参考資料

COSEL

TEST DATA OF LDA150W-18

(100V　INPUT)

Regulated DC Power Supply
Feb.14. 2005

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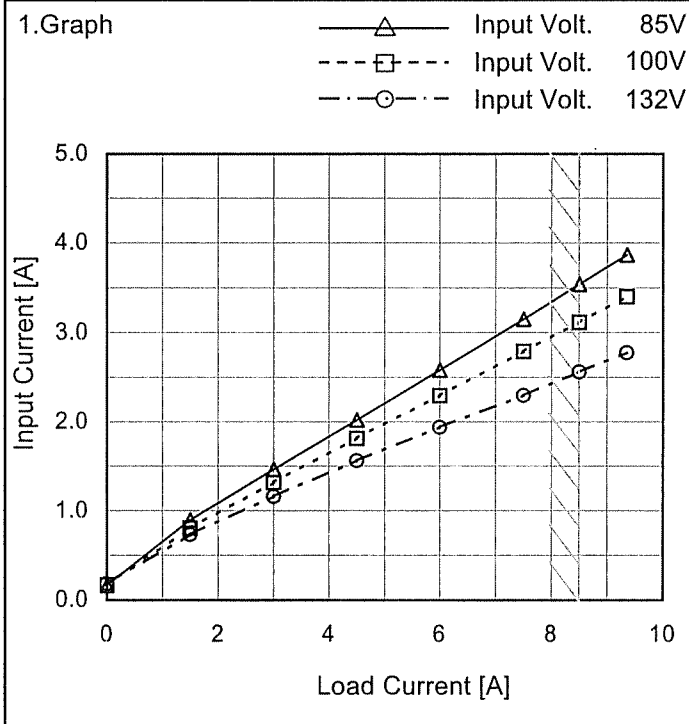
COSEL

Model	LDA150W-18
Item	Input Current (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 Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	0.164	0.169	0.184
1.50	0.898	0.803	0.731
3.00	1.466	1.318	1.160
4.50	2.024	1.814	1.562
6.00	2.581	2.294	1.940
7.50	3.150	2.791	2.299
8.50	3.541	3.116	2.561
9.35	3.870	3.400	2.775
--	-	-	-
--	-	-	-
--	-	-	-

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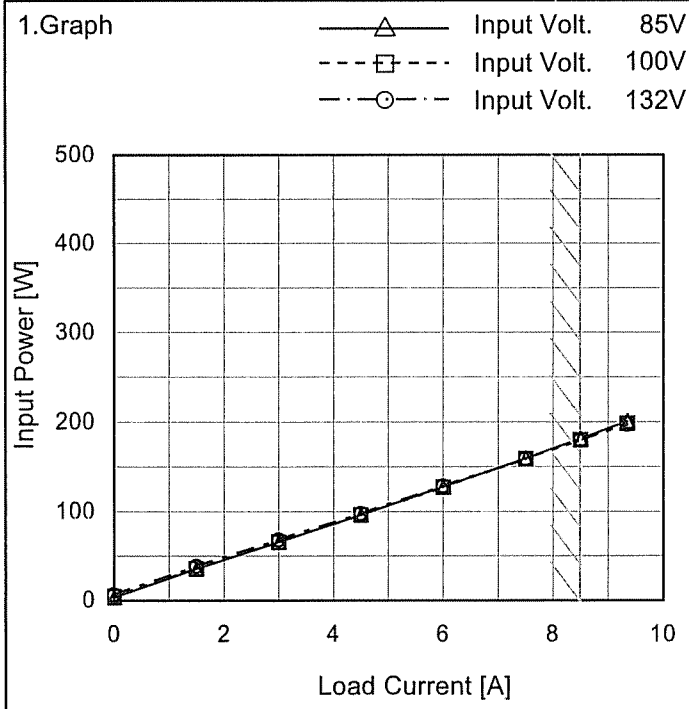
Model	LDA150W-18
Item	Input Power (by Load Current)
Object	————————

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	3.7	4.5	6.3
1.50	35.4	35.8	38.6
3.00	65.7	65.6	68.3
4.50	96.3	96.3	97.8
6.00	127.8	127.2	128.7
7.50	159.9	159.0	159.3
8.50	181.8	180.3	180.0
9.35	201.0	198.6	197.7
--	-	-	-
--	-	-	-
--	-	-	-

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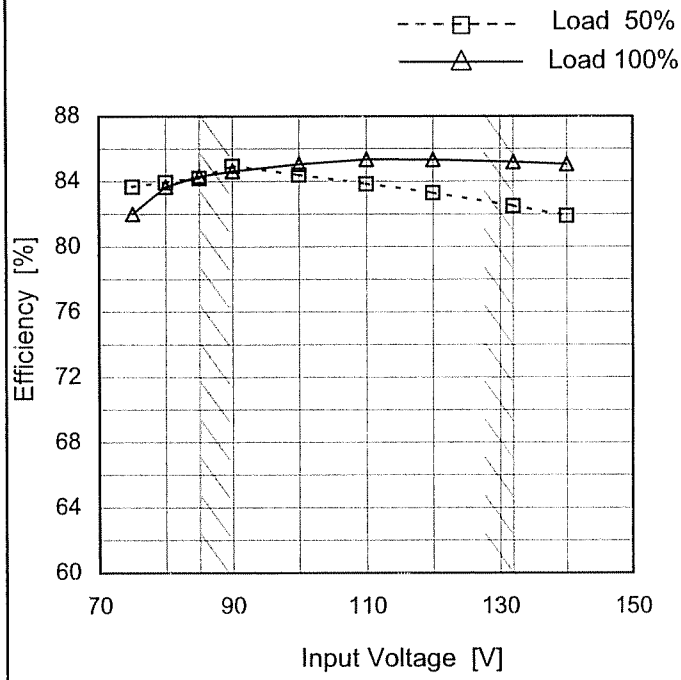
Model	LDA150W-18
Item	Efficiency (by Input Voltage)
Object	———————————

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	83.7	82.0
80	83.9	83.7
85	84.2	84.3
90	85.0	84.6
100	84.4	85.1
110	83.9	85.3
120	83.3	85.3
132	82.5	85.2
140	81.9	85.1

