参考資料

COSEL

TEST DATA OF LDA150W-9

(100V　INPUT)

Regulated DC Power Supply
Feb.14. 2005

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COSEL CO.,LTD.

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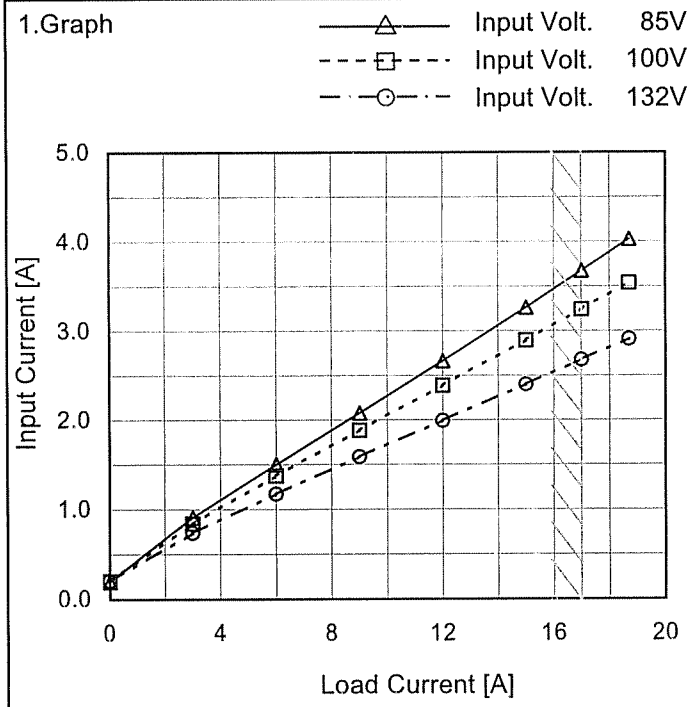
Model	LDA150W-9
Item	Input Current (by Load Current)
Object	————————

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. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.0	0.196	0.201	0.205
3.0	0.907	0.842	0.735
6.0	1.502	1.377	1.172
9.0	2.080	1.885	1.588
12.0	2.664	2.389	1.993
15.0	3.261	2.894	2.401
17.0	3.675	3.240	2.676
18.7	4.030	3.538	2.911
--	-	-	-
--	-	-	-
--	-	-	-

BC-0993

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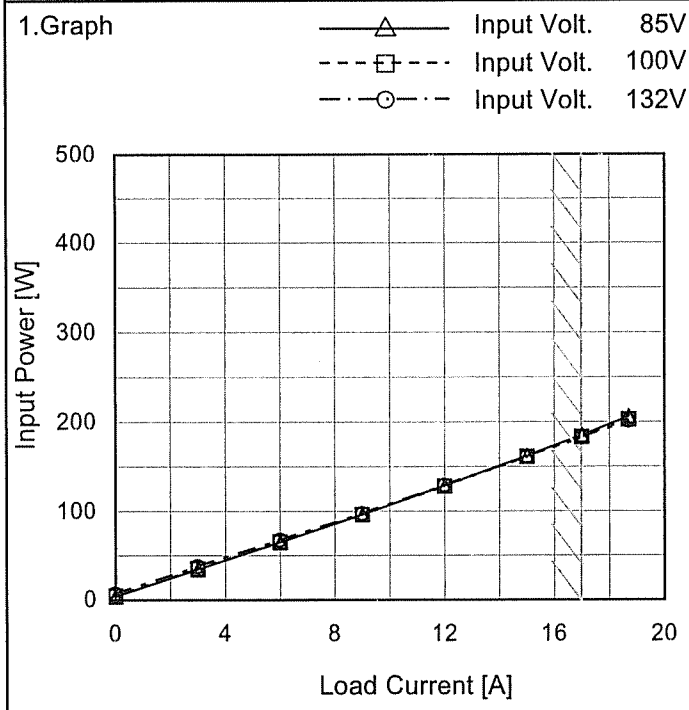
Model	LDA150W-9
Item	Input Power (by Load Current)
Object	————————

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. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.0	3.9	4.7	6.7
3.0	34.4	35.2	37.7
6.0	65.1	65.3	67.4
9.0	96.3	96.4	97.5
12.0	129.0	128.4	129.3
15.0	162.3	161.1	161.1
17.0	185.4	183.6	183.0
18.7	206.0	203.1	201.6
--	-	-	-
--	-	-	-
--	-	-	-

BC-0993

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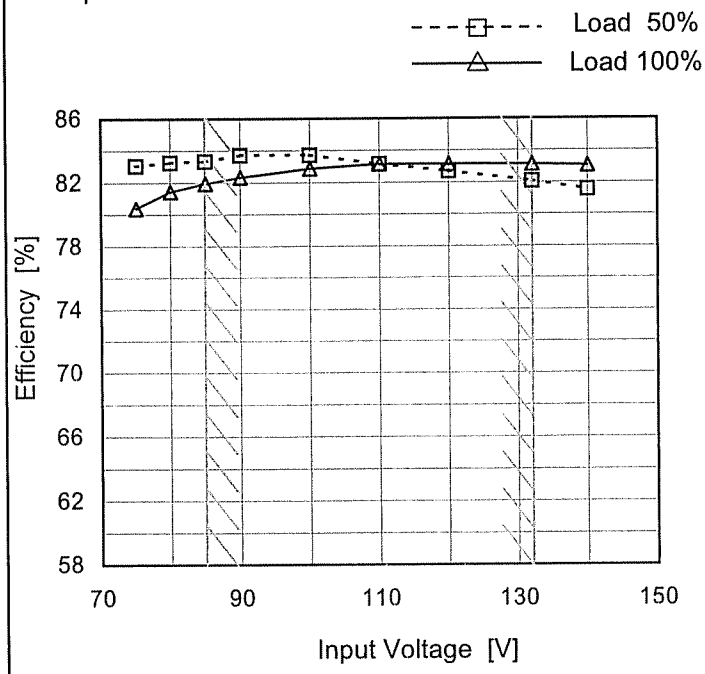
Model	LDA150W-9
Item	Efficiency (by Input Voltage)
Object	———————————

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%
75	83.1	80.4
80	83.3	81.5
85	83.3	81.9
90	83.7	82.3
100	83.7	82.9
110	83.2	83.2
120	82.7	83.2
132	82.1	83.2
140	81.6	83.1

