参考資料

COSEL

TEST DATA OF LCA150S-48

(100V　INPUT)

Regulated DC Power Supply

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コーセル株式会社

COSEL CO.,LTD.

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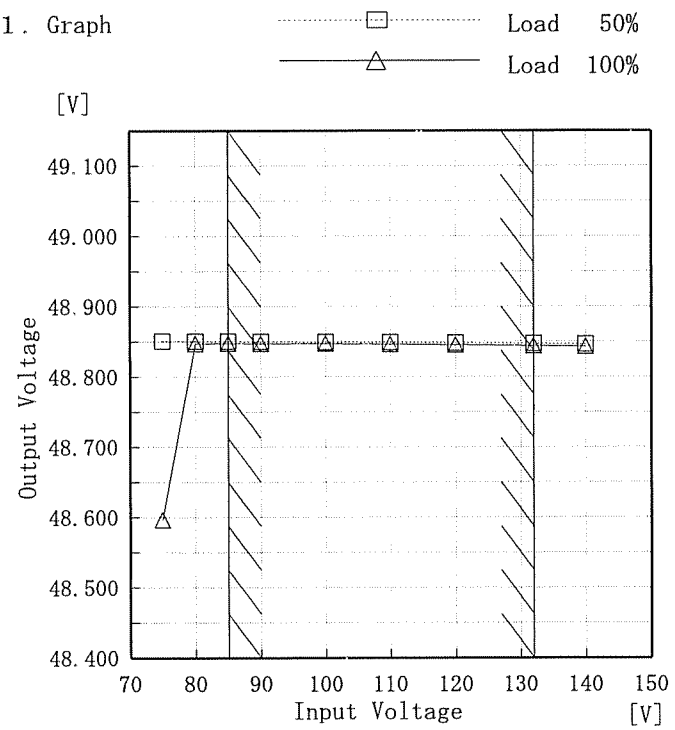
Model	LCA150S-48
Item	Line Regulation 静的入力変動
Object	+48.0V3.2A

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%
75	48.851	48.596
80	48.851	48.848
85	48.851	48.848
90	48.850	48.848
100	48.850	48.847
110	48.849	48.846
120	48.848	48.846
132	48.847	48.844
140	48.847	48.843

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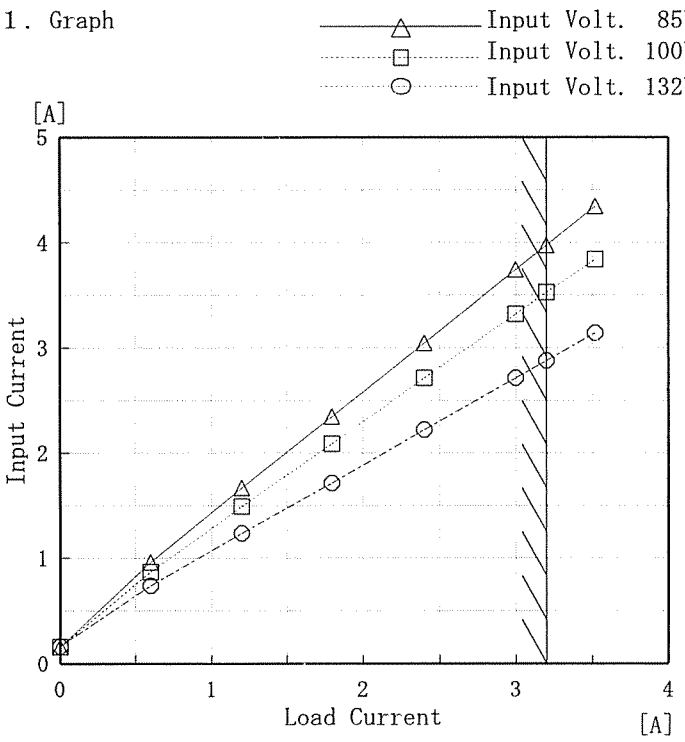
Model	LCA150S-48
Item	Input Current (by Load Current) 入力電流（負荷特性）
Object	————

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. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	0.157	0.158	0.163
0.60	0.963	0.870	0.742
1.20	1.669	1.493	1.239
1.80	2.348	2.089	1.716
2.40	3.047	2.714	2.223
3.00	3.745	3.323	2.715
3.20	3.975	3.527	2.879
3.52	4.346	3.842	3.144
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

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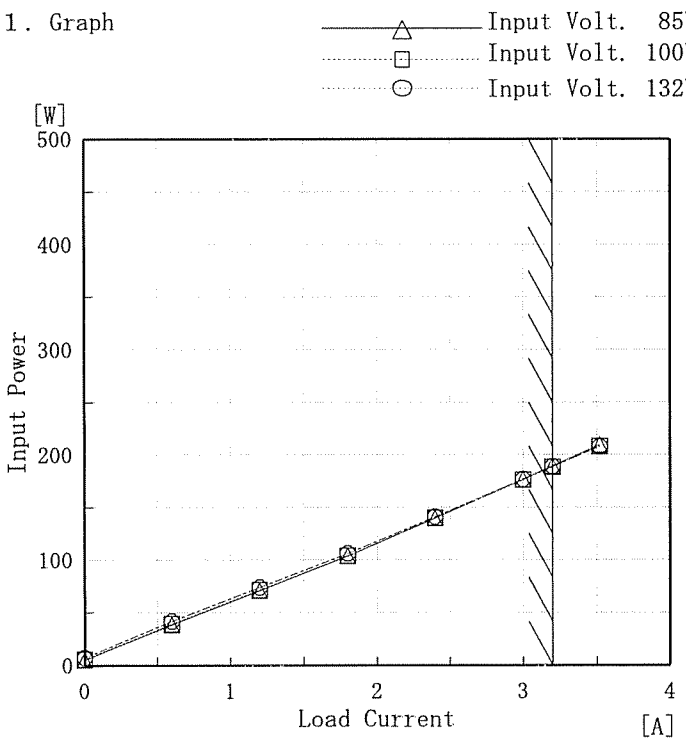
Model	LCA150S-48
Item	Input Power (by Load Current) 入力電力（負荷特性）
Object	————

