参考資料

COSEL

TEST DATA OF LDA100W-24-H

(100V INPUT)

Regulated DC Power Supply
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Approved by : K. Shiho
K.Shiho Design Manager

Prepared by : S. Ueda
S.Ueda Design Engineer

COSEL CO.,LTD.

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CONTENTS

1.Input Current (by Load Current) ・・・・・・・・・・・・・・・・・・・・・・・・ 1
2.Input Power (by Load Current) ・・・・・・・・・・・・・・・・・・・・・・・・ 2
3.Efficiency (by Input Voltage) ・・・・・・・・・・・・・・・・・・・・・・・・ 3
4.Efficiency (by Load Current) ・・・・・・・・・・・・・・・・・・・・・・・・ 4
5.Inrush Current ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・ 5
6.Line Regulation ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・ 6
7.Load Regulation ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・ 7
8.Dynamic Load Response ・・・・・・・・・・・・・・・・・・・・・・・・・・・ 8
9.Ripple Voltage (by Load Current) ・・・・・・・・・・・・・・・・・・・・・・ 9
10.Ripple-Noise ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・ 10
11.Ripple Voltage (by Ambient Temperature) ・・・・・・・・・・・・・・・・・ 11
12.Ambient Temperature Drift ・・・・・・・・・・・・・・・・・・・・・・・・・ 12
13.Output Voltage Accuracy ・・・・・・・・・・・・・・・・・・・・・・・・・・ 13
14.Time Lapse Drift ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・ 14
15.Rise and Fall Time ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・ 15
16.Hold-Up Time ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・ 16
17.Instantaneous Interruption Compensation ・・・・・・・・・・・・・・・・・ 17
18.Minimum Input Voltage for Regulated Output Voltage ・・・・・・・・・・・ 18
19.Overcurrent Protection ・・・・・・・・・・・・・・・・・・・・・・・・・・・ 19
20.Overvoltage Protection ・・・・・・・・・・・・・・・・・・・・・・・・・・・ 20
21.Figure of Testing Circuitry ・・・・・・・・・・・・・・・・・・・・・・・・・ 21

(Final Page 21)

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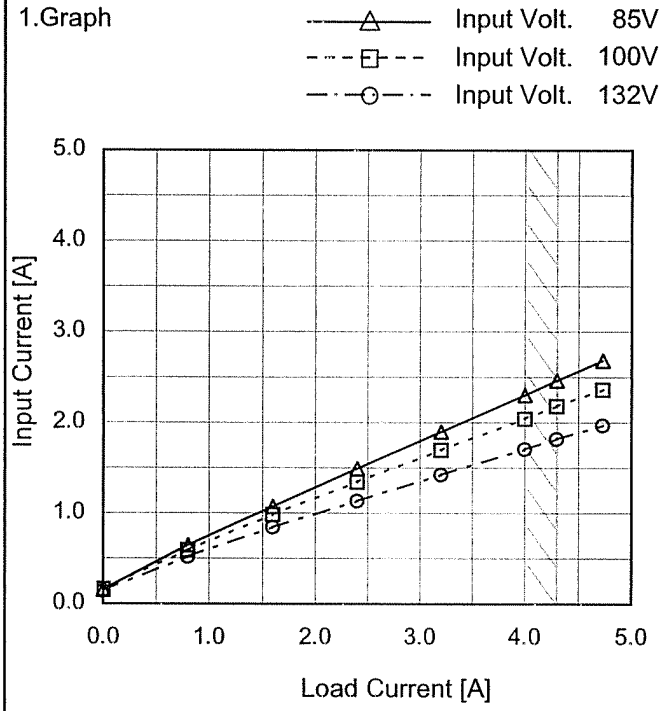
Model	LDA100W-24-H
Item	Input Current (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

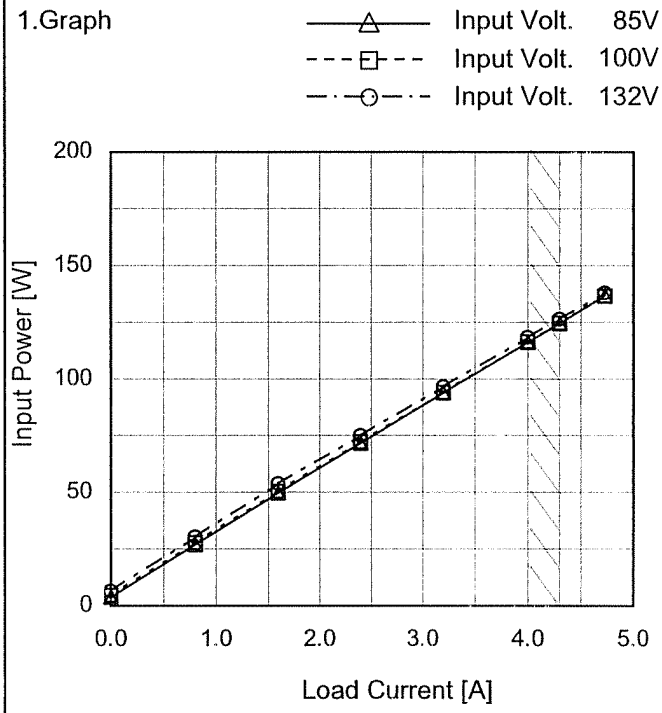
Load Current [A]	Input Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	0.154	0.160	0.140
0.80	0.645	0.591	0.516
1.60	1.073	0.981	0.842
2.40	1.491	1.342	1.133
3.20	1.898	1.694	1.423
4.00	2.303	2.042	1.704
4.30	2.462	2.179	1.816
4.73	2.682	2.362	1.966
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	LDA100W-24-H
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

