参考資料

COSEL

TEST DATA OF LDA100W-9

(200V INPUT)

Regulated DC Power Supply
Dec.9. 2004

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COSEL CO.,LTD.

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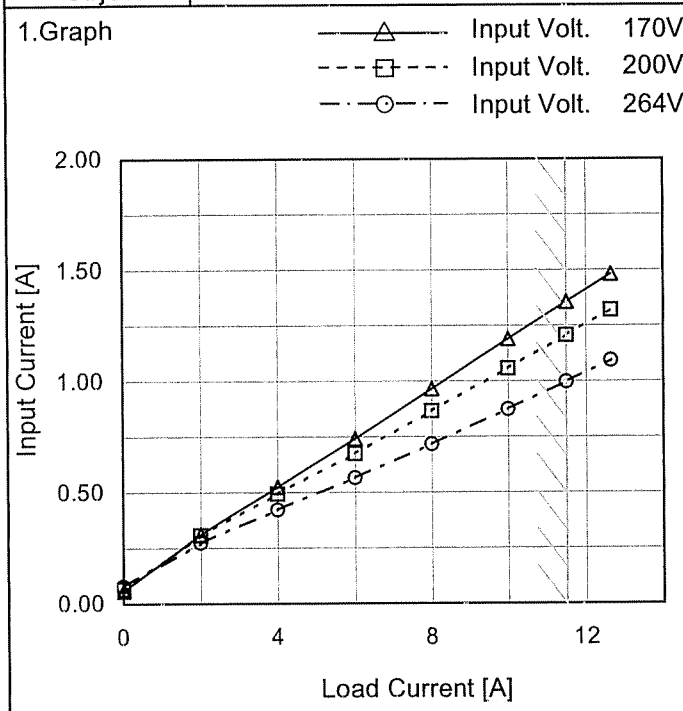
Model	LDA100W-9
Item	Input Current (by Load Current)
Object	————————

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. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.00	0.058	0.065	0.079
2.00	0.311	0.308	0.275
4.00	0.524	0.494	0.422
6.00	0.742	0.675	0.566
8.00	0.966	0.867	0.717
10.00	1.189	1.058	0.874
11.50	1.356	1.207	0.997
12.65	1.482	1.321	1.094
--	-	-	-
--	-	-	-
--	-	-	-

BC-0978

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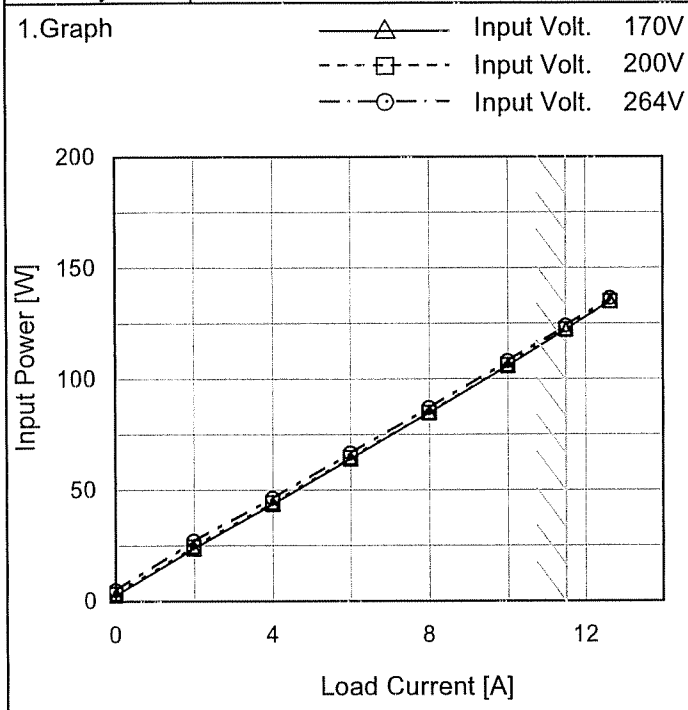
Model	LDA100W-9
Item	Input Power (by Load Current)
Object	

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. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.00	2.7	3.4	5.1
2.00	23.7	24.6	27.1
4.00	43.7	44.4	46.4
6.00	64.1	64.6	66.7
8.00	84.7	84.9	87.1
10.00	105.9	106.3	108.0
11.50	122.2	122.4	124.0
12.65	135.0	134.9	136.3
--	-	-	-
--	-	-	-
--	-	-	-

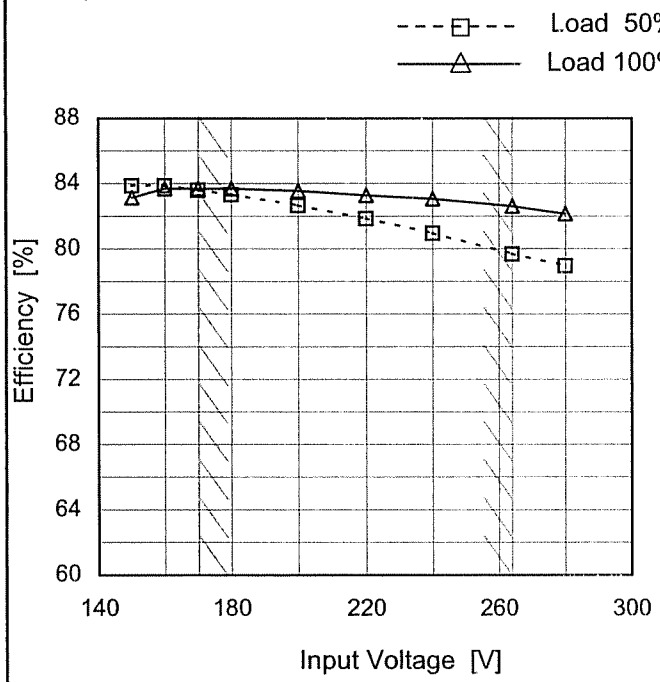
BC-0978

COSEL

Model	LDA100W-9
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%
150	83.9	83.1
160	83.9	83.7
170	83.6	83.7
180	83.3	83.7
200	82.7	83.6
220	81.9	83.3
240	81.0	83.1
264	79.7	82.6
280	79.0	82.1