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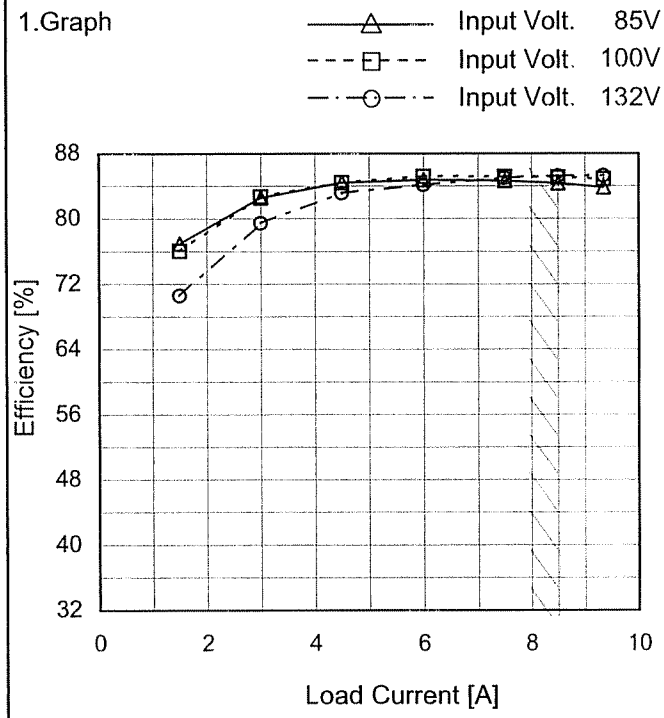
Model	LDA150W-18
Item	Efficiency (by Load Current)
Object	———————

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	-	-	-
1.50	77.0	76.1	70.6
3.00	82.6	82.7	79.5
4.50	84.5	84.4	83.1
6.00	84.8	85.2	84.2
7.50	84.7	85.1	85.0
8.50	84.4	85.1	85.2
9.35	83.8	84.9	85.2
--	-	-	-
--	-	-	-
--	-	-	-

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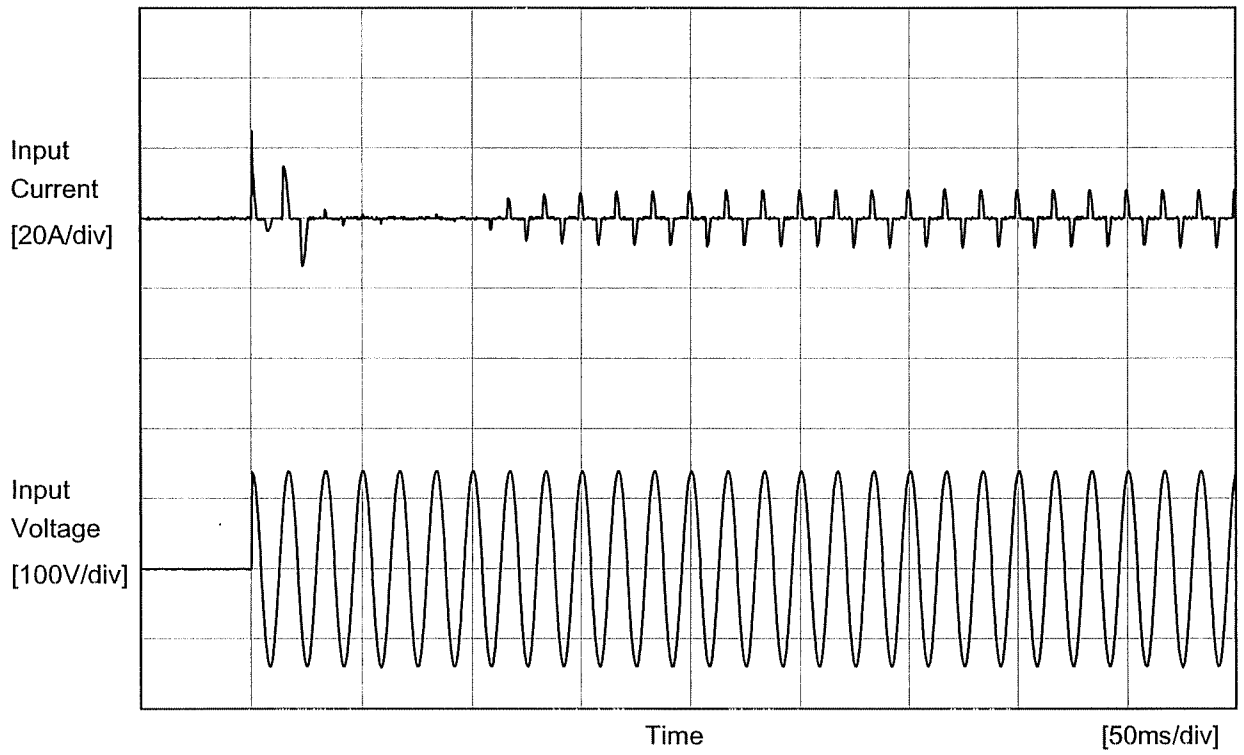
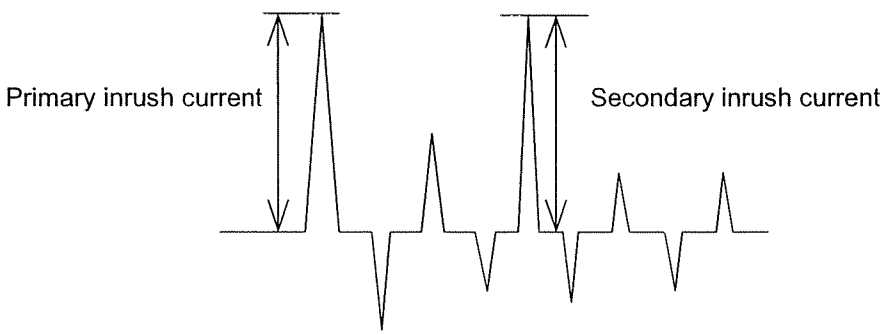
Model	LDA150W-18	
Item	Inrush Current	Temperature 25°C Testing Circuitry Figure A
Object	————————	



Input Voltage	100 V
Frequency	60 Hz
Load	100 %
Primary inrush current	24.7 A
Secondary inrush current	14.8 A