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

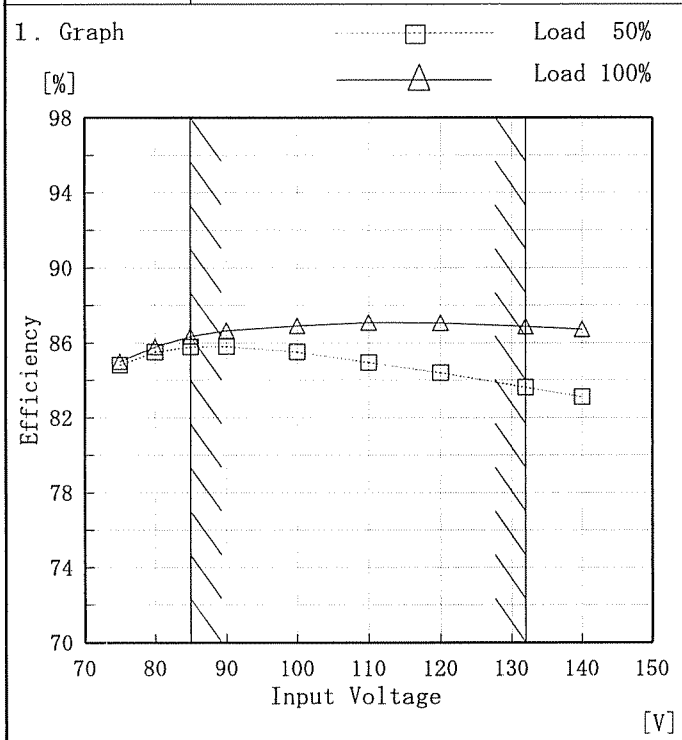
Load Current [A]	Input Power [W]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	4.96	5.73	7.38
0.60	38.56	39.52	41.90
1.20	71.00	71.75	74.00
1.80	103.80	104.20	106.20
2.40	139.60	139.80	141.30
3.00	176.60	176.00	176.80
3.20	189.30	188.40	188.80
3.52	209.40	207.90	207.70
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	LCA150S-48
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

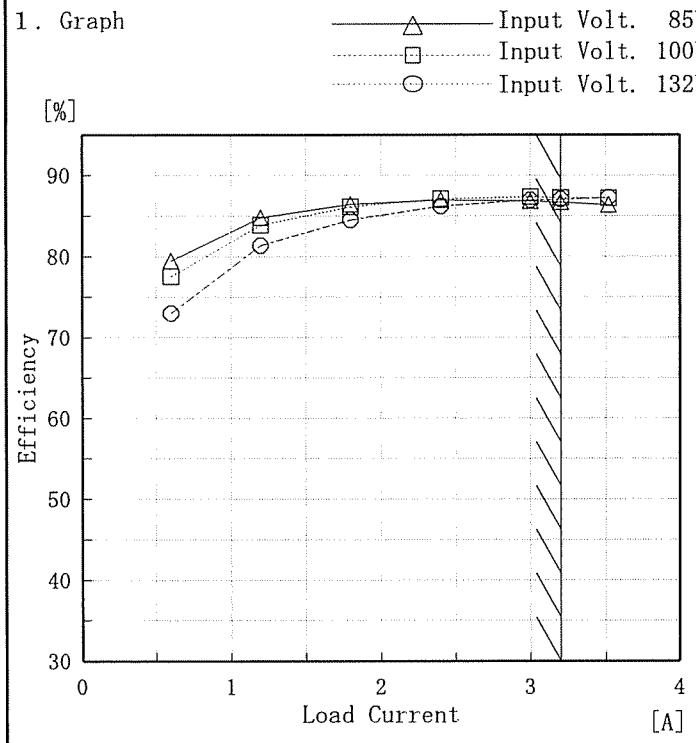
Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
75	84.8	85.0
80	85.5	85.8
85	85.8	86.3
90	85.8	86.6
100	85.5	86.9
110	84.9	87.1
120	84.4	87.1
132	83.6	86.9
140	83.1	86.7

COSEL

Model	LCA150S-48
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. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.60	79.5	77.5	73.0
1.20	84.8	83.9	81.4
1.80	86.4	86.2	84.5
2.40	87.0	87.1	86.2
3.00	86.9	87.4	87.0
3.20	86.7	87.2	87.1
3.52	86.4	87.2	87.3
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

