参考資料

TEST DATA OF LDA75F-3

Regulated DC Power Supply
Dec.7. 2004

Approved by : J. Uchida
J.Uchida Design Manager

Prepared by : A. Kawai
A.Kawai 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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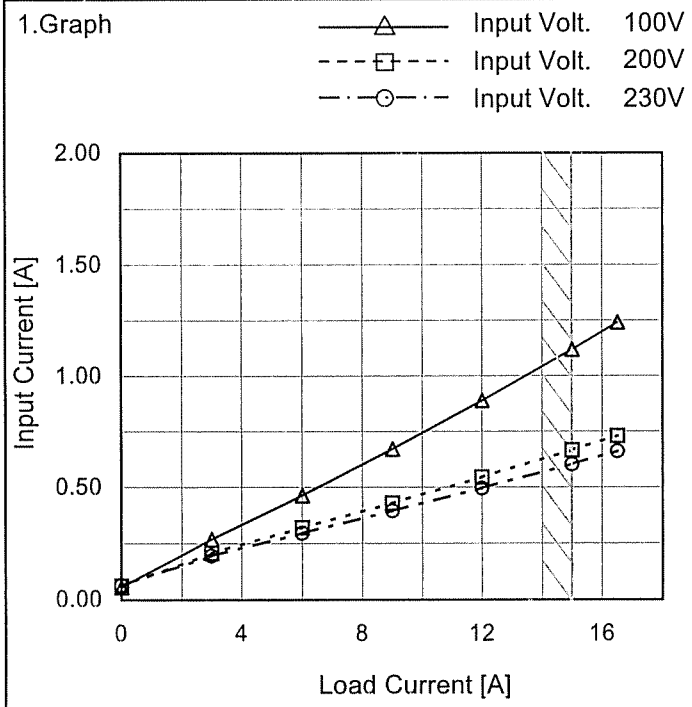
Model	LDA75F-3
Item	Input Current (by Load Current)
Object	————————

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. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	0.056	0.062	0.064
3.0	0.269	0.207	0.196
6.0	0.464	0.320	0.296
9.0	0.671	0.430	0.395
12.0	0.890	0.544	0.496
15.0	1.119	0.665	0.602
16.5	1.241	0.730	0.661
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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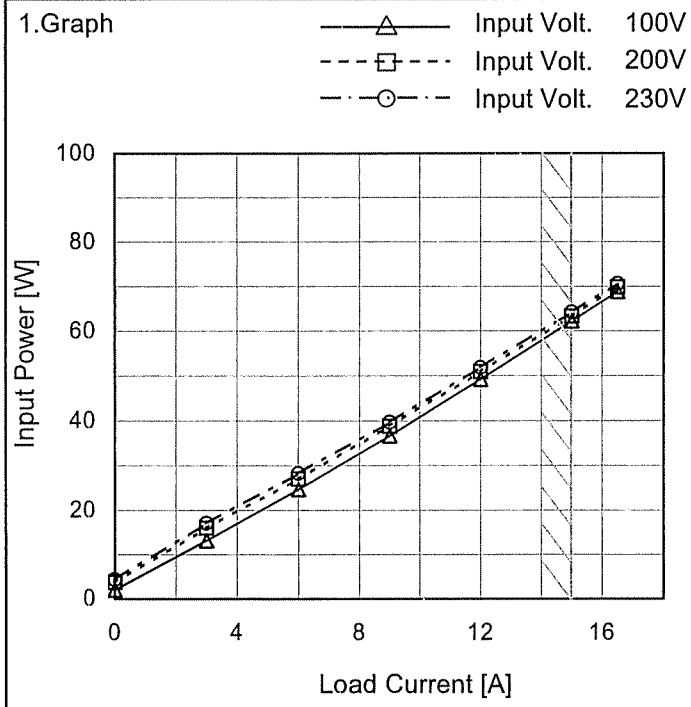
COSEL

Model	LDA75F-3
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

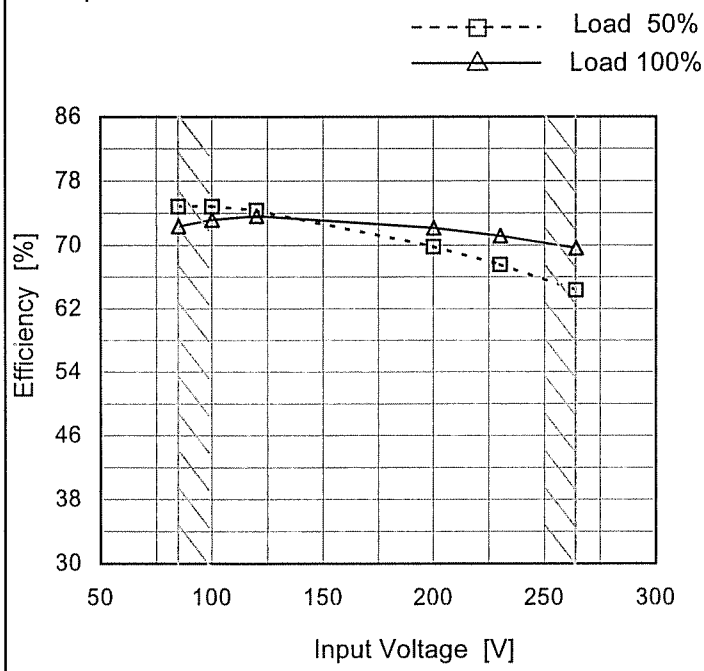
Load Current [A]	Input Power [W]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	2.01	3.70	4.40
3.0	13.14	16.00	17.10
6.0	24.70	27.10	28.30
9.0	36.70	38.90	39.70
12.0	49.30	50.90	51.90
15.0	62.20	63.30	64.20
16.5	68.80	69.80	70.60
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	LDA75F-3
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

