参考資料

COSEL

TEST DATA OF LDA150W-3

(200V INPUT)

Regulated DC Power Supply

Nov. 27, 2001

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コーセル株式会社

COSEL CO., LTD.

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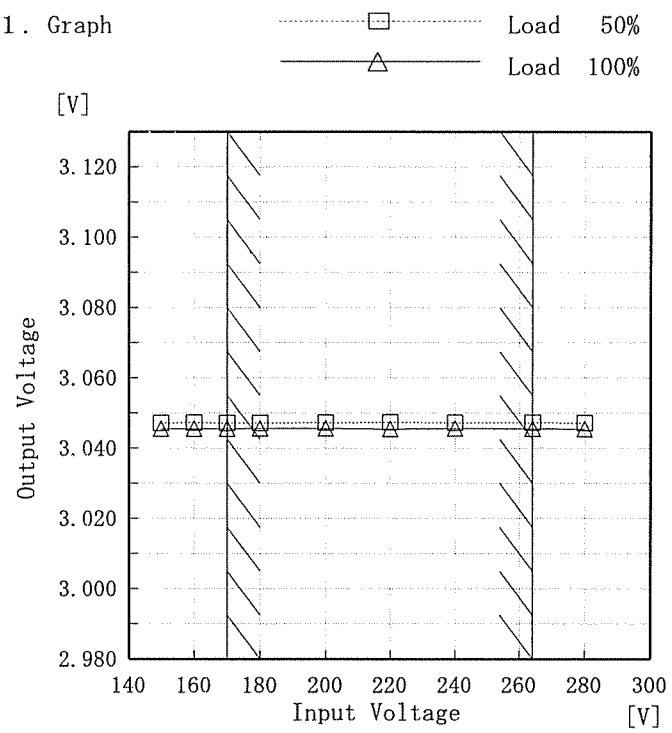
Model	LDA150W-3
Item	Line Regulation 静的入力変動
Object	+3.0V30A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格入力電圧範囲を示す。

2. Values

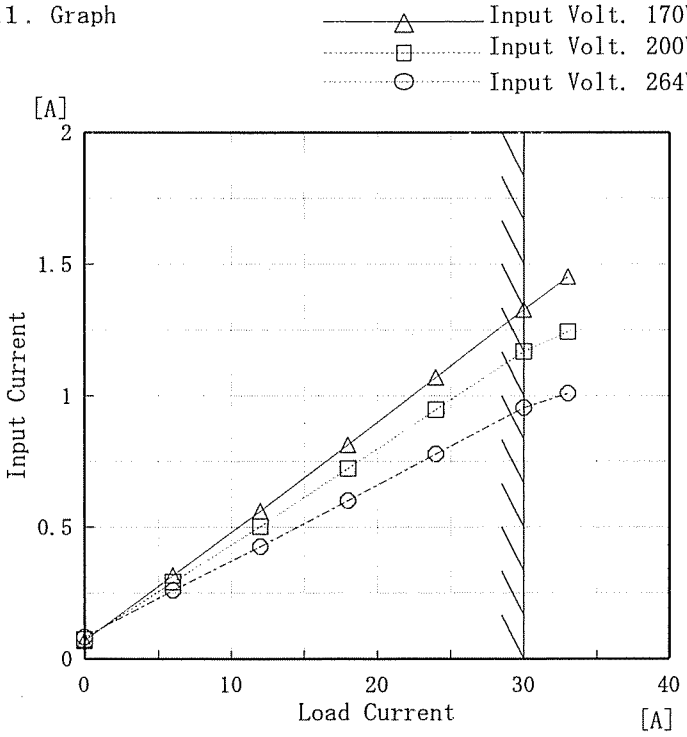
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
150	3.047	3.046
160	3.047	3.046
170	3.047	3.046
180	3.047	3.046
200	3.047	3.046
220	3.047	3.045
240	3.047	3.046
264	3.047	3.046
280	3.047	3.045

COSEL

Model	LDA150W-3
Item	Input Current (by Load Current) 入力電流 (負荷特性)
Object	————

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格負荷電流範囲を示す。

2. Values

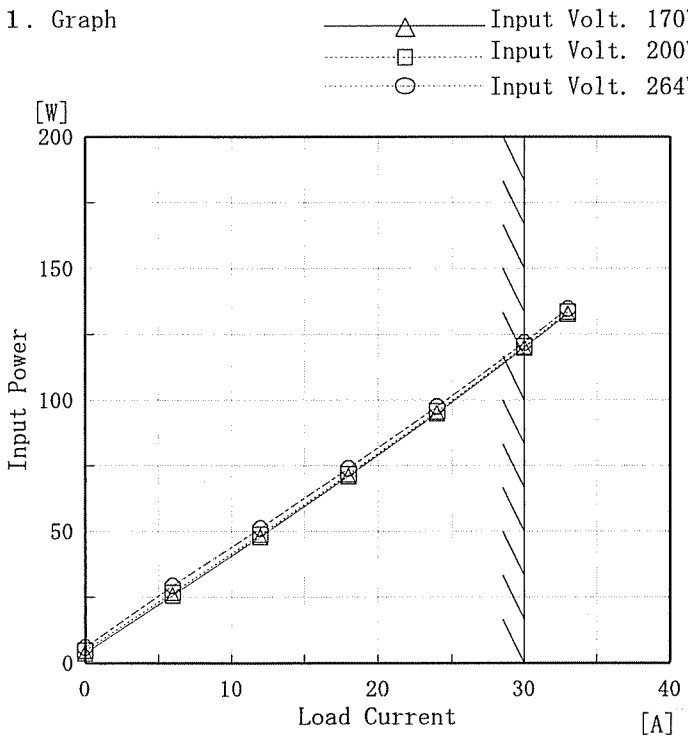
Load Current [A]	Input Current [A]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0	0.068	0.074	0.082
6	0.317	0.291	0.260
12	0.561	0.503	0.427
18	0.813	0.724	0.601
24	1.070	0.947	0.779
30	1.328	1.169	0.954
33	1.453	1.244	1.009
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	LDA150W-3
Item	Input Power (by Load Current) 入力電力 (負荷特性)
Object	————

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格負荷電流範囲を示す。

2. Values

Load Current [A]	Input Power [W]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0	3.80	4.70	5.90
6	25.70	26.70	29.40
12	48.00	48.80	51.30
18	71.10	71.80	74.00
24	95.00	95.70	97.50
30	119.90	120.40	121.90
33	132.80	133.50	134.70
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