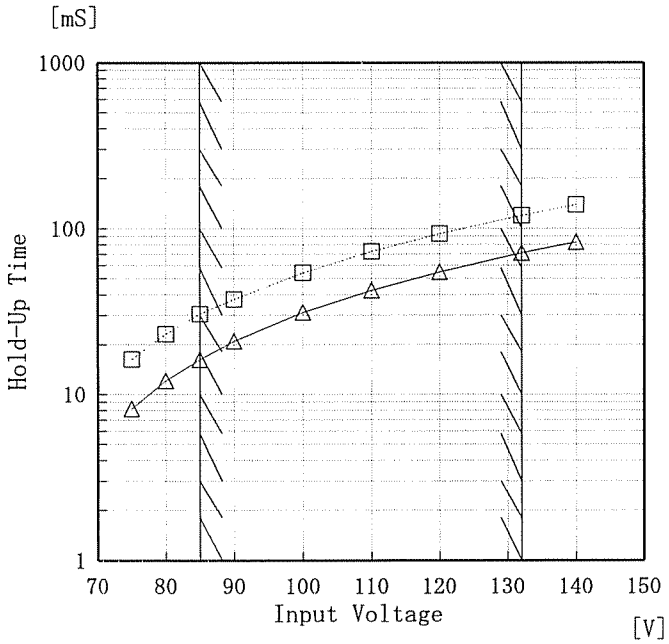
COSEL

Model	LCA150S-48
Item	Hold-Up Time 出力保持時間
Object	+48.0V3.2A

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%
75	16	8
80	23	12
85	31	16
90	38	21
100	54	31
110	73	43
120	93	55
132	120	71
140	140	83

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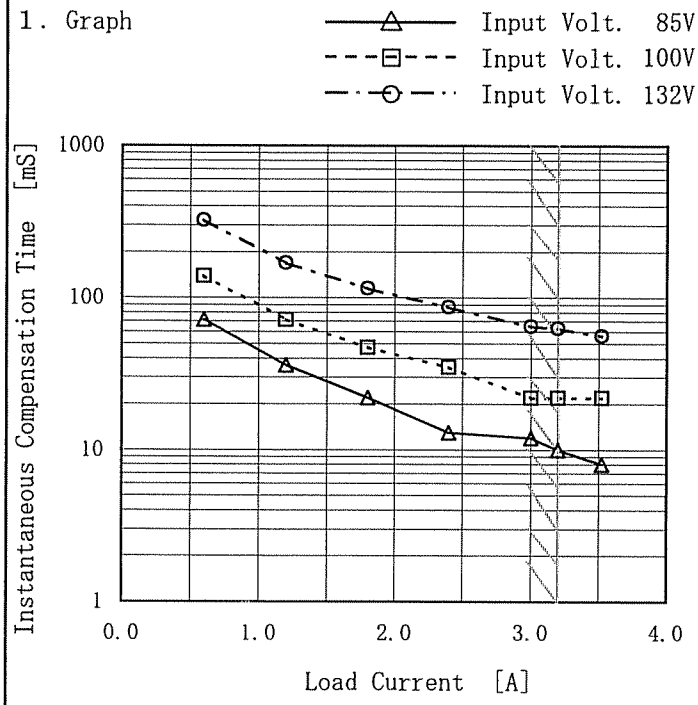
Model	LCA150S-48
Item	Instantaneous Interruption Compensation 瞬時停電保障
Object	+48V3.2A

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]	Time [mS]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	—	—	—
0.60	72	139	322
1.20	36	72	169
1.80	22	47	115
2.40	13	35	87
3.00	12	22	65
3.20	10	22	63
3.52	8	22	56
--	—	—	—
--	—	—	—
--	—	—	—

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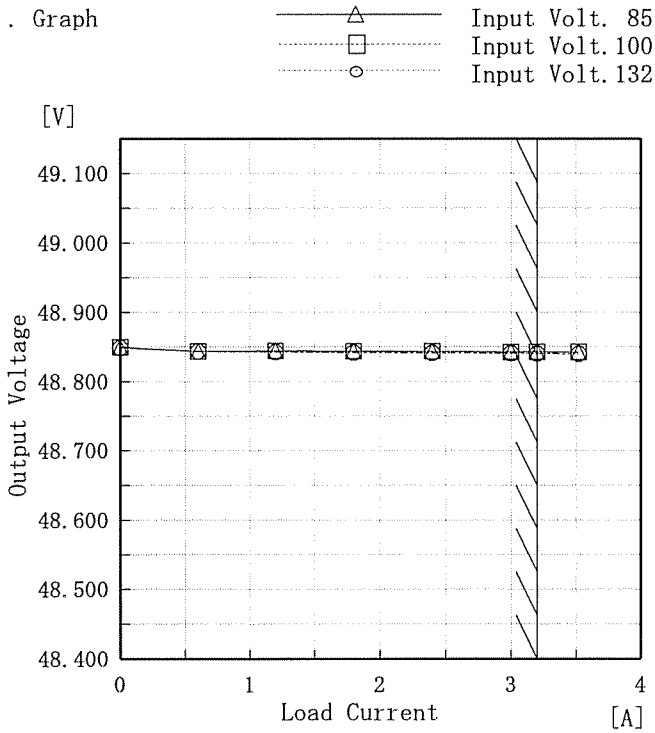
Model	LCA150S-48
Item	Load Regulation 静的負荷変動
Object	+48.0V3.2A

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

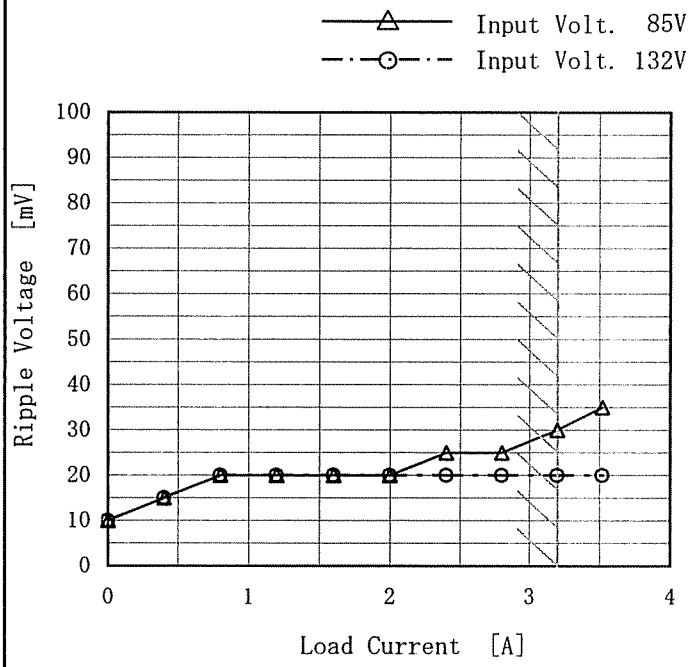
Load Current [A]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	48.849	48.850	48.849
0.60	48.844	48.844	48.844
1.20	48.844	48.844	48.843
1.80	48.844	48.844	48.842
2.40	48.844	48.843	48.841
3.00	48.843	48.842	48.841
3.20	48.843	48.843	48.840
3.52	48.842	48.843	48.840
—	—	—	—
—	—	—	—

