参考資料

COSEL

TEST DATA OF LDA100W-30

(100V　INPUT)

Regulated DC Power Supply
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COSEL CO.,LTD.

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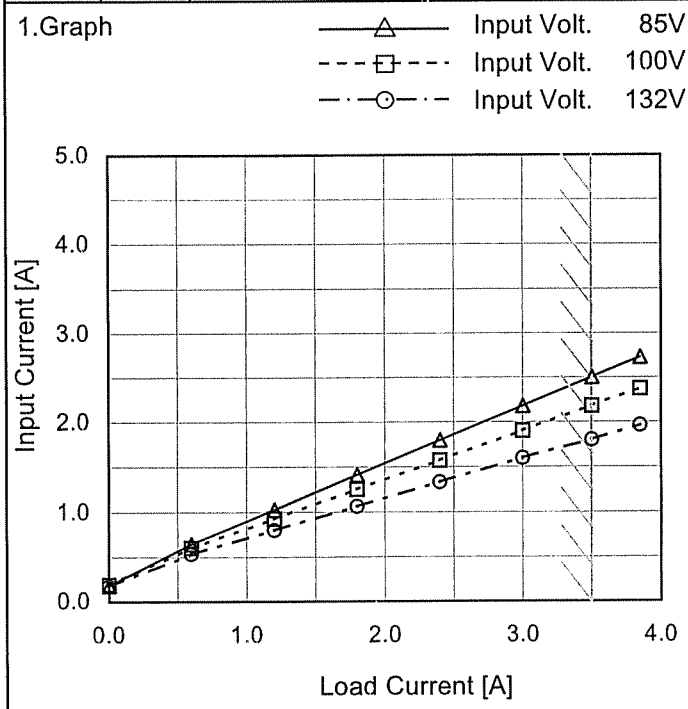

Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Input Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	0.179	0.189	0.172
0.60	0.646	0.602	0.534
1.20	1.028	0.928	0.802
1.80	1.417	1.254	1.065
2.40	1.800	1.575	1.333
3.00	2.182	1.905	1.598
3.50	2.504	2.182	1.804
3.85	2.730	2.376	1.964
--	-	-	-
--	-	-	-
--	-	-	-

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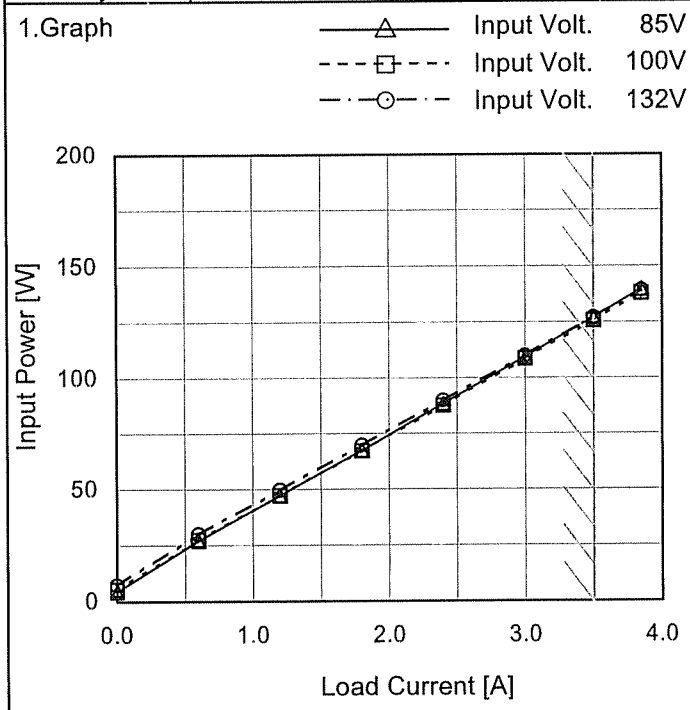
Model	LDA100W-30
Item	Input Power (by Load Current)
Object	———————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

Load Current [A]	Input Power [W]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	4.5	5.4	7.3
0.60	27.1	27.4	30.1
1.20	47.2	47.2	49.7
1.80	67.6	67.3	69.8
2.40	88.5	87.6	89.9
3.00	109.5	108.6	110.0
3.50	127.2	125.7	127.2
3.85	139.8	138.0	139.2
--	-	-	-
--	-	-	-
--	-	-	-

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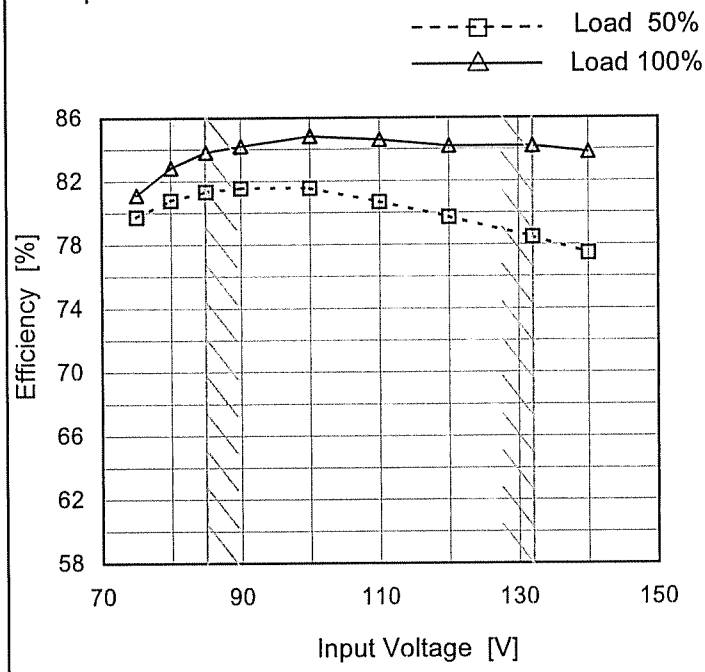
Model	LDA100W-30
Item	Efficiency (by Input Voltage)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
75	79.8	81.1
80	80.8	82.8
85	81.3	83.8
90	81.6	84.2
100	81.6	84.8
110	80.7	84.6
120	79.7	84.2
132	78.5	84.2
140	77.5	83.8