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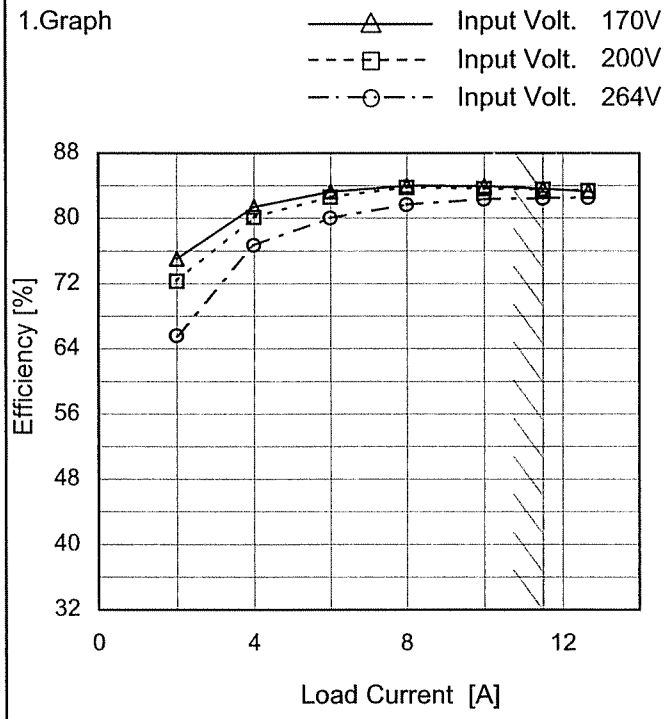
Model	LDA100W-9
Item	Efficiency (by Load Current)
Object	————————

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. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.00	-	-	-
2.00	75.0	72.3	65.6
4.00	81.4	80.1	76.7
6.00	83.2	82.6	80.0
8.00	84.0	83.8	81.7
10.00	84.0	83.6	82.3
11.50	83.7	83.5	82.5
12.65	83.3	83.4	82.5
--	-	-	-
--	-	-	-
--	-	-	-

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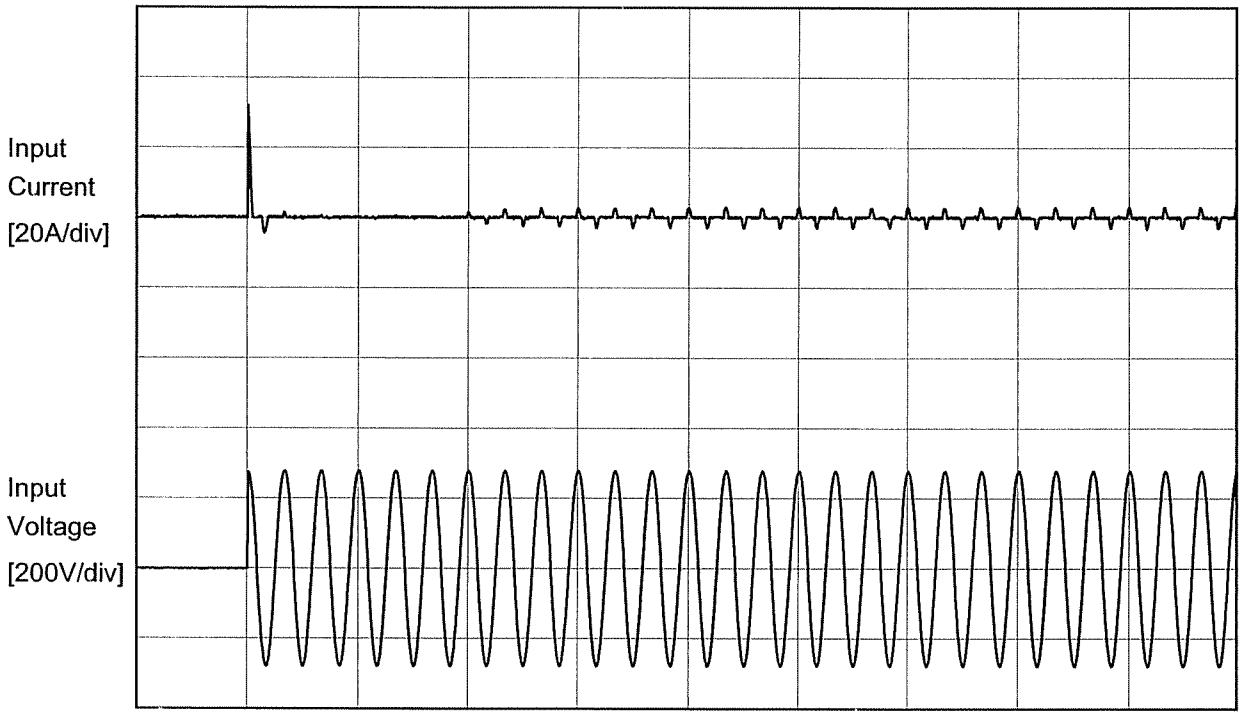
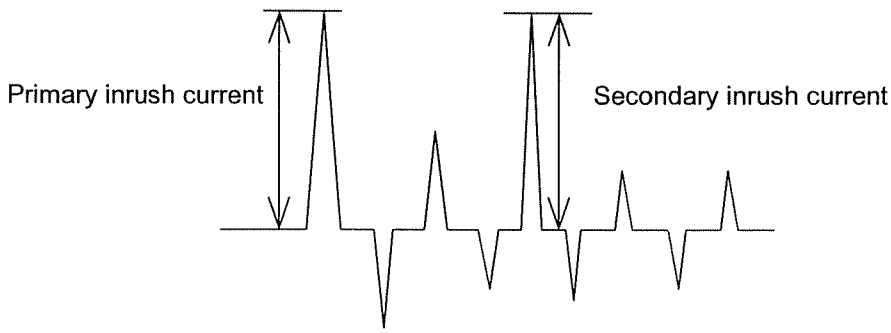
Model	LDA100W-9	
Item	Inrush Current	Temperature 25°C Testing Circuitry Figure A
Object	————————	



Input Voltage	200 V
Frequency	60 Hz
Load	100 %
Primary inrush current	32.0 A
Secondary inrush current	3.3 A