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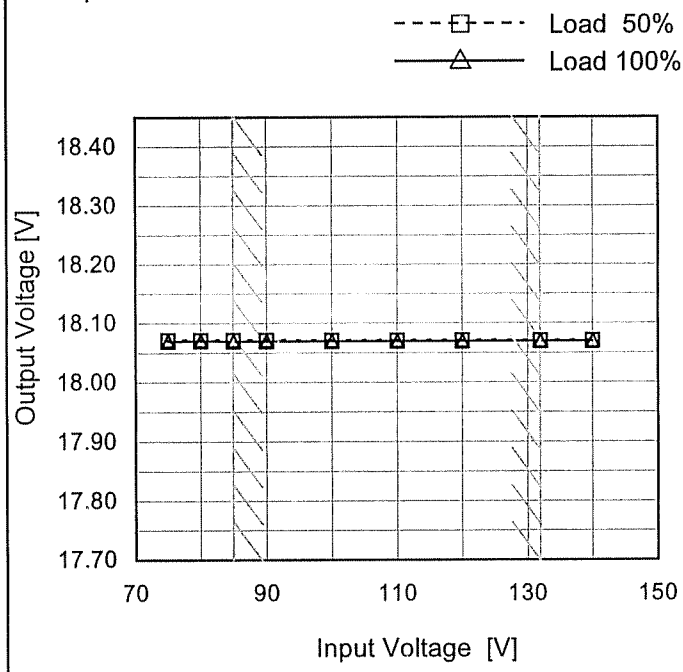
Model	LDA150W-18
Item	Line Regulation
Object	+18V8.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

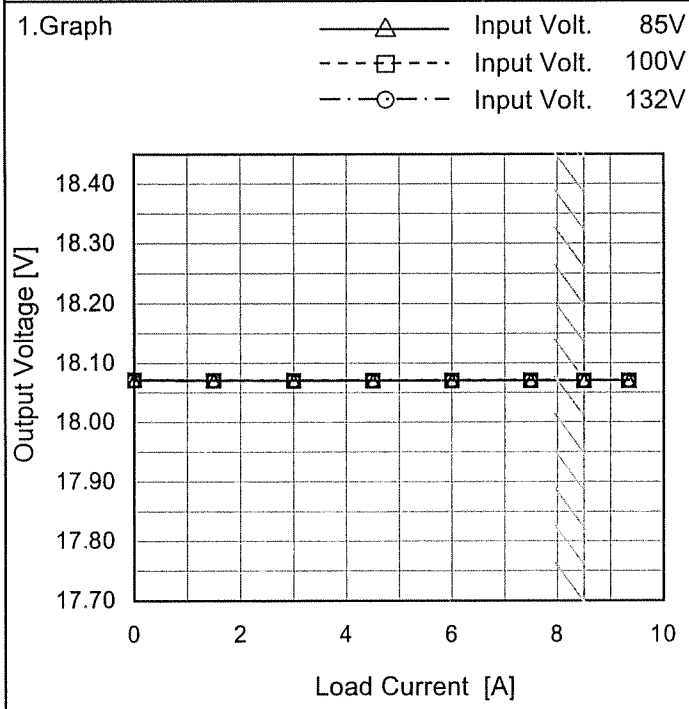
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
75	18.072	18.070
80	18.071	18.070
85	18.071	18.070
90	18.071	18.070
100	18.071	18.070
110	18.071	18.070
120	18.071	18.070
132	18.071	18.070
140	18.071	18.070

COSEL

Model	LDA150W-18
Item	Load Regulation
Object	+18V8.5A

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	18.072	18.072	18.071
1.50	18.071	18.071	18.070
3.00	18.071	18.071	18.070
4.50	18.071	18.071	18.070
6.00	18.071	18.071	18.070
7.50	18.071	18.071	18.070
8.50	18.071	18.070	18.070
9.35	18.071	18.070	18.070
--	-	-	-
--	-	-	-
--	-	-	-

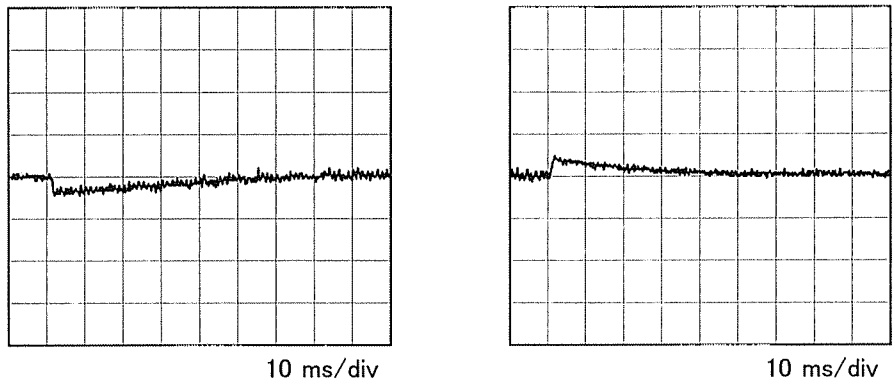
COSEL

Model	LDA150W-18		
Item	Dynamic Load Response	Temperature Testing Circuitry	25℃ Figure A
Object	+18V8.5A		

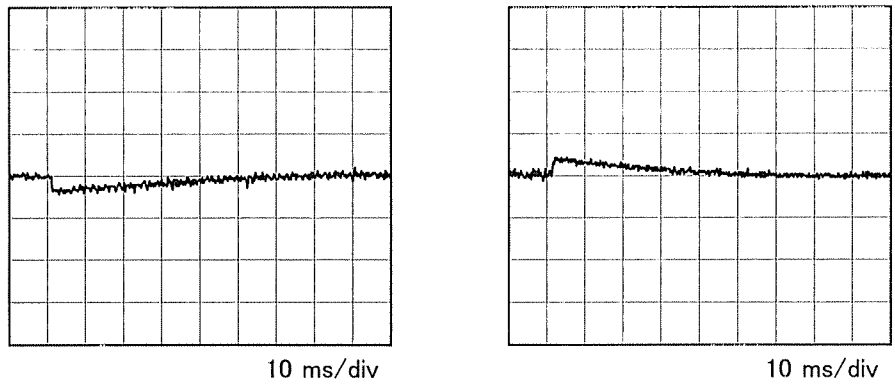
Input Volt. 100 V
Cycle 1000 ms

Load Current

Min. Load (0A) ⟷
Load 100% (8.5A)



Min. Load (0A) ⟷
Load 50% (4.25A)