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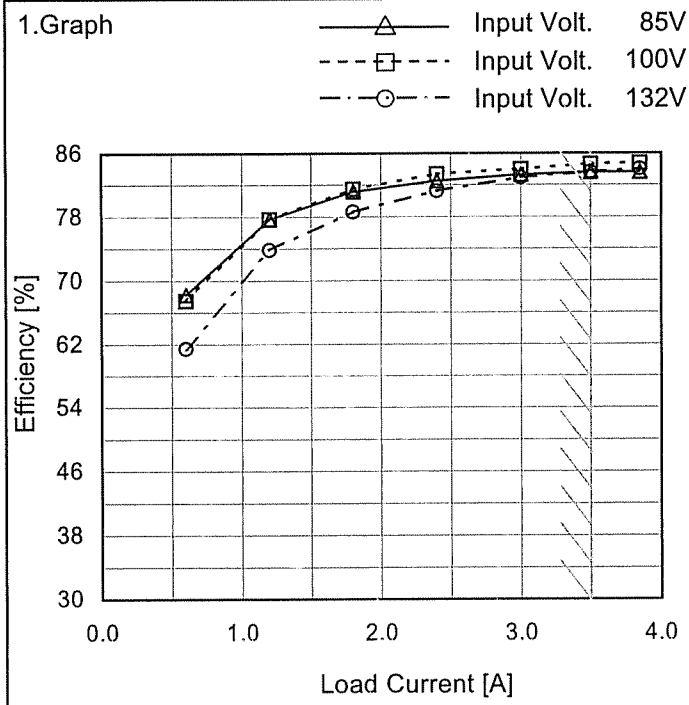
Model	LDA100W-30
Item	Efficiency (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

Load Current [A]	Efficiency [%]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	-	-	-
0.60	68.3	67.5	61.5
1.20	77.7	77.7	73.8
1.80	81.2	81.5	78.6
2.40	82.5	83.4	81.3
3.00	83.3	84.0	82.9
3.50	83.6	84.6	83.6
3.85	83.6	84.8	84.0
--	-	-	-
--	-	-	-
--	-	-	-

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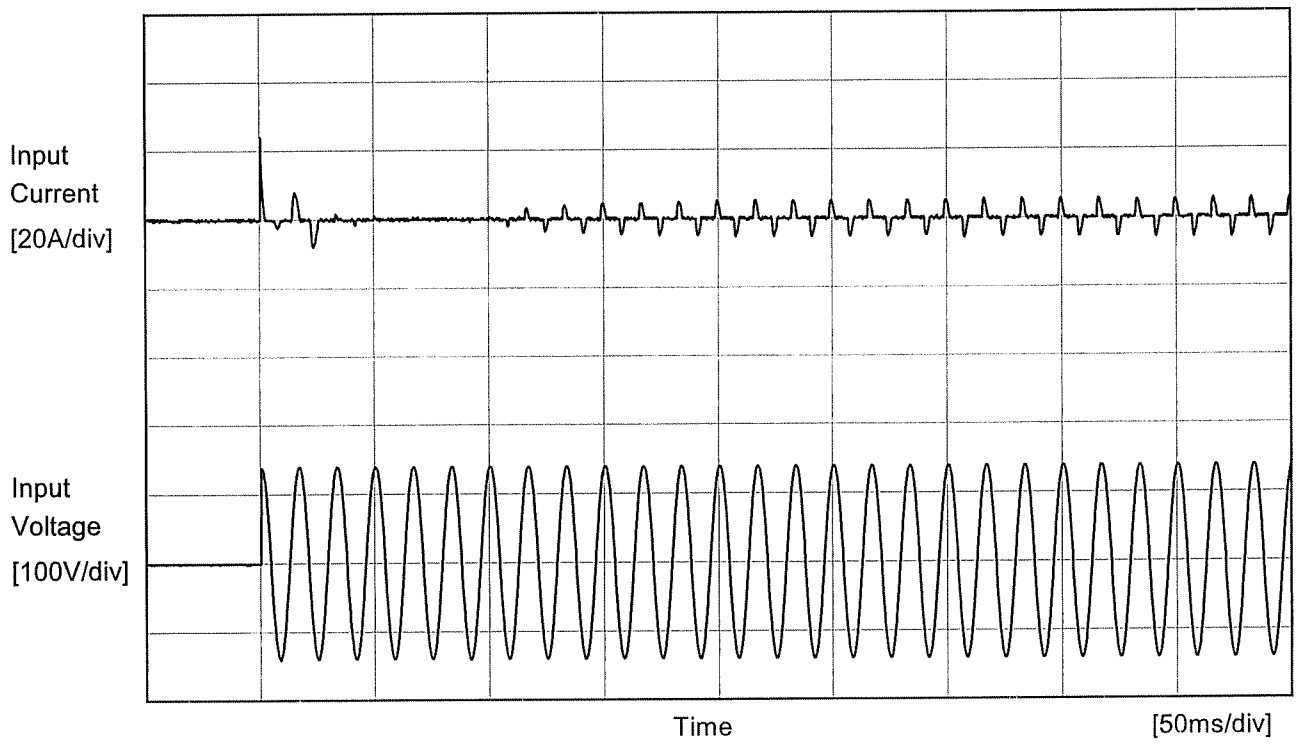
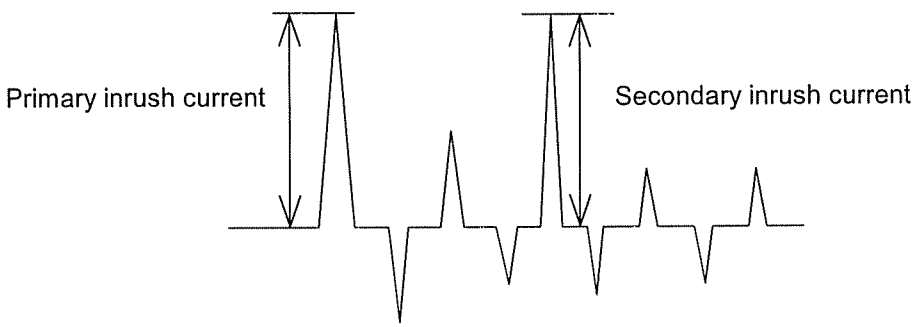
Model	LDA100W-30
Item	Inrush Current
Object	————————

Temperature 25°C
Testing Circuitry Figure A



Input Voltage	100 V
Frequency	60 Hz
Load	100 %
Primary inrush current	23.9 A
Secondary inrush current	5.7 A