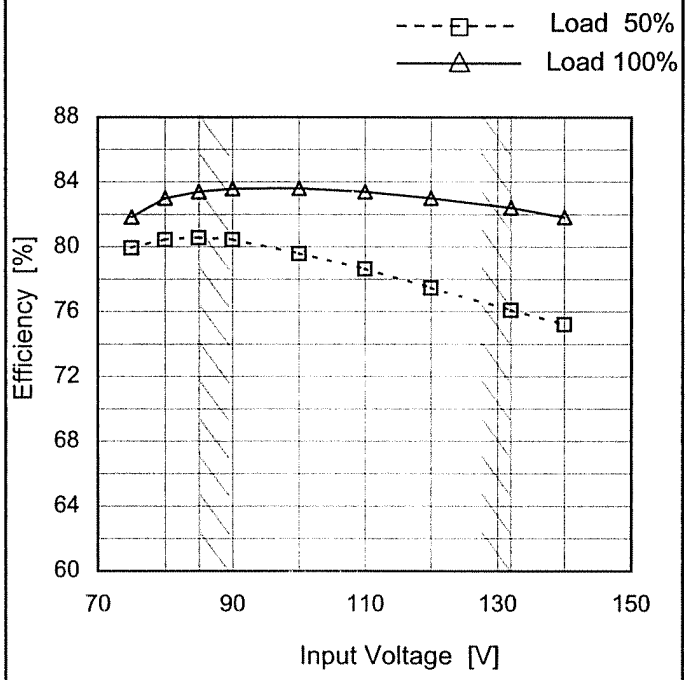
Load Current [A]	Input Power [W]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	3.8	4.6	6.5
0.80	27.0	27.8	30.3
1.60	49.8	50.5	53.8
2.40	71.7	72.2	75.1
3.20	93.9	94.0	96.6
4.00	116.1	116.4	118.4
4.30	124.5	124.7	126.3
4.73	136.8	136.5	138.0
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	LDA100W-24-H
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

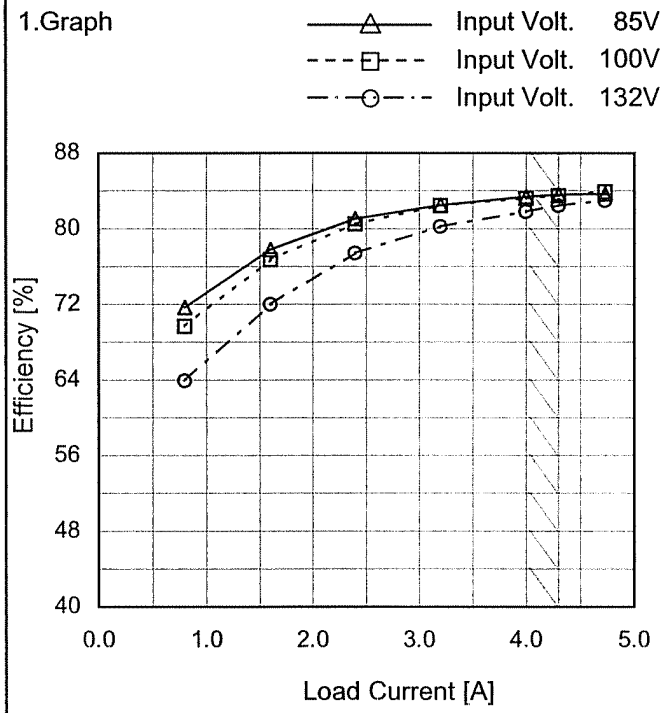
Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
75	79.9	81.8
80	80.5	83.0
85	80.6	83.4
90	80.5	83.6
100	79.6	83.6
110	78.6	83.4
120	77.5	83.0
132	76.1	82.4
140	75.2	81.8

COSEL

Model	LDA100W-24-H
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.

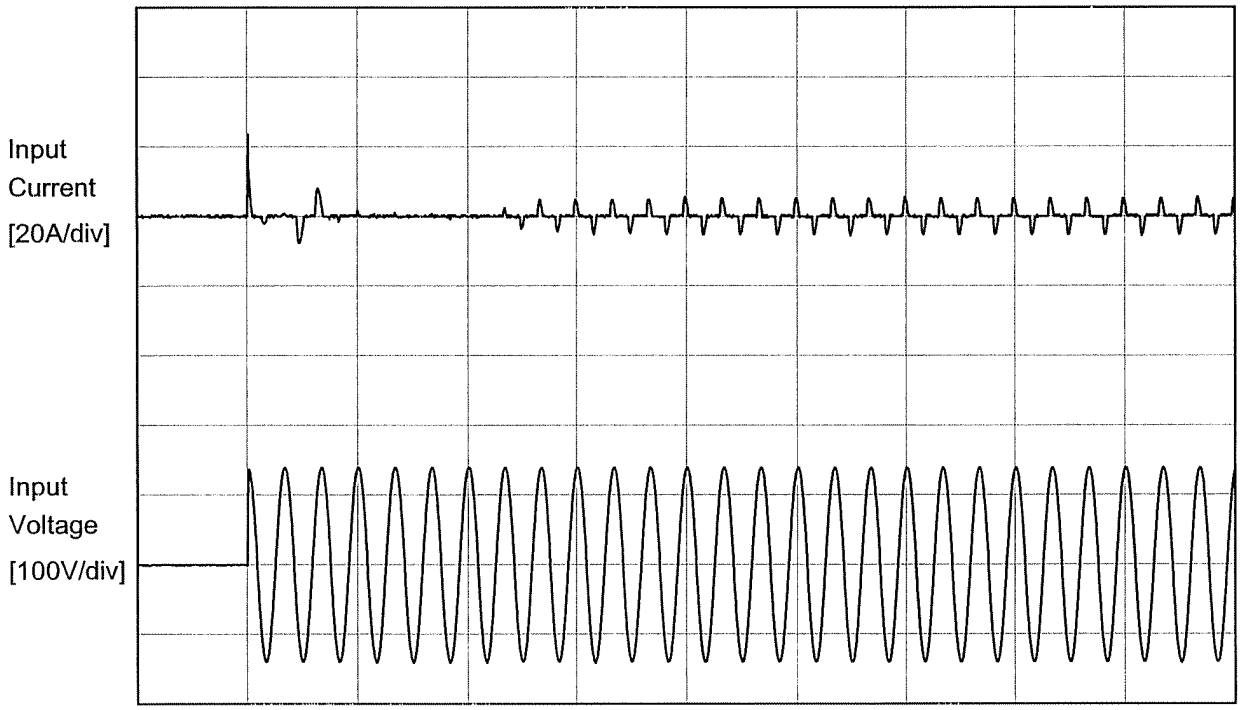
2.Values

Load Current [A]	Efficiency [%]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	-	-	-
0.80	71.7	69.7	63.9
1.60	77.8	76.7	72.0
2.40	81.1	80.5	77.4
3.20	82.5	82.4	80.2
4.00	83.4	83.2	81.8
4.30	83.6	83.5	82.4
4.73	83.7	83.9	83.0
--	-	-	-
--	-	-	-
--	-	-	-