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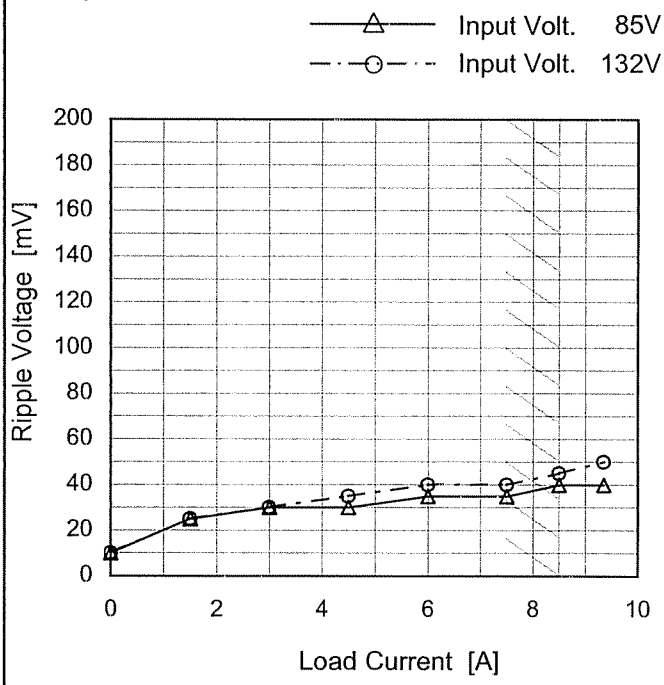
Model	LDA150W-18
Item	Ripple Voltage (by Load Current)
Object	+18V8.5A

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

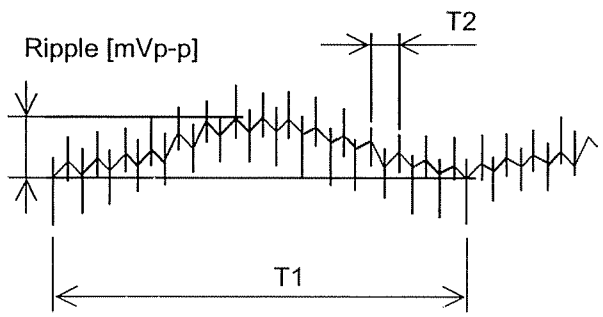


Fig. Complex Ripple Wave Form

2.Values

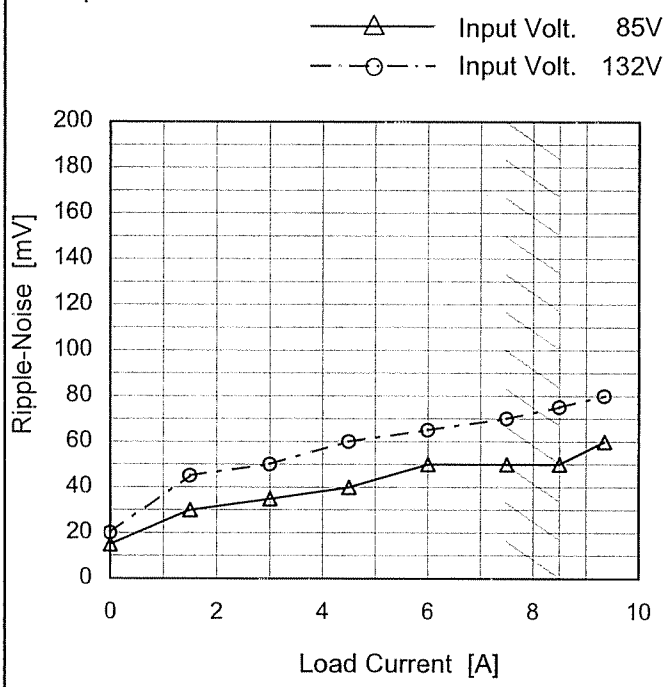
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.00	10	10
1.50	25	25
3.00	30	30
4.50	30	35
6.00	35	40
7.50	35	40
8.50	40	45
9.35	40	50
--	-	-
--	-	-
--	-	-

COSEL

Model	LDA150W-18
Item	Ripple-Noise
Object	+18V8.5A

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	15	20
1.50	30	45
3.00	35	50
4.50	40	60
6.00	50	65
7.50	50	70
8.50	50	75
9.35	60	80
--	-	-
--	-	-
--	-	-