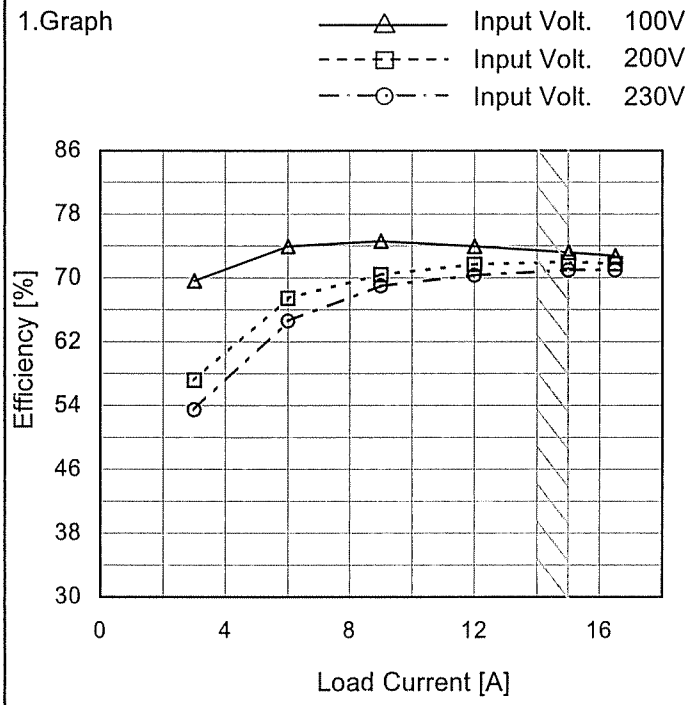
Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
85	74.9	72.4
100	74.9	73.2
120	74.4	73.7
200	69.8	72.2
230	67.6	71.2
264	64.3	69.7
--	-	-
--	-	-
--	-	-

COSEL

Model	LDA75F-3
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. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	-	-	-
3.0	69.6	57.2	53.5
6.0	74.0	67.4	64.6
9.0	74.6	70.4	69.0
12.0	74.0	71.7	70.3
15.0	73.2	72.0	71.0
16.5	72.8	71.8	70.9
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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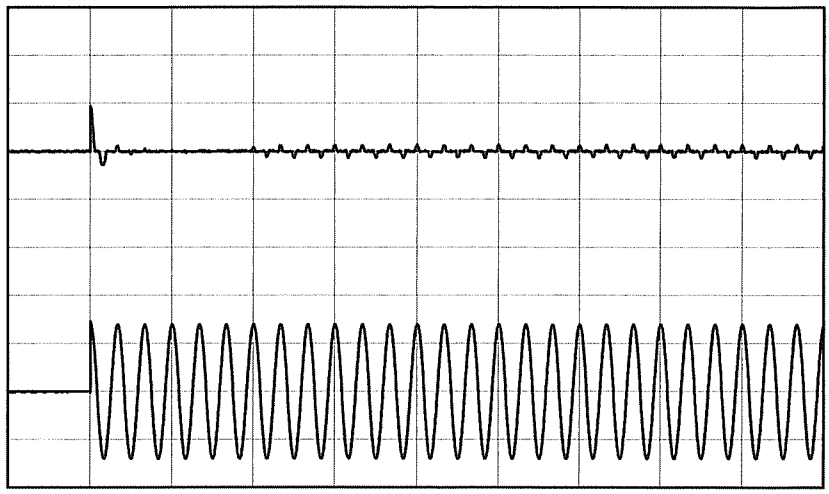
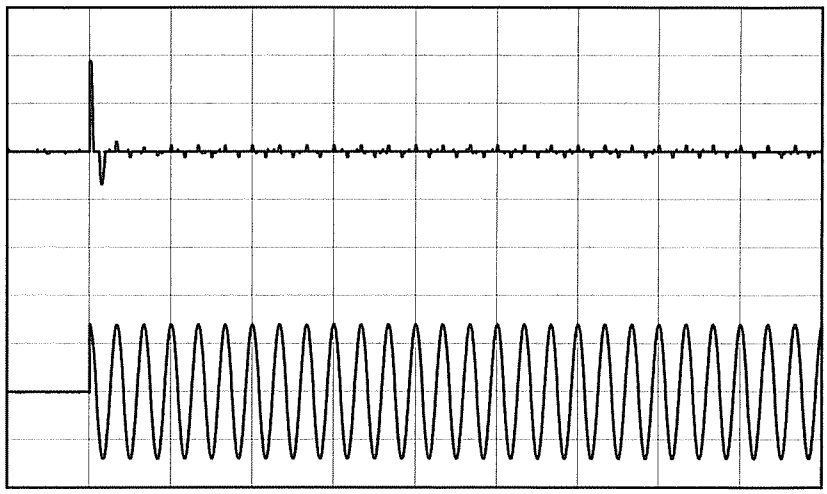
Model	LDA75F-3
Item	Inrush Current
Object	————————

Temperature 25°C
Testing Circuitry Figure A



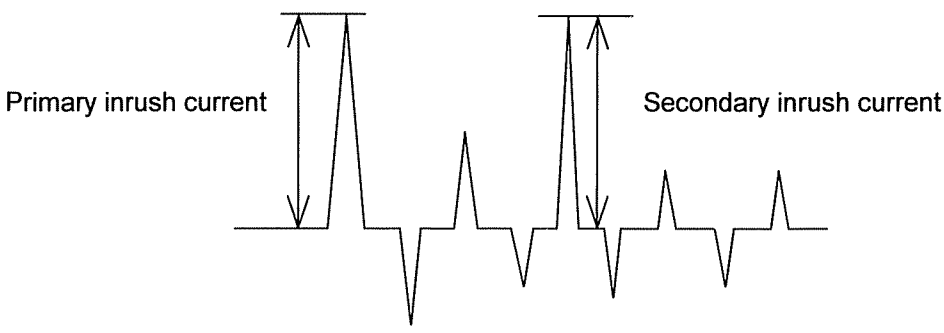
Input Voltage 100 V
Frequency 60 Hz
Load 100 %