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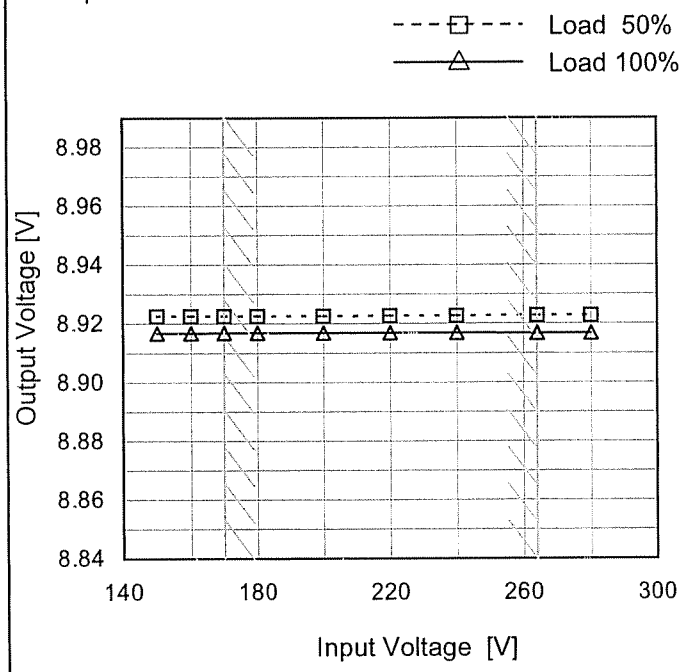
Model	LDA100W-9
Item	Line Regulation
Object	+9V11.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

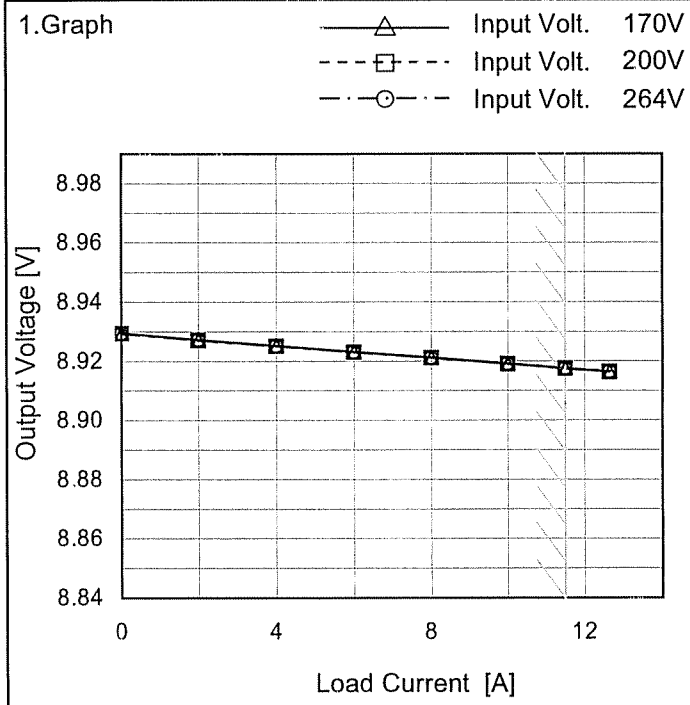
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
150	8.923	8.917
160	8.923	8.917
170	8.923	8.917
180	8.923	8.917
200	8.923	8.917
220	8.923	8.917
240	8.923	8.917
264	8.923	8.917
280	8.923	8.917

COSEL

Model	LDA100W-9
Item	Load Regulation
Object	+9V11.5A

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. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.00	8.930	8.929	8.929
2.00	8.927	8.927	8.927
4.00	8.925	8.925	8.925
6.00	8.923	8.923	8.923
8.00	8.921	8.921	8.921
10.00	8.919	8.919	8.919
11.50	8.918	8.918	8.918
12.65	8.916	8.916	8.916
--	-	-	-
--	-	-	-
--	-	-	-

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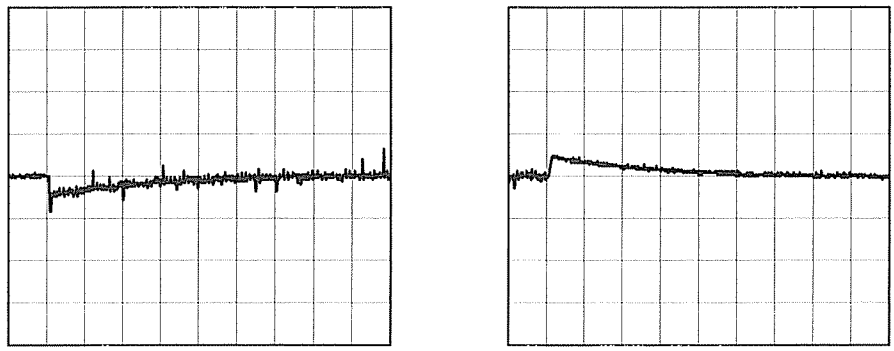
Model	LDA100W-9		
Item	Dynamic Load Response	Temperature	25℃
		Testing Circuitry	Figure A
Object	+24V11.5A		

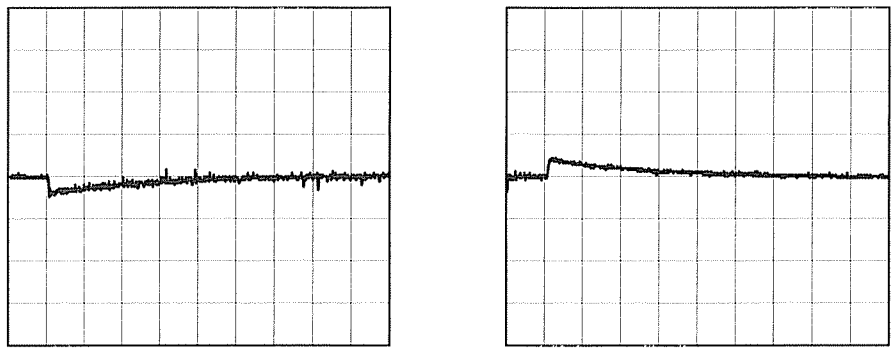
Input Volt. 200 V
Cycle 1000 ms

Load Current

Min. Load (0A) ⟷
Load 100% (11.5A)



Min. Load (0A) ⟷
Load 50% (5.75A)