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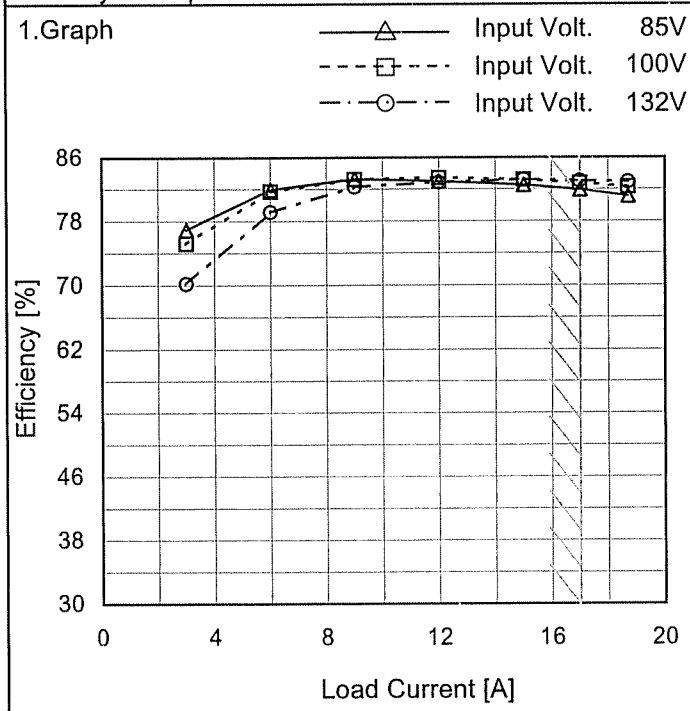
Model	LDA150W-9
Item	Efficiency (by Load Current)
Object	————————

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. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.0	-	-	-
3.0	76.9	75.2	70.2
6.0	82.0	81.7	79.2
9.0	83.3	83.2	82.3
12.0	83.0	83.4	82.9
15.0	82.6	83.2	83.2
17.0	81.9	82.7	83.0
18.7	81.1	82.3	82.9
--	-	-	-
--	-	-	-
--	-	-	-

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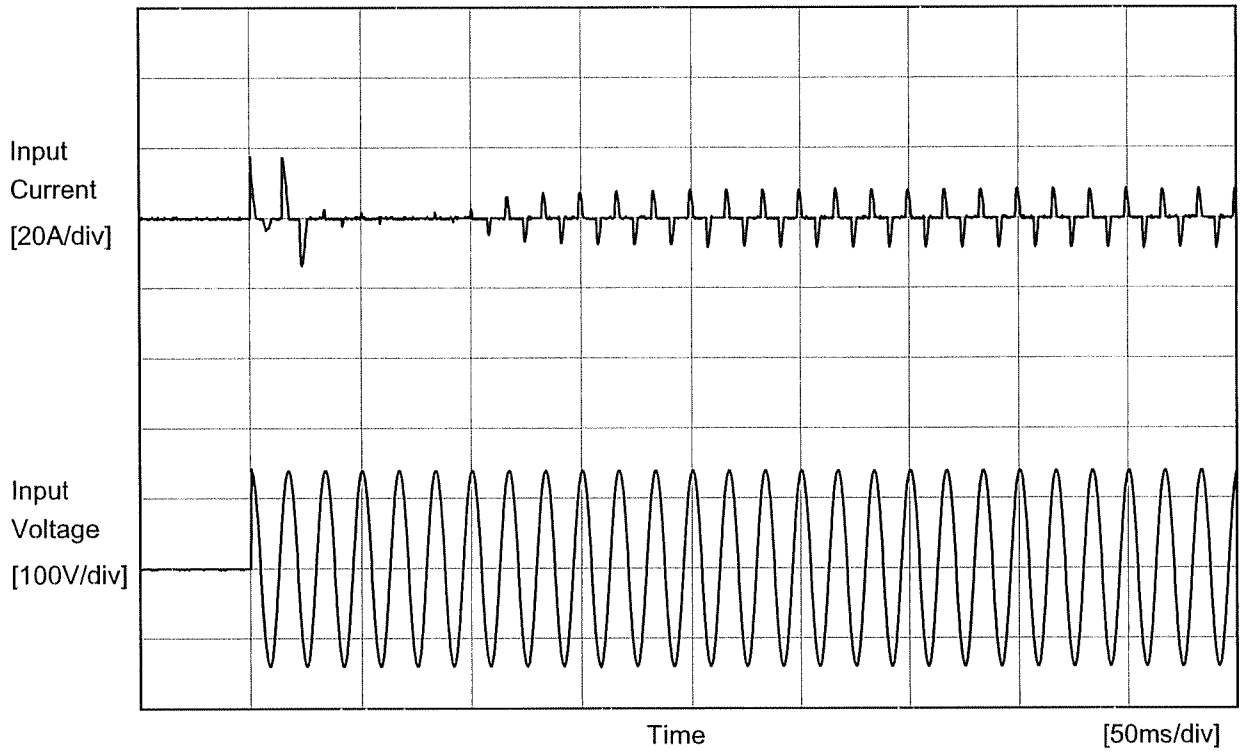
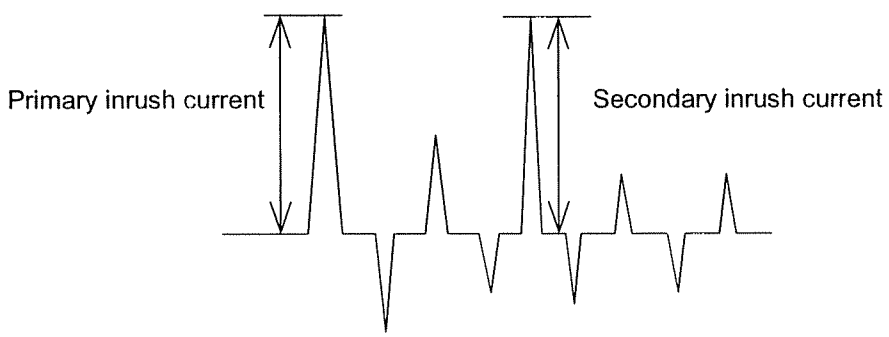
Model	LDA150W-9	Temperature 25°C
Item	Inrush Current	Testing Circuitry Figure A
Object	————————	