Primary inrush current :
18.7 A
Secondary inrush current :
2.9 A



Input Voltage 200 V
Frequency 60 Hz
Load 100 %

Primary inrush current :
37.4A
Secondary inrush current :
2.4 A

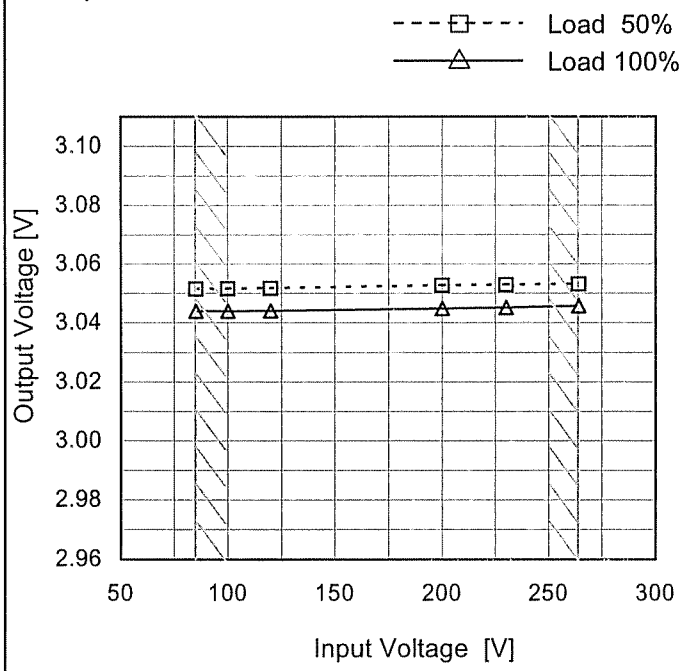


COSEL

Model	LDA75F-3
Item	Line Regulation
Object	+3V15A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

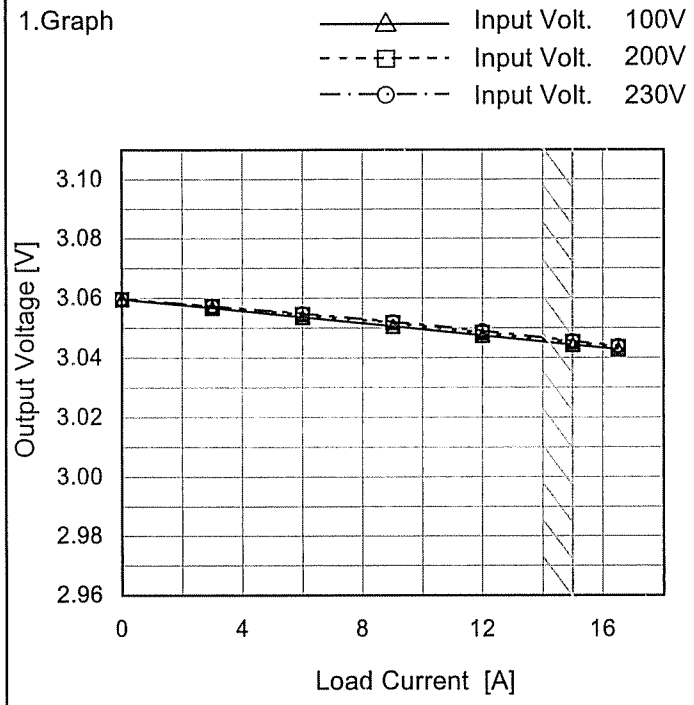
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
85	3.052	3.044
100	3.052	3.044
120	3.052	3.044
200	3.053	3.045
230	3.053	3.045
264	3.053	3.046
--	-	-
--	-	-
--	-	-

COSEL

Model	LDA75F-3
Item	Load Regulation
Object	+3V15A

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. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	3.060	3.060	3.060
3.0	3.057	3.057	3.057
6.0	3.054	3.055	3.055
9.0	3.051	3.052	3.052
12.0	3.048	3.048	3.049
15.0	3.044	3.045	3.046
16.5	3.043	3.044	3.044
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

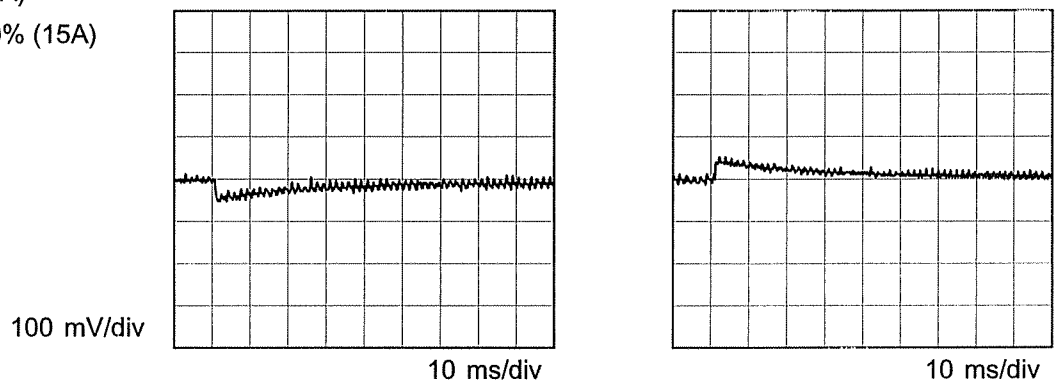
COSEL

Model	LDA75F-3		
Item	Dynamic Load Response	Temperature Testing Circuitry	25℃ Figure A
Object	+3V15A		

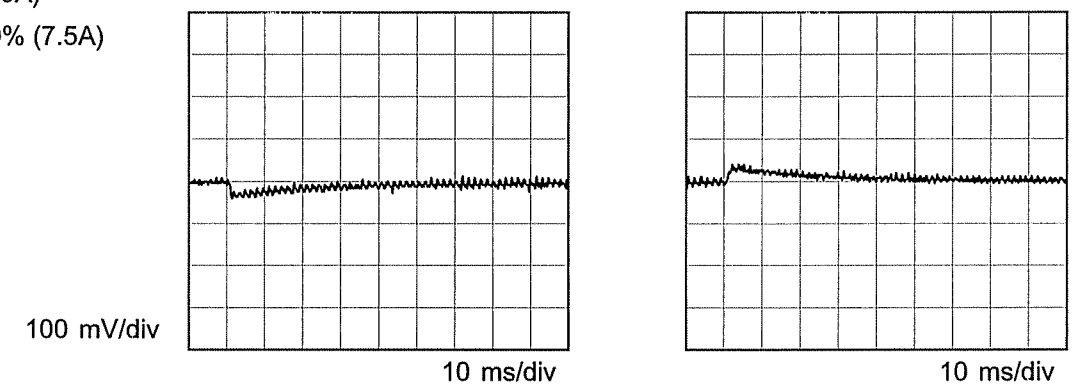
Input Volt. 100 V
Cycle 1000 ms

Load Current

Min. Load (0A) ⟷
1 Load 100% (15A)



Min. Load (0A) ⟷
Load 50% (7.5A)