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

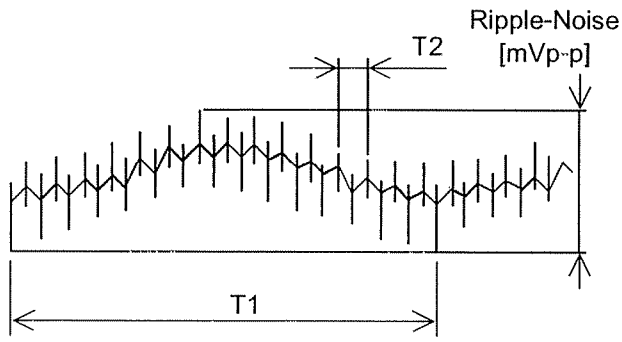


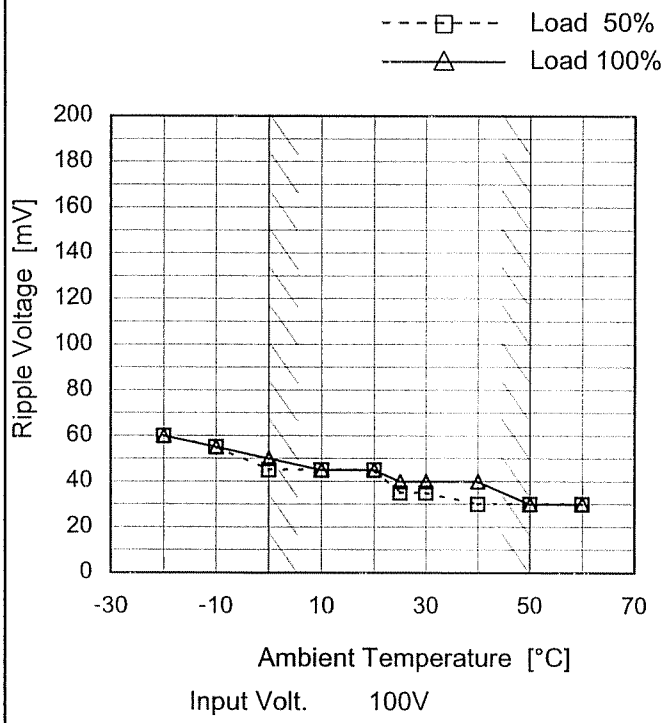
Fig. Complex Ripple Wave Form

COSEL

Model	LDA150W-18
Item	Ripple Voltage (by Ambient Temp.)
Object	+18V8.5A

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

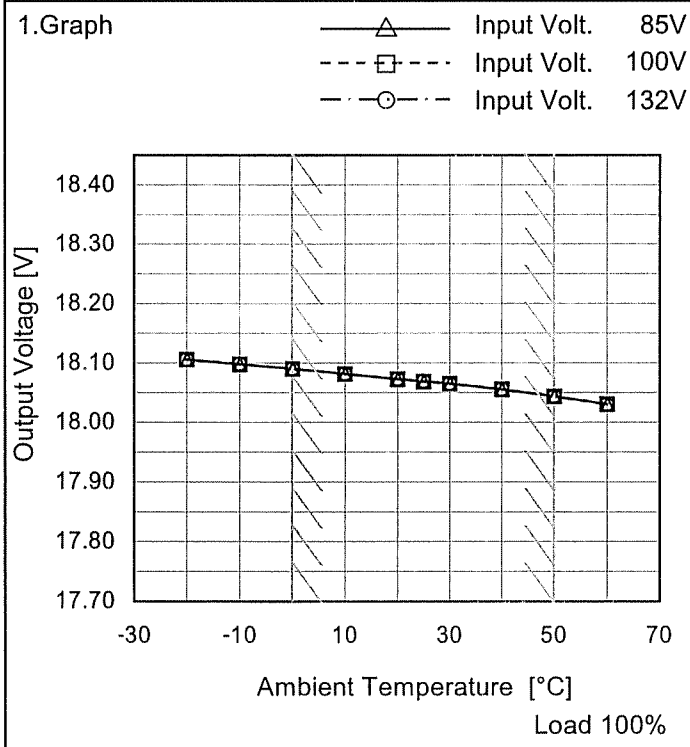
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-20	60	60
-10	55	55
0	45	50
10	45	45
20	45	45
25	35	40
30	35	40
40	30	40
50	30	30
60	30	30
--	-	-

COSEL

Model	LDA150W-18
Item	Ambient Temperature Drift
Object	+18V8.5A

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	18.106	18.106	18.106
-10	18.098	18.098	18.098
0	18.091	18.090	18.090
10	18.082	18.082	18.082
20	18.073	18.073	18.073
25	18.069	18.069	18.069
30	18.066	18.066	18.065
40	18.056	18.056	18.056
50	18.044	18.044	18.044
60	18.031	18.031	18.030
--	-	-	-

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COSEL

Model	LDA150W-18	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+18V8.5A	

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 : 0 - 50°C
Input Voltage : 85 - 132V
Load Current : 0 - 8.5A

* 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

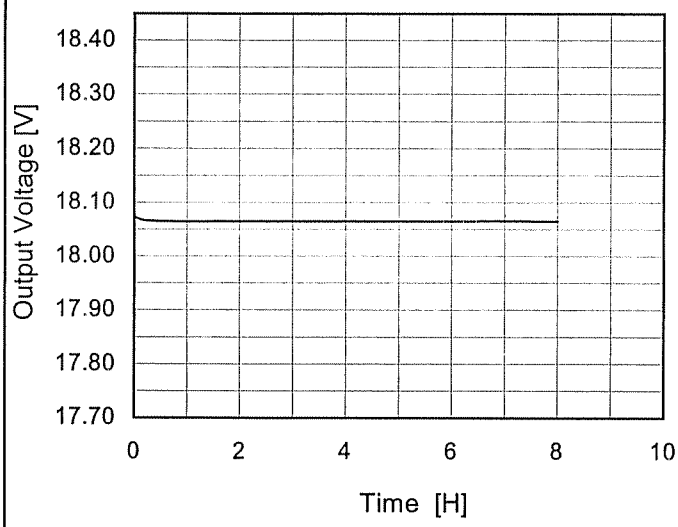
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	0	85	0	18.089	±24	±0.1
Minimum Voltage	50	85	8.5	18.041		

COSEL

Model	LDA150W-18
Item	Time Lapse Drift
Object	+18V8.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 100V
Load 100%