Input Voltage	100 V
Frequency	60 Hz
Load	100 %

Primary inrush current	17.6 A
Secondary inrush current	17.2 A



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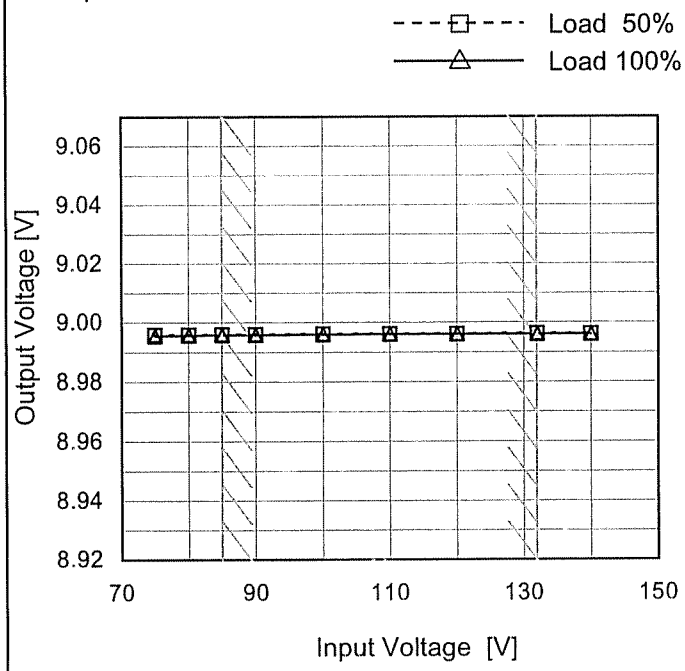
Model	LDA150W-9
Item	Line Regulation
Object	+9V17A

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	8.996	8.996
80	8.996	8.996
85	8.996	8.996
90	8.996	8.996
100	8.996	8.996
110	8.996	8.996
120	8.996	8.996
132	8.996	8.996
140	8.996	8.996

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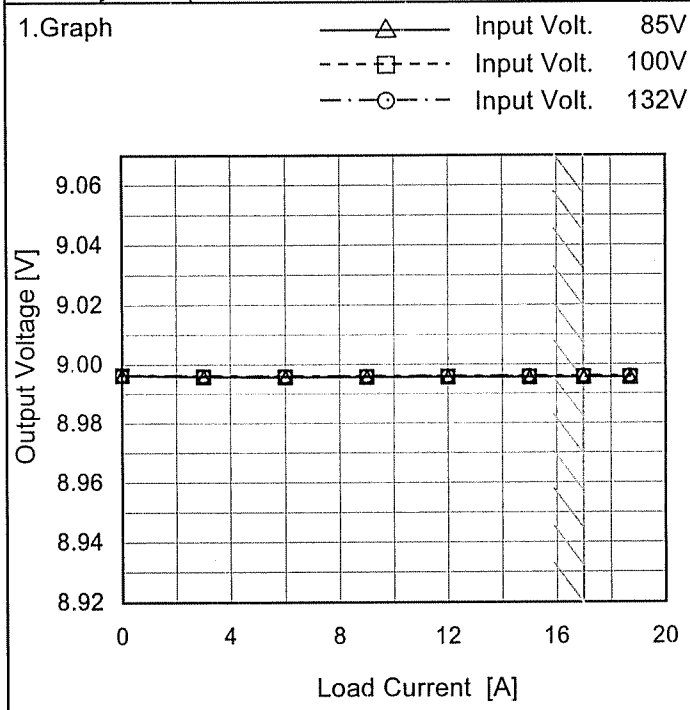
Model	LDA150W-9
Item	Load Regulation
Object	+9V17A

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]
0.0	8.996	8.996	8.996
3.0	8.996	8.996	8.996
6.0	8.996	8.996	8.996
9.0	8.996	8.996	8.996
12.0	8.996	8.996	8.996
15.0	8.996	8.996	8.996
17.0	8.996	8.996	8.996
18.7	8.996	8.996	8.996
--	-	-	-
--	-	-	-
--	-	-	-

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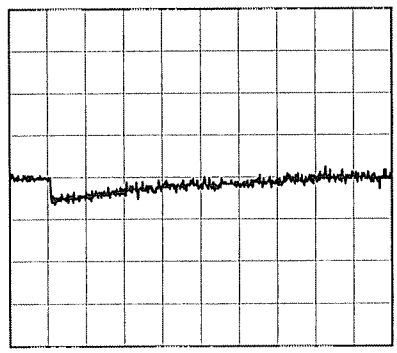
Model	LDA150W-9
Item	Dynamic Load Response
Object	+9V17A

Temperature 25°C
Testing Circuitry Figure A

Input Volt. 100 V
Cycle 1000 ms

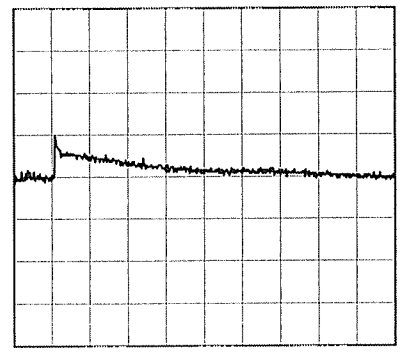
Load Current

Min. Load (0A) ⟷
Load 100% (17A)



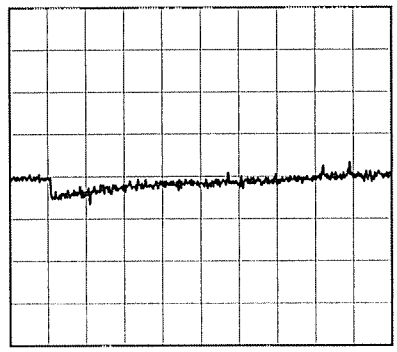
100 mV/div

10 ms/div



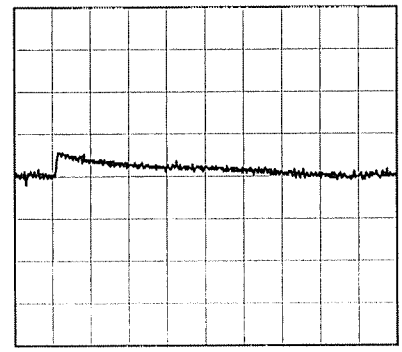
10 ms/div

Min. Load (0A) ⟷
Load 50% (8.5A)