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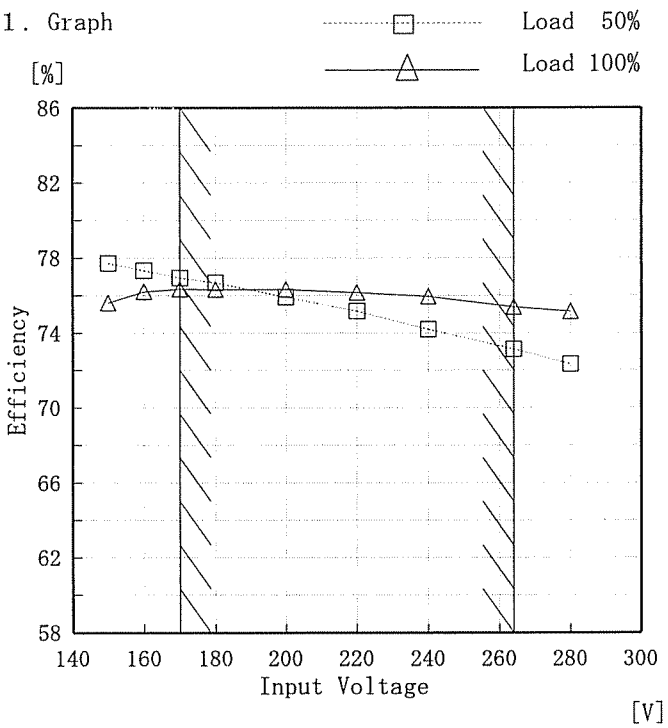
COSEL

Model	LDA150W-3
Item	Efficiency (by Input Voltage) 効率（入力電圧特性）
Object	

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格入力電圧範囲を示す。

2. Values

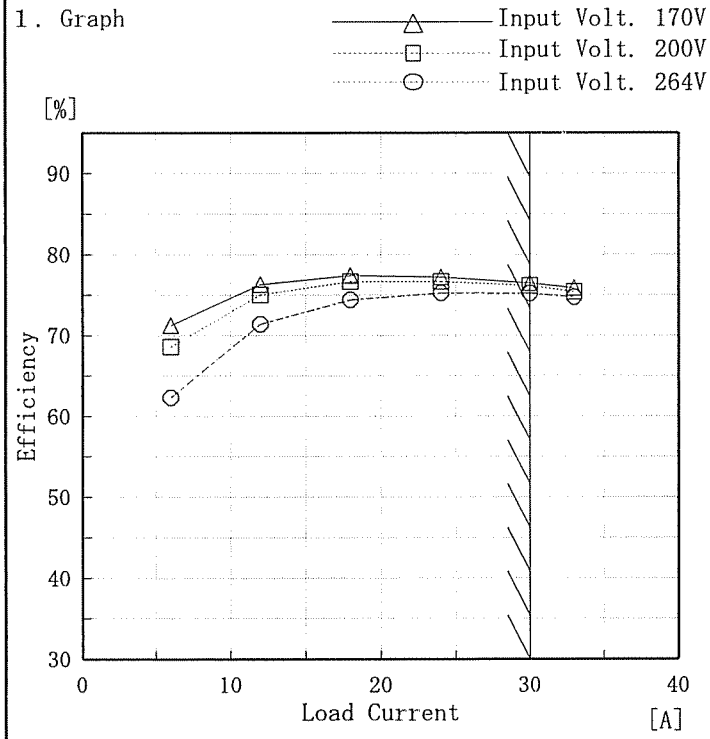
Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
150	77.7	75.6
160	77.3	76.2
170	76.9	76.3
180	76.7	76.3
200	75.9	76.3
220	75.2	76.1
240	74.2	76.0
264	73.1	75.4
280	72.3	75.1

COSEL

Model	LDA150W-3
Item	Efficiency (by Load Current) 効率（負荷特性）
Object	————

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格負荷電流範囲を示す。

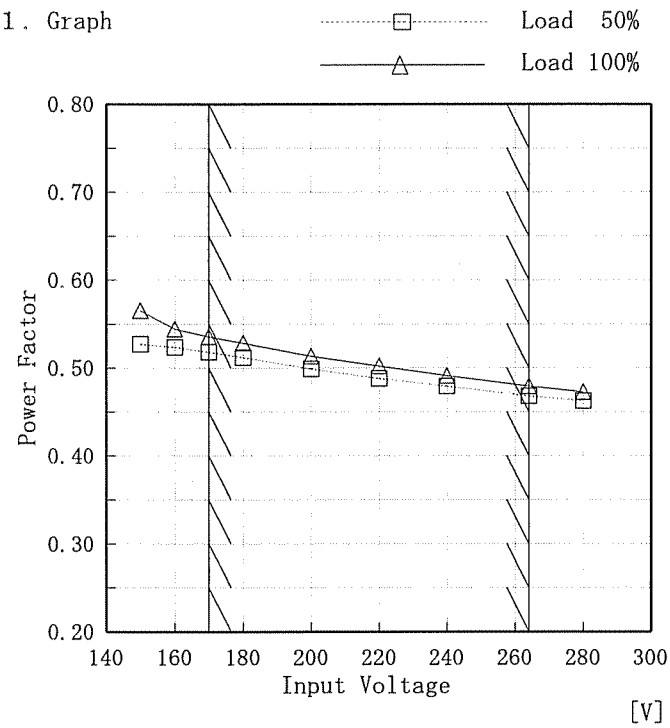
2. Values

Load Current [A]	Efficiency [%] Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
6	71.3	68.6	62.3
12	76.3	75.1	71.4
18	77.4	76.7	74.4
24	77.2	76.7	75.2
30	76.5	76.1	75.2
33	75.9	75.4	74.7
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	LDA150W-3	
Item	Power Factor (by Input Voltage) 力率（入力電圧特性）	Temperature 25℃ Testing Circuitry Figure A
Object	———————————	