2.Values

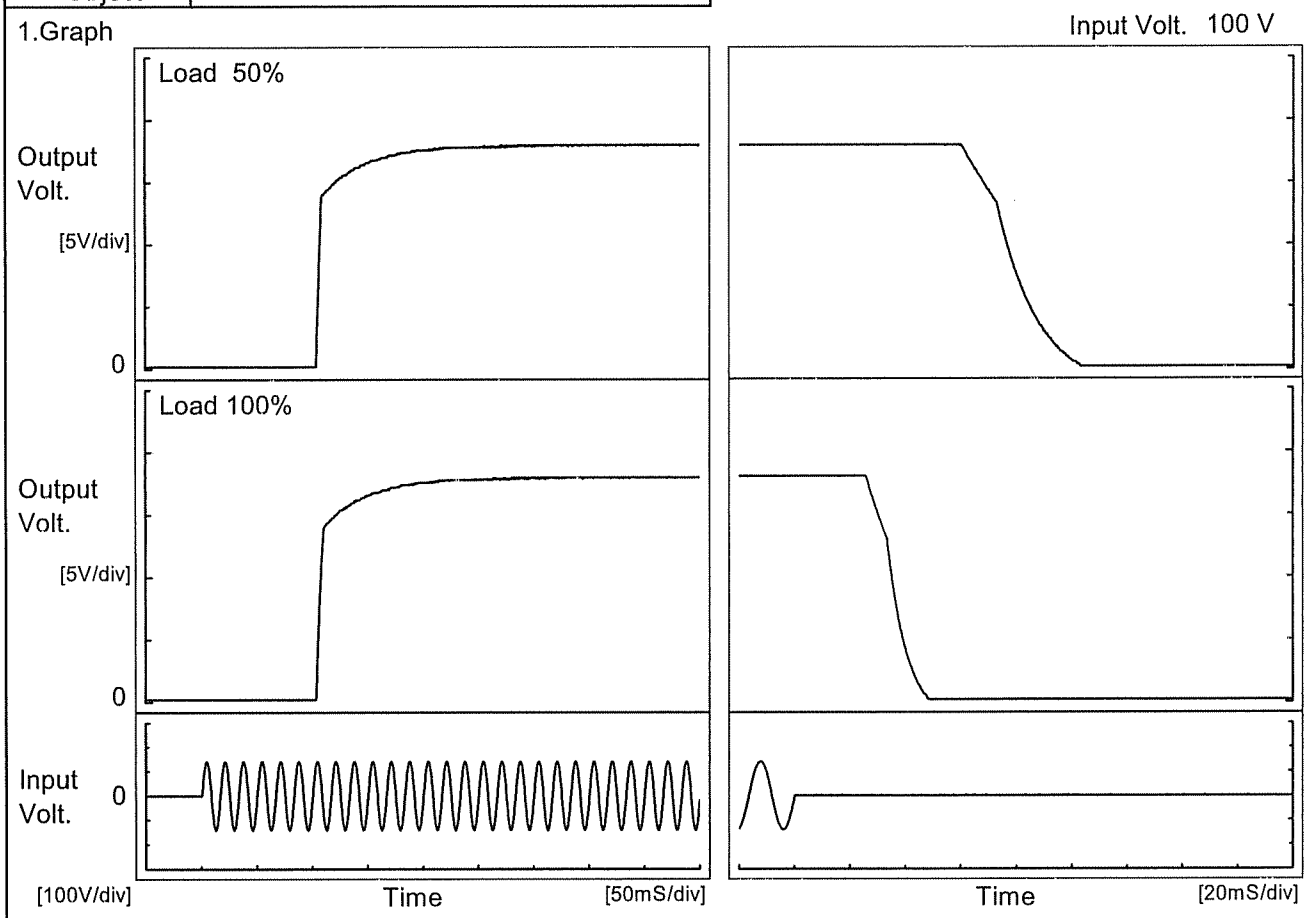
Time since start [H]	Output Voltage [V]
0.0	18.077
0.5	18.065
1.0	18.065
2.0	18.065
3.0	18.066
4.0	18.066
5.0	18.065
6.0	18.065
7.0	18.066
8.0	18.065

COSEL

Model	LDA150W-18
Item	Rise and Fall Time
Object	+18V8.5A

Temperature 25°C
Testing Circuitry Figure A

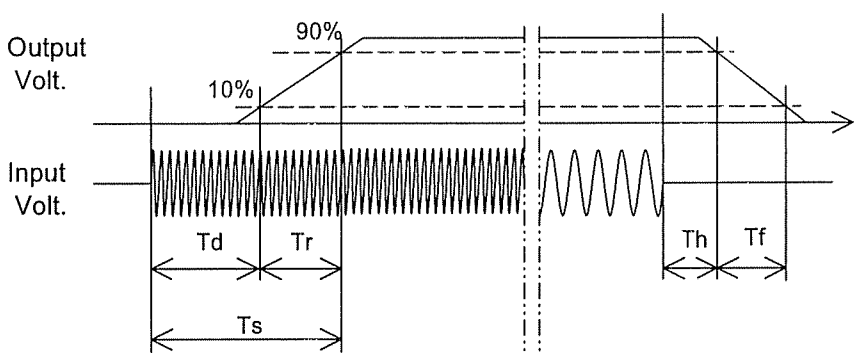
1.Graph



2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	104.3	39.5	143.8	64.0	29.6
100 %	104.0	41.0	145.0	28.1	15.5



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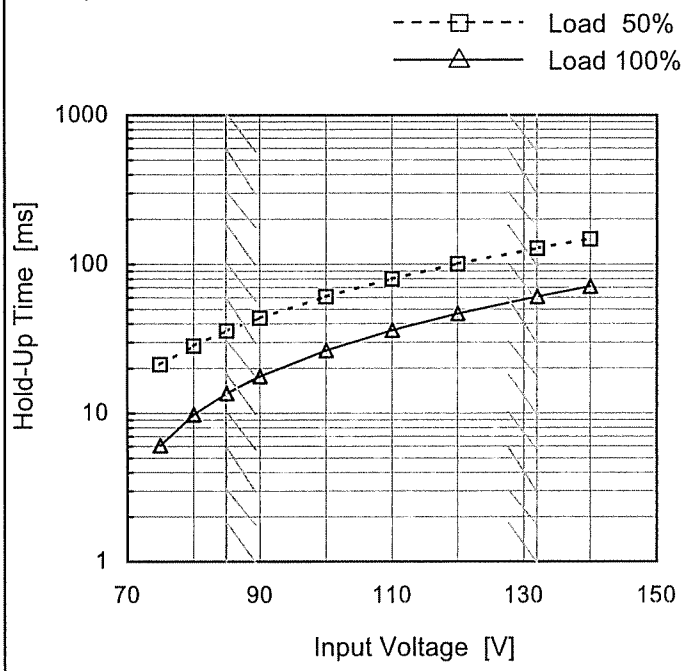
COSEL

Model	LDA150W-18
Item	Hold-Up Time
Object	+18V8.5A

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

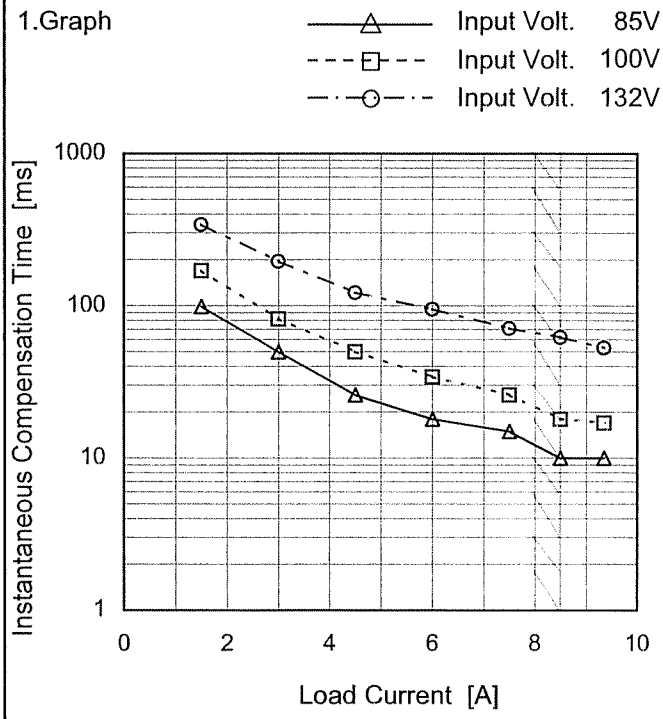
Input Voltage [V]	Hold-Up Time [ms]	
	Load 50%	Load 100%
75	21	6
80	28	10
85	36	14
90	44	18
100	61	27
110	80	36
120	101	47
132	128	61
140	147	71