COSEL

Model	LCA150S-48
Item	Ripple Voltage (by Load Current) リップル電圧（負荷特性）
Object	+48V3.2A

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

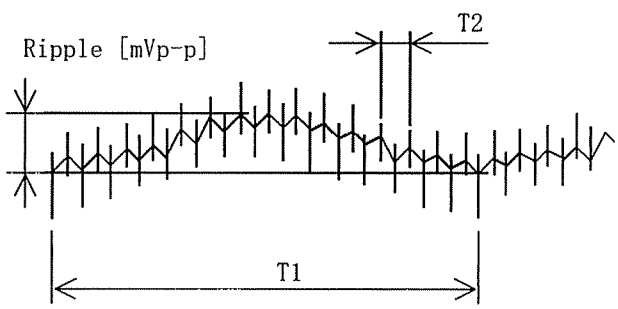


Fig. Complex Ripple Wave Form
図　リップル波形詳細図

2. Values

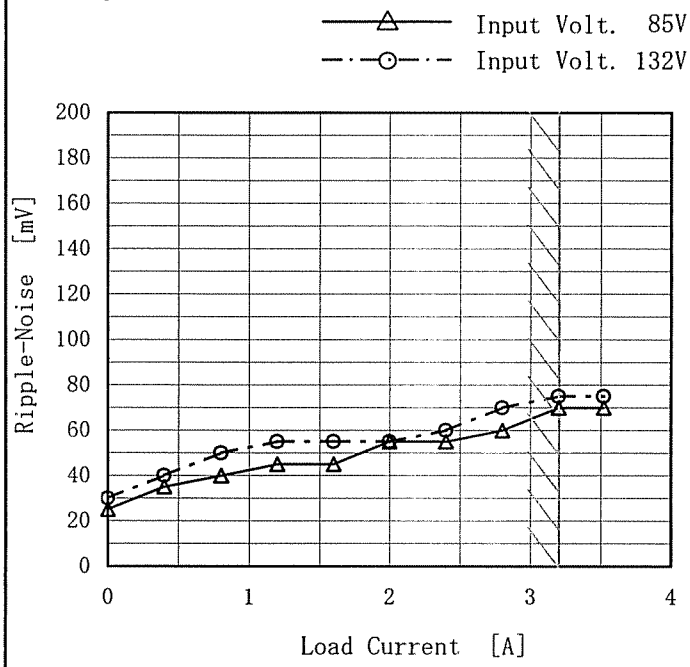
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.00	10	10
0.40	15	15
0.80	20	20
1.20	20	20
1.60	20	20
2.00	20	20
2.40	25	20
2.80	25	20
3.20	30	20
3.52	35	20
--	—	—

COSEL

Model	LCA150S-48
Item	Ripple-Noise リップルノイズ
Object	+48V3.2A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



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

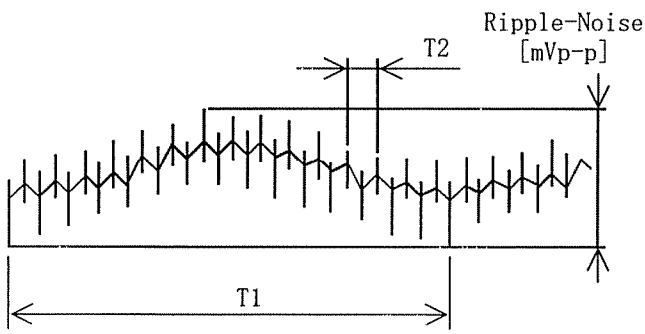


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

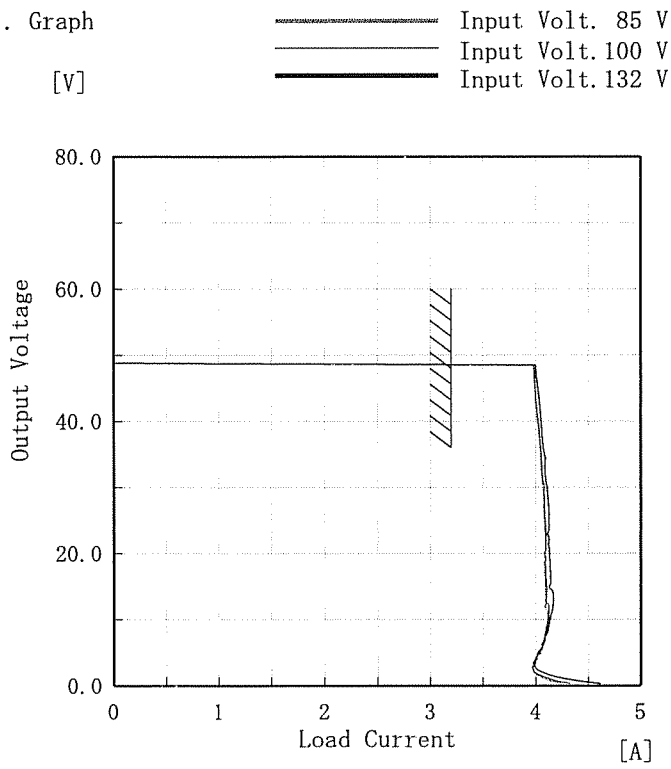
Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.00	25	30
0.40	35	40
0.80	40	50
1.20	45	55
1.60	45	55
2.00	55	55
2.40	55	60
2.80	60	70
3.20	70	75
3.52	70	75
--	—	—