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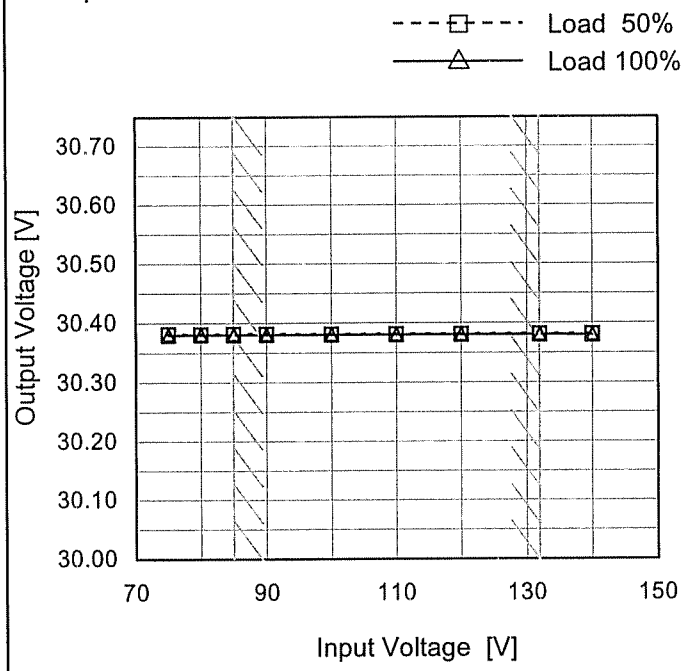
Model	LDA100W-30
Item	Line Regulation
Object	+30V3.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
75	30.382	30.380
80	30.382	30.381
85	30.382	30.381
90	30.382	30.381
100	30.382	30.381
110	30.381	30.381
120	30.381	30.381
132	30.381	30.381
140	30.381	30.380

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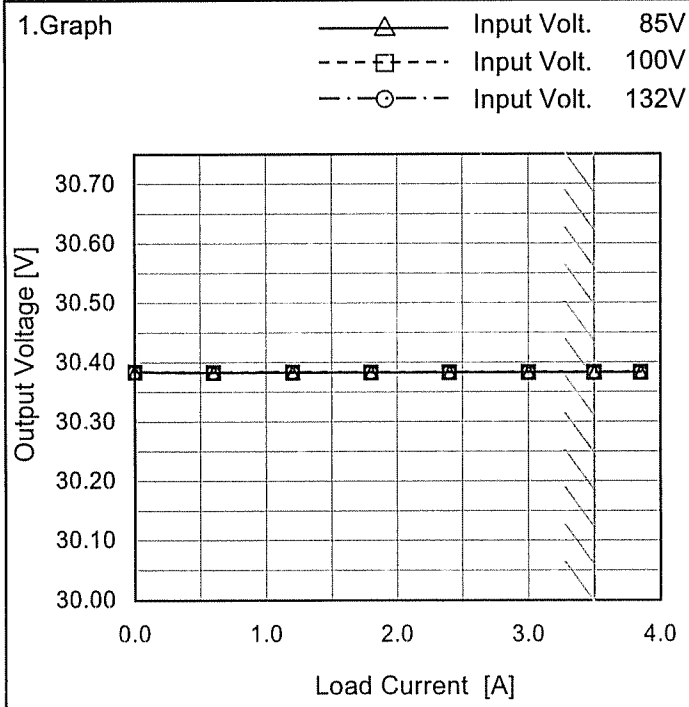
Model	LDA100W-30
Item	Load Regulation
Object	+30V3.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	30.384	30.384	30.384
0.60	30.383	30.383	30.383
1.20	30.383	30.383	30.383
1.80	30.383	30.383	30.383
2.40	30.383	30.383	30.383
3.00	30.383	30.383	30.383
3.50	30.383	30.383	30.383
3.85	30.383	30.383	30.383
--	-	-	-
--	-	-	-
--	-	-	-

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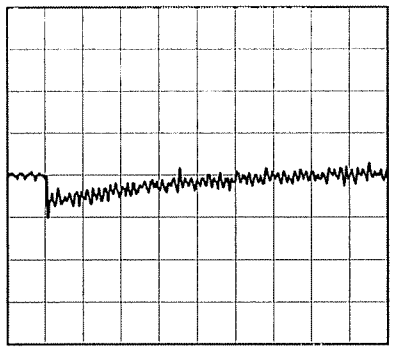
Model	LDA100W-30
Item	Dynamic Load Response
Object	+30V3.5A

Temperature 25°C
Testing Circuitry Figure A

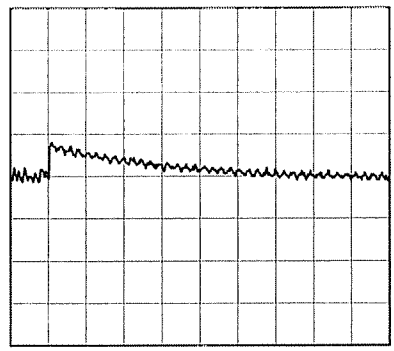
Input Volt. 100 V
Cycle 1000 ms

Load Current

Min. Load (0A) ⟷
Load 100% (3.5A)

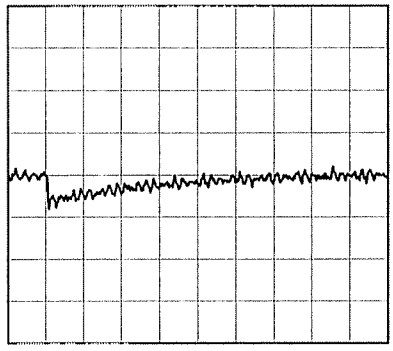


100 mV/div
10 ms/div

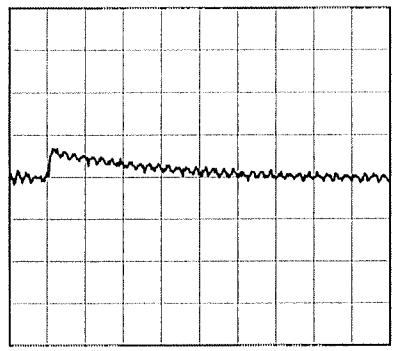


10 ms/div

Min. Load (0A) ⟷
Load 50% (1.75A)