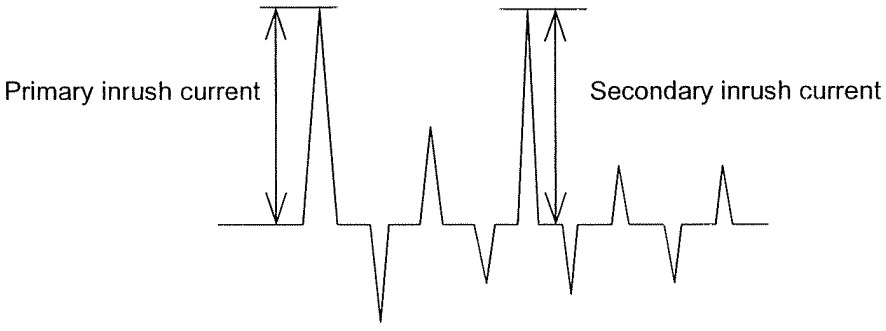
COSEL

Model	LDA100W-24-H
Item	Inrush Current
Object	———————

Temperature 25°C
Testing Circuitry Figure A



Input Voltage	100 V
Frequency	60 Hz
Load	100 %
Primary inrush current	23.4 A
Secondary inrush current	7.6 A



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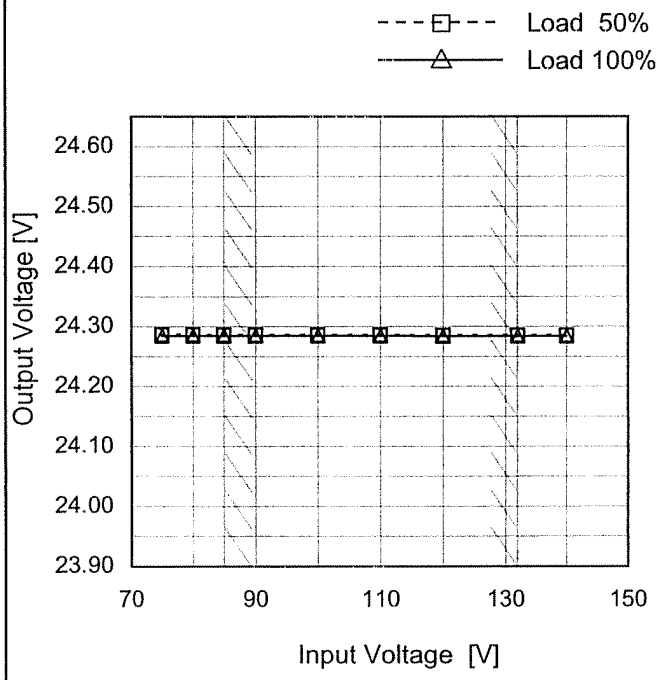
Model	LDA100W-24-H
Item	Line Regulation
Object	+24V4.3A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

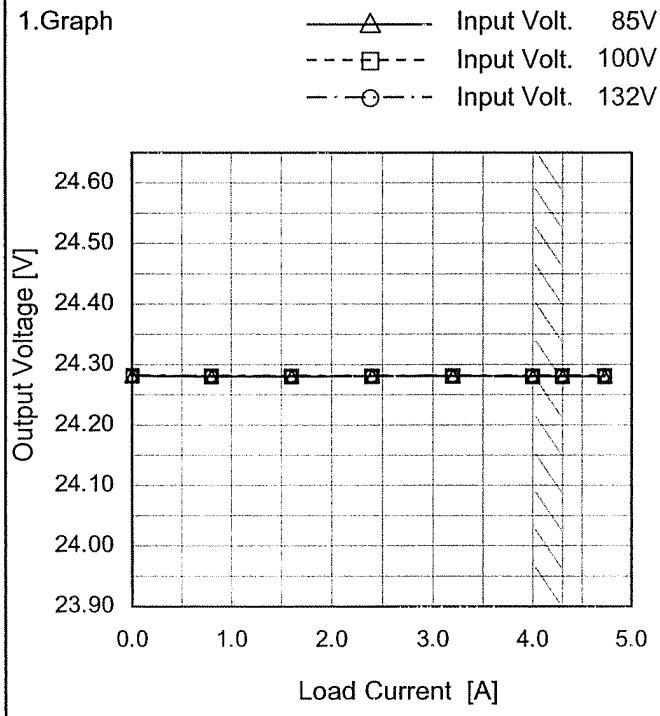
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
75	24.286	24.285
80	24.286	24.285
85	24.286	24.285
90	24.286	24.285
100	24.286	24.285
110	24.286	24.285
120	24.286	24.284
132	24.285	24.284
140	24.285	24.284

COSEL

Model	LDA100W-24-H
Item	Load Regulation
Object	+24V4.3A

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	24.282	24.281	24.281
0.80	24.281	24.281	24.281
1.60	24.281	24.281	24.281
2.40	24.281	24.281	24.281
3.20	24.281	24.281	24.281
4.00	24.281	24.281	24.281
4.30	24.281	24.281	24.281
4.73	24.281	24.281	24.281
---	-	-	-
---	-	-	-
---	-	-	-

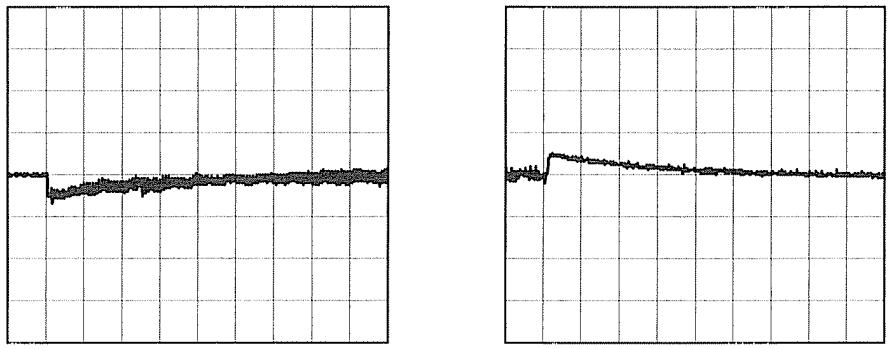
COSEL

Model	LDA100W-24-H		
Item	Dynamic Load Response	Temperature Testing Circuitry	25℃ Figure A
Object	+24V4.3A		