COSEL

Model	LDA150W-18
Item	Instantaneous Interruption Compensation
Object	+18V8.5A

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	-	-	-
1.50	99	170	341
3.00	50	82	196
4.50	26	50	122
6.00	18	34	95
7.50	15	26	71
8.50	10	18	62
9.35	10	17	53
--	-	-	-
--	-	-	-
--	-	-	-

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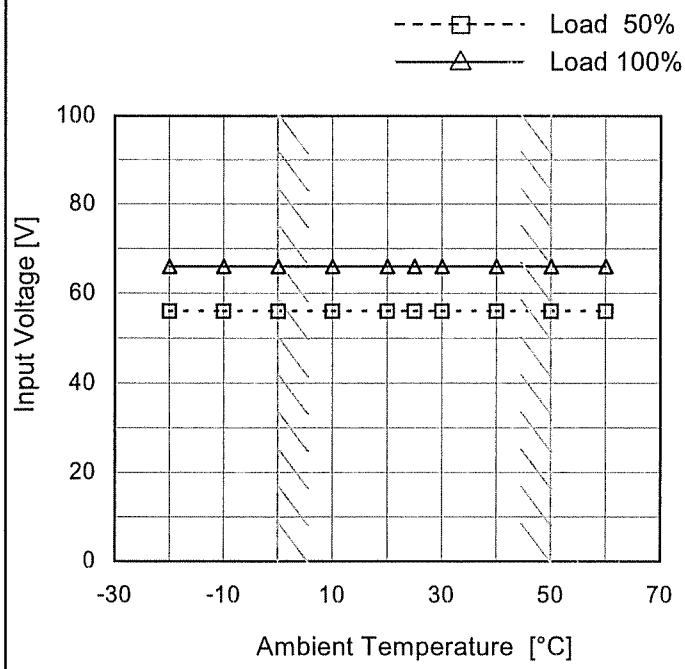
Model	LDA150W-18
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+18V8.5A

Testing Circuitry Figure A

1.Graph



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

2.Values

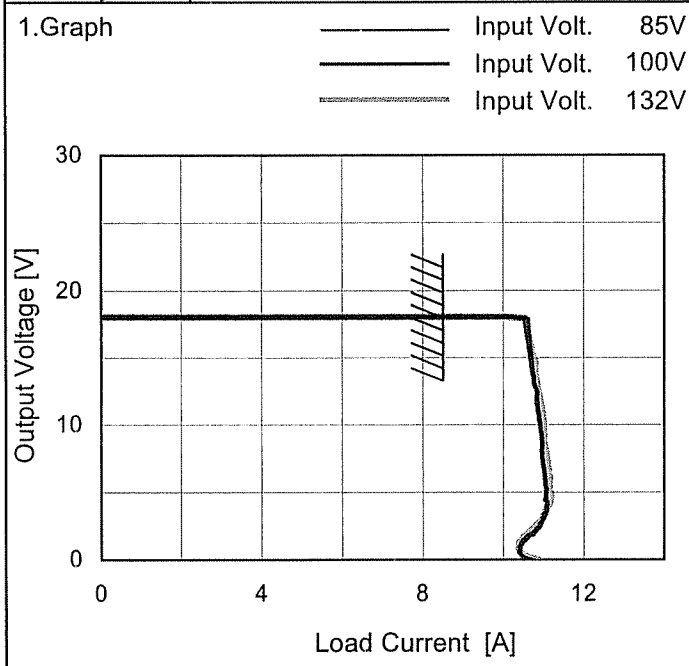
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	56	66
-10	56	66
0	56	66
10	56	66
20	56	66
25	56	66
30	56	66
40	56	66
50	56	66
60	56	66
--	-	-

COSEL

Model	LDA150W-18
Item	Overcurrent Protection
Object	+18V8.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

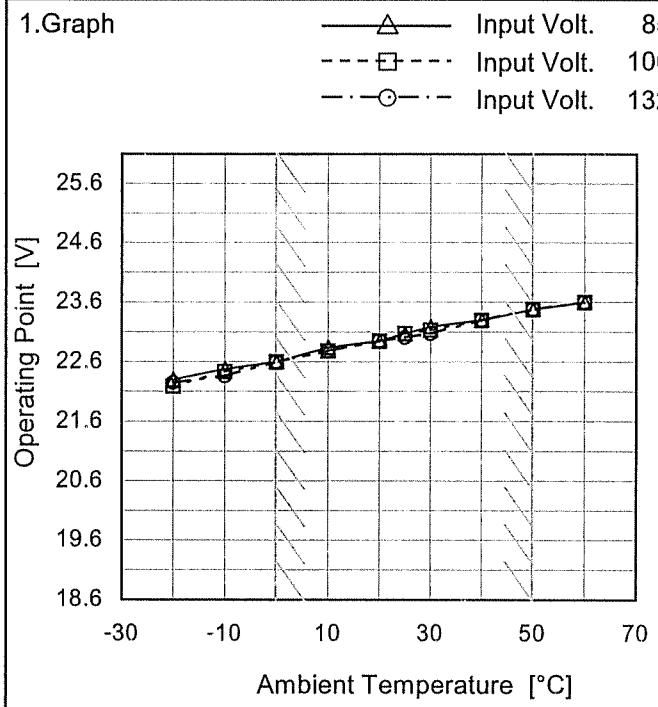
Output Voltage [V]	Load Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
18.0	10.64	10.54	10.55
17.1	10.66	10.58	10.60
16.2	10.68	10.62	10.66
14.4	10.74	10.70	10.79
12.6	10.81	10.82	10.86
10.8	10.87	10.88	10.97
9.0	10.95	10.96	11.00
7.2	10.98	10.98	11.09
5.4	11.04	11.07	11.14
3.6	11.09	11.07	11.06
1.8	10.76	10.65	10.56
0.0	10.80	10.73	10.89