1. Graph



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

(注)斜線は定格入力電圧範囲を示す。

2. Values

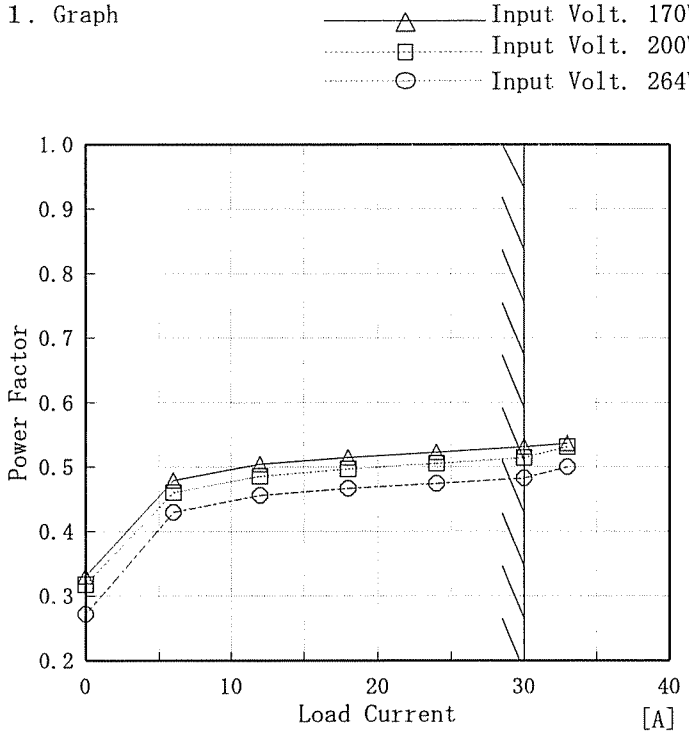
Input Voltage [V]	Power Factor	
	Load 50%	Load 100%
150	0.53	0.57
160	0.52	0.54
170	0.52	0.54
180	0.51	0.53
200	0.50	0.51
220	0.49	0.50
240	0.48	0.49
264	0.47	0.48
280	0.46	0.47

COSEL

Model	LDA150W-3
Item	Power Factor (by Load Current) 力率（負荷特性）
Object	————

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格負荷電流範囲を示す。

2. Values

Load Current [A]	Power Factor		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0	0.33	0.32	0.27
6	0.48	0.46	0.43
12	0.50	0.49	0.46
18	0.52	0.50	0.47
24	0.52	0.51	0.47
30	0.53	0.51	0.48
33	0.54	0.53	0.50
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

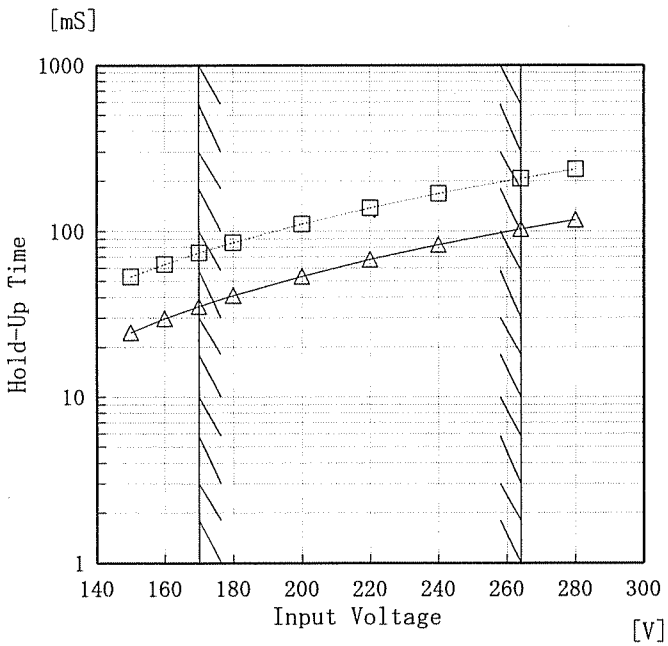
COSEL

Model	LDA150W-3
Item	Hold-Up Time 出力保持時間
Object	+3.0V30A

Temperature 25℃
Testing Circuitry Figure A

1. Graph

Load 50%
Load 100%



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.

出力保持時間とは、入力電圧断から出力電圧が、定電圧精度の規格範囲を保持しているところまでの時間。

(注)斜線は定格入力電圧範囲を示す。

2. Values

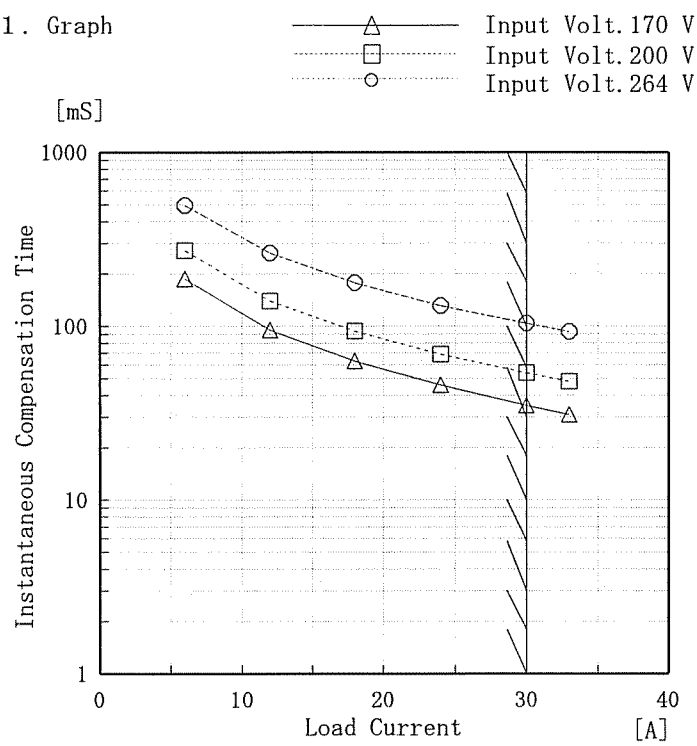
Input Voltage [V]	Hold-Up Time [mS]	
	Load 50%	Load 100%
150	53	25
160	63	30
170	74	35
180	86	41
200	111	54
220	138	68
240	168	83
264	208	103
280	236	118

COSEL

Model	LDA150W-3
Item	Instantaneous Interruption Compensation 瞬時停電保障
Object	+3.0V30A

Temperature 25℃
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 load current.