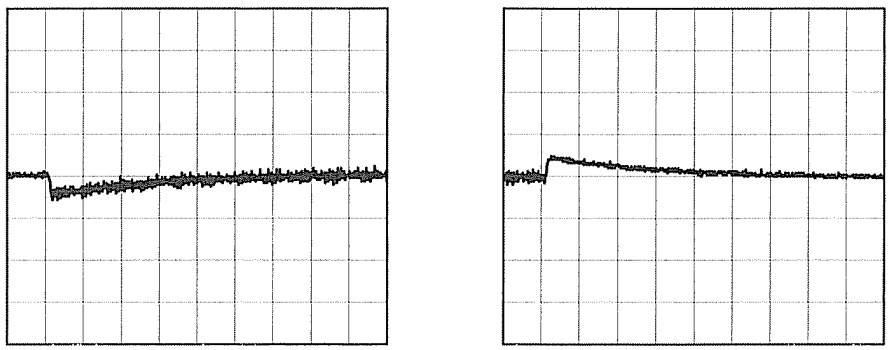
Input Volt. 100 V
Cycle 1000 ms

Load Current

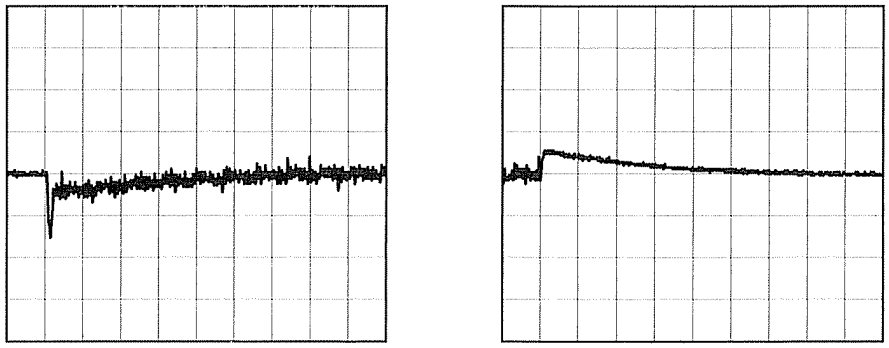
Min. Load (0A) ⟷
Load 100% (4.3A)



Min. Load (0A) ⟷
Load 50% (2.15A)



Load 0% (0A) ⟷
Load Peak(6.5A)



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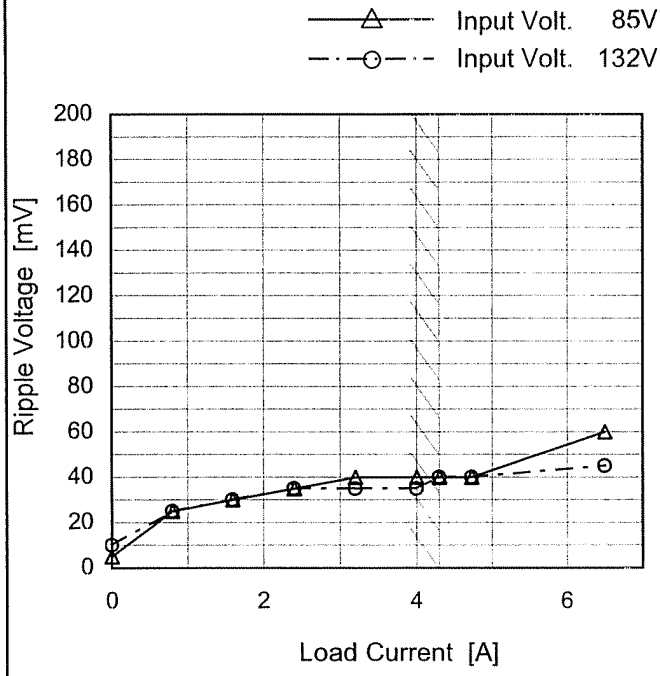
Model	LDA100W-24-H
Item	Ripple Voltage (by Load Current)
Object	+24V4.3A

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.

2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.00	5	10
0.80	25	25
1.60	30	30
2.40	35	35
3.20	40	35
4.00	40	35
4.30	40	40
4.73	40	40
6.50	60	45
--	-	-
--	-	-

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

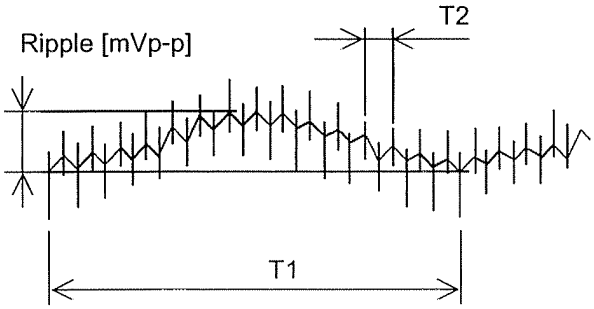


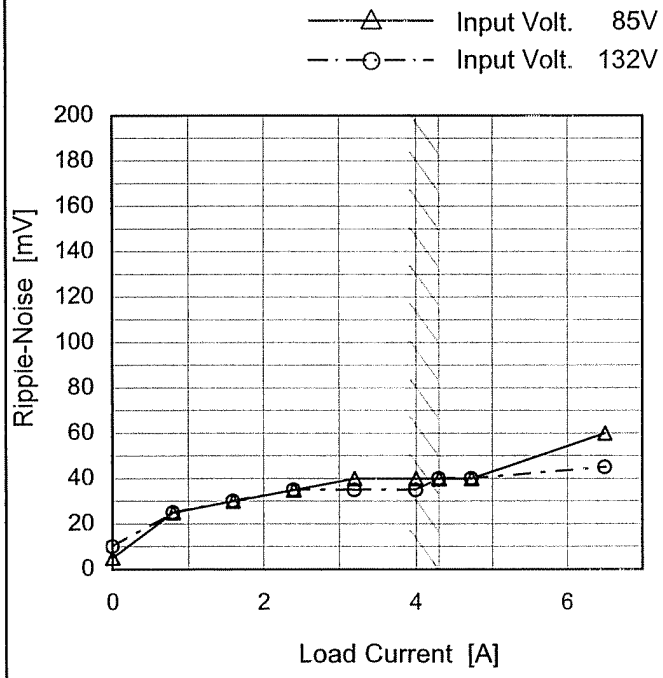
Fig. Complex Ripple Wave Form

COSEL

Model	LDA100W-24-H
Item	Ripple-Noise
Object	+24V4.3A

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	10
0.80	25	25
1.60	30	30
2.40	35	35
3.20	40	35
4.00	40	35
4.30	40	40
4.73	40	40
6.50	60	45
--	-	-
--	-	-