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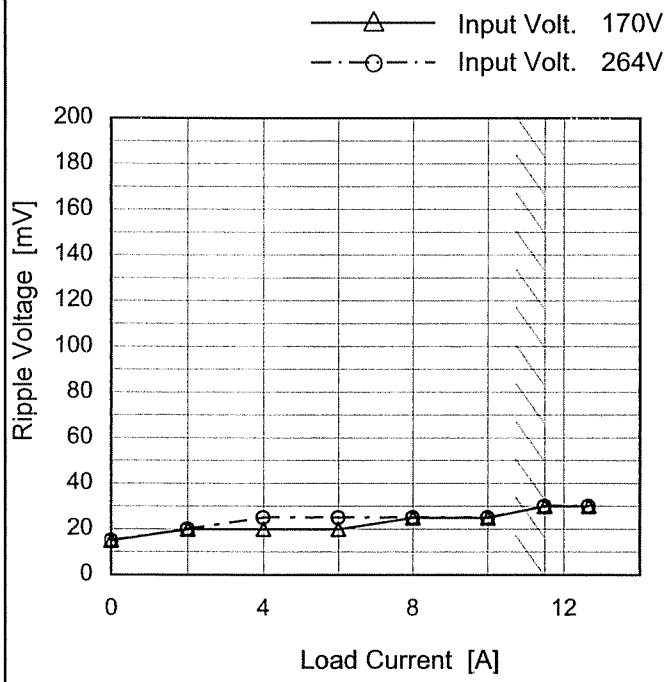
Model	LDA100W-9
Item	Ripple Voltage (by Load Current)
Object	+9V11.5A

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

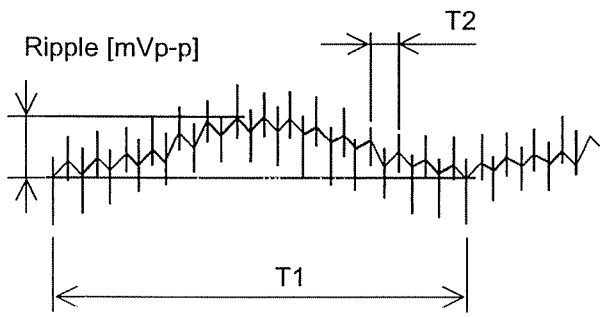


Fig. Complex Ripple Wave Form

2.Values

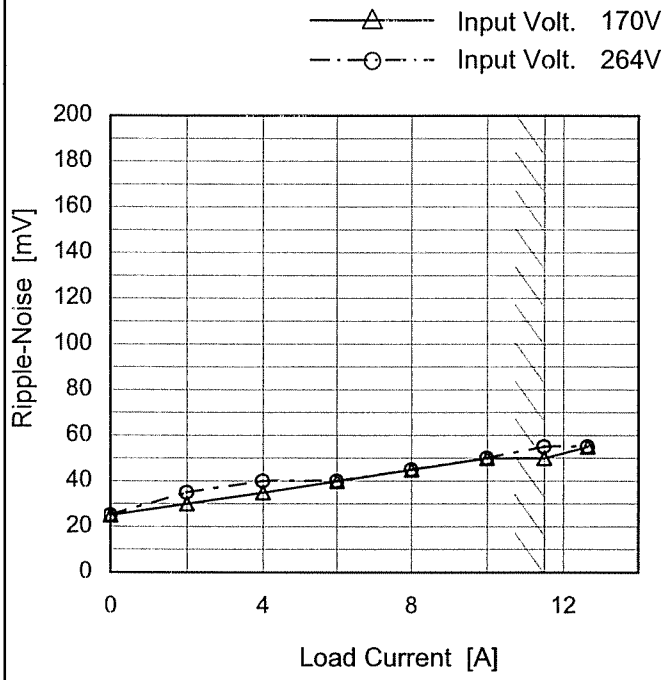
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 170 [V]	Input Volt. 264 [V]
0.00	15	15
2.00	20	20
4.00	20	25
6.00	20	25
8.00	25	25
10.00	25	25
11.50	30	30
12.65	30	30
--	-	-
--	-	-
--	-	-

COSEL

Model	LDA100W-9
Item	Ripple-Noise
Object	+9V11.5A

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. 170 [V]	Ripple-Noise [mV] Input Volt. 264 [V]
0.00	25	25
2.00	30	35
4.00	35	40
6.00	40	40
8.00	45	45
10.00	50	50
11.50	50	55
12.65	55	55
--	-	-
--	-	-
--	-	-

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

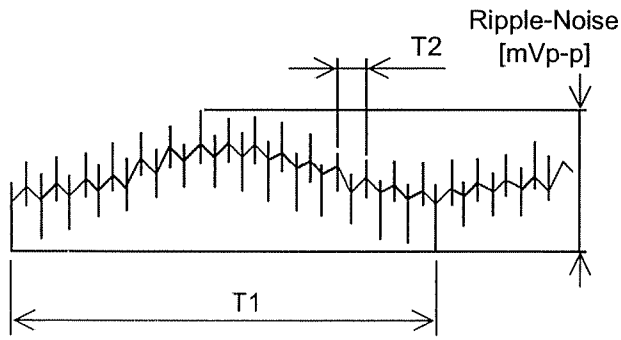


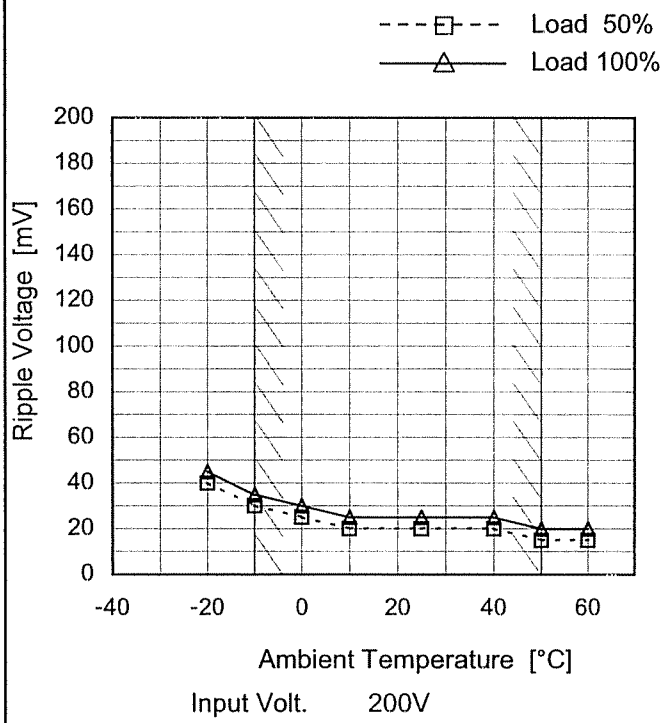
Fig. Complex Ripple Wave Form

COSEL

Model	LDA100W-9
Item	Ripple Voltage (by Ambient Temp.)
Object	+9V11.5A

Testing Circuitry Figure A

1.Graph



Input Volt. 200V

Measured by 20 MHz Oscilloscope.

