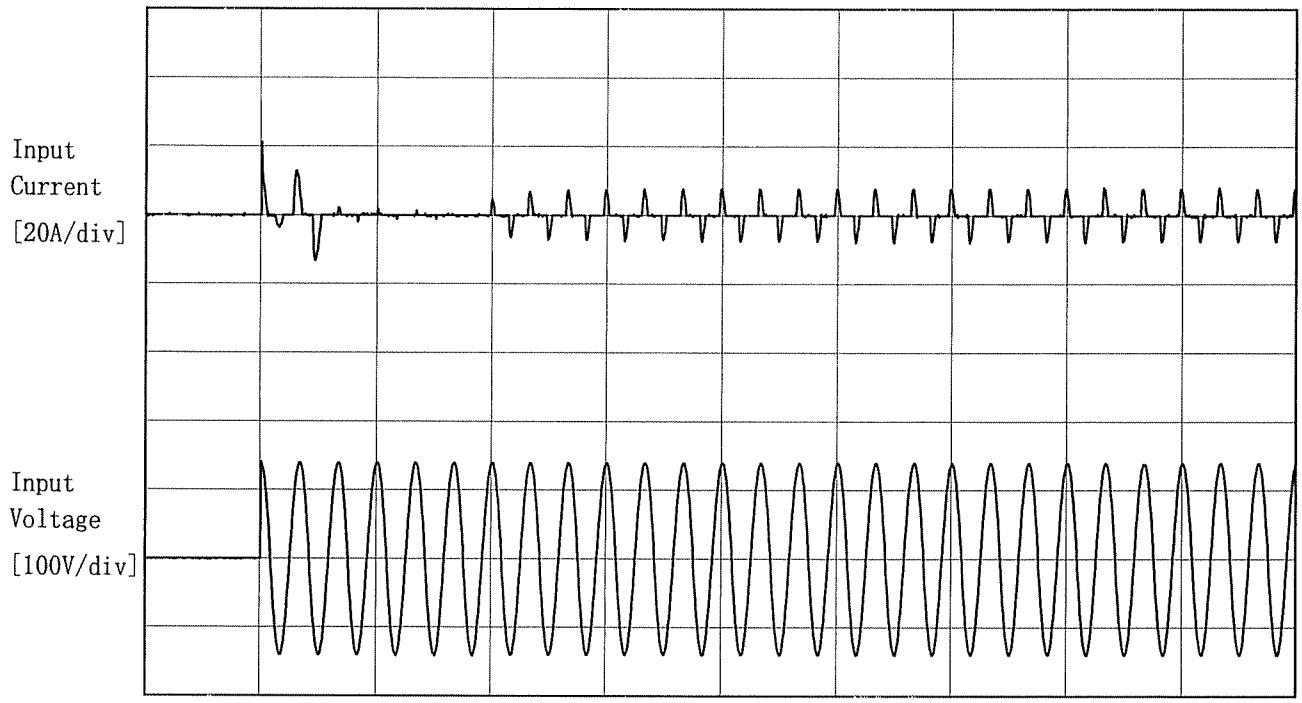
（注）斜線は定格周囲温度範囲を示す。

2. Values

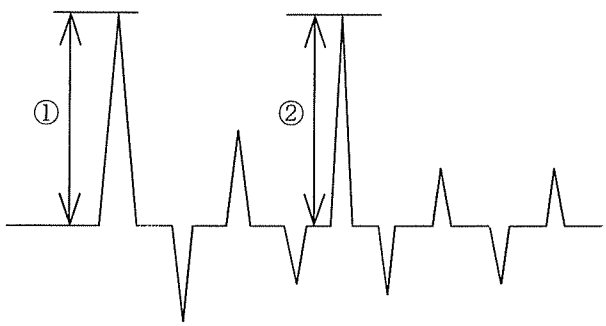
Ambient Temperature [℃]	Operating Point [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	29.23	29.23	29.23
-10	29.41	29.41	29.41
0	29.65	29.65	29.65
10	29.82	29.82	29.82
20	30.06	30.06	30.06
25	30.18	30.18	30.18
30	30.30	30.30	30.30
40	30.48	30.48	30.48
50	30.71	30.71	30.71
60	30.89	30.89	30.89
—	—	—	—