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

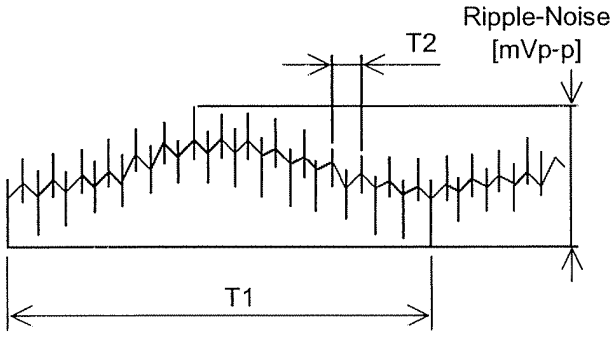


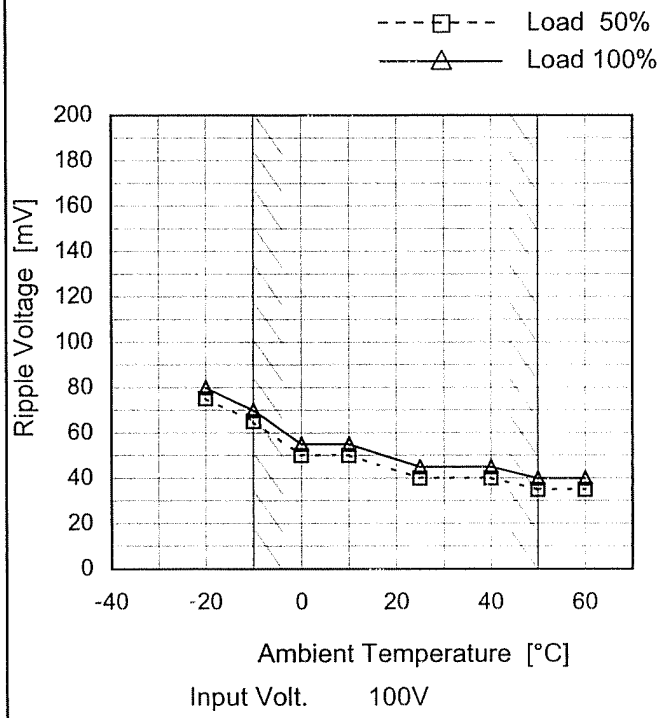
Fig. Complex Ripple Wave Form

COSEL

Model	LDA100W-24-H
Item	Ripple Voltage (by Ambient Temp.)
Object	+24V4.3A

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

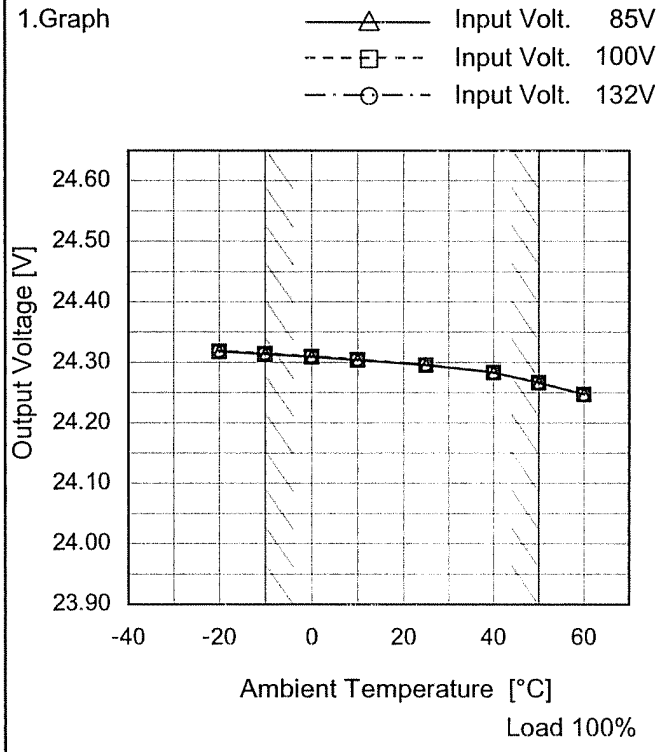
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-20	75	80
-10	65	70
0	50	55
10	50	55
25	40	45
40	40	45
50	35	40
60	35	40
---	-	-
--	-	-
--	-	-

COSEL

Model	LDA100W-24-H
Item	Ambient Temperature Drift
Object	+24V4.3A

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	24.318	24.319	24.319
-10	24.314	24.314	24.315
0	24.309	24.310	24.310
10	24.304	24.304	24.304
25	24.296	24.296	24.296
40	24.284	24.284	24.283
50	24.267	24.267	24.267
60	24.247	24.248	24.247
-	-	-	-
-	-	-	-
-	-	-	-

COSEL

Model	LDA100W-24-H	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+24V4.3A	

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 : 85 - 132V
Load Current : 0 - 4.3A

* 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

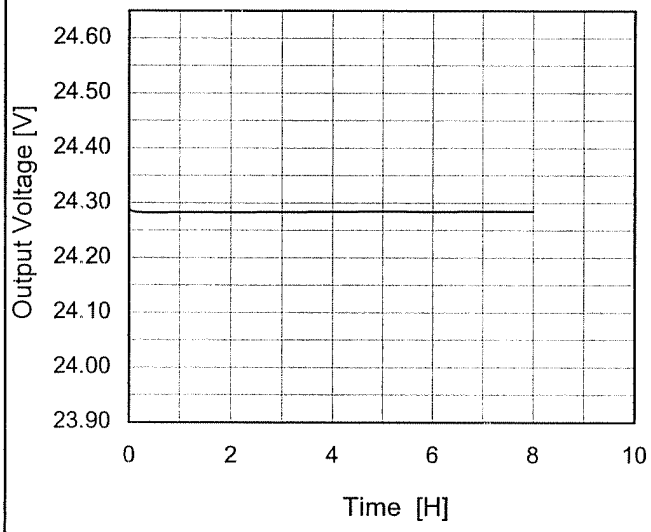
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-10	100	0	24.315	±27	±0.1
Minimum Voltage	50	85	4.3	24.261		

COSEL

Model	LDA100W-24-H
Item	Time Lapse Drift
Object	+24V4.3A

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	24.292
0.5	24.283
1.0	24.283
2.0	24.283
3.0	24.284
4.0	24.284
5.0	24.285
6.0	24.284
7.0	24.285
8.0	24.285