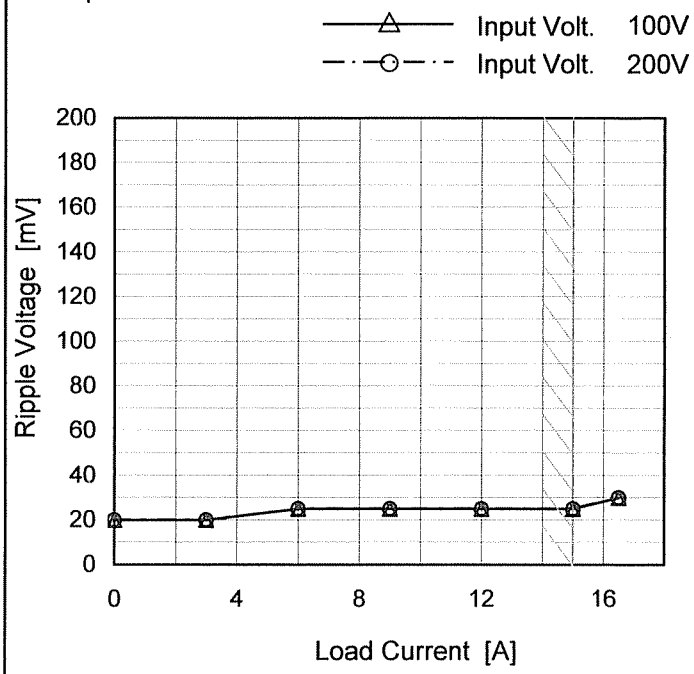


COSEL

Model	LDA75F-3
Item	Ripple Voltage (by Load Current)
Object	+3V15A

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

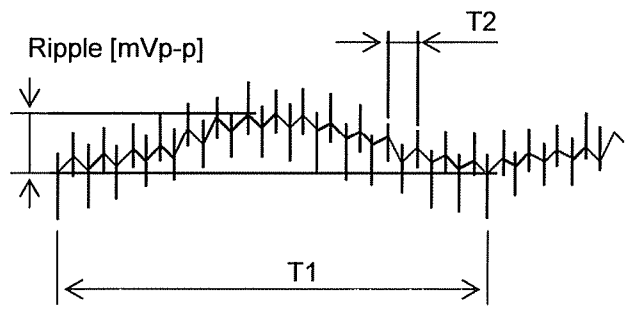


Fig. Complex Ripple Wave Form

2.Values

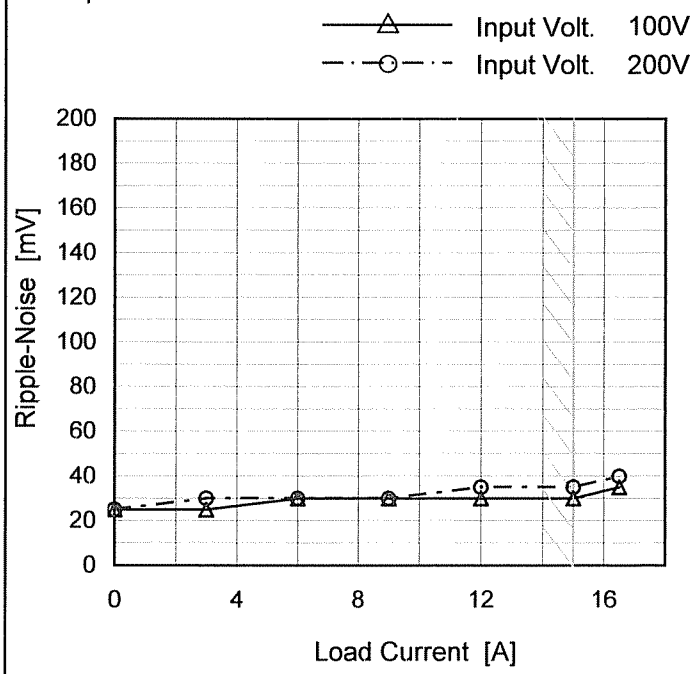
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 100 [V]	Input Volt. 200 [V]
0.0	20	20
3.0	20	20
6.0	25	25
9.0	25	25
12.0	25	25
15.0	25	25
16.5	30	30
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	LDA75F-3
Item	Ripple-Noise
Object	+3V15A

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. 100 [V]	Input Volt. 200 [V]
0.0	25	25
3.0	25	30
6.0	30	30
9.0	30	30
12.0	30	35
15.0	30	35
16.5	35	40
--	-	-
--	-	-
--	-	-
--	-	-

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

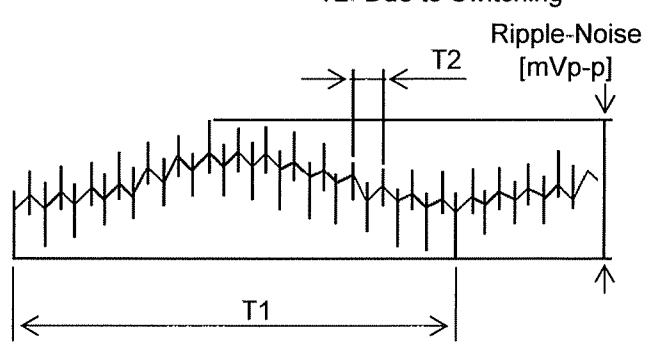


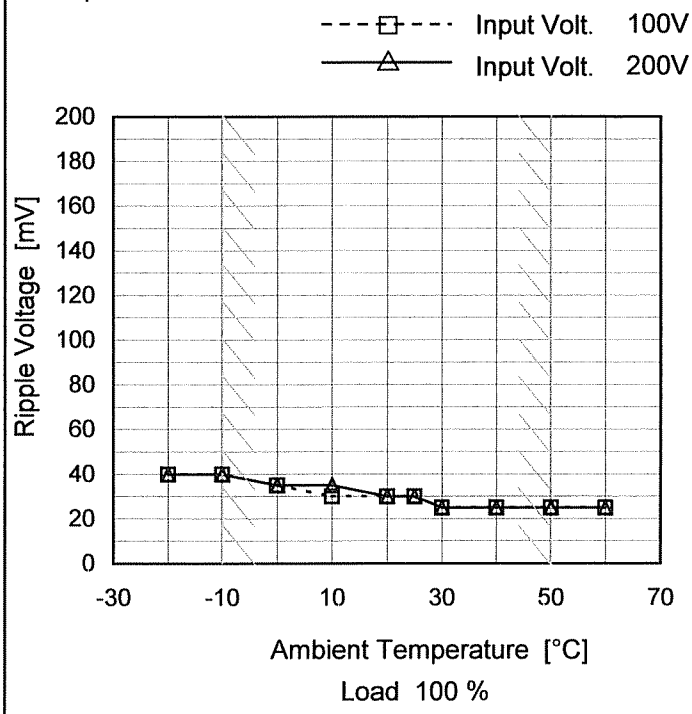
Fig. Complex Ripple Wave Form

COSEL

Model	LDA75F-3
Item	Ripple Voltage (by Ambient Temp.)
Object	+3V15A

Testing Circuitry Figure A

1.Graph



Measured by 20 MHz Oscilloscope.