100 mV/div
10 ms/div



10 ms/div

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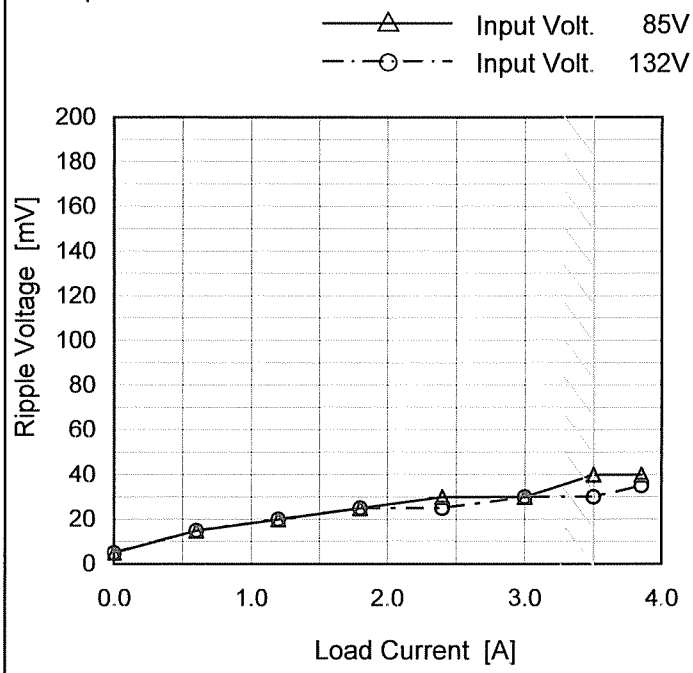
Model	LDA100W-30
Item	Ripple Voltage (by Load Current)
Object	+30V3.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Measured by 20 MHz Oscilloscope.
Ripple Voltage is shown as p-p in the figure below.
Note: Slanted line shows the range of the rated load current.

T1: Due to AC Input Line
T2: Due to Switching

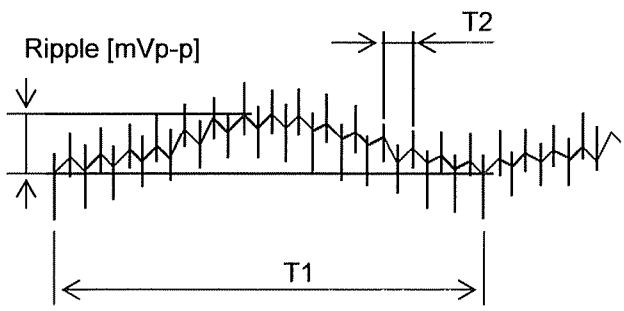


Fig. Complex Ripple Wave Form

2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.00	5	5
0.60	15	15
1.20	20	20
1.80	25	25
2.40	30	25
3.00	30	30
3.50	40	30
3.85	40	35
--	-	-
--	-	-
--	-	-

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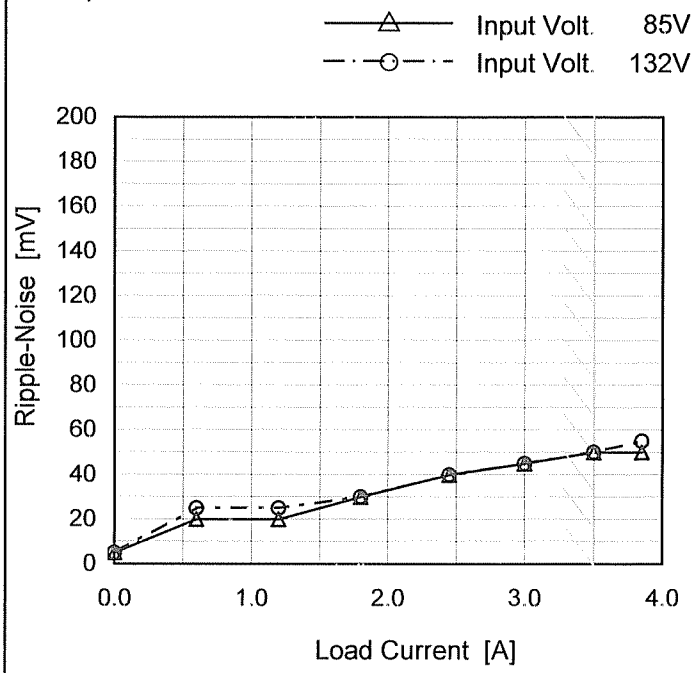
Model	LDA100W-30
Item	Ripple-Noise
Object	+30V3.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Measured by 20 MHz Oscilloscope.
Ripple-Noise is shown as p-p in the figure below.
Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.00	5	5
0.60	20	25
1.20	20	25
1.80	30	30
2.45	40	40
3.00	45	45
3.50	50	50
3.85	50	55
--	-	-
--	-	-
--	-	-

T1: Due to AC Input Line
T2: Due to Switching

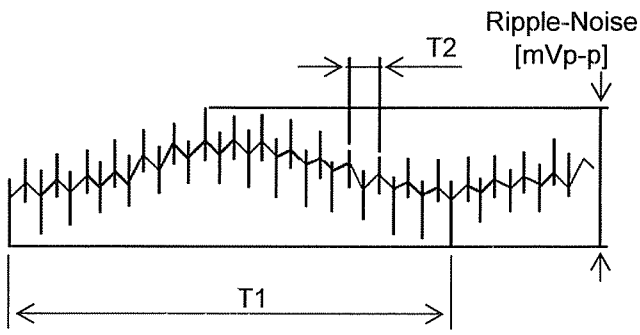


Fig. Complex Ripple Wave Form

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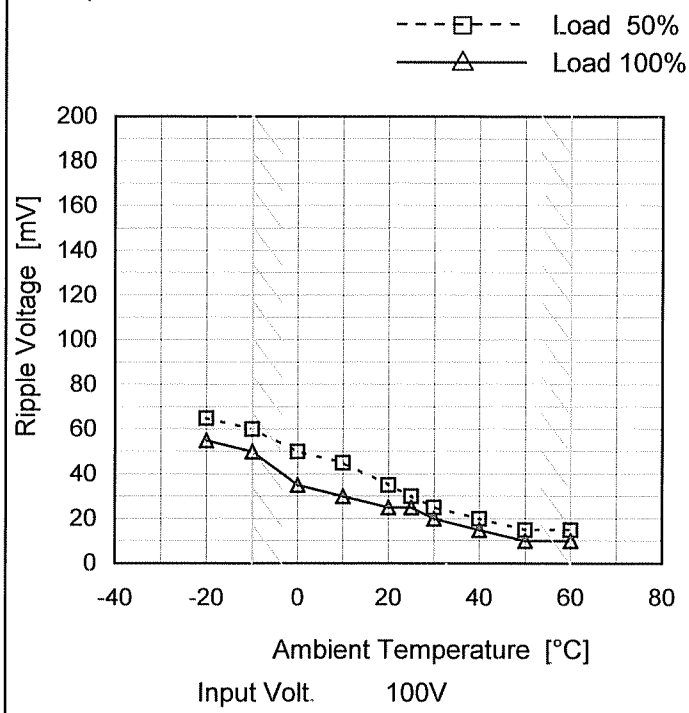
COSEL

Model	LDA100W-30
Item	Ripple Voltage (by Ambient Temp.)
Object	+30V3.5A

Testing Circuitry Figure A

1.Graph



Input Volt. 100V

Measured by 20 MHz Oscilloscope.