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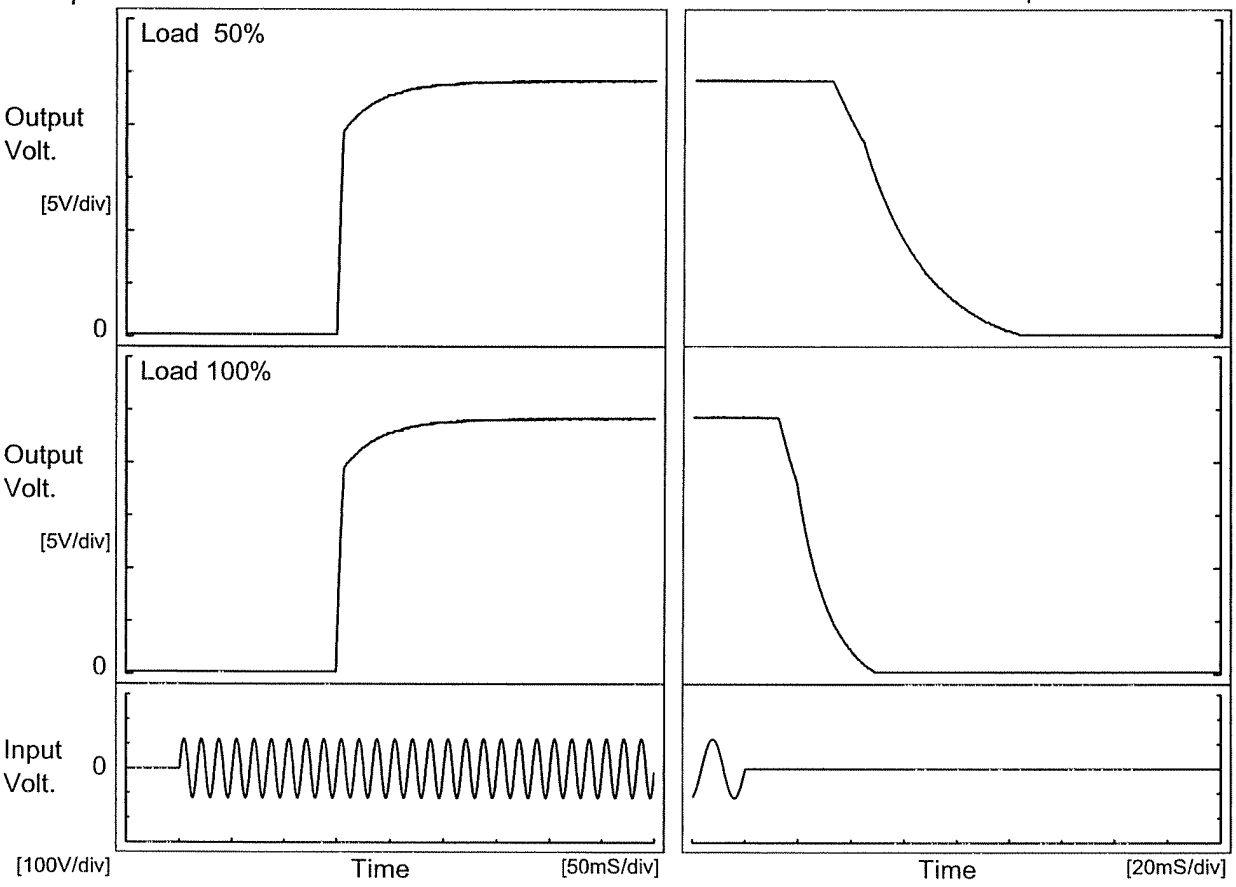
Model	LDA100W-24-H
Item	Rise and Fall Time
Object	+24V4.3A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

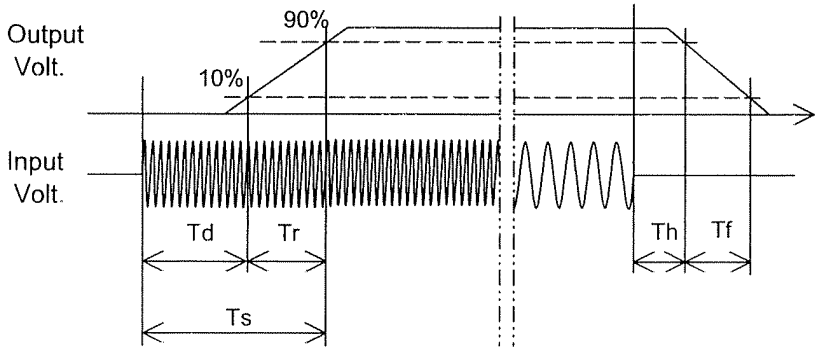
Input Volt. 85 V



2.Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	150.0	29.3	179.3	36.7	46.2
100 %	150.0	29.5	179.5	14.9	23.9