COSEL

Model	LDA150W-18
Item	Overvoltage Protection
Object	+18V8.5A

Testing Circuitry Figure A

1.Graph



Load 0%

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	22.32	22.21	22.27
-10	22.50	22.45	22.38
0	22.62	22.62	22.62
10	22.86	22.80	22.80
20	22.97	22.97	22.97
25	23.09	23.09	23.03
30	23.21	23.15	23.09
40	23.32	23.32	23.32
50	23.50	23.50	23.50
60	23.62	23.62	23.62
--	-	-	-

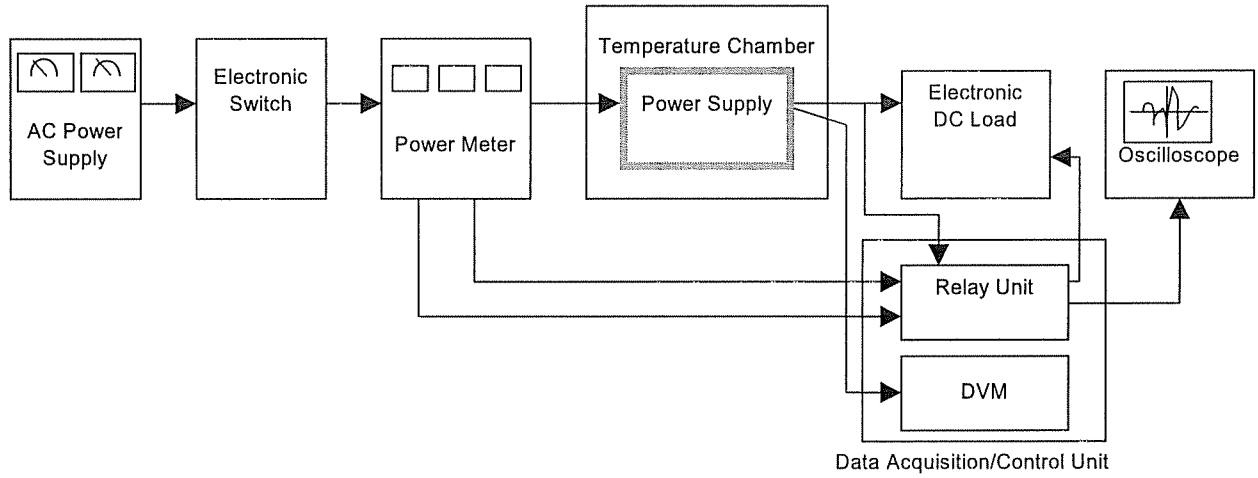


Figure A

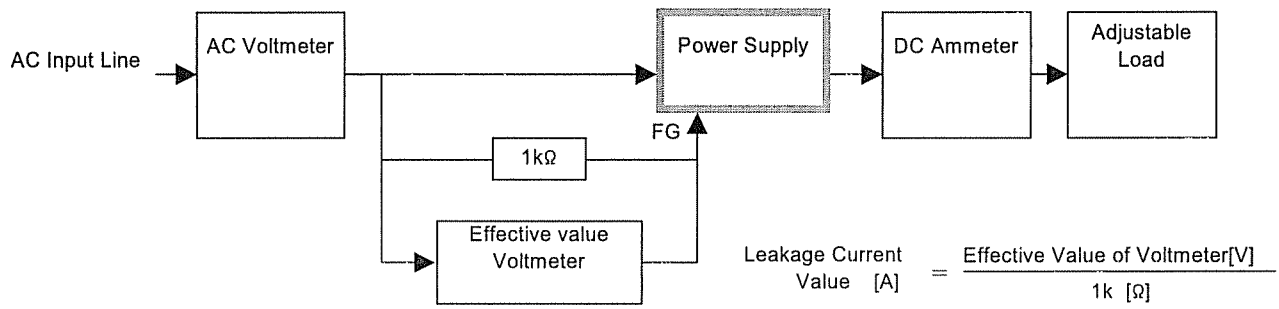


Figure B (DEN-AN)

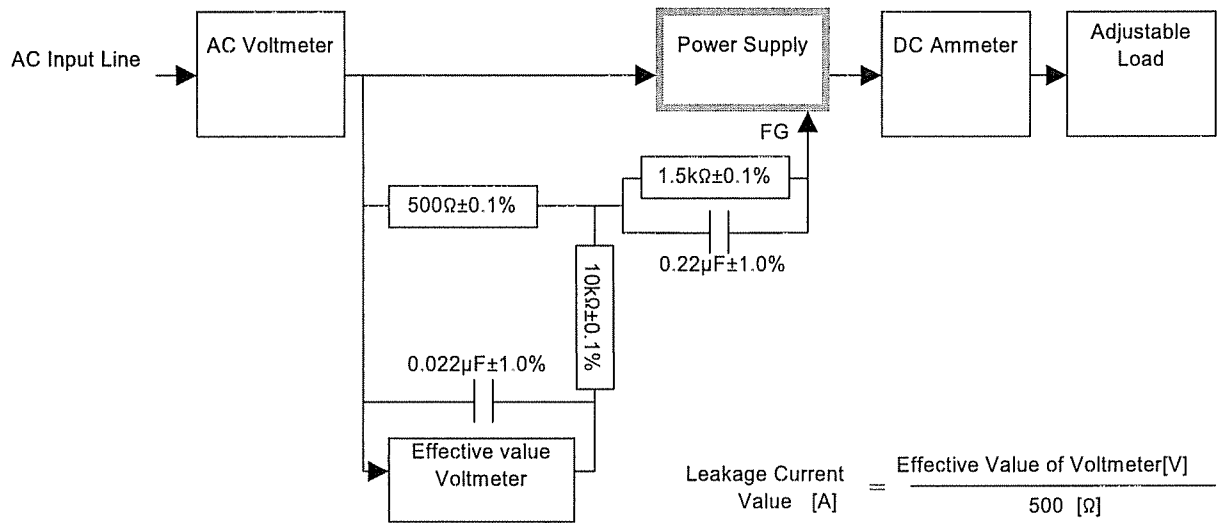


Figure B (IEC60950)