COSEL

Model	LDA150W-24-H		
Item	Inrush Current 突入電流	Temperature Testing Circuitry	25℃ Figure A
Object	――――――		



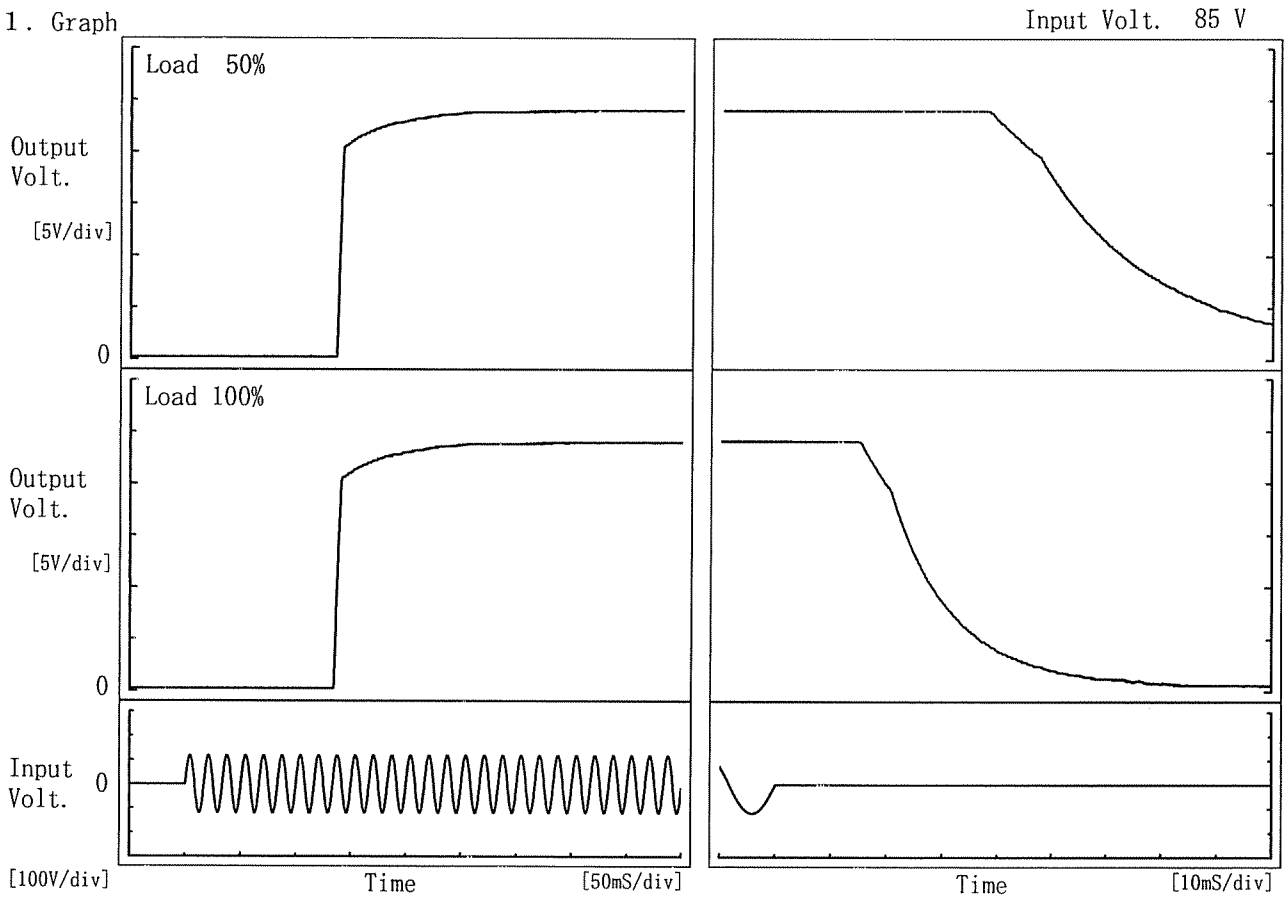
Input Voltage 100 V
Frequency 60 Hz
Load 100 %
Inrush Current
① 21.2 [A]
② 8.0 [A]



COSEL

Model	LDA150W-24-H		
Item	Rise and Fall Time 立上り、立下り時間	Temperature Testing Circuitry	25℃ Figure A
Object	+24V6.3A		