100 mV/div

10 ms/div



10 ms/div

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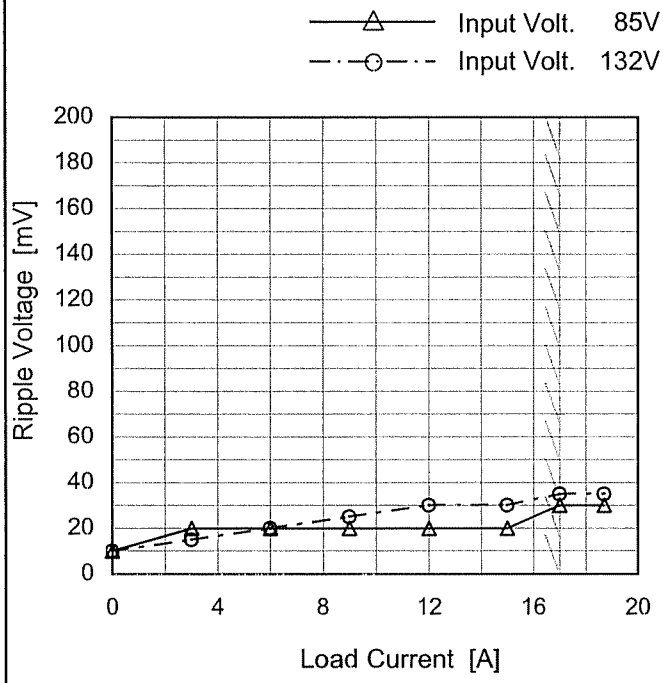
Model	LDA150W-9
Item	Ripple Voltage (by Load Current)
Object	+9V17A

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

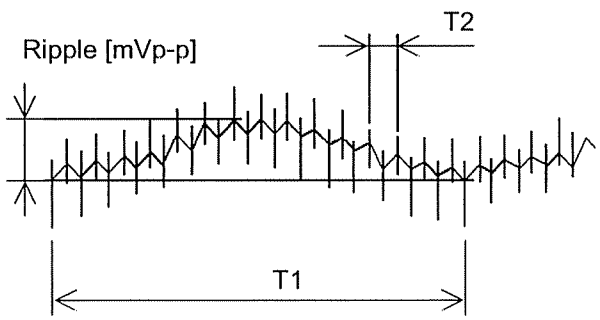


Fig. Complex Ripple Wave Form

2.Values

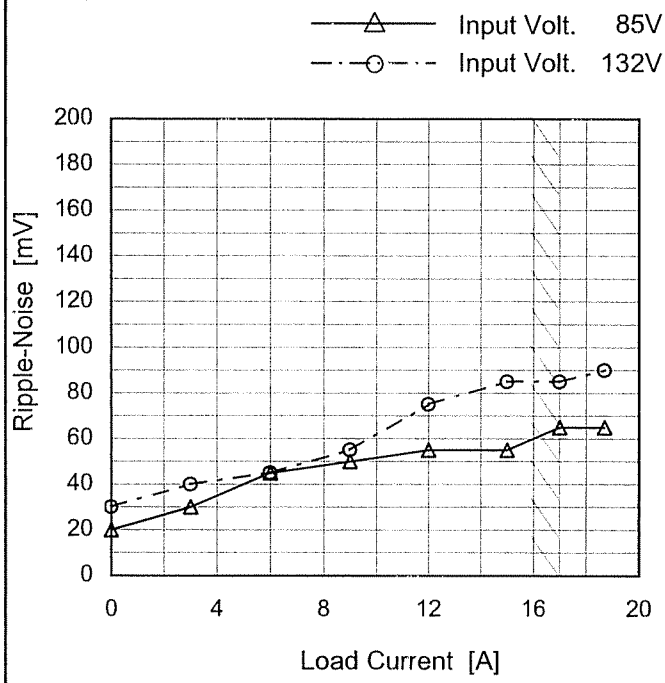
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.0	10	10
3.0	20	15
6.0	20	20
9.0	20	25
12.0	20	30
15.0	20	30
17.0	30	35
18.7	30	35
--	-	-
--	-	-
--	-	-

COSEL

Model	LDA150W-9
Item	Ripple-Noise
Object	+9V17A

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]
0.0	20	30
3.0	30	40
6.0	45	45
9.0	50	55
12.0	55	75
15.0	55	85
17.0	65	85
18.7	65	90
--	-	-
--	-	-
--	-	-

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

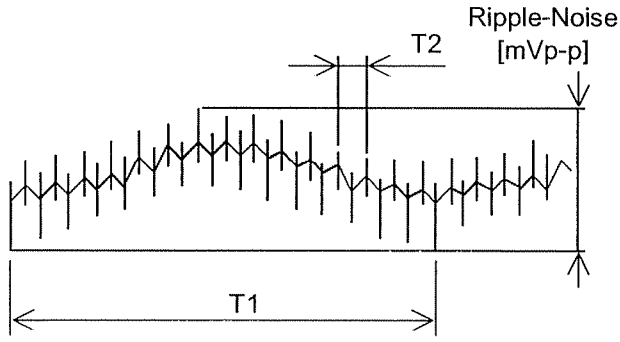


Fig. Complex Ripple Wave Form

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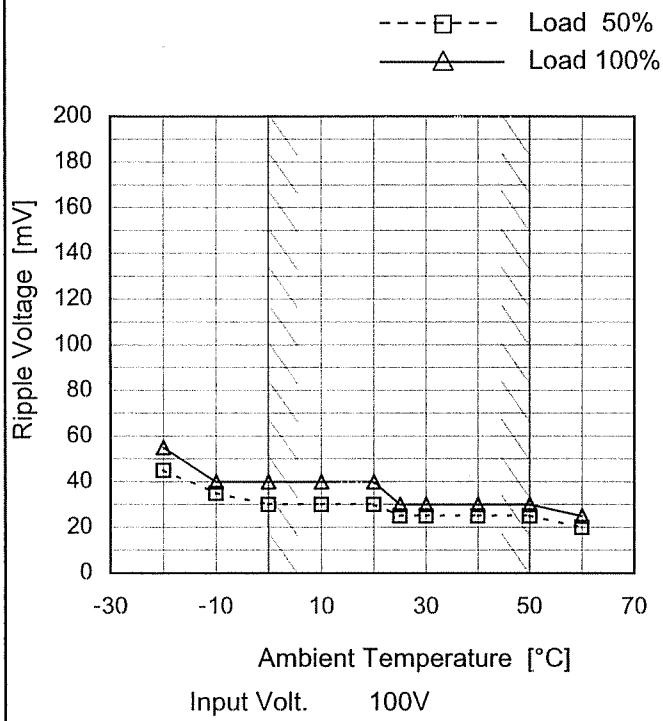
Model	LDA150W-9
Item	Ripple Voltage (by Ambient Temp.)
Object	+9V17A