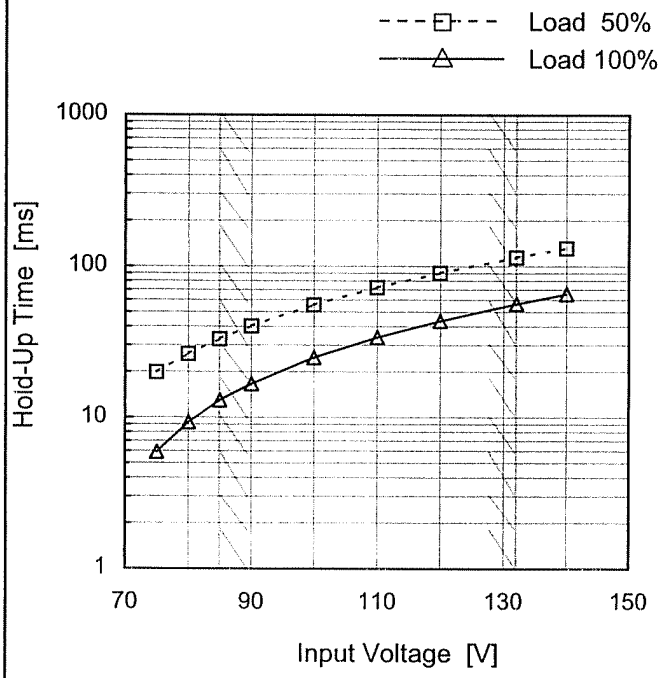


COSEL

Model	LDA100W-24-H
Item	Hold-Up Time
Object	+24V4.3A

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

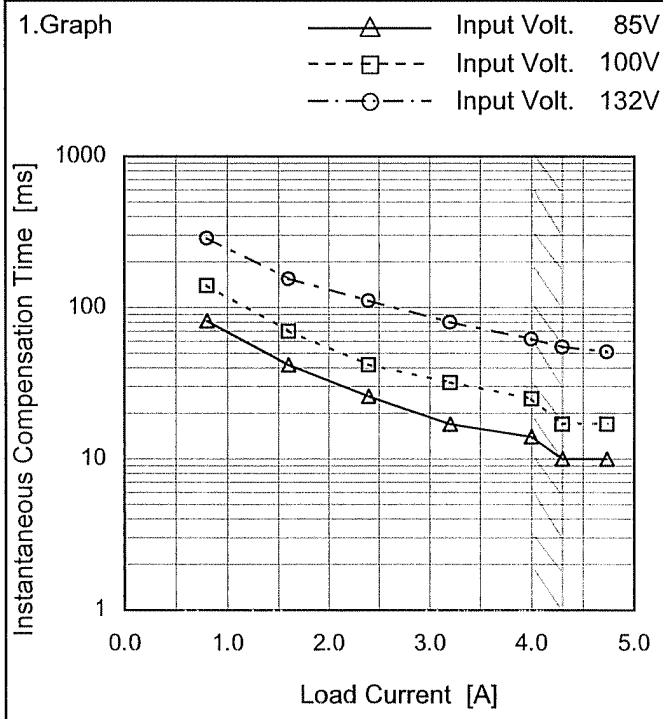
Input Voltage [V]	Hold-Up Time [ms]	
	Load 50%	Load 100%
75	20	6
80	26	9
85	33	13
90	40	17
100	56	25
110	72	34
120	91	44
132	114	57
140	131	66

COSEL

Model	LDA100W-24-H
Item	Instantaneous Interruption Compensation
Object	+24V4.3A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

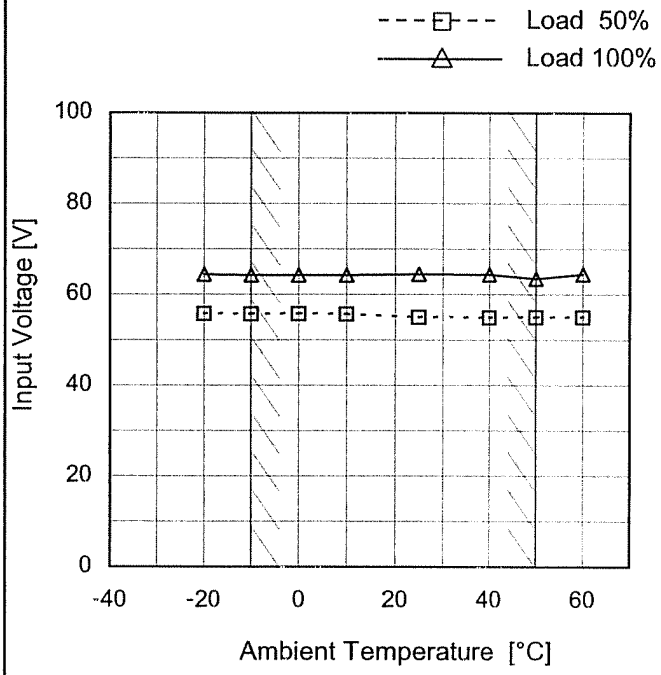
Load Current [A]	Time [ms] Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	-	-	-
0.80	82	140	288
1.60	42	70	155
2.40	26	42	111
3.20	17	32	80
4.00	14	25	62
4.30	10	17	55
4.73	10	17	51
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	LDA100W-24-H
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+24V4.3A

Testing Circuitry Figure A

1.Graph



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

2.Values

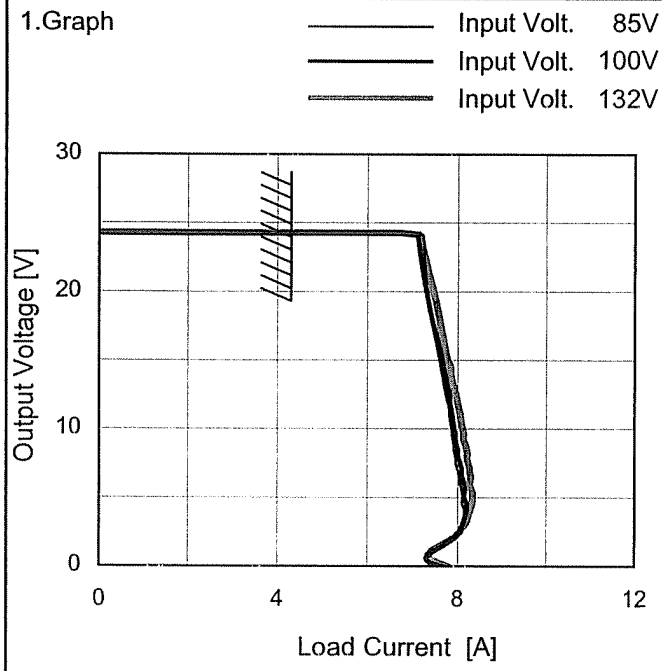
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	56	65
-10	56	65
0	56	65
10	56	65
25	55	65
40	55	65
50	55	64
60	55	65
--	-	-
--	-	-
--	-	-

COSEL

Model	LDA100W-24-H
Item	Overcurrent Protection
Object	+24V4.3A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

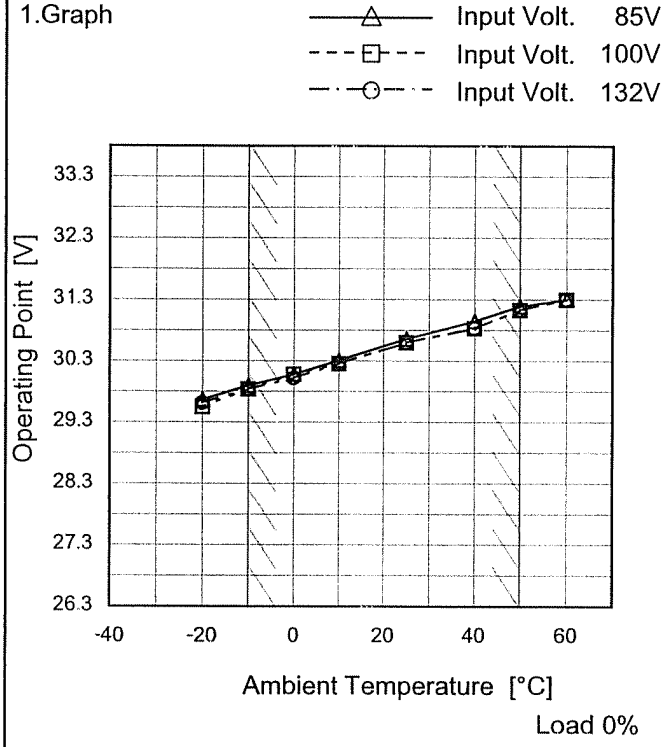
Output Voltage [V]	Load Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
24.0	7.23	7.11	7.15
22.8	7.26	7.16	7.25
21.6	7.28	7.22	7.34
19.2	7.36	7.35	7.52
16.8	7.48	7.52	7.67
14.4	7.63	7.69	7.84
12.0	7.76	7.83	7.99
9.6	7.88	7.95	8.13
7.2	7.99	8.09	8.27
4.8	8.11	8.17	8.34
2.4	8.01	7.98	8.02
0.0	7.76	7.74	7.86