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

2.Values

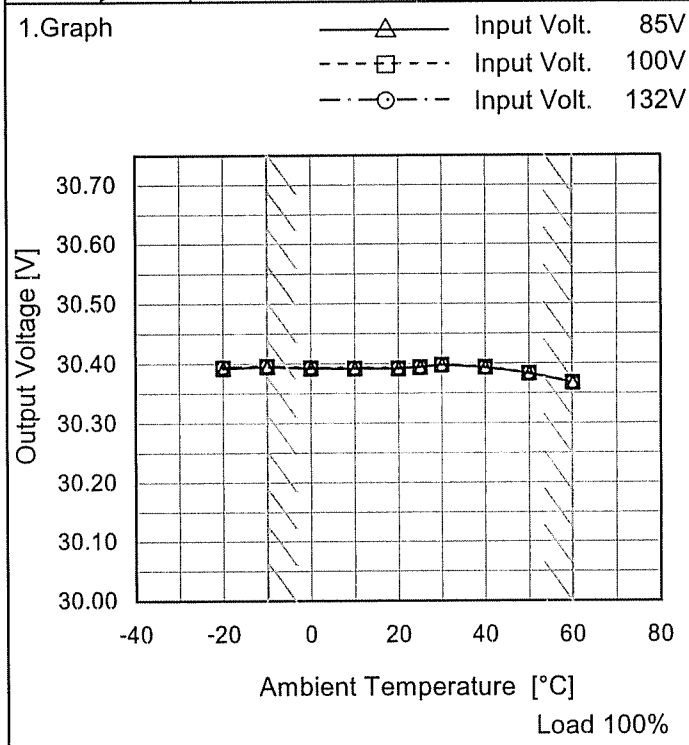
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-20	65	55
-10	60	50
0	50	35
10	45	30
20	35	25
25	30	25
30	25	20
40	20	15
50	15	10
60	15	10
--	-	-

COSEL

Model	LDA100W-30
Item	Ambient Temperature Drift
Object	+30V3.5A

Testing Circuitry Figure A

1.Graph



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

2.Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	30.392	30.393	30.394
-10	30.395	30.395	30.395
0	30.392	30.393	30.393
10	30.392	30.392	30.392
20	30.392	30.392	30.392
25	30.394	30.394	30.394
30	30.397	30.397	30.398
40	30.394	30.394	30.393
50	30.383	30.384	30.383
60	30.368	30.368	30.368
--	-	-	-

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Model	LDA100W-30	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+30V3.5A	

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 - 60°C
Input Voltage : 85 - 132V
Load Current : 0 - 3.5A

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

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

2.Values

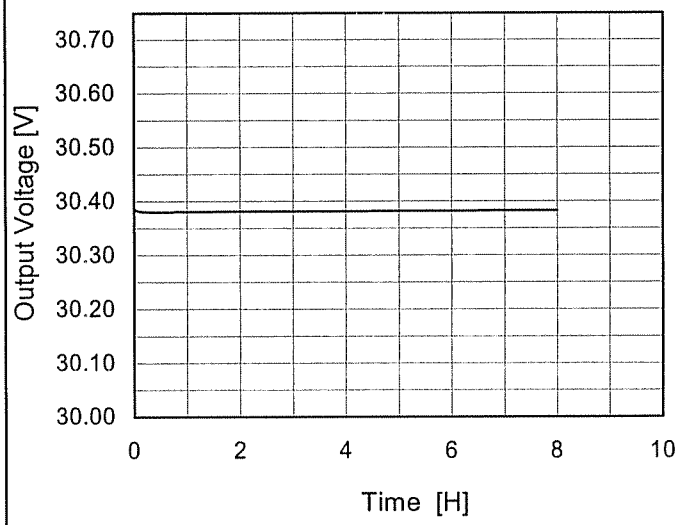
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	25	132	0	30.396	±17	±0.1
Minimum Voltage	60	85	3.5	30.363		

COSEL

Model	LDA100W-30
Item	Time Lapse Drift
Object	+30V3.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 100V
Load 100%

2.Values

Time since start [H]	Output Voltage [V]
0.0	30.387
0.5	30.380
1.0	30.381
2.0	30.381
3.0	30.382
4.0	30.382
5.0	30.382
6.0	30.382
7.0	30.383
8.0	30.383