瞬時停電保障時間とは、出力電圧が定電圧精度の規格範囲を保持している瞬時停電時間をいう。
(注)斜線は定格負荷電流範囲を示す。

2. Values

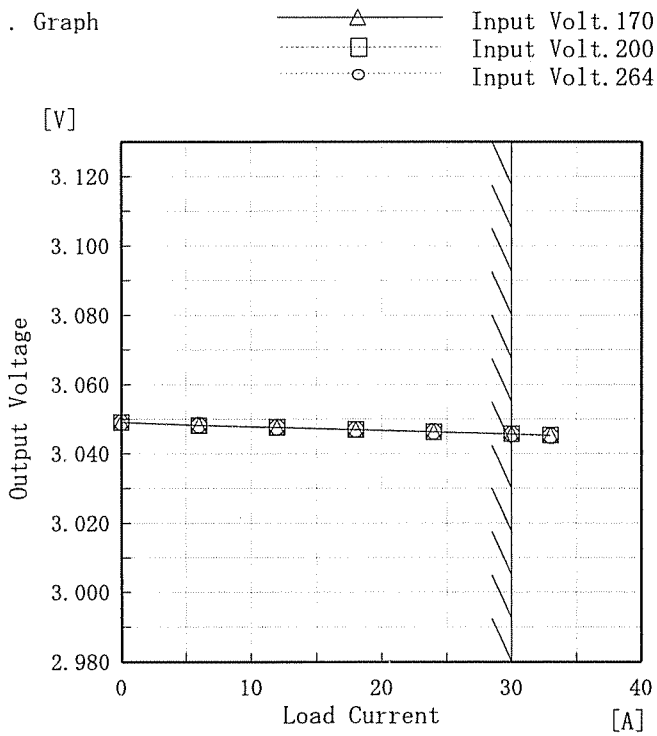
Load Current [A]	Time [mS]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0	—	—	—
6	187	273	496
12	95	140	264
18	63	94	178
24	46	69	131
30	35	54	104
33	31	48	93
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	LDA150W-3
Item	Load Regulation 静的負荷変動
Object	+3.0V30A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格負荷電流範囲を示す。

2. Values

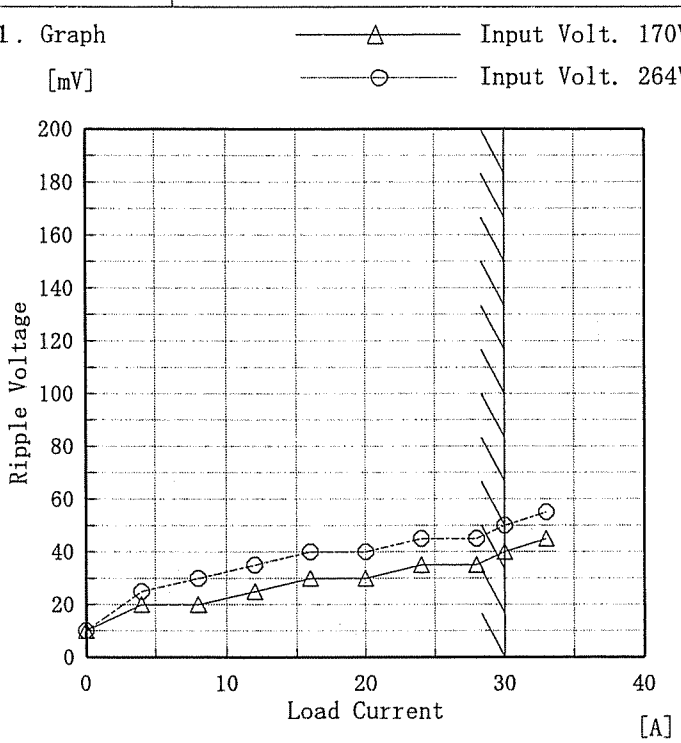
Load Current [A]	Output Voltage [V]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0	3.049	3.049	3.049
6	3.048	3.048	3.048
12	3.048	3.048	3.048
18	3.047	3.047	3.047
24	3.046	3.046	3.046
30	3.046	3.046	3.046
33	3.045	3.045	3.045
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	LDA150W-3
Item	Ripple Voltage(by Load Current) リップル電圧(負荷特性)
Object	+3.0V30A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



Ripple Voltage is shown as p-p in the figure below.

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

リップル電圧は、下図ｐ－ｐ値で示される。

(注)斜線は定格負荷電流範囲を示す。

T1: Due to AC Input Line
入力商用周期
T2: Due to Switching
ｽｲｯﾁﾝｸﾞ周期

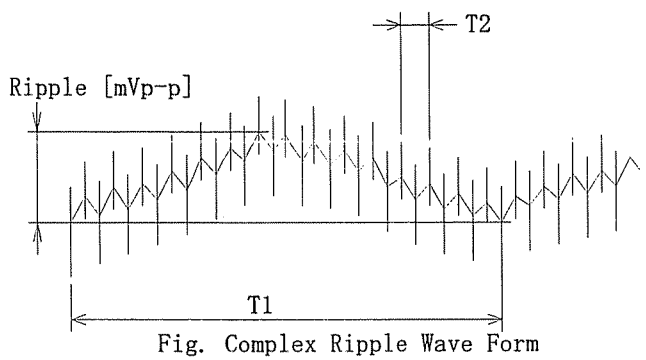


Fig. Complex Ripple Wave Form

図　リップル波形詳細図

2. Values

Load Current [A]	Ripple Output Voltage [mV]	
	Input Volt. 170 [V]	Input Volt. 264 [V]
0	10	10
4	20	25
8	20	30
12	25	35
16	30	40
20	30	40
24	35	45
28	35	45
30	40	50
33	45	55
—	—	—

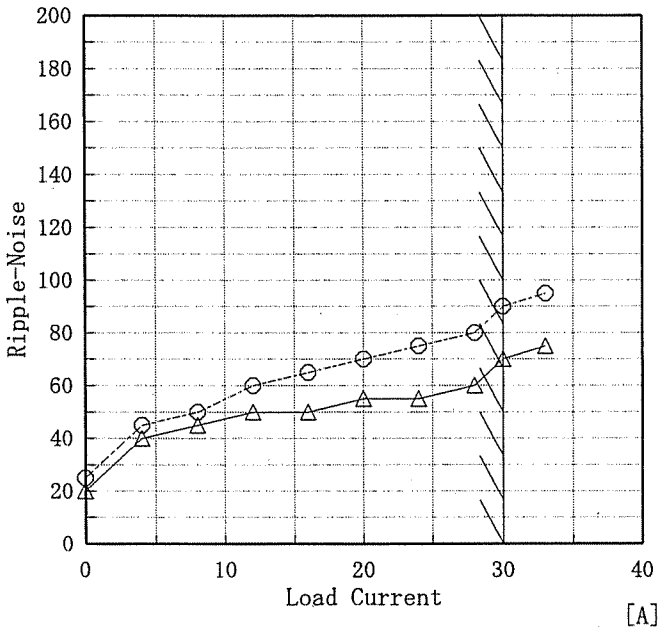
COSEL

Model	LDA150W-3
Item	Ripple-Noise リップルノイズ
Object	+3.0V30A

Temperature 25℃
Testing Circuitry Figure A

1. Graph

△——— Input Volt. 170V
○——— Input Volt. 264V



Ripple-Noise is shown as p-p in the figure below.
Note: Slanted line shows the range of the rated load current.