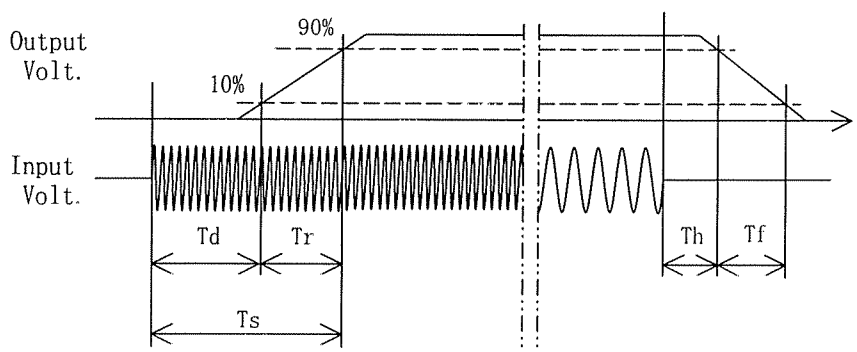
1. Graph



2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	136.8	25.8	162.5	42.6	47.5
100 %	135.0	25.3	160.3	17.6	29.0

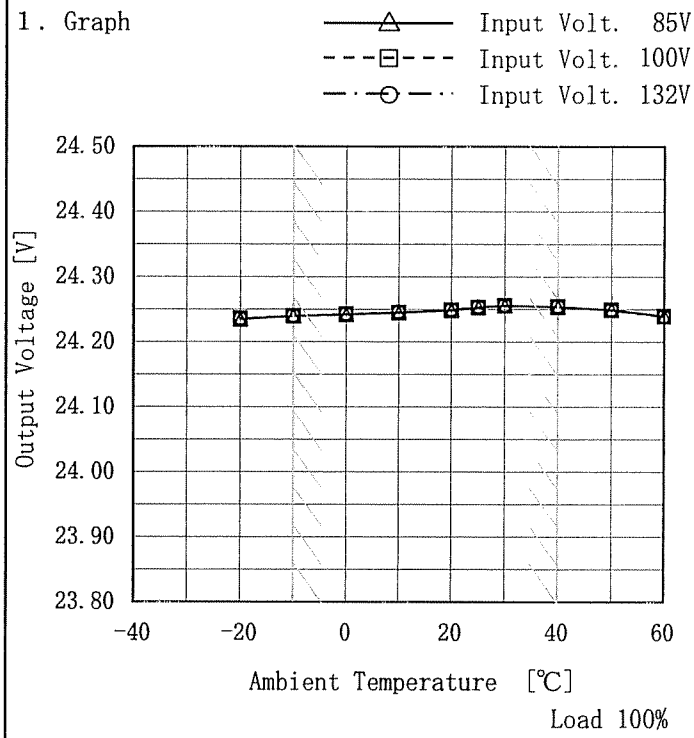


COSEL

Model	LDA150W-24-H
Item	Ambient Temperature Drift 周囲温度変動
Object	+24V6.3A

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

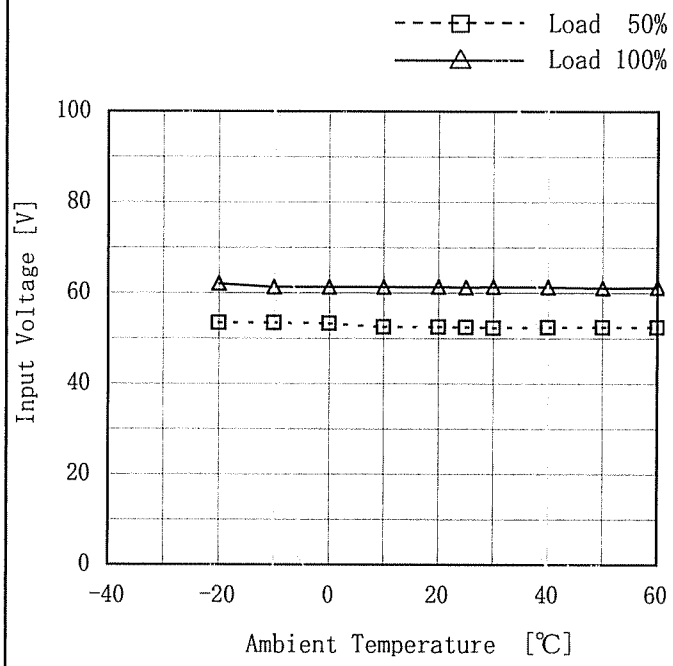
Ambient Temperature [℃]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	24.235	24.236	24.235
-10	24.239	24.240	24.240
0	24.242	24.243	24.243
10	24.245	24.245	24.246
20	24.248	24.249	24.249
25	24.253	24.253	24.254
30	24.256	24.256	24.256
40	24.254	24.254	24.254
50	24.249	24.249	24.249
60	24.239	24.240	24.239
—	—	—	—