COSEL

Model	LCA150S-48
Item	Overcurrent Protection 過電流保護
Object	+48.0V3.2A

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

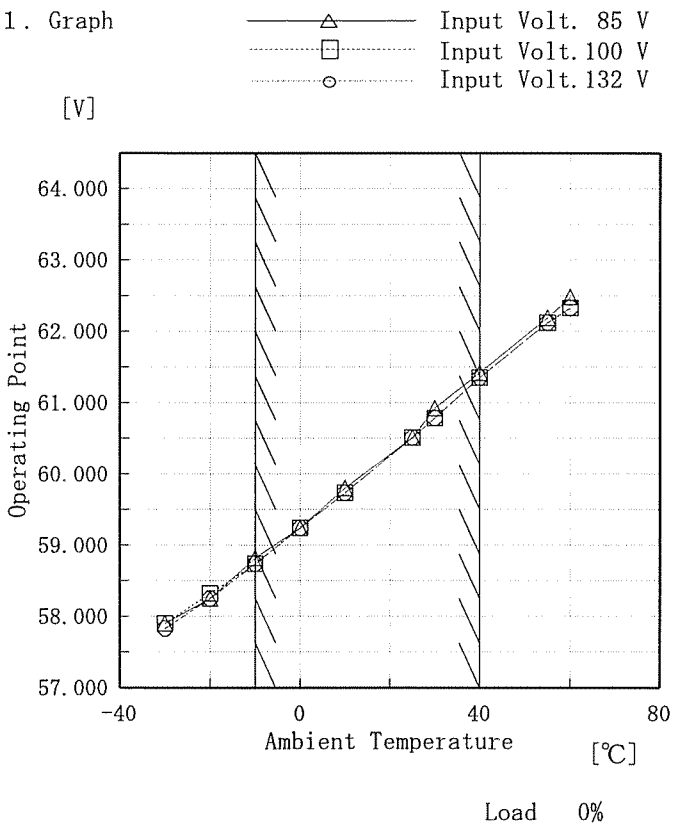
Output Voltage [V]	Load Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
48.00	3.985	3.979	4.001
45.60	3.993	3.987	4.015
43.20	4.002	4.000	4.032
38.40	4.031	4.036	4.058
33.60	4.052	4.056	4.087
28.80	4.078	4.079	4.114
24.00	4.088	4.094	4.127
19.20	4.092	4.093	4.132
14.40	4.092	4.106	4.158
9.60	4.112	4.106	4.131
4.80	4.048	4.033	4.016
0.00	4.240	4.332	4.618