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

2.Values

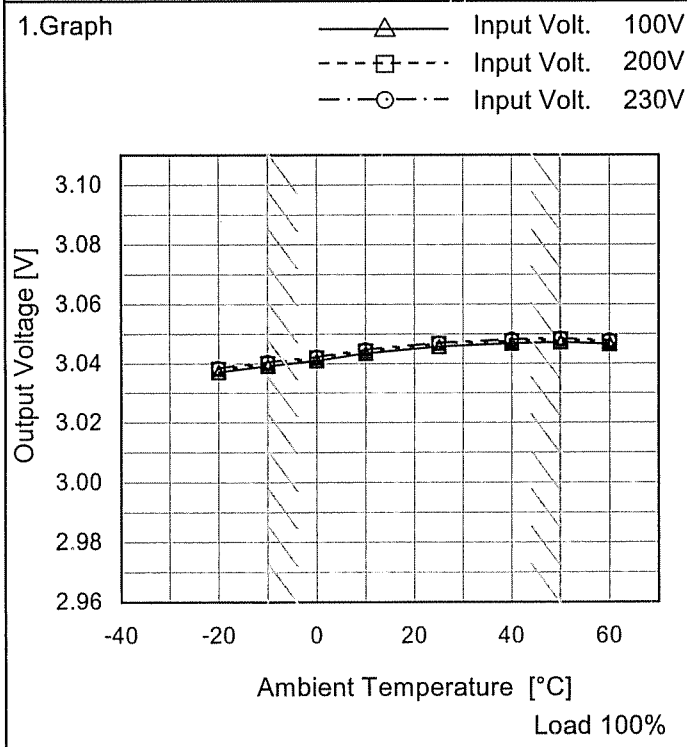
Ambient Temperature [°C]	Ripple Voltage [mV]	
	Input Volt. 100 [V]	Input Volt. 200 [V]
-20	40	40
-10	40	40
0	35	35
10	30	35
20	30	30
25	30	30
30	25	25
40	25	25
50	25	25
60	25	25
--	-	-

COSEL

Model	LDA75F-3
Item	Ambient Temperature Drift
Object	+3V15A

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. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
-20	3.037	3.038	3.039
-10	3.039	3.040	3.041
0	3.041	3.042	3.042
10	3.044	3.044	3.045
25	3.046	3.047	3.047
40	3.047	3.048	3.048
50	3.047	3.048	3.049
60	3.047	3.047	3.048
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	LDA75F-3
Item	Output Voltage Accuracy
Object	+3V15A

Testing Circuitry Figure A

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 - 264V
Load Current : 0 - 15A

* 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

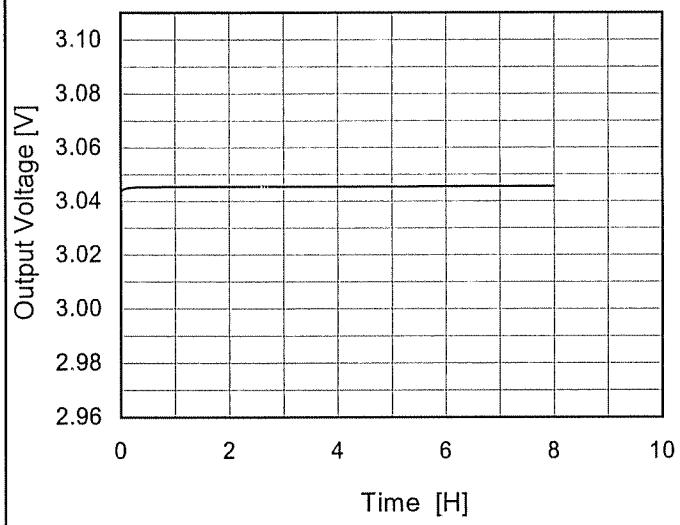
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	50	85	0	3.065	±13	±0.4
Minimum Voltage	-10	85	15	3.040		

COSEL

Model	LDA75F-3
Item	Time Lapse Drift
Object	+3V15A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Input Volt. 100V
Load 100%

* The characteristic of AC200V is equal.