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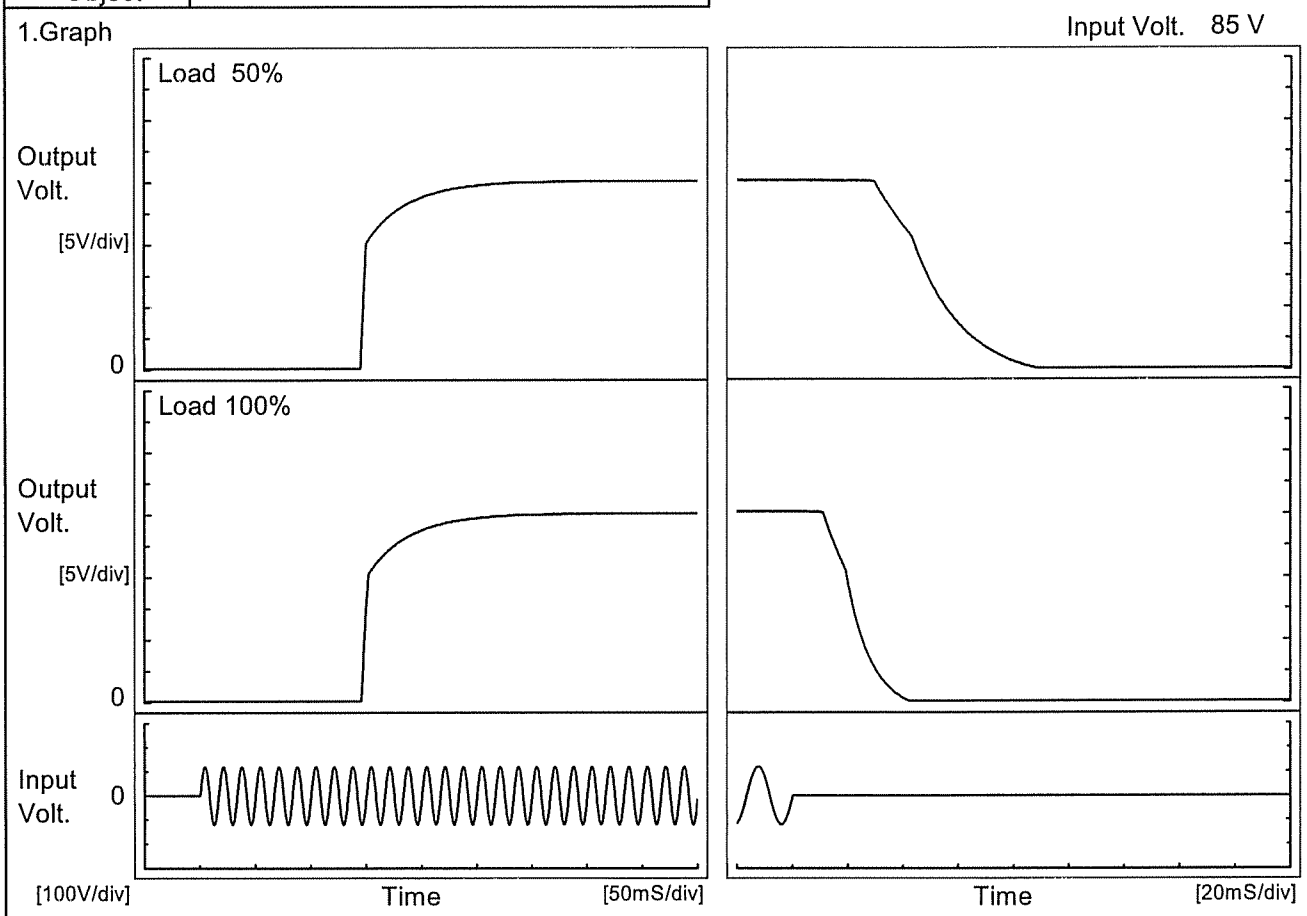
Model	LDA100W-30
Item	Rise and Fall Time
Object	+30V3.5A

Temperature 25°C
Testing Circuitry Figure A

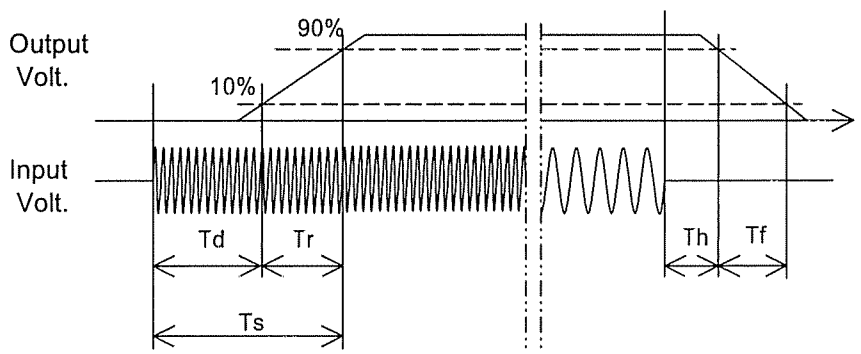
1.Graph



2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	145.8	48.3	194.1	33.2	38.2
100 %	146.5	48.8	195.3	13.3	20.1



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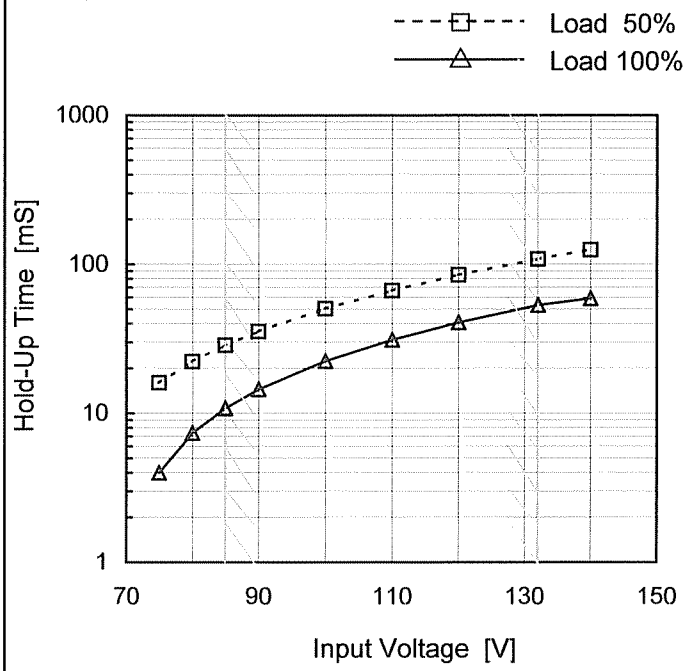
Model	LDA100W-30
Item	Hold-Up Time
Object	+30V3.5A

Temperature 25°C
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.

2.Values

Input Voltage [V]	Hold-Up Time [mS]	
	Load 50%	Load 100%
75	16	4
80	22	7
85	29	11
90	36	15
100	50	22
110	67	31
120	85	41
132	109	53
140	125	59

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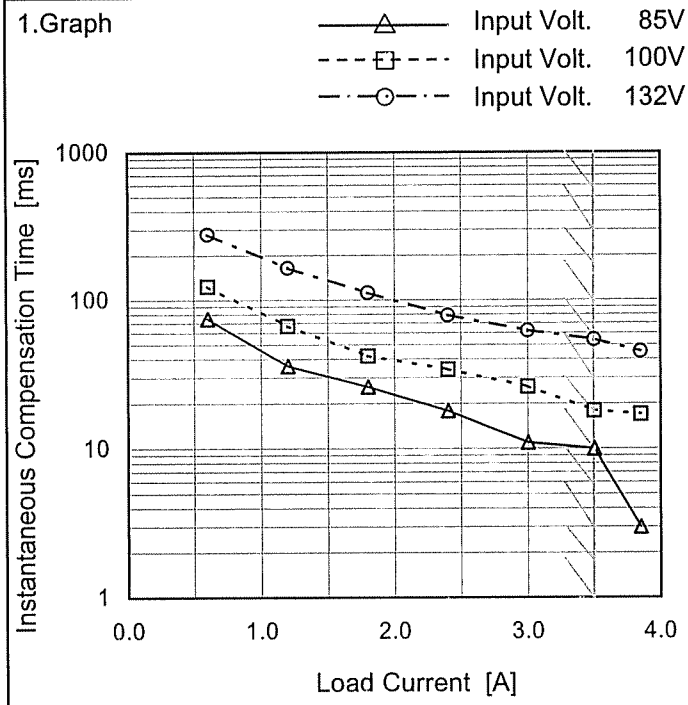
Model	LDA100W-30
Item	Instantaneous Interruption Compensation
Object	+30V3.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