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

2.Values

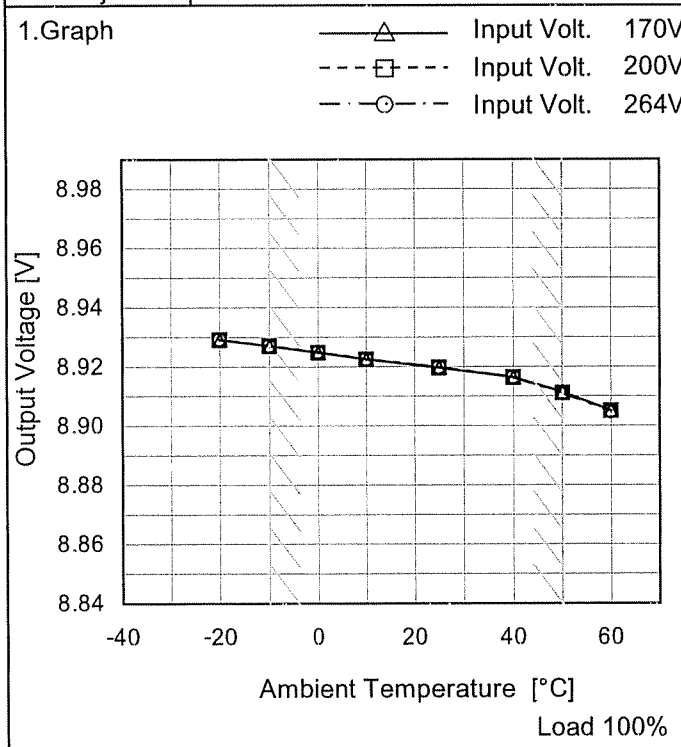
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-20	40	45
-10	30	35
0	25	30
10	20	25
25	20	25
40	20	25
50	15	20
60	15	20
--	-	-
--	-	-
--	-	-

COSEL

Model	LDA100W-9
Item	Ambient Temperature Drift
Object	+9V11.5A

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. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
-20	8.929	8.929	8.929
-10	8.927	8.927	8.927
0	8.925	8.925	8.925
10	8.923	8.923	8.923
25	8.920	8.920	8.920
40	8.916	8.916	8.916
50	8.911	8.911	8.911
60	8.905	8.905	8.905
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	LDA100W-9	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+9V11.5A	

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 - 50°C
Input Voltage : 170 - 264V
Load Current : 0 - 11.5A

* 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

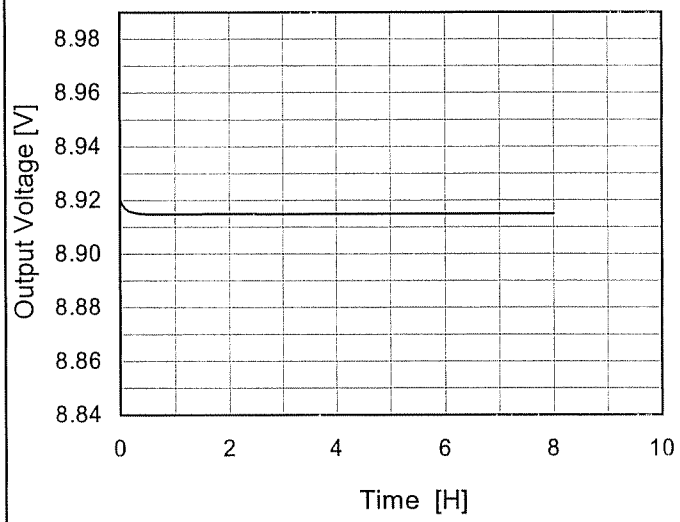
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-10	264	0	8.938	±15	±0.2
Minimum Voltage	50	170	11.5	8.909		

COSEL

Model	LDA100W-9
Item	Time Lapse Drift
Object	+9V11.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 200V
Load 100%