2.Values

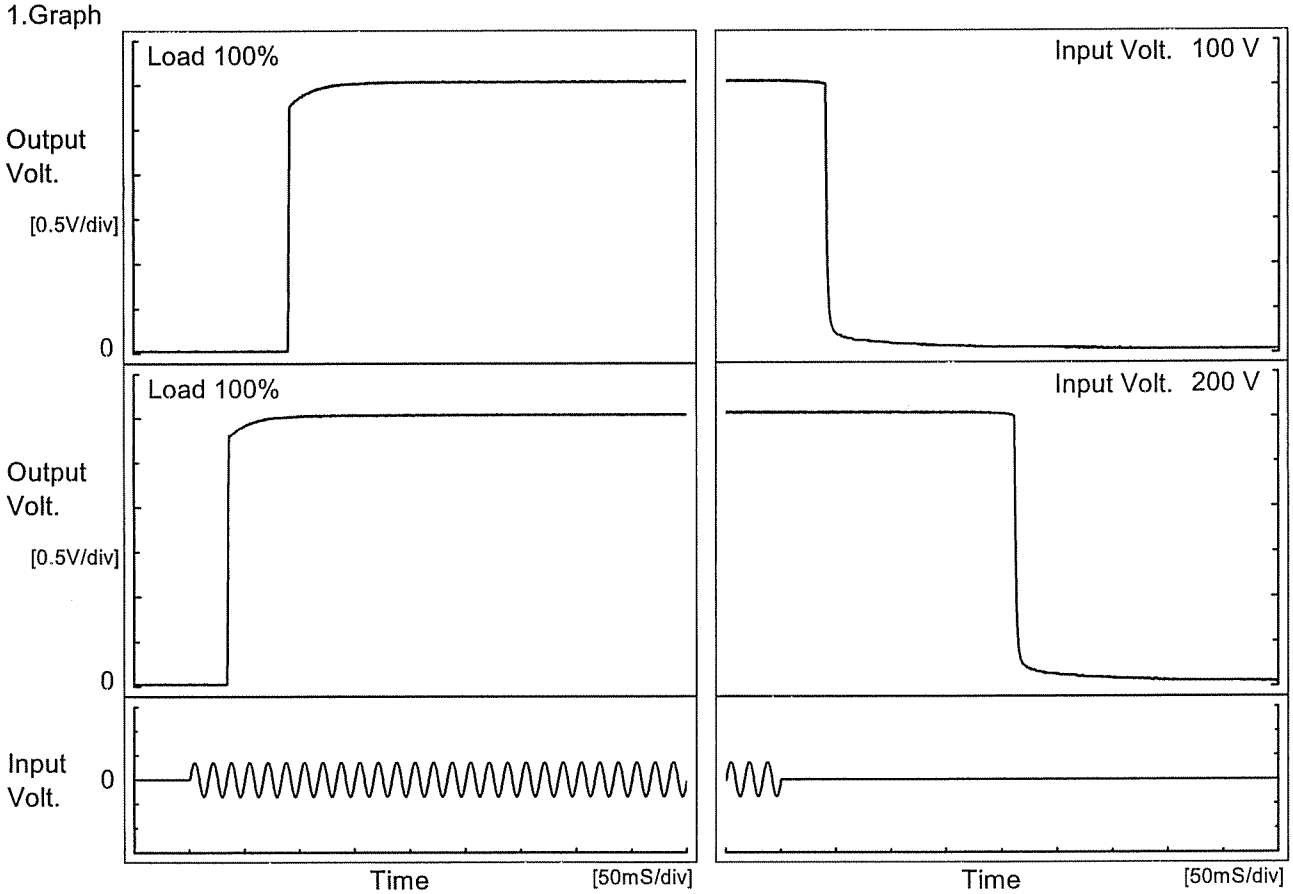
Time since start [H]	Output Voltage [V]
0.0	3.044
0.5	3.045
1.0	3.046
2.0	3.046
3.0	3.046
4.0	3.046
5.0	3.046
6.0	3.046
7.0	3.046
8.0	3.046

COSEL

Model	LDA75F-3
Item	Rise and Fall Time
Object	+3V15A

Temperature 25°C
Testing Circuitry Figure A

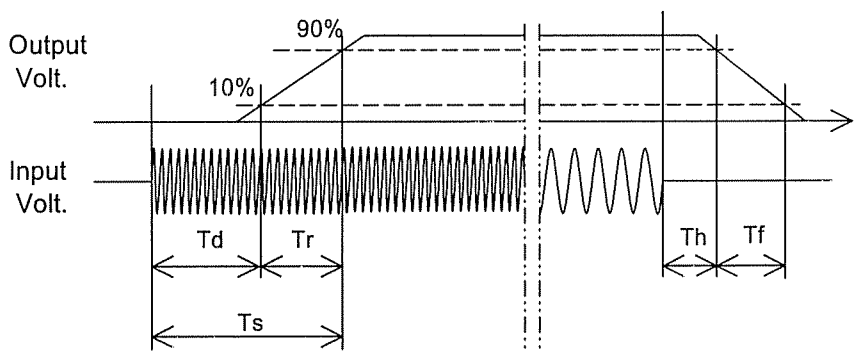
1.Graph



2.Values

[mS]

Input Volt. \ Time	Td	Tr	Ts	Th	Tf
100 V	90.3	1.5	91.8	40.0	5.5
200 V	34.3	2.0	36.3	211.5	5.3