Load Current [A]	Time [ms]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	-	-	-
0.60	75	124	280
1.20	36	67	165
1.80	26	42	112
2.40	18	34	79
3.00	11	26	62
3.50	10	18	54
3.85	3	17	45
--	-	-	-
--	-	-	-
--	-	-	-

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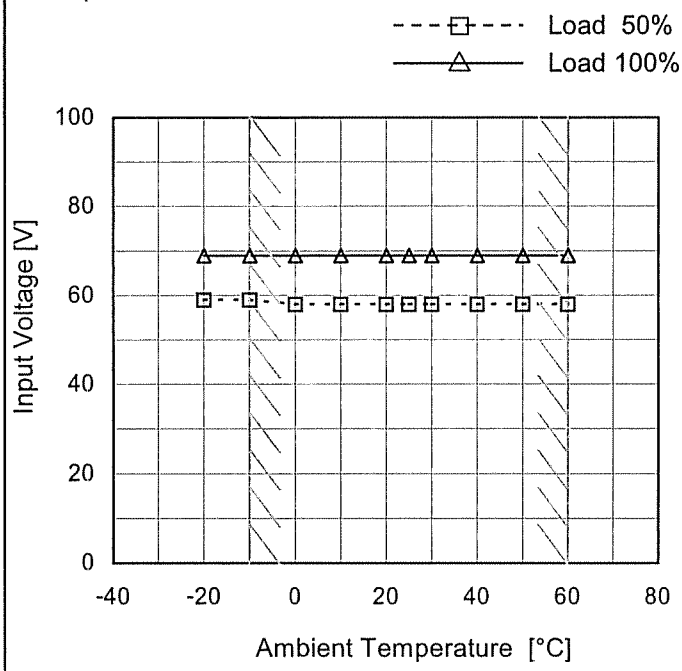
Model	LDA100W-30
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+30V3.5A

Testing Circuitry Figure A

1.Graph



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

2.Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	59	69
-10	59	69
0	58	69
10	58	69
20	58	69
25	58	69
30	58	69
40	58	69
50	58	69
60	58	69
--	-	-

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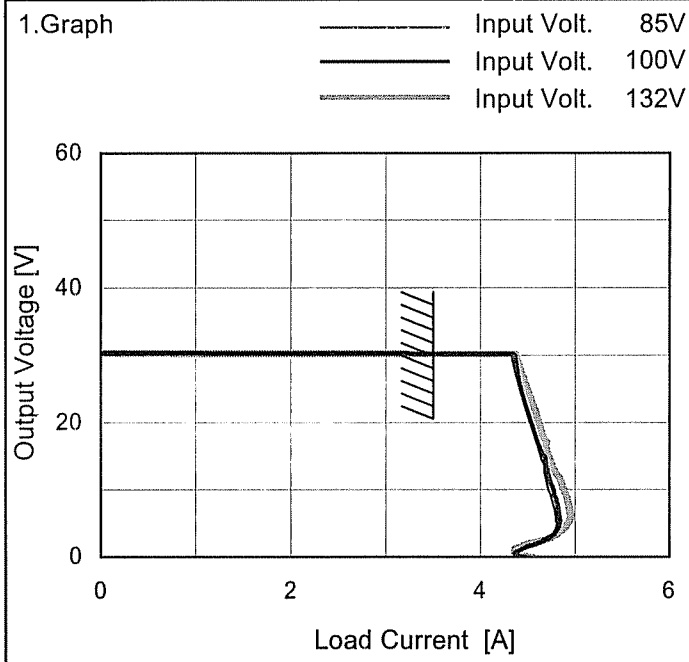
Model	LDA100W-30
Item	Overcurrent Protection
Object	+30V3.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

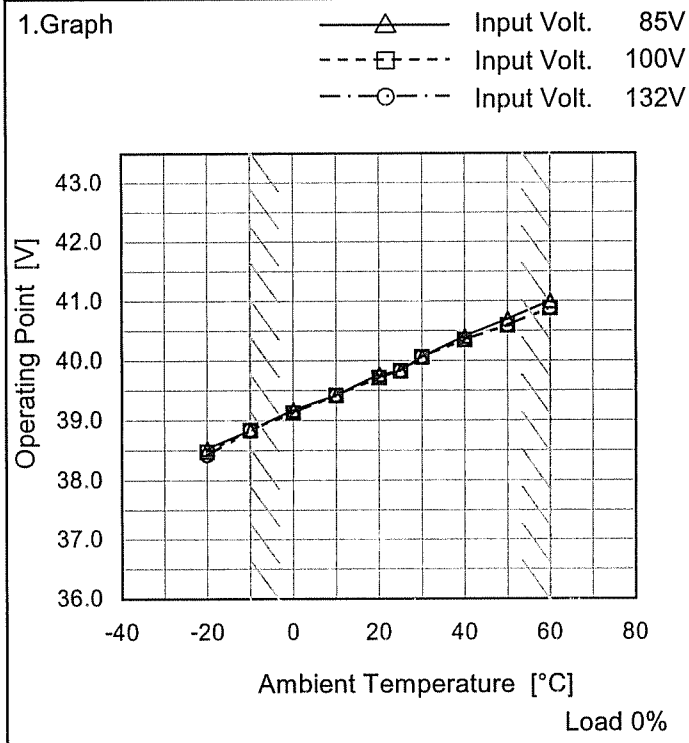
Output Voltage [V]	Load Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
30.0	4.38	4.34	4.37
28.5	4.39	4.36	4.41
27.0	4.41	4.39	4.45
24.0	4.44	4.44	4.52
21.0	4.50	4.51	4.60
18.0	4.57	4.58	4.66
15.0	4.63	4.67	4.72
12.0	4.68	4.72	4.82
9.0	4.74	4.79	4.91
6.0	4.79	4.84	4.95
3.0	4.74	4.74	4.76
0.0	4.55	4.51	4.57