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

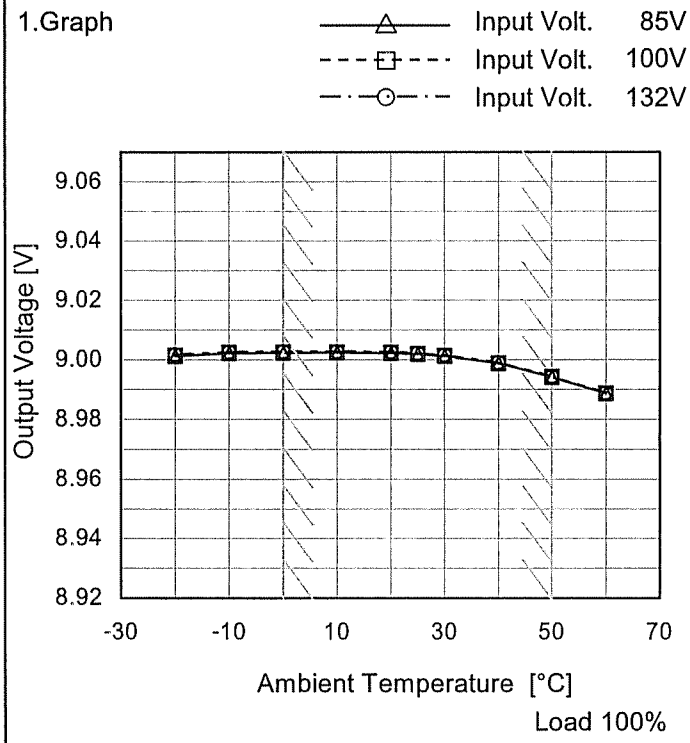
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-20	45	55
-10	35	40
0	30	40
10	30	40
20	30	40
25	25	30
30	25	30
40	25	30
50	25	30
60	20	25
--	-	-

COSEL

Model	LDA150W-9
Item	Ambient Temperature Drift
Object	+9V17A

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	9.001	9.002	9.002
-10	9.002	9.002	9.003
0	9.002	9.003	9.003
10	9.002	9.003	9.003
20	9.002	9.002	9.003
25	9.002	9.002	9.002
30	9.001	9.001	9.002
40	8.999	8.999	8.999
50	8.994	8.994	8.994
60	8.989	8.989	8.989
--	-	-	-

COSEL

Model	LDA150W-9	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+9V17A	

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 - 17A

* 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

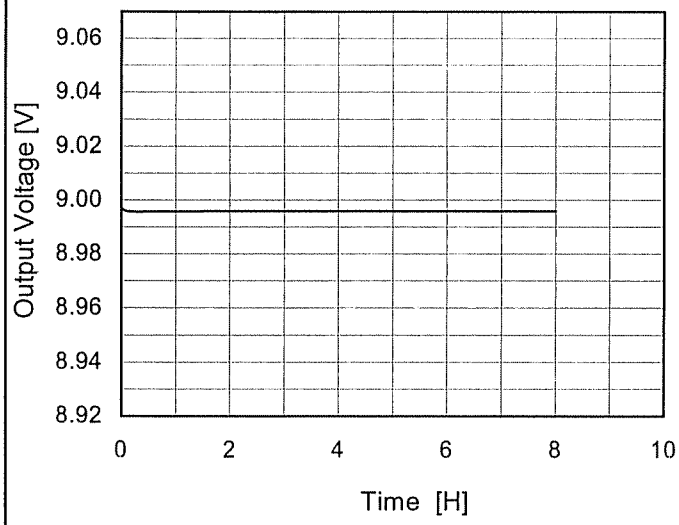
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	0	100	0	9.003	±5	±0.1
Minimum Voltage	50	85	17	8.994		

COSEL

Model	LDA150W-9
Item	Time Lapse Drift
Object	+9V17A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 100V
Load 100%