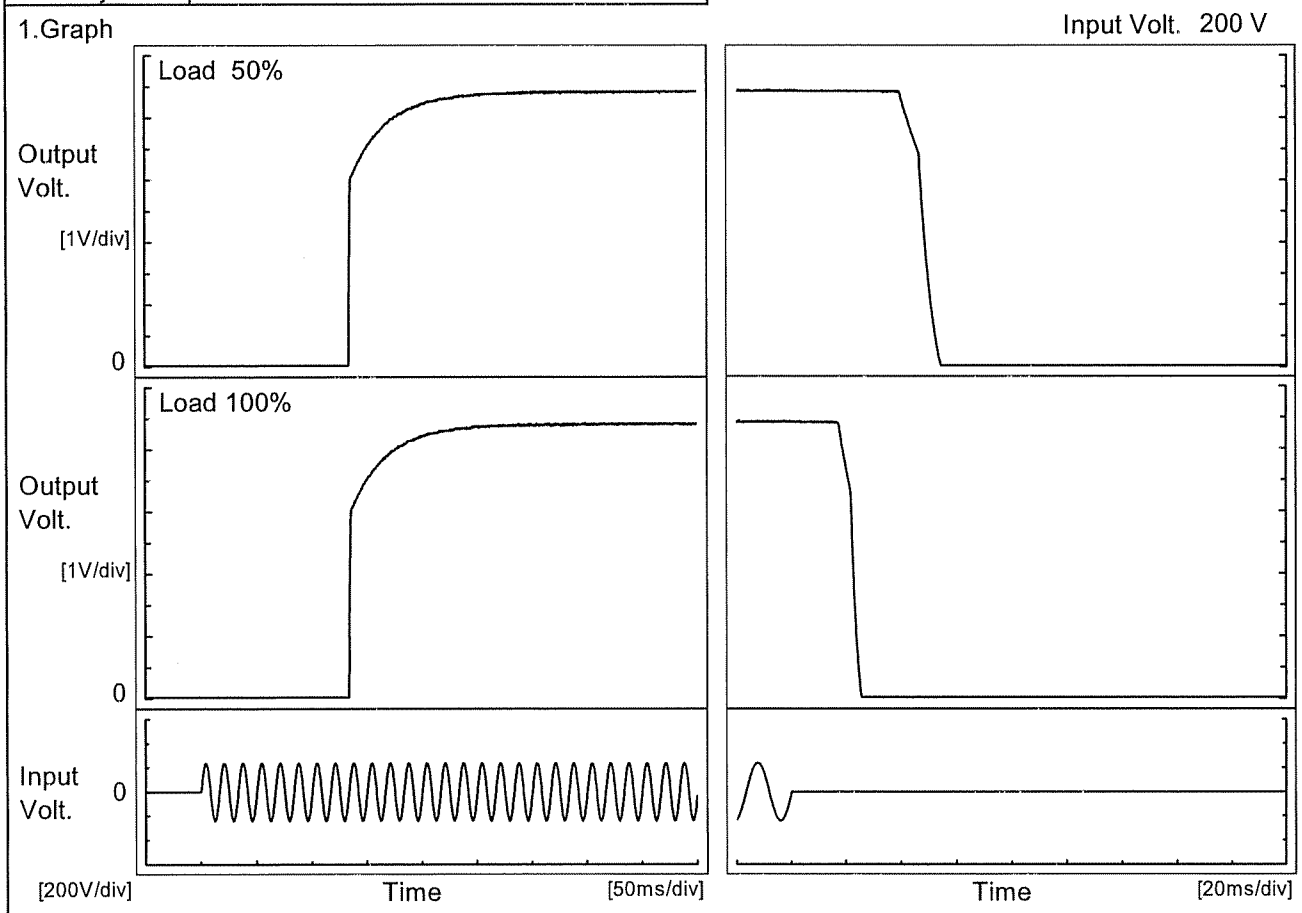
2.Values

Time since start [H]	Output Voltage [V]
0.0	8.920
0.5	8.915
1.0	8.915
2.0	8.915
3.0	8.915
4.0	8.915
5.0	8.915
6.0	8.915
7.0	8.915
8.0	8.915

COSEL

Model	LDA100W-9	
Item	Rise and Fall Time	Temperature 25°C Testing Circuitry Figure A
Object	+9V11.5A	

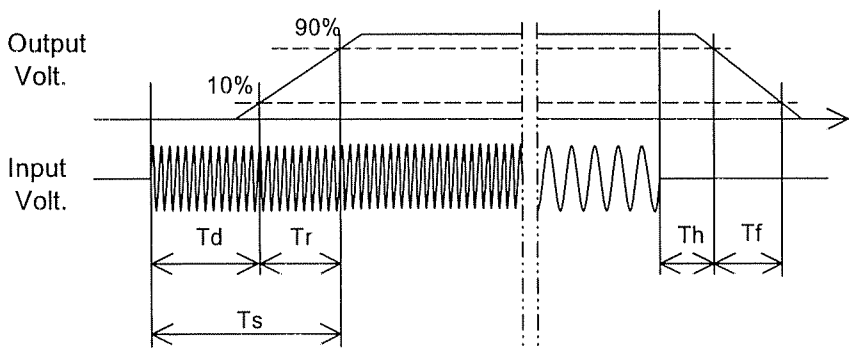
1.Graph



2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	134.3	48.8	183.1	41.4	11.0
100 %	134.0	49.3	183.3	18.6	6.3

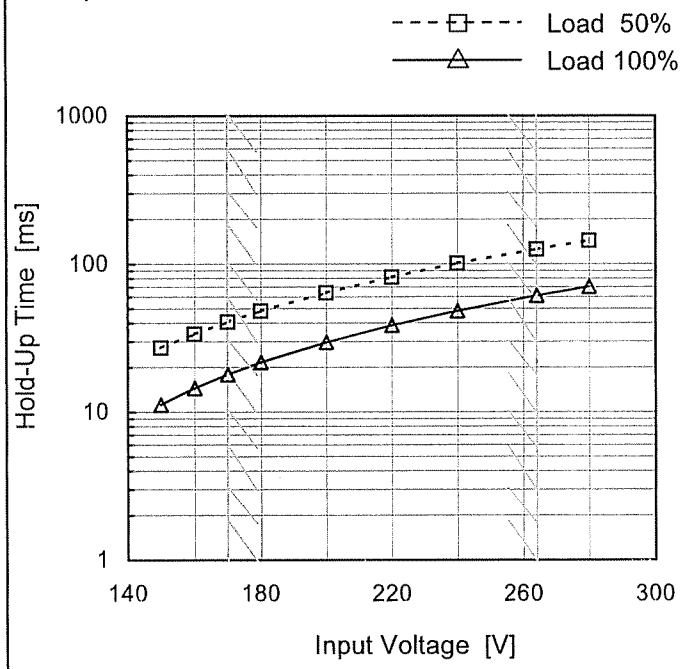


COSEL

Model	LDA100W-9
Item	Hold-Up Time
Object	+9V11.5A

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

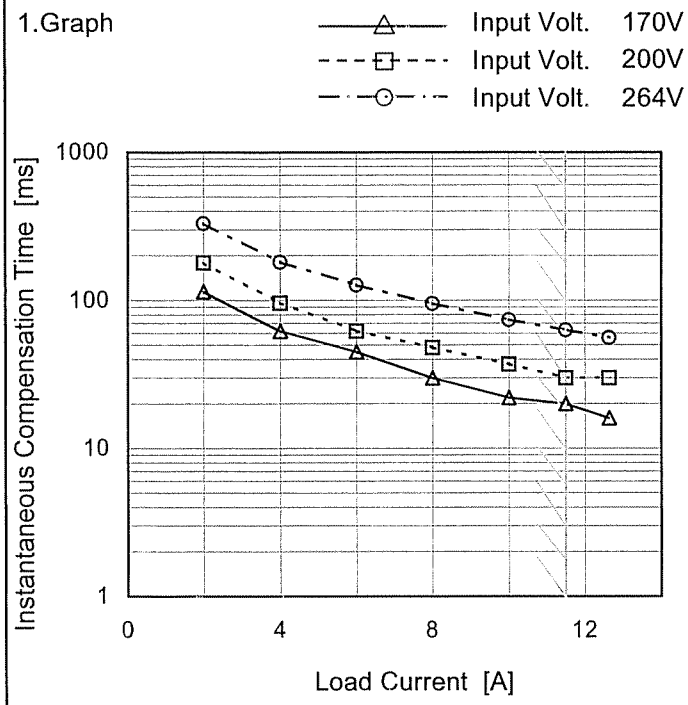
Input Voltage [V]	Hold-Up Time [ms]	
	Load 50%	Load 100%
150	27	11
160	34	15
170	41	18
180	48	22
200	64	30
220	82	39
240	101	48
264	126	61
280	144	70