COSEL

Model	LCA150S-48
Item	Overvoltage Protection 過電圧保護
Object	+48.0V3.2A

Testing Circuitry Figure A

1. Graph



Load 0%

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

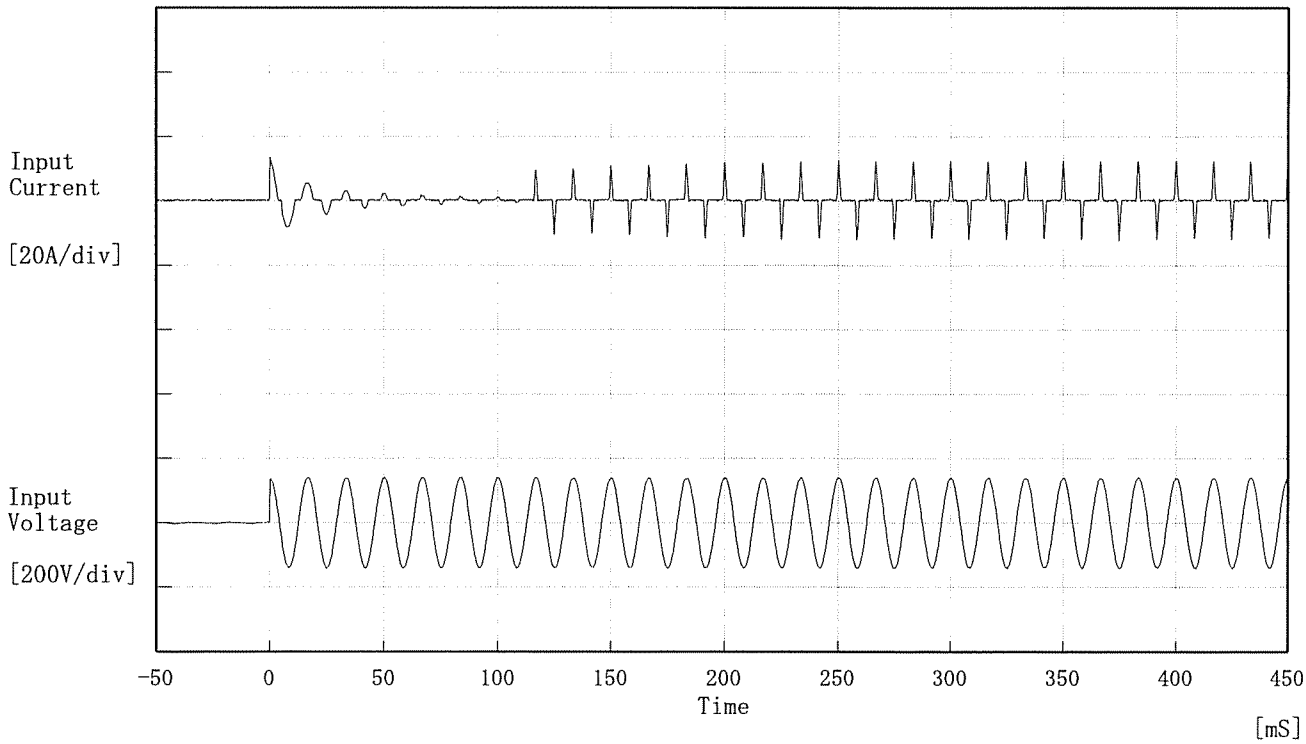
(注)斜線は定格周囲温度範囲を示す。

2. Values

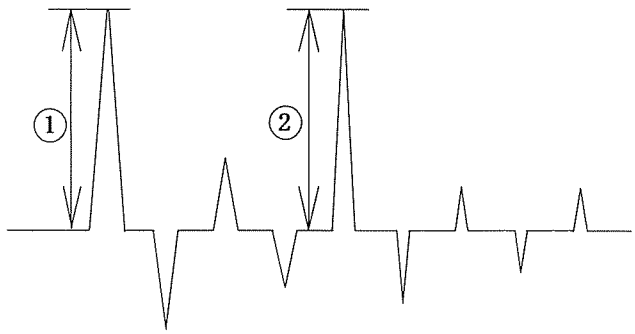
Ambient Temperature [℃]	Operating Point [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-30	57.90	57.90	57.83
-20	58.25	58.32	58.25
-10	58.82	58.74	58.74
0	59.24	59.24	59.24
10	59.80	59.73	59.73
25	60.51	60.51	60.51
30	60.92	60.78	60.78
40	61.42	61.35	61.35
55	62.19	62.12	62.12
60	62.48	62.33	62.33
—	—	—	—

COSEL

Model	LCA150S-48		
Item	Inrush Current 突入電流	Temperature Testing Circuitry	25℃ Figure A
Object	――――――――		



Input Voltage 100 V
Frequency 60 Hz
Load 100 %
Inrush Current
① 13.57 [A]
② 12.77 [A]

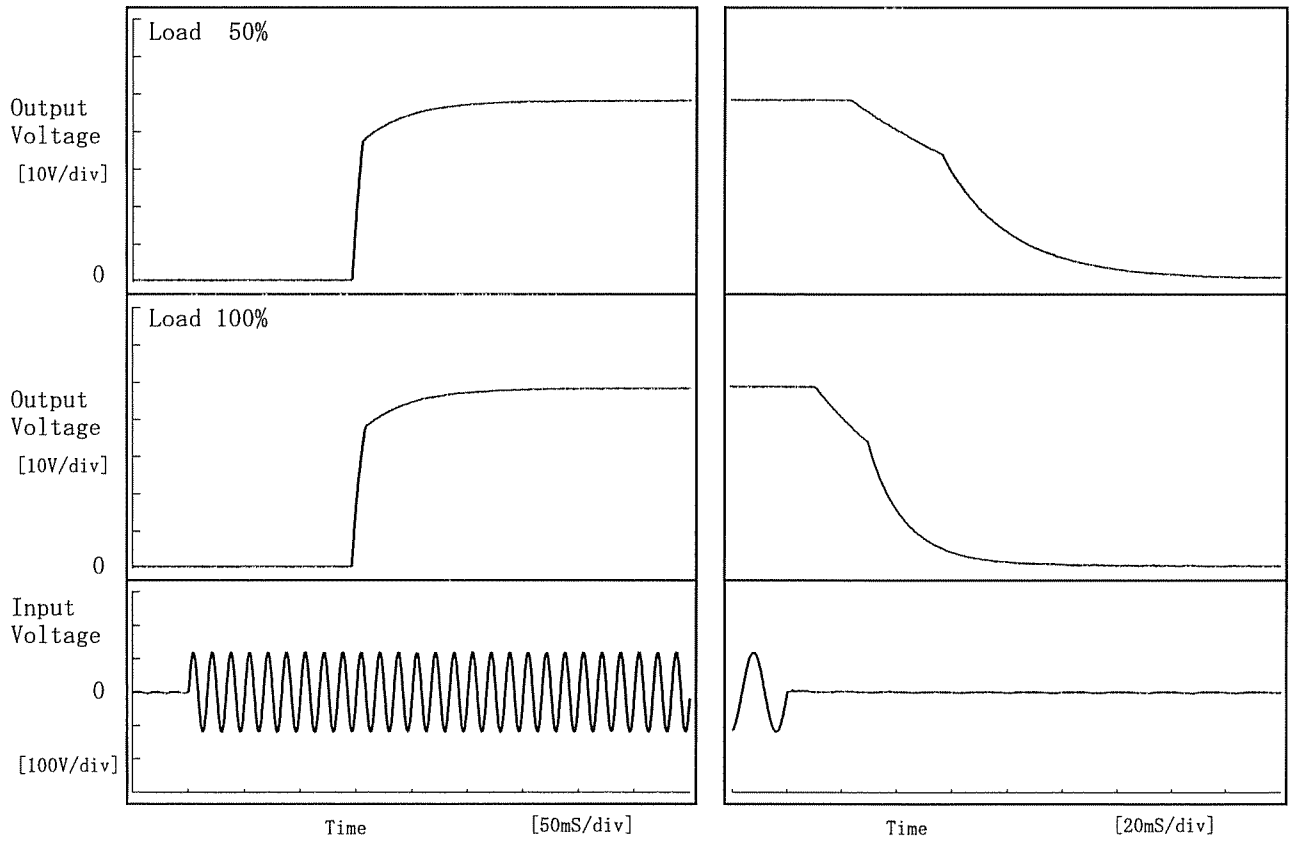


COSEL

Model	LCA150S-48		
Item	Rise and Fall Time 立上り、立下り時間	Temperature Testing Circuitry	25℃ Figure A
Object	+48.0V3.2A		