2.Values

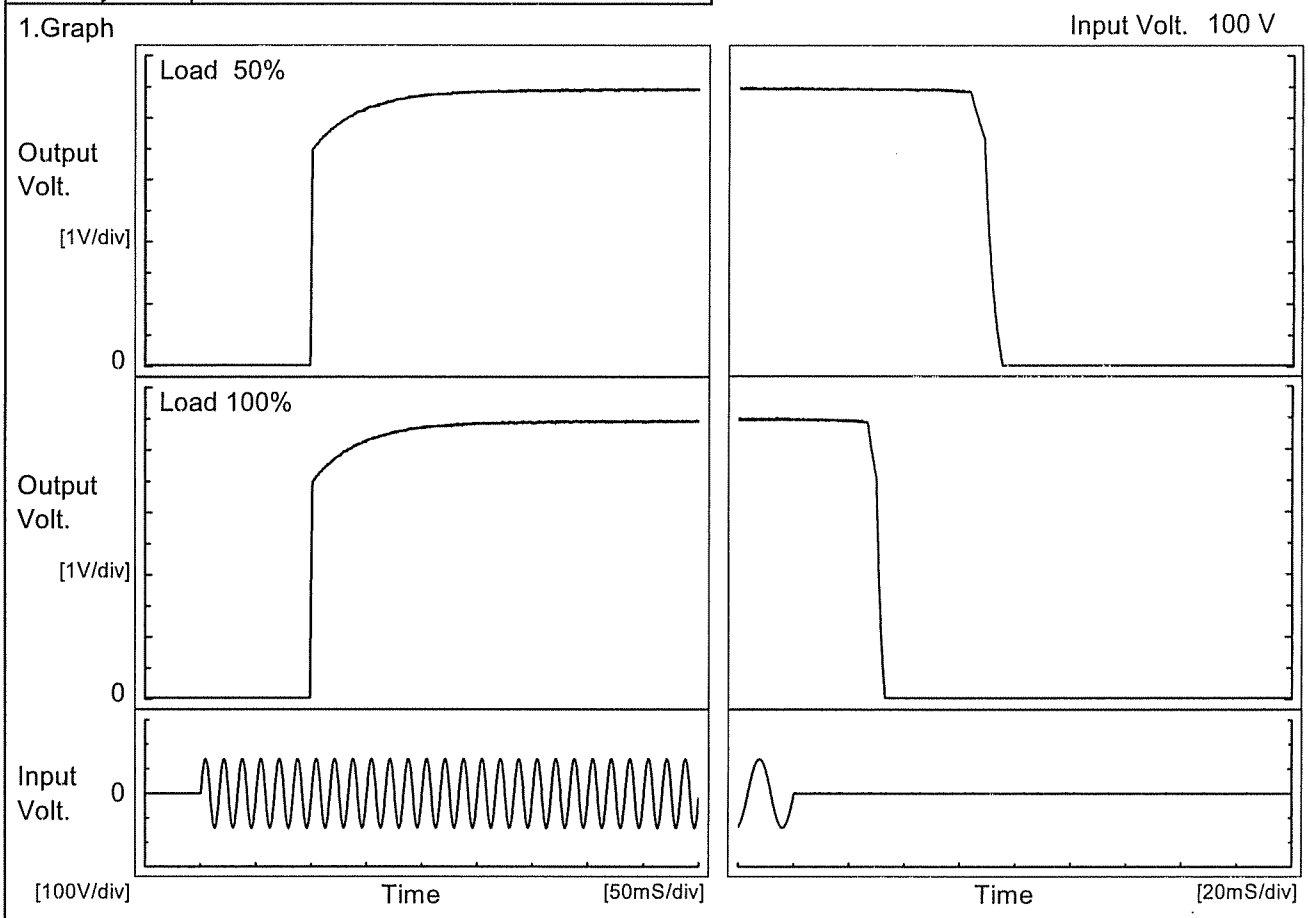
Time since start [H]	Output Voltage [V]
0.0	8.997
0.5	8.996
1.0	8.996
2.0	8.996
3.0	8.996
4.0	8.996
5.0	8.996
6.0	8.996
7.0	8.996
8.0	8.996

COSEL

Model	LDA150W-9
Item	Rise and Fall Time
Object	+9V17A

Temperature 25°C
Testing Circuitry Figure A

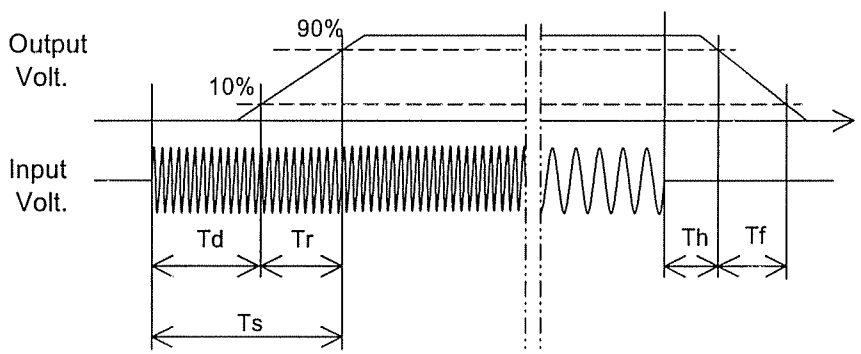
1.Graph



2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	99.3	40.5	139.8	65.3	8.1
100 %	99.0	41.5	140.5	27.6	4.7

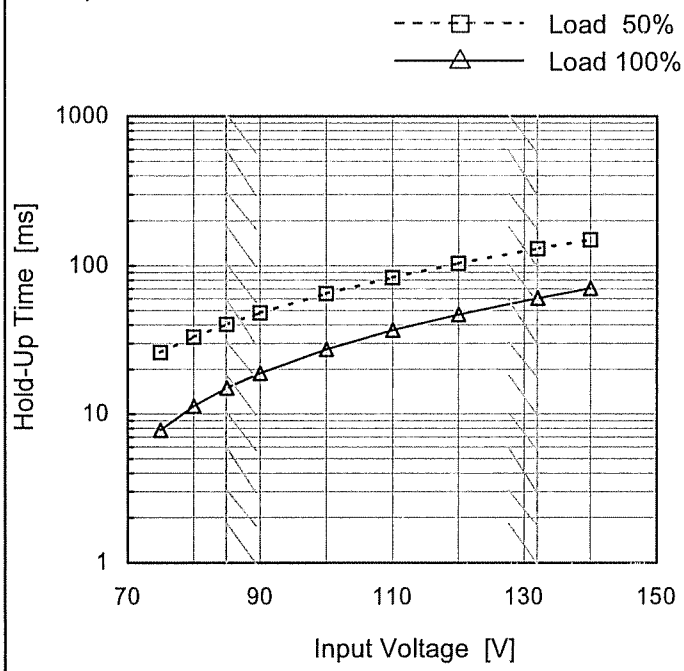


COSEL

Model	LDA150W-9
Item	Hold-Up Time
Object	+9V17A

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	26	8
80	33	11
85	40	15
90	48	19
100	65	27
110	83	37
120	104	47
132	130	61
140	149	71

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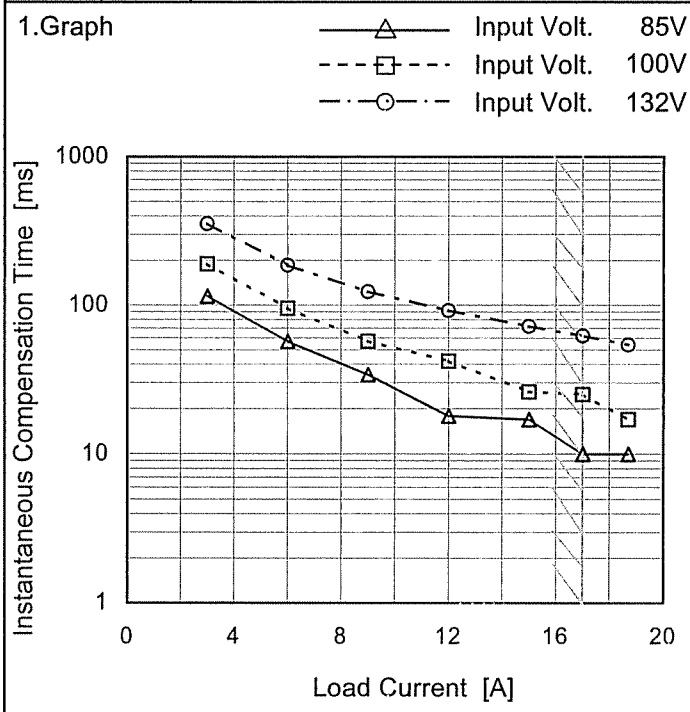
Model	LDA150W-9
Item	Instantaneous Interruption Compensation
Object	+9V17A