COSEL

Model	LDA100W-9
Item	Instantaneous Interruption Compensation
Object	+9V11.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

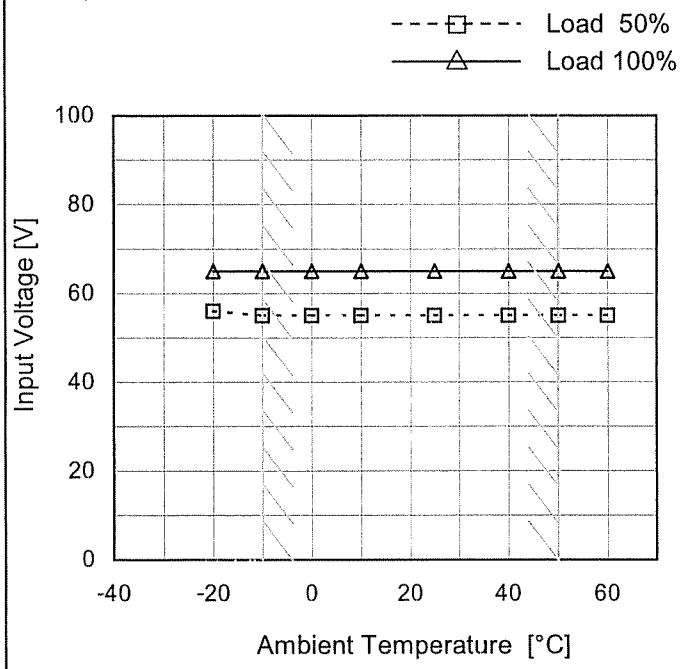
Load Current [A]	Time [ms] Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.00	-	-	-
2.00	115	180	331
4.00	62	96	181
6.00	45	62	127
8.00	30	48	95
10.00	22	37	74
11.50	20	30	63
12.65	16	30	56
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	LDA100W-9
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+9V11.5A

Testing Circuitry Figure A

1.Graph



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

2.Values

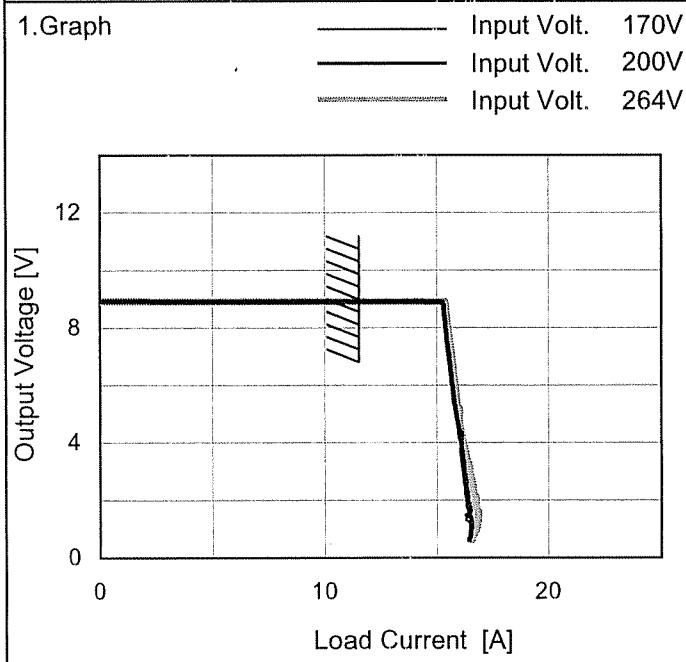
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	56	65
-10	55	65
0	55	65
10	55	65
25	55	65
40	55	65
50	55	65
60	55	65
--	-	-
--	-	-
--	-	-

COSEL

Model	LDA100W-9
Item	Overcurrent Protection
Object	+9V11.5A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

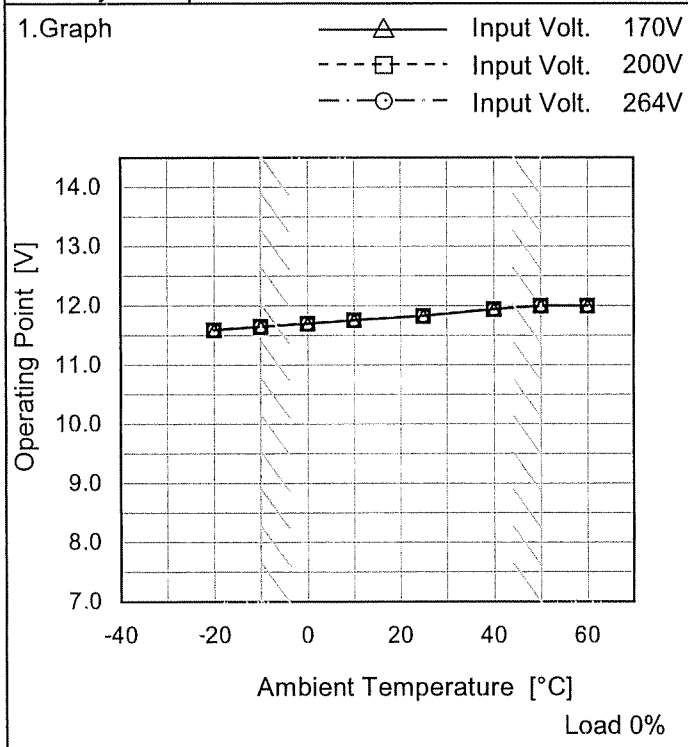
Output Voltage [V]	Load Current [A]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
9.00	11.77	11.77	11.74
8.55	15.33	15.33	15.42
8.10	15.38	15.38	15.49
7.20	15.49	15.51	15.65
6.30	15.63	15.66	15.78
5.40	15.80	15.78	15.90
4.50	15.95	16.03	16.08
3.60	16.07	16.17	16.33
2.70	16.21	16.32	16.59
1.80	16.34	16.47	16.64
0.90	16.51	16.54	16.73
0.00	16.45	16.45	16.59