リップルノイズは、下図ｐ－ｐ値で示される。
(注)斜線は定格負荷電流範囲を示す。

T1: Due to AC Input Line
入力商用周期
T2: Due to Switching
ｽｲｯﾁﾝｸﾞ周期

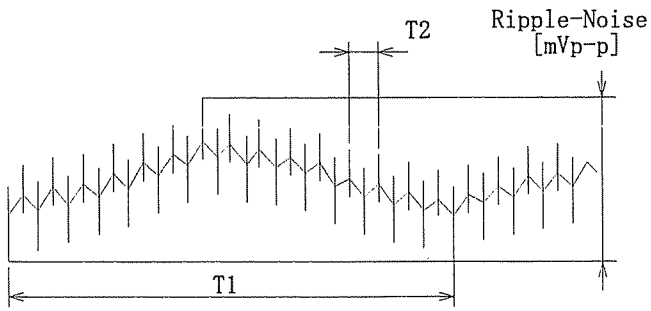


Fig. Complex Ripple Wave Form
図　リップル波形詳細図

2. Values

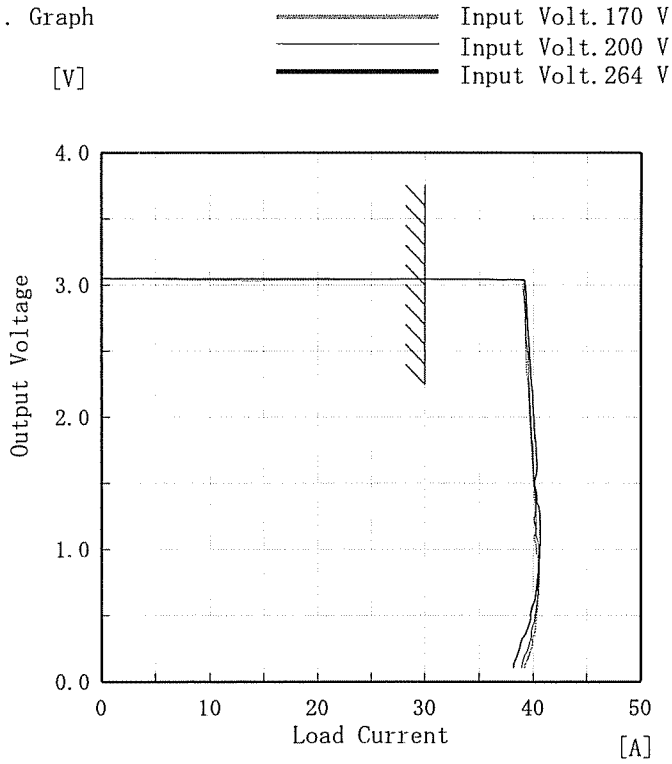
Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 170 [V]	Input Volt. 264 [V]
0	20	25
4	40	45
8	45	50
12	50	60
16	50	65
20	55	70
24	55	75
28	60	80
30	70	90
33	75	95
—	—	—

COSEL

Model	LDA150W-3
Item	Overcurrent Protection 過電流保護
Object	+3.0V30A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格負荷電流範囲を示す。

2. Values

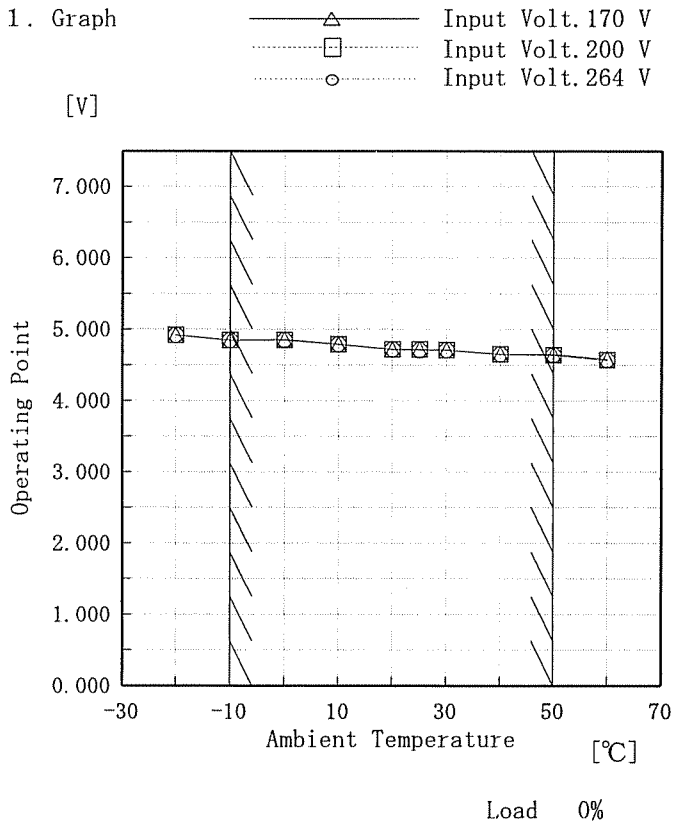
Output Voltage [V]	Load Current [A]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
3.00	38.97	39.13	39.16
2.85	39.22	39.18	39.36
2.70	39.25	39.27	39.46
2.40	39.37	39.53	39.71
2.10	39.60	39.69	39.96
1.80	39.82	39.92	40.22
1.50	40.02	40.09	40.10
1.20	40.29	40.09	40.63
0.90	40.53	40.54	40.52
0.60	40.45	40.34	40.13
0.30	39.93	39.67	38.86
0.00	39.21	38.91	38.20