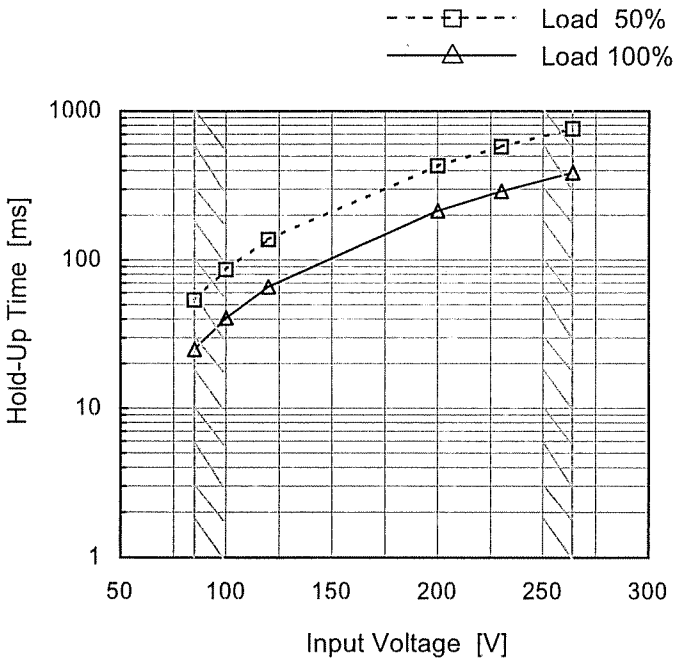


COSEL

Model	LDA75F-3
Item	Hold-Up Time
Object	+3V15A

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

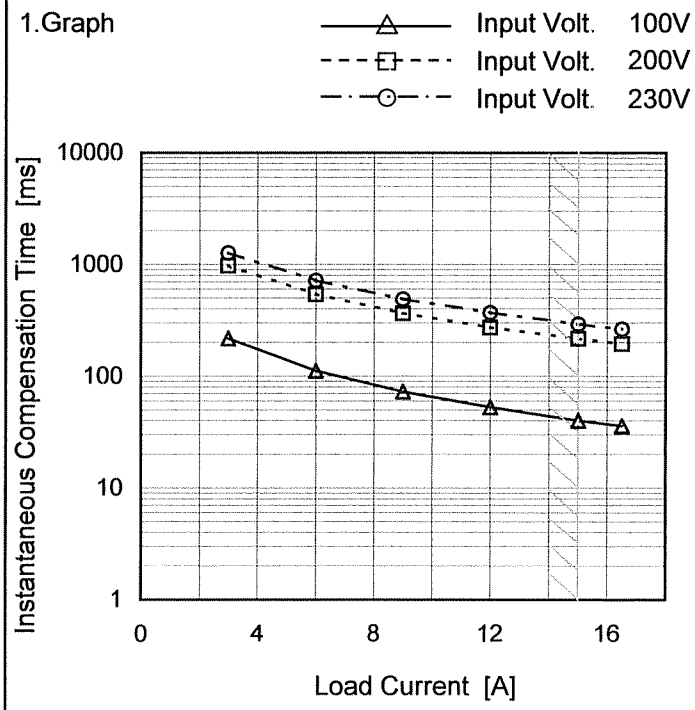
Input Voltage [V]	Hold-Up Time [ms]	
	Load 50%	Load 100%
85	54	25
100	86	41
120	137	66
200	431	215
230	576	290
264	762	388
--	-	-
--	-	-
--	-	-

COSEL

Model	LDA75F-3
Item	Instantaneous Interruption Compensation
Object	+3V15A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

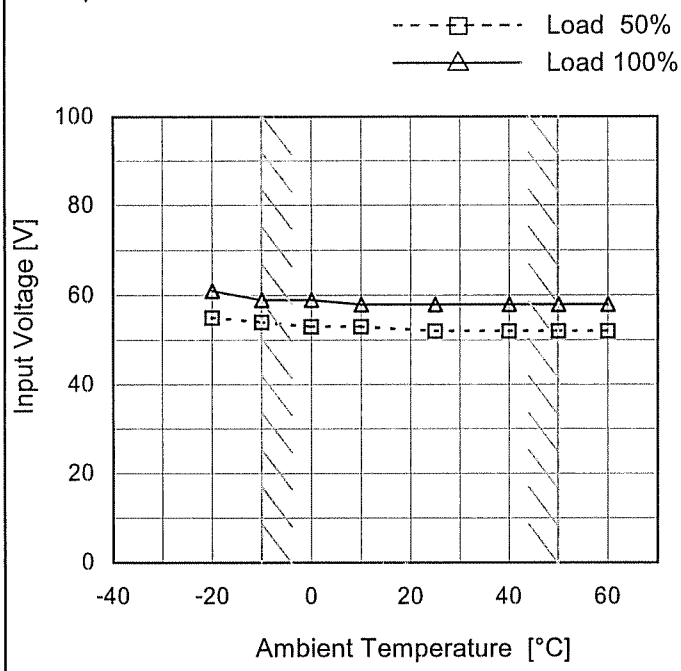
Load Current [A]	Time [ms]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	-	-	-
3.0	218	976	1273
6.0	112	540	720
9.0	73	366	490
12.0	53	274	370
15.0	40	217	293
16.5	36	195	265
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	LDA75F-3
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+3V15A

Testing Circuitry Figure A

1.Graph



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

2.Values

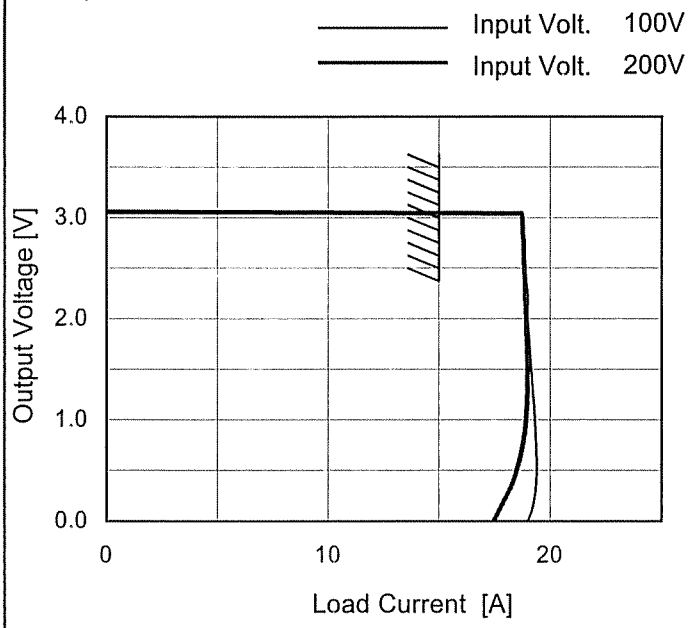
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	55	61
-10	54	59
0	53	59
10	53	58
25	52	58
40	52	58
50	52	58
60	52	58
--	-	-
--	-	-
--	-	-

COSEL

Model	LDA75F-3
Item	Overcurrent Protection
Object	+3V15A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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

2.Values

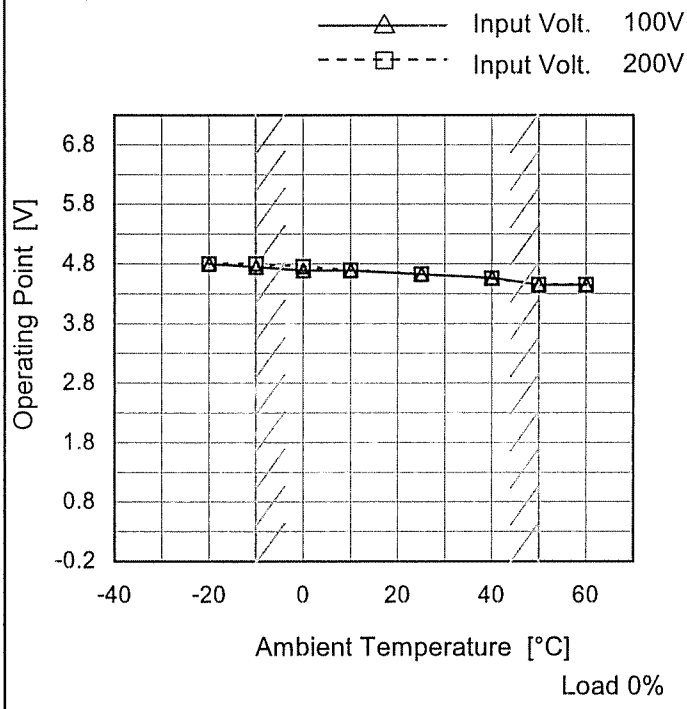
Output Voltage [V]	Load Current [A]	
	Input Volt. 100[V]	Input Volt. 200[V]
3.00	16.37	17.65
2.85	18.78	18.77
2.70	18.82	18.79
2.40	18.90	18.85
2.10	18.98	18.90
1.80	19.04	18.95
1.50	19.16	18.97
1.20	19.26	18.97
0.90	19.33	18.87
0.60	19.39	18.61
0.30	19.34	18.10
0.00	18.86	17.36