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]
0.0	-	-	-
3.0	115	190	355
6.0	57	95	186
9.0	34	57	123
12.0	18	42	92
15.0	17	26	72
17.0	10	25	62
18.7	10	17	54
--	-	-	-
--	-	-	-
--	-	-	-

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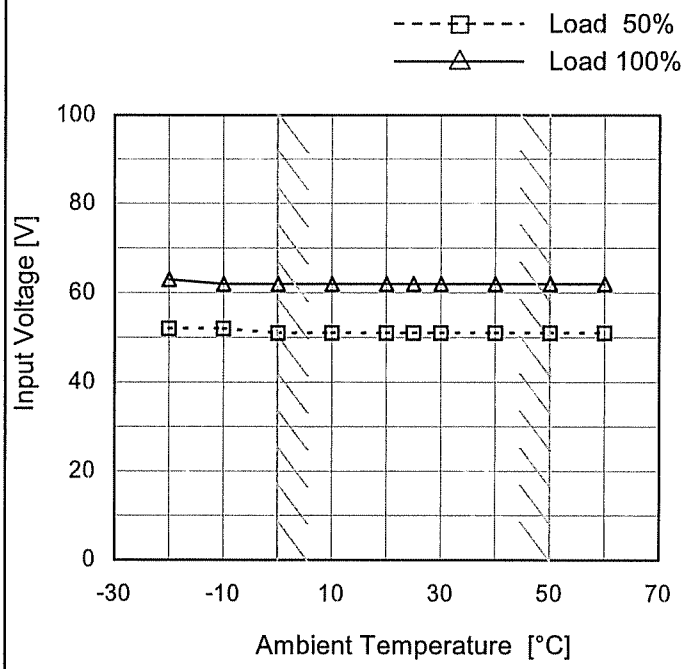
Model	LDA150W-9
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+9V17A

Testing Circuitry Figure A

1.Graph



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

2.Values

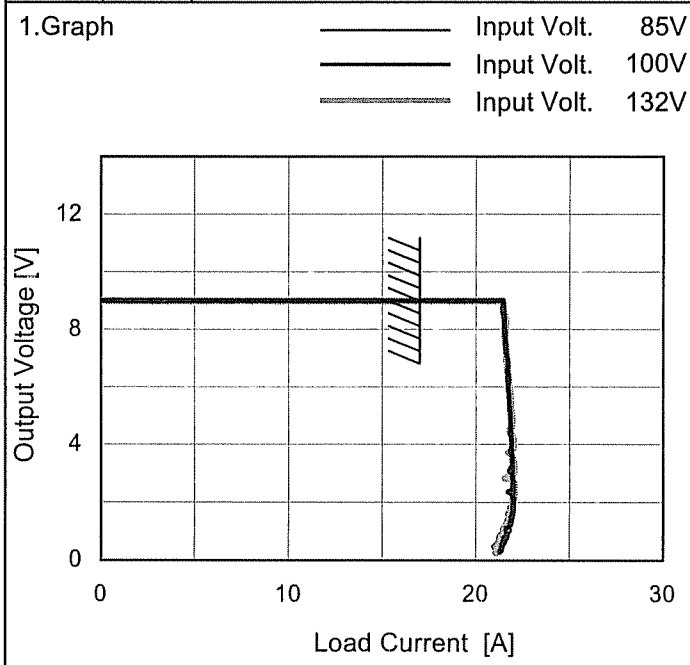
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	52	63
-10	52	62
0	51	62
10	51	62
20	51	62
25	51	62
30	51	62
40	51	62
50	51	62
60	51	62
--	-	-

COSEL

Model	LDA150W-9
Item	Overcurrent Protection
Object	+9V17A

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]
9.00	18.46	18.28	18.17
8.55	21.55	21.45	21.48
8.10	21.59	21.50	21.56
7.20	21.67	21.60	21.61
6.30	21.80	21.68	21.72
5.40	21.82	21.79	21.83
4.50	21.91	21.85	21.82
3.60	21.97	21.91	21.90
2.70	22.01	21.99	21.98
1.80	22.07	21.98	21.86
0.90	21.78	21.65	21.43
0.00	21.40	21.27	21.08

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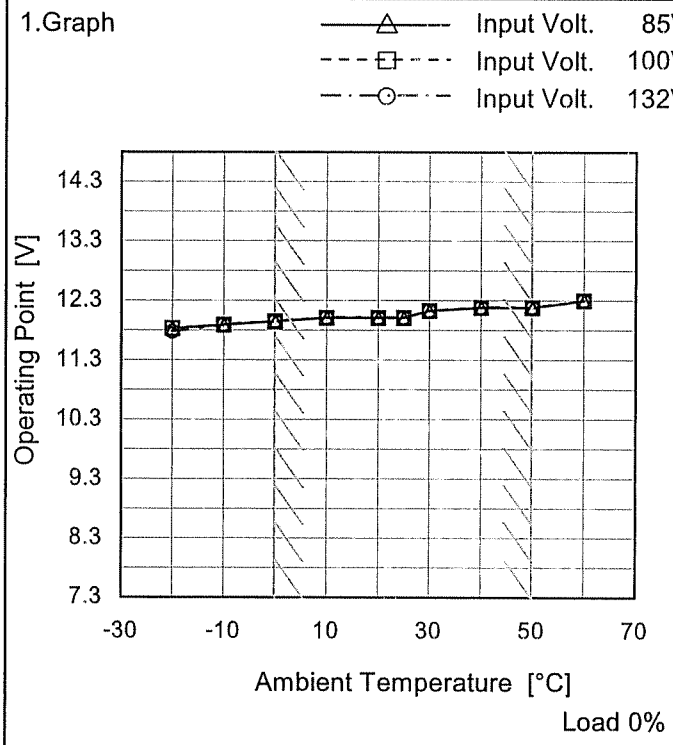
Model	LDA150W-9
Item	Overvoltage Protection
Object	+9V17A