COSEL

Model	LDA150W-3
Item	Overvoltage Protection 過電圧保護
Object	+3.0V30A

Testing Circuitry Figure A

1. Graph



Load 0%

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

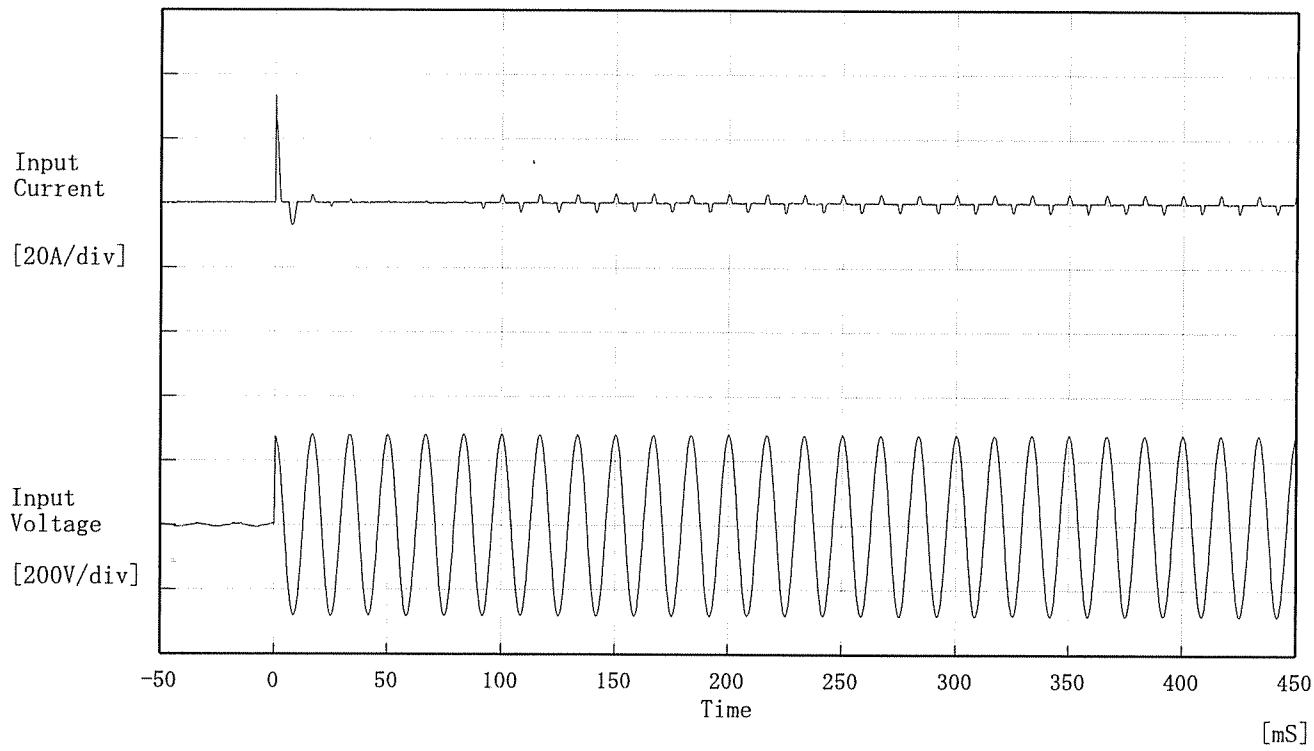
(注)斜線は定格周囲温度範囲を示す。

2. Values

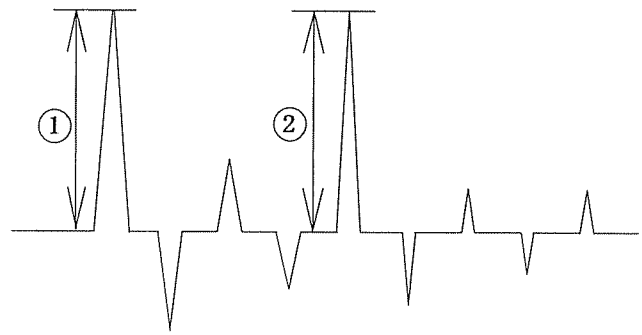
Ambient Temperature [℃]	Operating Point [V]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
-20	4.92	4.92	4.92
-10	4.85	4.85	4.85
0	4.86	4.85	4.85
10	4.79	4.79	4.79
20	4.72	4.72	4.72
25	4.72	4.72	4.71
30	4.71	4.71	4.71
40	4.65	4.65	4.65
50	4.65	4.64	4.64
60	4.58	4.57	4.57
—	—	—	—

COSEL

Model	LDA150W-3		
Item	Inrush Current 突入電流	Temperature Testing Circuitry	25℃ Figure A
Object	――――――――		



Input Voltage 200 V
Frequency 60 Hz
Load 100 %
Inrush Current
① 33.54 [A]
② 3.14 [A]