COSEL

Model	LDA100W-30
Item	Overvoltage Protection
Object	+30V3.5A

Testing Circuitry Figure A

1.Graph



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

2.Values

Ambient Temperature [°C]	Operating Point [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	38.48	38.43	38.37
-10	38.79	38.79	38.79
0	39.13	39.08	39.08
10	39.37	39.37	39.37
20	39.72	39.67	39.67
25	39.78	39.78	39.78
30	40.01	40.01	40.01
40	40.36	40.30	40.30
50	40.65	40.54	40.54
60	40.95	40.83	40.83
--	-	-	-

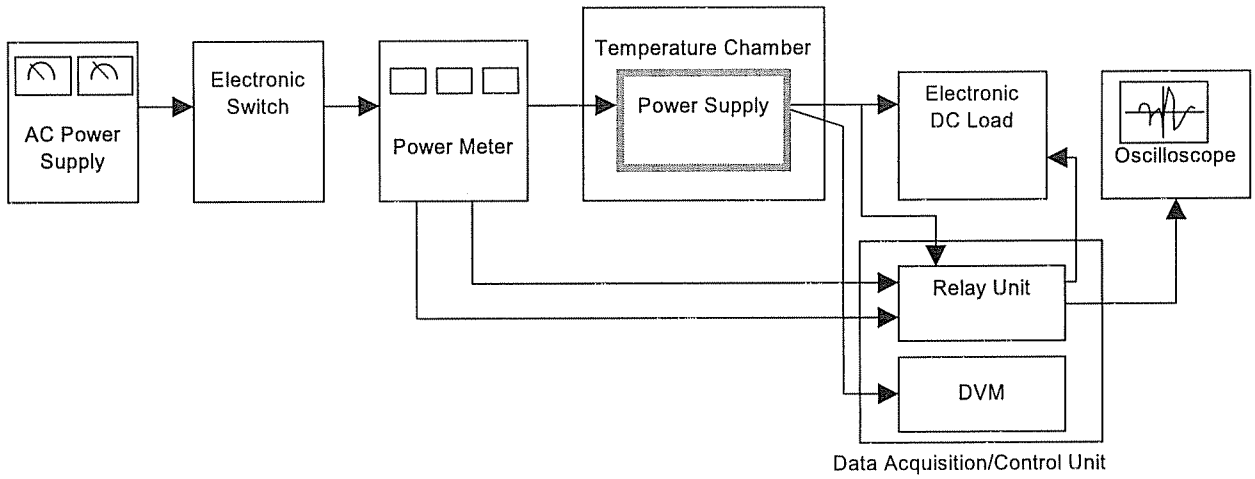


Figure A

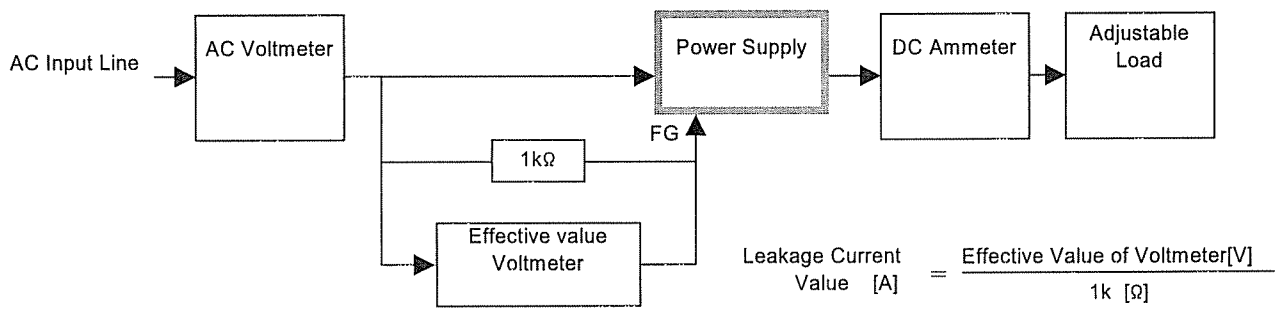


Figure B (DEN-AN)

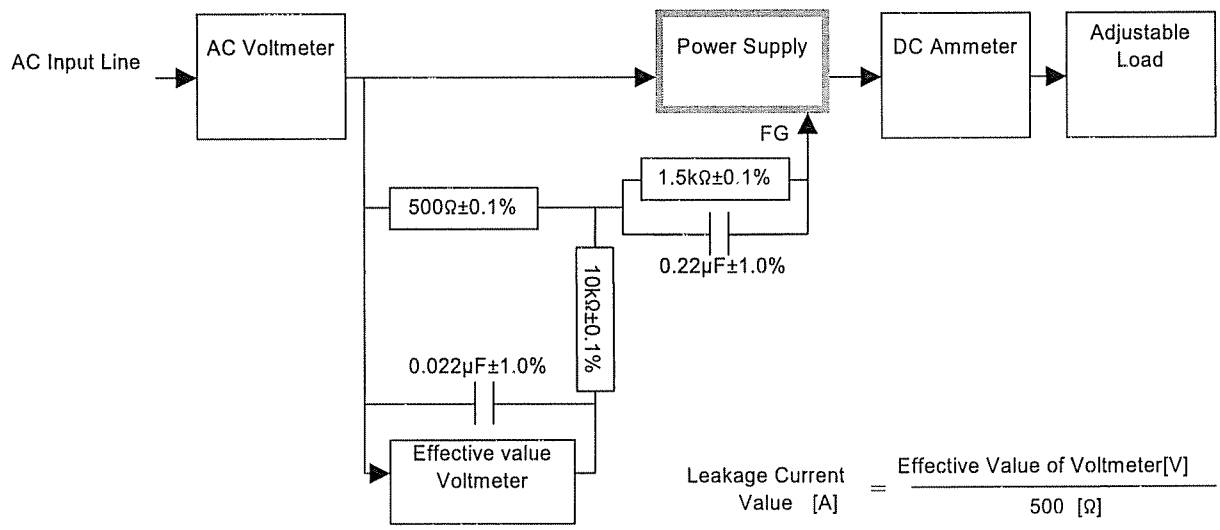


Figure B (IEC60950)