COSEL

Model	LDA100W-9
Item	Overvoltage Protection
Object	+9V11.5A

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. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
-20	11.62	11.62	11.62
-10	11.68	11.68	11.68
0	11.73	11.73	11.73
10	11.79	11.79	11.79
25	11.86	11.86	11.86
40	11.97	11.97	11.97
50	12.03	12.03	12.03
60	12.03	12.03	12.03
--	-	-	-
--	-	-	-
--	-	-	-

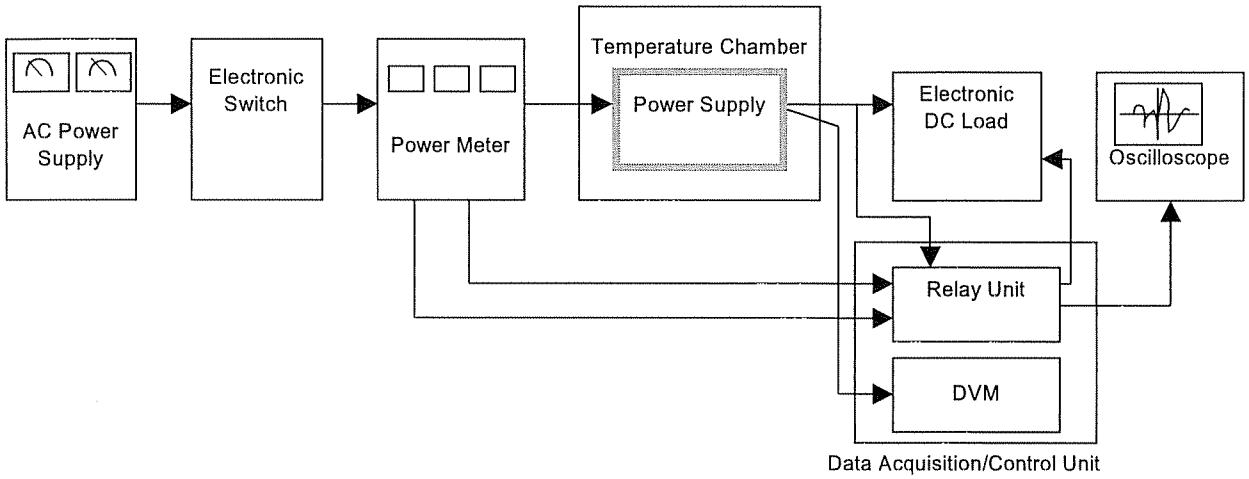


Figure A

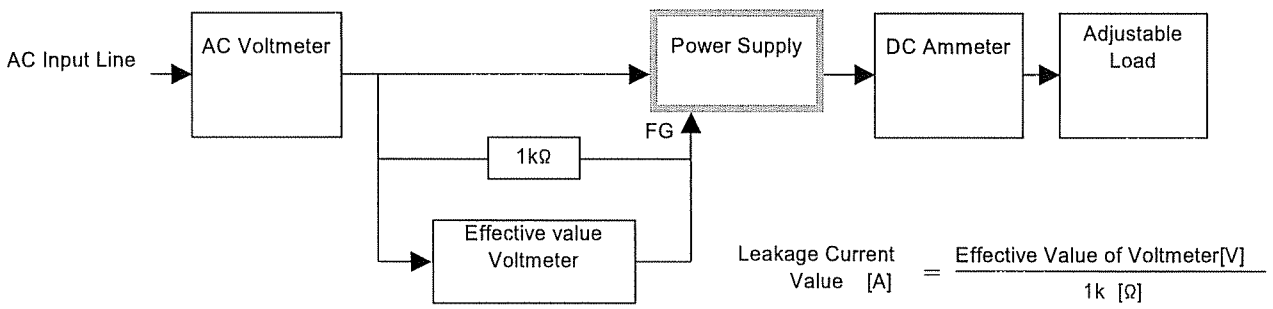


Figure B (DEN-AN)

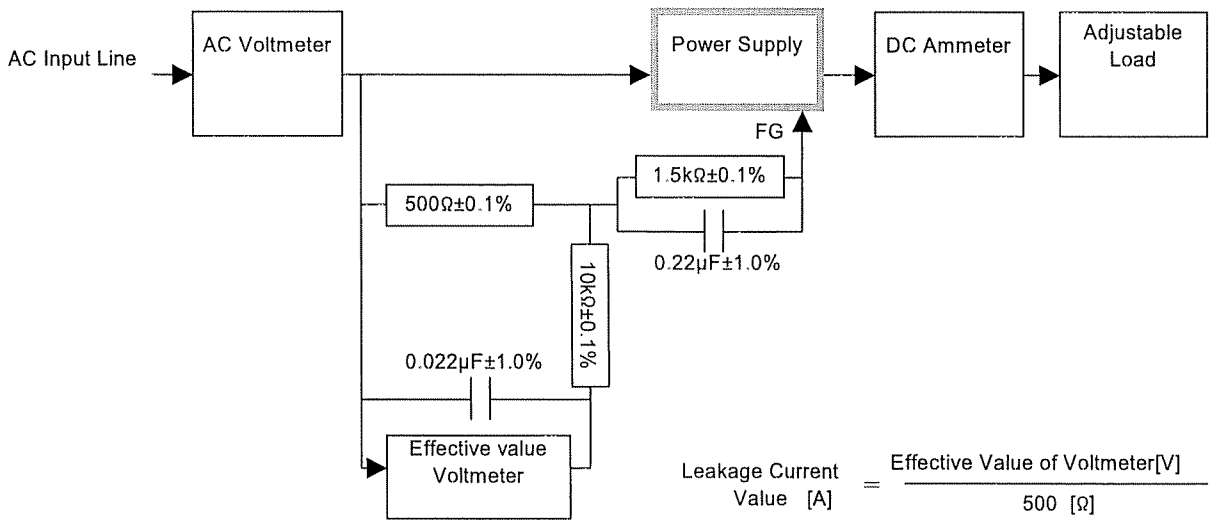


Figure B (IEC60950)