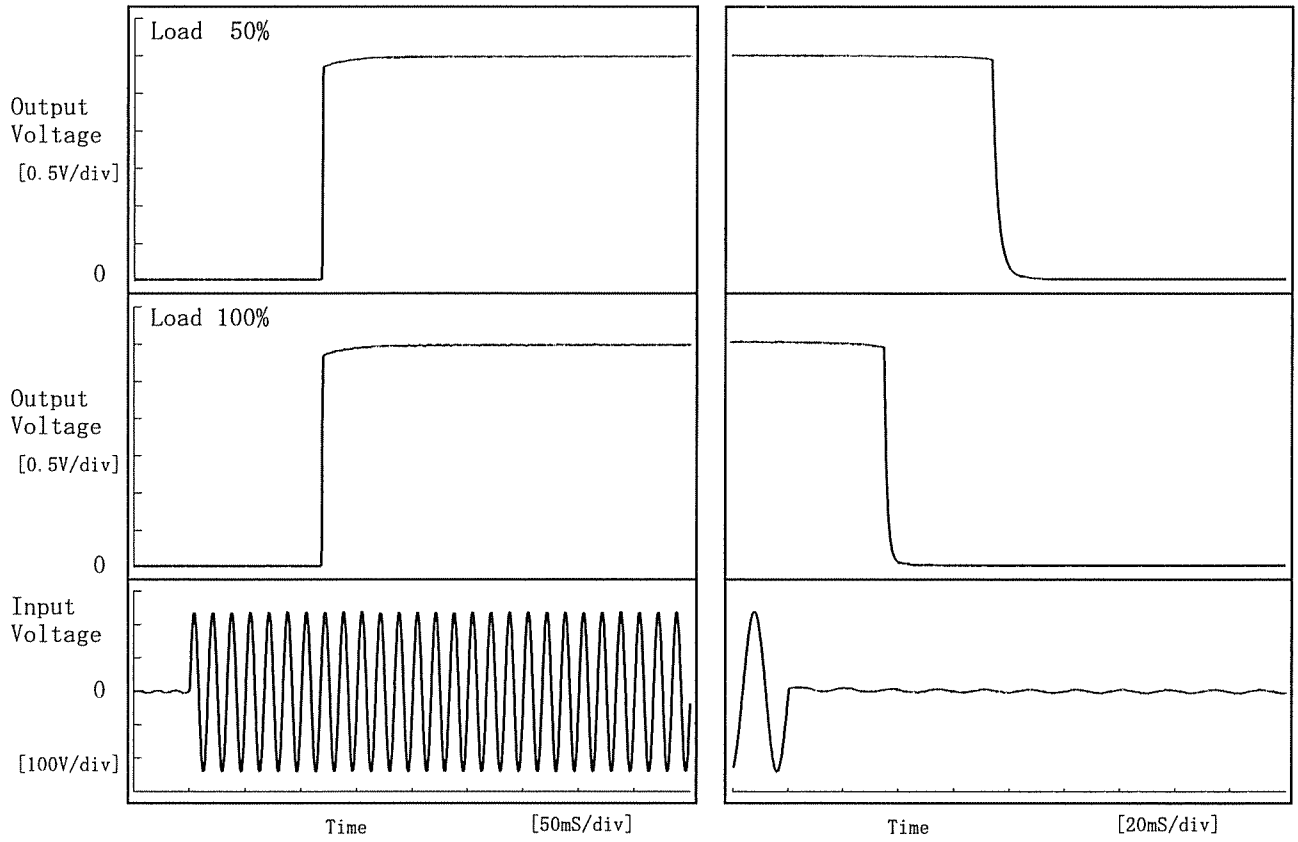


COSEL

Model	LDA150W-3		
Item	Rise and Fall Time 立上り、立下り時間	Temperature Testing Circuitry	25℃ Figure A
Object	+3.0V30A		

1. Graph

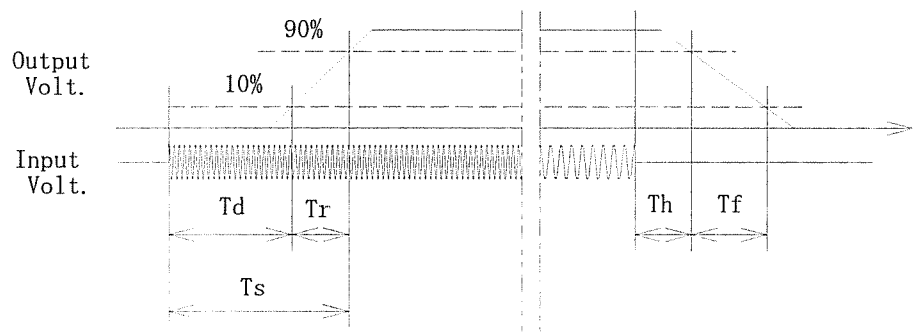
Input Volt. 170 V



2. Values

[mS]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	117.5	1.3	118.8	73.8	4.9
100 %	117.5	1.5	119.0	35.3	2.6

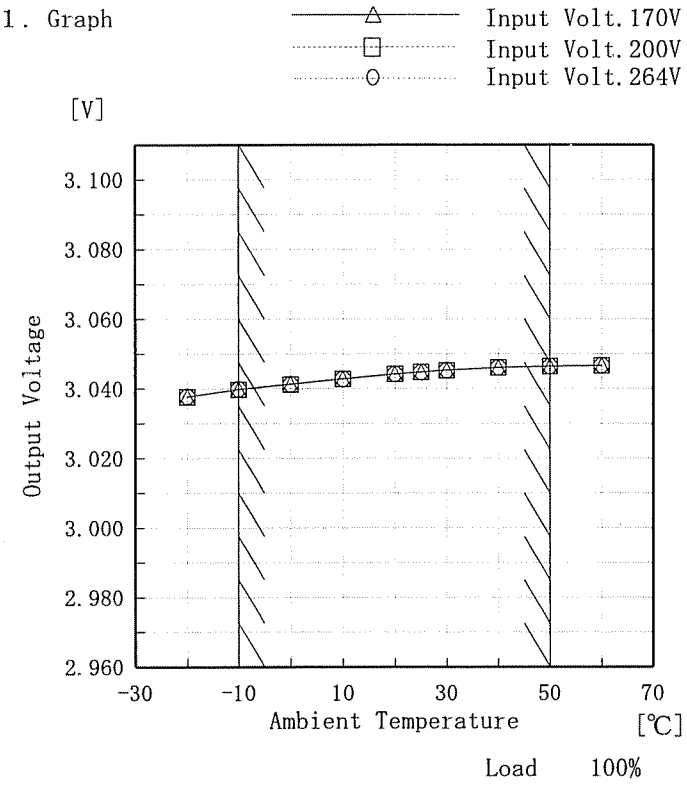


COSEL

Model	LDA150W-3
Item	Ambient Temperature Drift 周囲温度変動
Object	+3.0V30A

Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格周囲温度範囲を示す。

2. Values

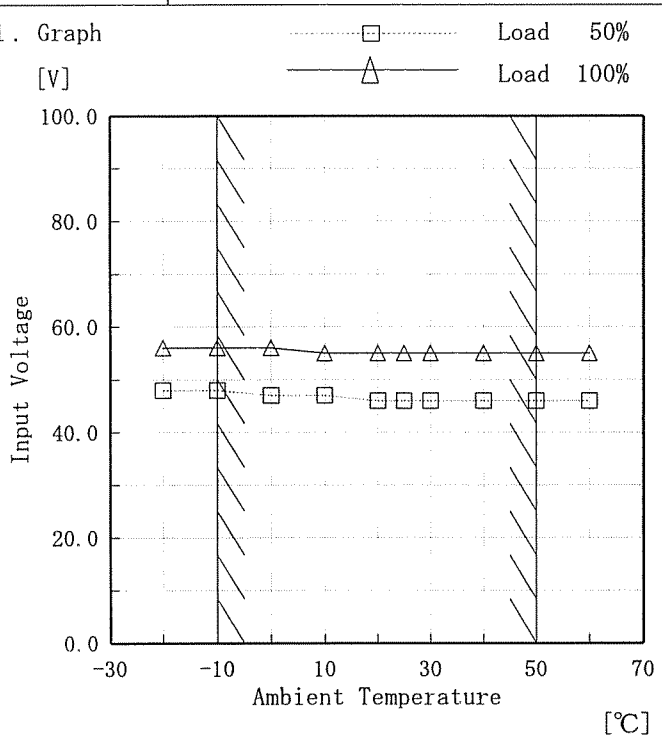
Ambient Temperature [℃]	Output Voltage [V]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
-20	3.038	3.038	3.038
-10	3.040	3.040	3.040
0	3.041	3.041	3.041
10	3.043	3.043	3.043
20	3.044	3.044	3.044
25	3.045	3.045	3.045
30	3.045	3.045	3.045
40	3.046	3.046	3.046
50	3.046	3.046	3.046
60	3.047	3.047	3.047
—	—	—	—