1. Graph

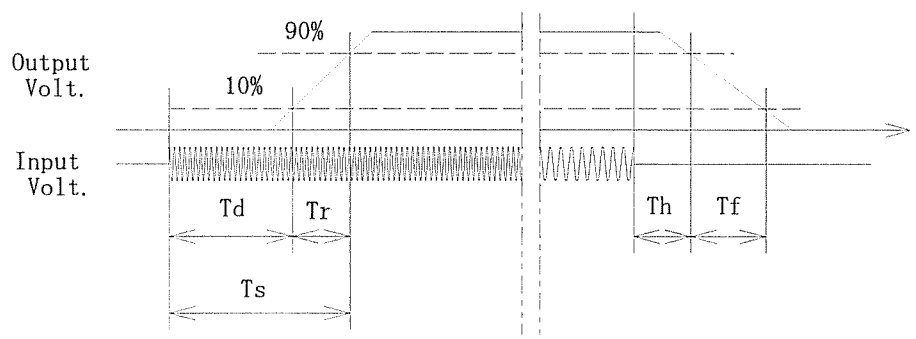
Input Volt. 85 V



2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	146.8	42.3	189.0	33.8	73.2
100 %	146.8	42.5	189.3	16.2	41.4

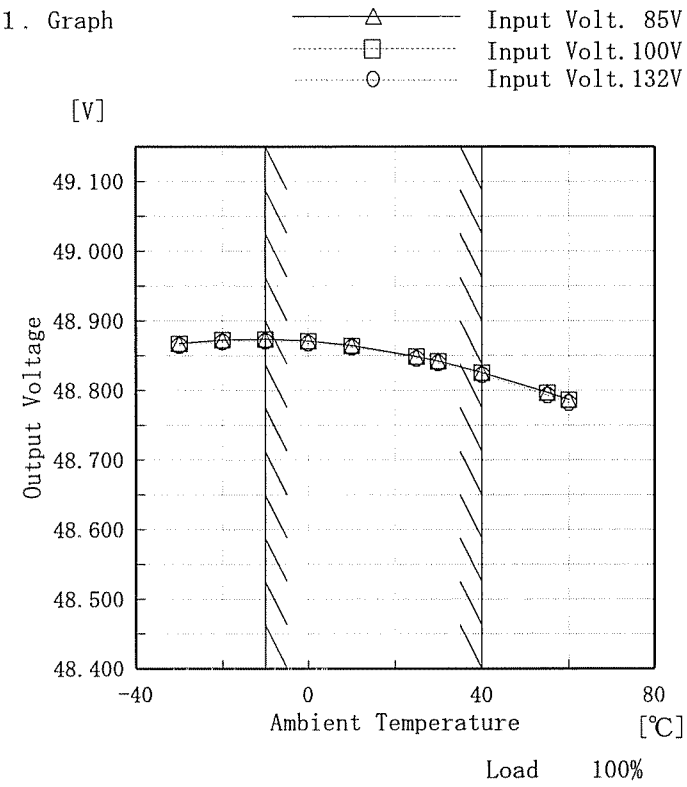


COSEL

Model	LCA150S-48
Item	Ambient Temperature Drift 周囲温度変動
Object	+48.0V3.2A

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

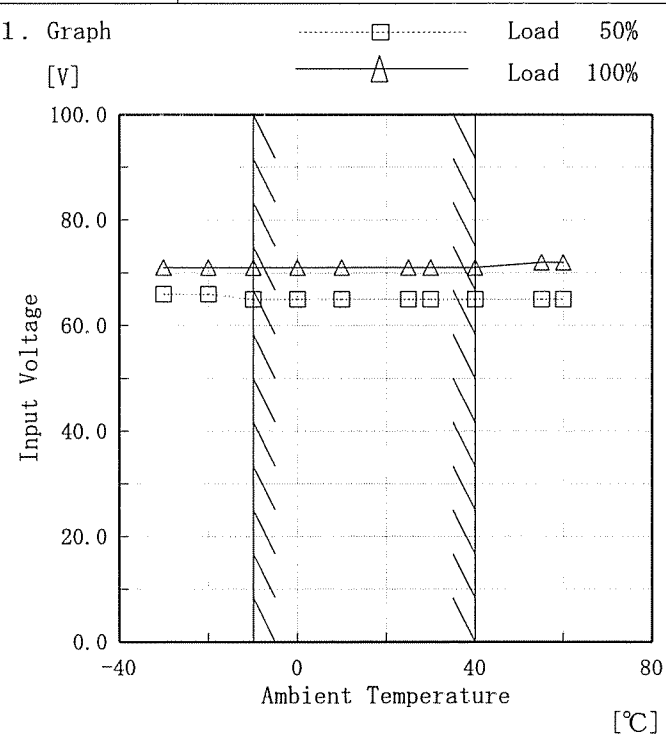
Ambient Temperature [℃]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-30	48.867	48.867	48.865
-20	48.873	48.872	48.870
-10	48.874	48.873	48.871
0	48.871	48.871	48.868
10	48.865	48.864	48.862
25	48.849	48.848	48.846
30	48.842	48.842	48.839
40	48.826	48.825	48.822
55	48.797	48.796	48.793
60	48.787	48.786	48.782
—	—	—	—