COSEL

Model	LDA75F-3
Item	Overvoltage Protection
Object	+3V15A

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. 100[V]	Operating Point [V] Input Volt. 200[V]
-20	4.83	4.83
-10	4.78	4.83
0	4.72	4.78
10	4.72	4.72
25	4.66	4.66
40	4.60	4.59
50	4.48	4.48
60	4.48	4.48
--	-	-
--	-	-
--	-	-

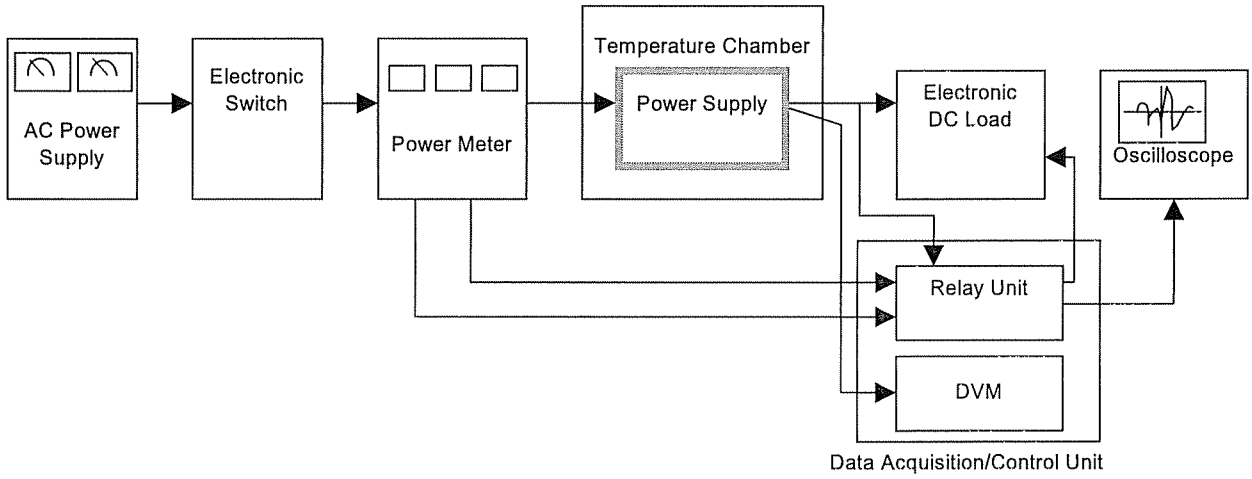


Figure A

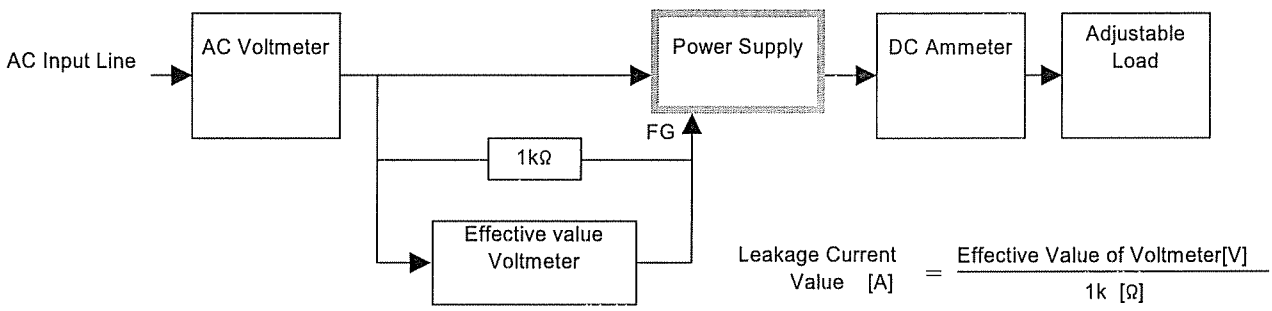


Figure B (DEN-AN)

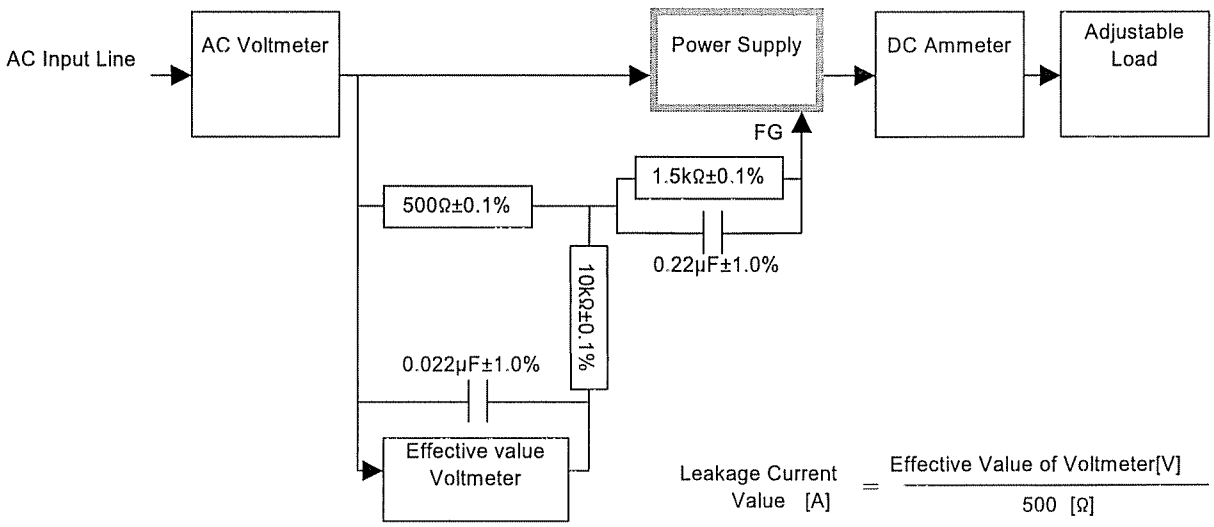


Figure B (IEC60950)