COSEL

Model	LDA150W-24-H
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	+24V6.3A

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

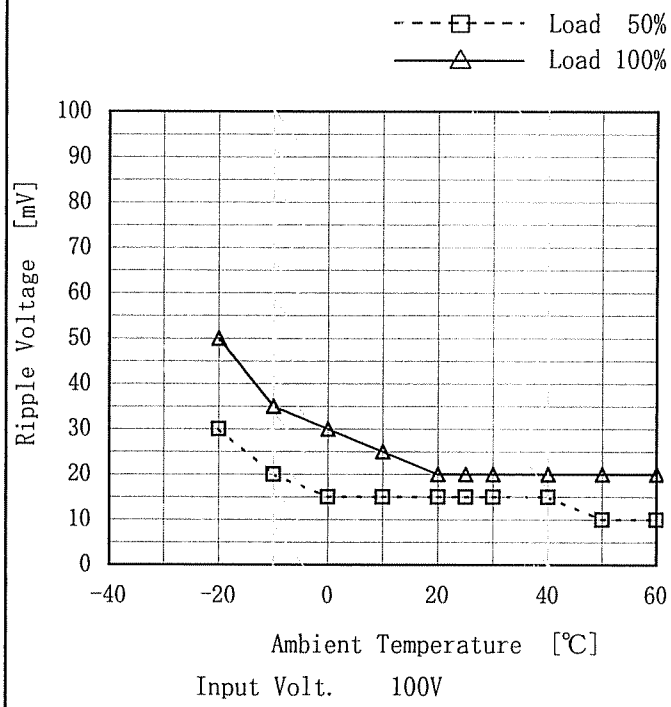
Ambient Temperature [℃]	Input Voltage [V]	
	Load 50%	Load 100%
-20	54	63
-10	54	62
0	54	62
10	53	62
20	53	62
25	53	62
30	53	62
40	53	62
50	53	62
60	53	62
--	—	—

COSEL

Model	LDA150W-24-H
Item	Ripple Voltage (by Ambient Temp.) リップル電圧 (周囲温度特性)
Object	+24V6.3A

Testing Circuitry Figure A

1. Graph



Input Volt. 100V

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 [℃]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-20	30	50
-10	20	35
0	15	30
10	15	25
20	15	20
25	15	20
30	15	20
40	15	20
50	10	20
60	10	20
—	—	—

COSEL

Model	LDA150W-24-H
Item	Output Voltage Accuracy 定電圧精度
Object	+24V6.3A

Testing Circuitry Figure A

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 ～ 40℃
Input Voltage : 85 ～ 132V
Load Current : 0 ～ 6.3A

* Output Voltage Accuracy = ±(Maximum of Output Voltage − Minimum of Output Voltage)／2

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

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 ～ 40℃
入力電圧 : 85 ～ 132V
負荷電流 : 0 ～ 6.3A

* 定電圧精度(変動値) ＝ ±(出力電圧の最高値－出力電圧の最低値)／2

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

2. Values

Item	Temperature [℃]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	25	132	0	24.256	±8	±0.1
Minimum Voltage	-10	85	6.3	24.240		