COSEL

Model	LDA100W-24-H
Item	Overvoltage Protection
Object	+24V4.3A

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	29.65	29.53	29.59
-10	29.88	29.82	29.82
0	30.06	30.06	30.00
10	30.29	30.23	30.23
25	30.64	30.58	30.58
40	30.93	30.81	30.81
50	31.17	31.11	31.11
60	31.28	31.28	31.28
--	-	-	-
--	-	-	-
--	-	-	-

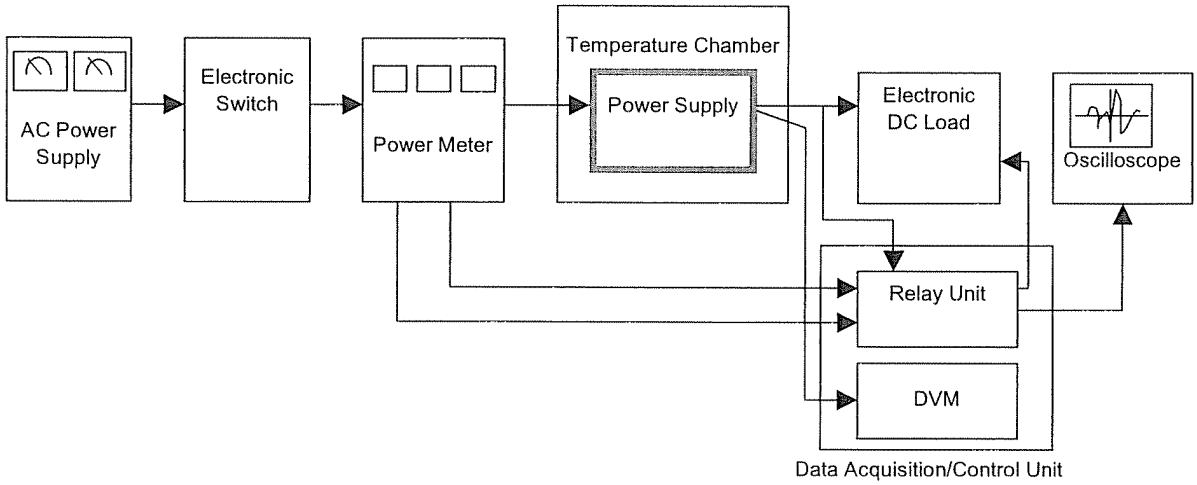


Figure A

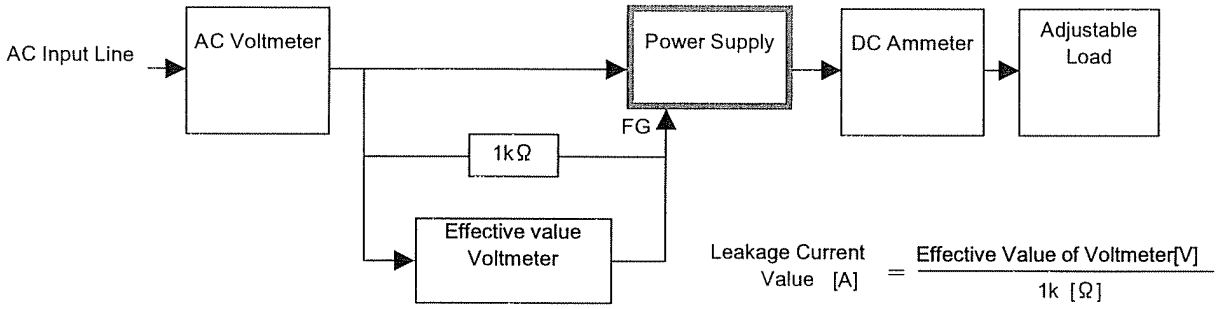


Figure B (DEN-AN)

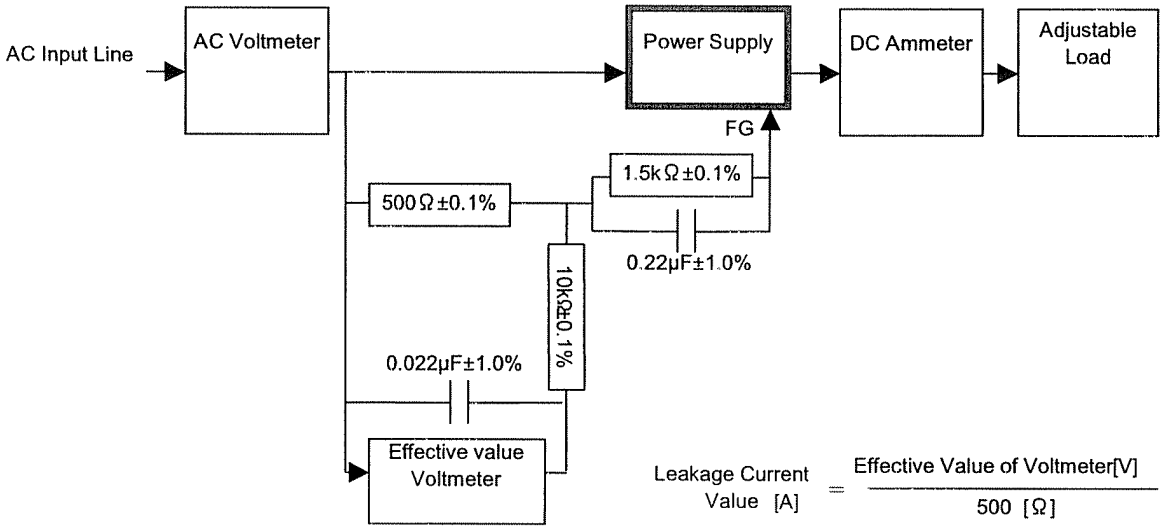


Figure B (IEC60950)