COSEL

Model	LCA150S-48
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	+48.0V3.2A

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

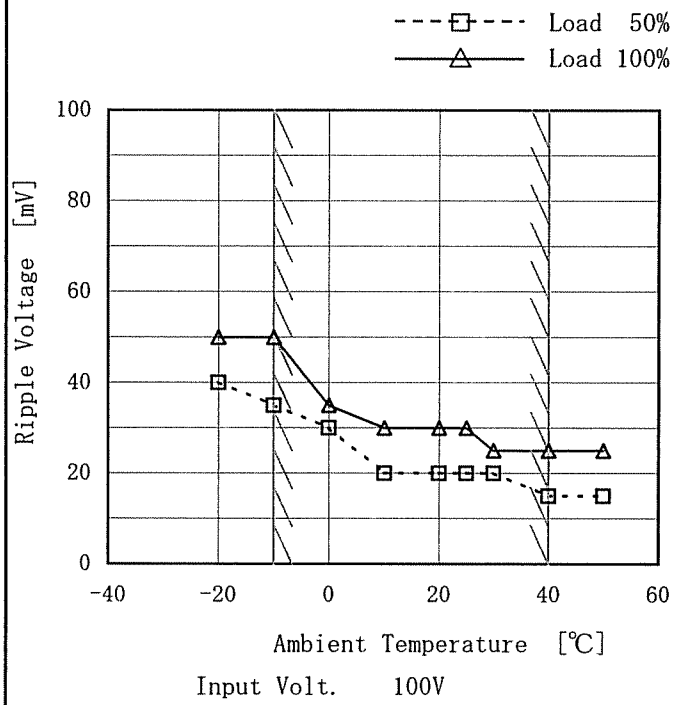
Ambient Temperature [℃]	Input Voltage [V]	
	Load 50%	Load 100%
-30	66	71
-20	66	71
-10	65	71
0	65	71
10	65	71
25	65	71
30	65	71
40	65	71
55	65	72
60	65	72
—	—	—

COSEL

Model	LCA150S-48
Item	Ripple Voltage (by Ambient Temp.) リップル電圧 (周囲温度特性)
Object	+48V3.2A

Testing Circuitry Figure A

1. Graph



Input Volt. 100V

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 Voltage [mV]	
	Load 50%	Load 100%
-20	40	50
-10	35	50
0	30	35
10	20	30
20	20	30
25	20	30
30	20	25
40	15	25
50	15	25
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COSEL

Model	LCA150S-48	
Item	Output Voltage Accuracy 定電圧精度	Testing Circuitry Figure A
Object	+48.0V3.2A	

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 : -10～40 ℃
Input Voltage : 85～132 V
Load Current : 0～3.2 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 -10～40 ℃
入力電圧 85～132 V
負荷電流 0～3.2 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	-10	85	0.0	48.880	±33	±0.1
Minimum Voltage	40	132	3.2	48.816		

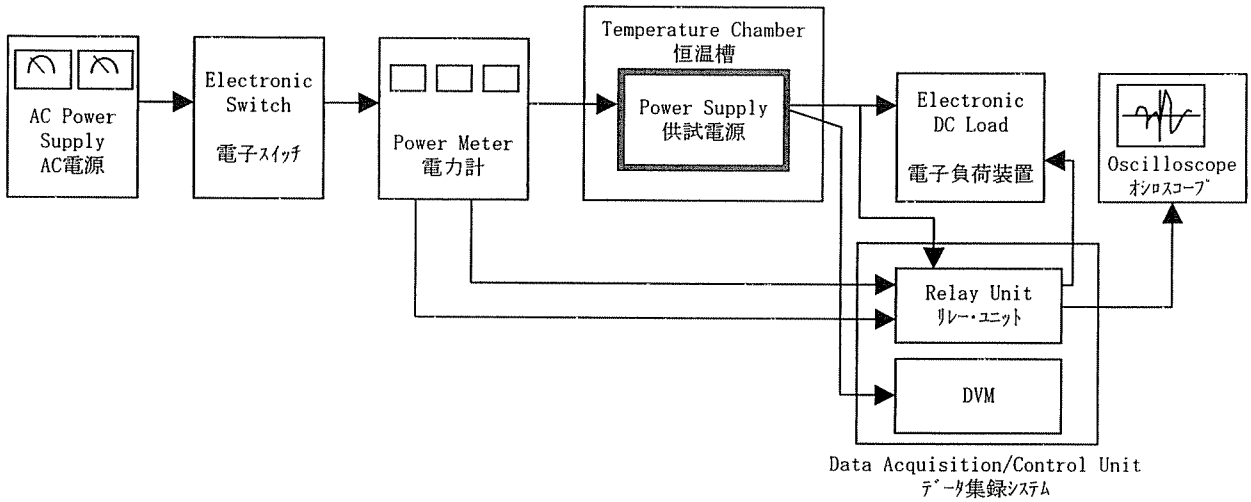
AC Power
Supply
AC電源
Electronic
Switch
電子ｽｲｯﾁ
Power Meter
電力計
Temperature Chamber
恒温槽
Power Supply
供試電源
Electronic
DC Load
電子負荷装置
Oscilloscope
ｵｼﾛｽｺｰﾌﾟ
Relay Unit
ﾘﾚｰ･ﾕﾆｯﾄ
DVM
Data Acquisition/Control Unit
ﾃﾞｰﾀ集録ｼｽﾃﾑ

Figure A