COSEL

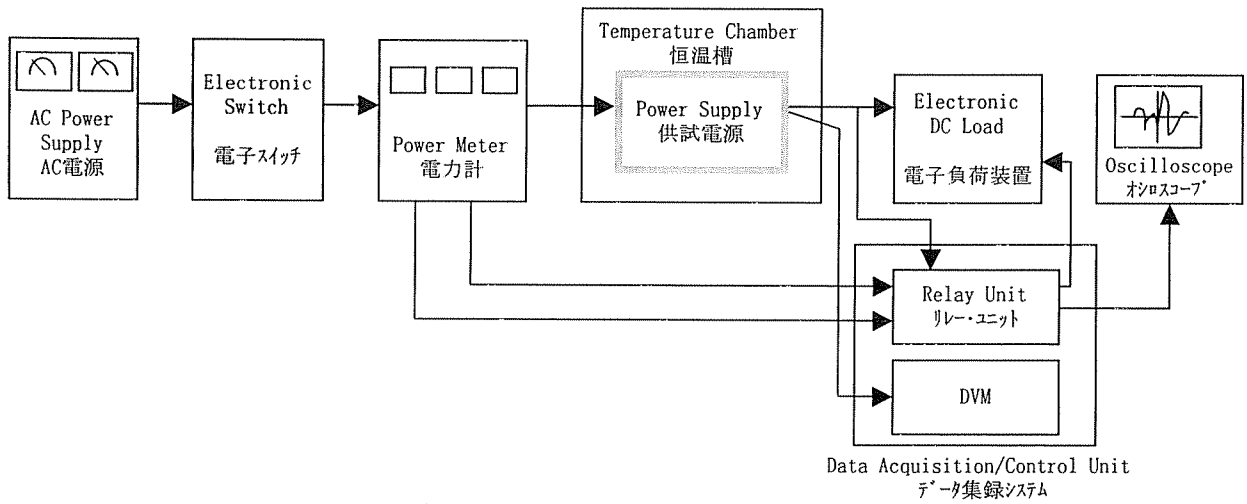


Figure A

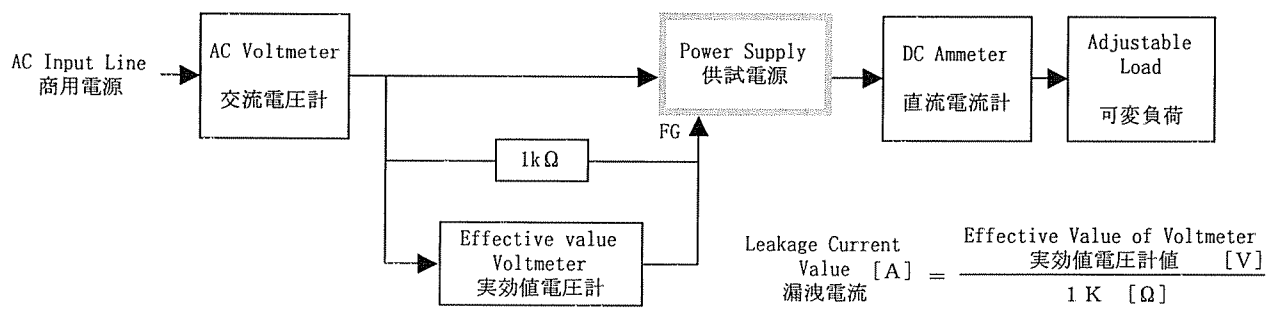


Figure B (DEN-AN)