COSEL

Model	LDA150W-3
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	+3.0V30A

Testing Circuitry Figure A

1. Graph



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

(注)斜線は定格周囲温度範囲を示す。

2. Values

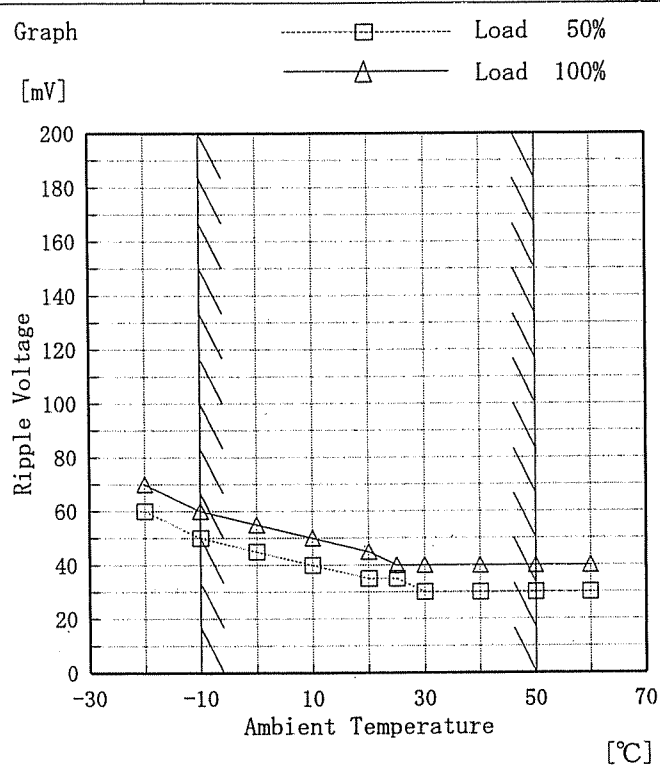
Ambient Temperature [℃]	Input Voltage [V]	
	Load 50%	Load 100%
-20	48	56
-10	48	56
0	47	56
10	47	55
20	46	55
25	46	55
30	46	55
40	46	55
50	46	55
60	46	55
—	—	—

COSEL

Model	LDA150W-3
Item	Ripple Voltage (by Ambient Temp.) リップル電圧（周囲温度特性）
Object	+3.0V30A

Testing Circuitry Figure A

1. Graph



Input Volt. 200 V

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

(注)斜線は定格周囲温度範囲を示す。

2. Values

Ambient Temperature [℃]	Ripple Output Voltage [mV]	
	Load 50%	Load 100%
-20	60	70
-10	50	60
0	45	55
10	40	50
20	35	45
25	35	40
30	30	40
40	30	40
50	30	40
60	30	40
—	—	—

COSEL

Model	LDA150W-3	
Item	Output Voltage Accuracy 定電圧精度	Testing Circuitry Figure A
Object	+3.0V30A	

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 ℃
Input Voltage : 170～264 V
Load Current : 0～30 A

* Output Voltage Accuracy = ±(Maximum of Output Voltage − Minimum of Output Voltage)／2

$$* \text{Output Voltage Accuracy (Ration)} = \frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$$

1. 定電圧精度

周囲温度、入力電圧、負荷電流を下記仕様内で、任意に変動させたときの出力電圧の変動をいう。

周囲温度 -10～50 ℃
入力電圧 170～264 V
負荷電流 0～30 A

＊ 定電圧精度(変動値) ＝ ±(出力電圧の最高値−出力電圧の最低値)／2

$$* \text{定電圧精度(変動率)} = \frac{\text{変動値}}{\text{定格出力電圧}} \times 100$$

2. Values

Item	Temperature [℃]	Input Voltage [V]	Output Current [A]	Output Voltage [V]	Output Voltage Accuracy [mV]	Output Voltage Accuracy (Ration) [%]
Maximum Voltage	50	200	0	3.050	±5	±0.2
Minimum Voltage	-10	170	30	3.040		

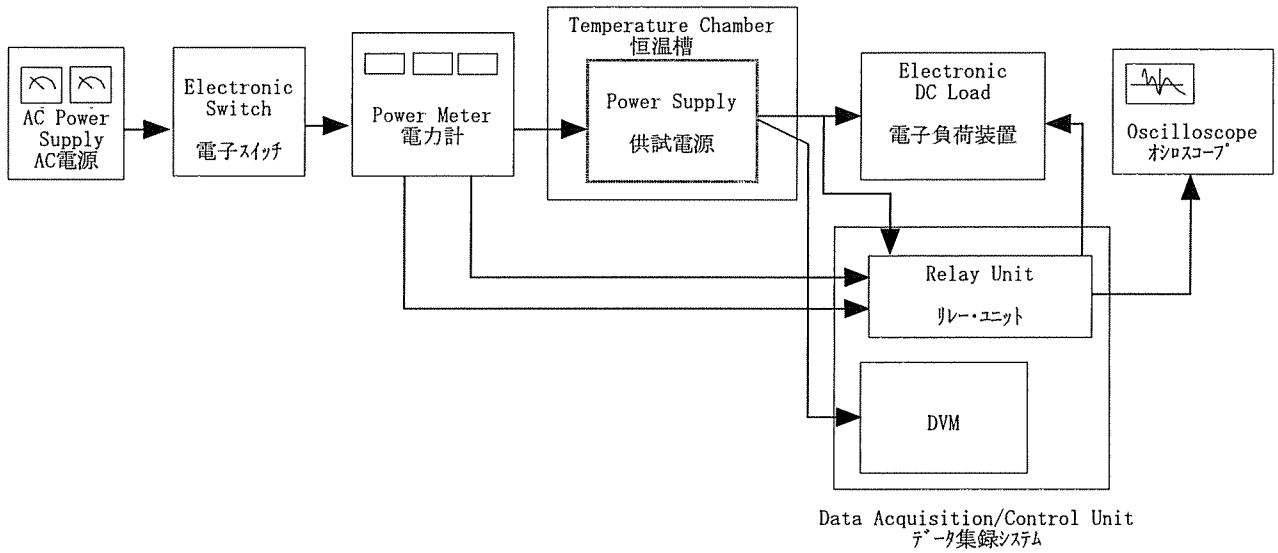

AC Power Supply
AC電源
Electronic Switch
電子ｽｲｯﾁ
Power Meter
電力計
Temperature Chamber
恒温槽
Power Supply
供試電源
Electronic DC Load
電子負荷装置
Oscilloscope
ｵｼﾛｽｺｰﾌﾟ
Relay Unit
ﾘﾚｰ･ﾕﾆｯﾄ
DVM
Data Acquisition/Control Unit
ﾃﾞｰﾀ集録ｼｽﾃﾑ

Figure A