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	11.85	11.85	11.80
-10	11.91	11.91	11.91
0	11.97	11.97	11.97
10	12.03	12.03	12.03
20	12.03	12.03	12.03
25	12.03	12.03	12.03
30	12.15	12.15	12.15
40	12.20	12.20	12.20
50	12.20	12.20	12.20
60	12.32	12.32	12.32
--	-	-	-

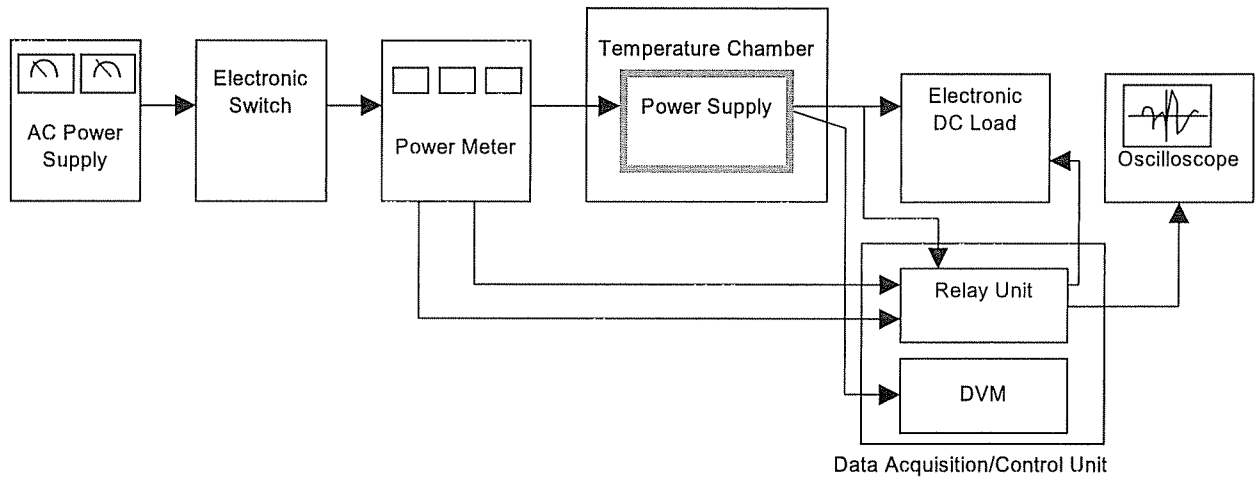


Figure A

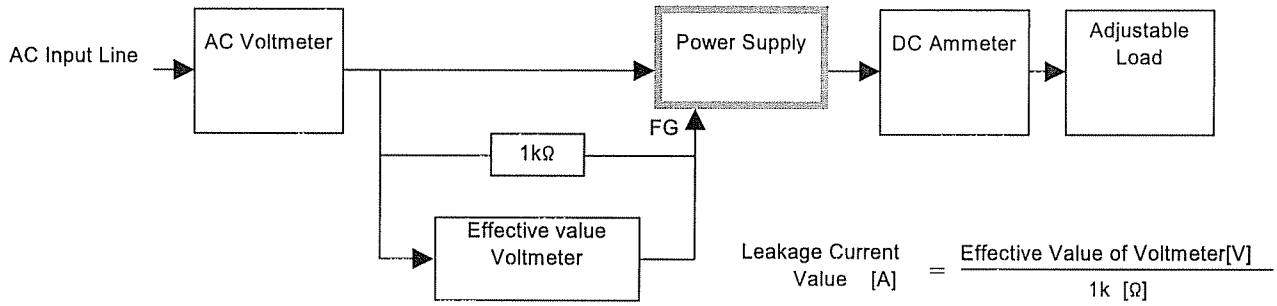


Figure B (DEN-AN)

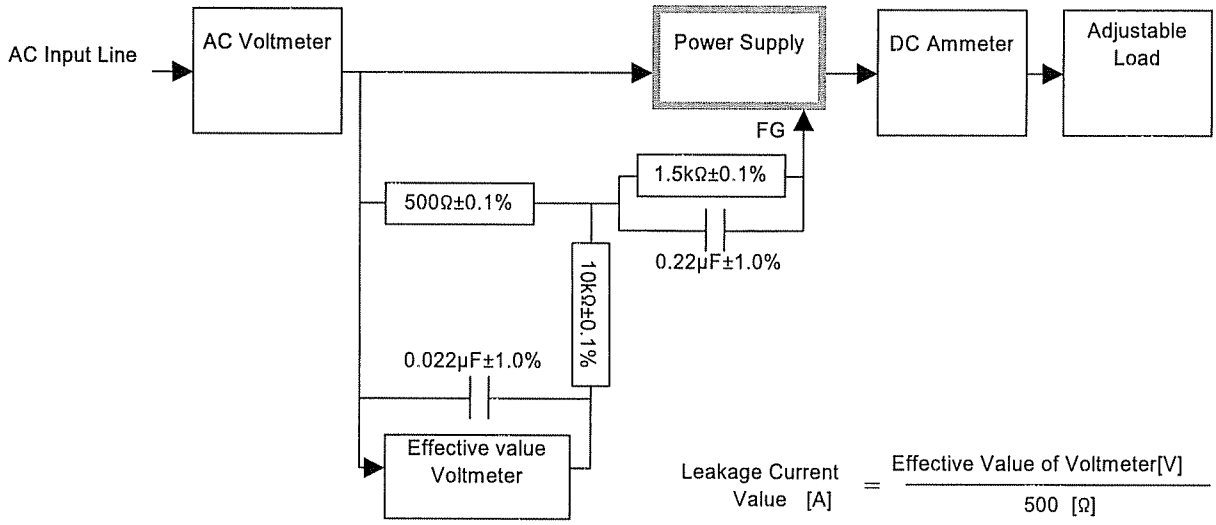


Figure B (IEC60950)