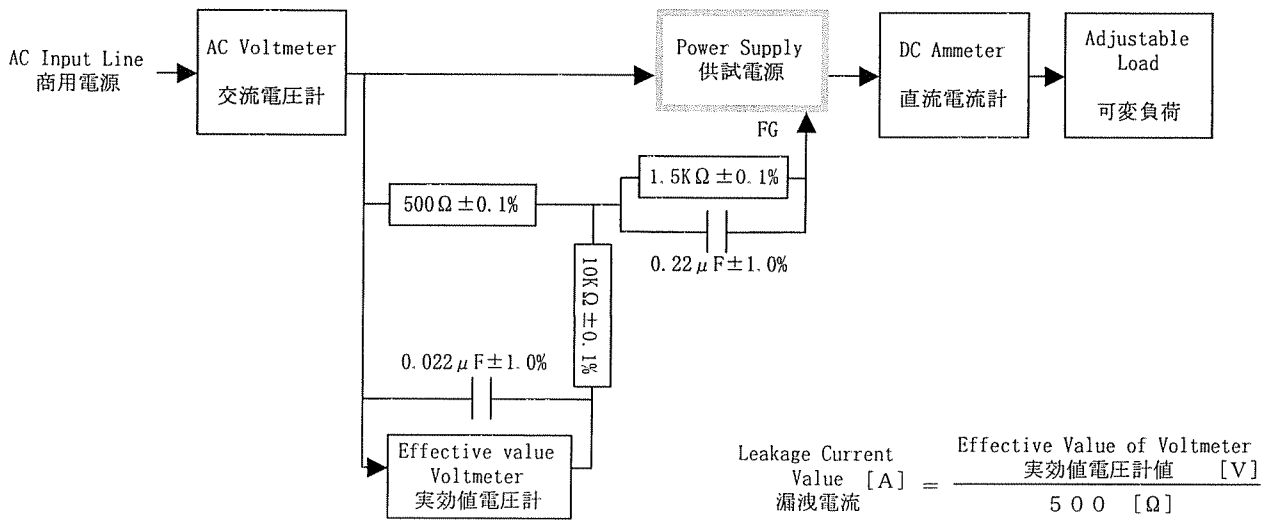


Figure B (IEC60950)

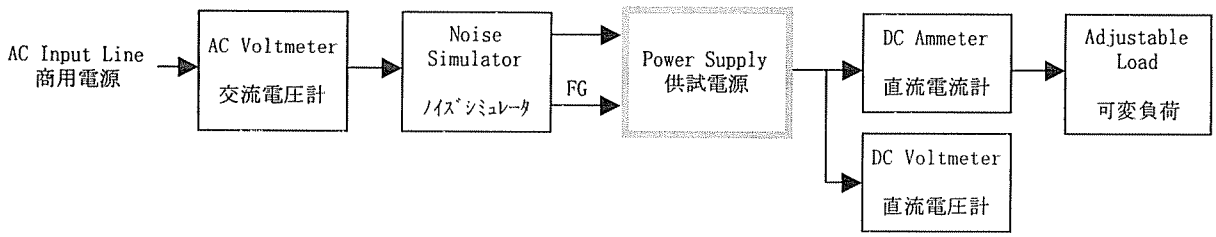


Figure C

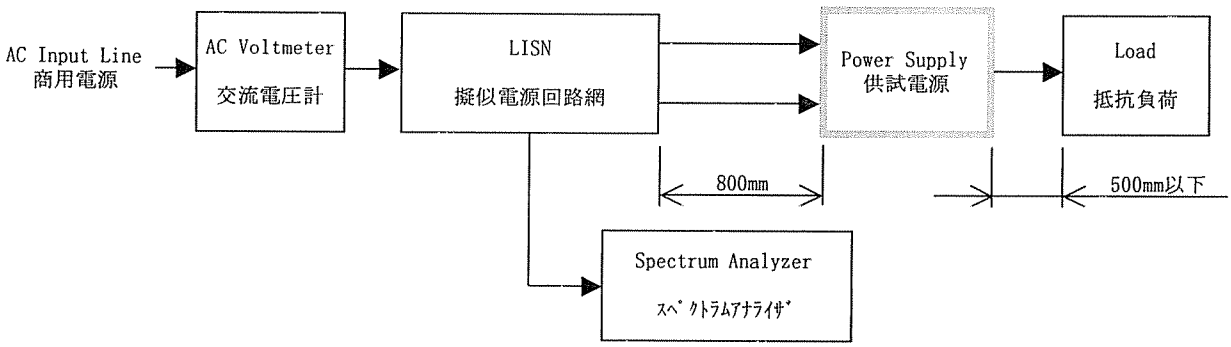


Figure D

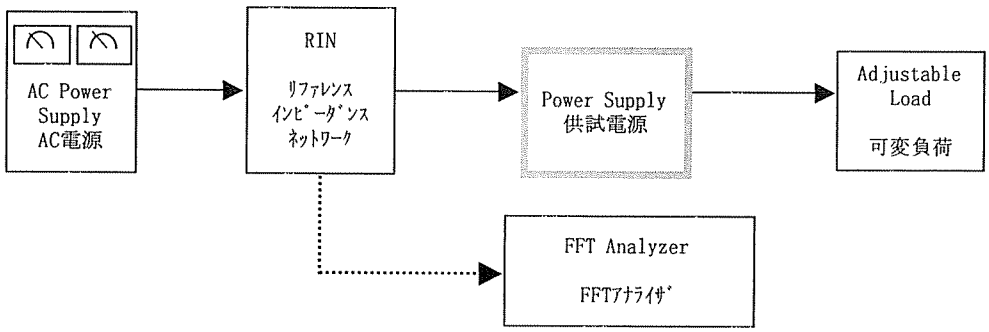


Figure E