参考資料

COSEL

TEST DATA OF LDA75F-9

(100V INPUT)

Regulated DC Power Supply

May 22, 2002

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コーセル株式会社

COSEL CO.,LTD.

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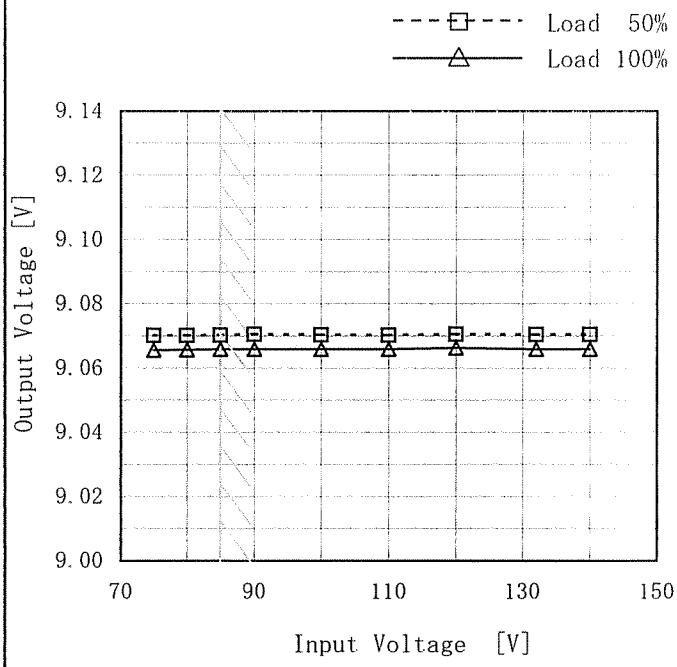
1. Graph



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

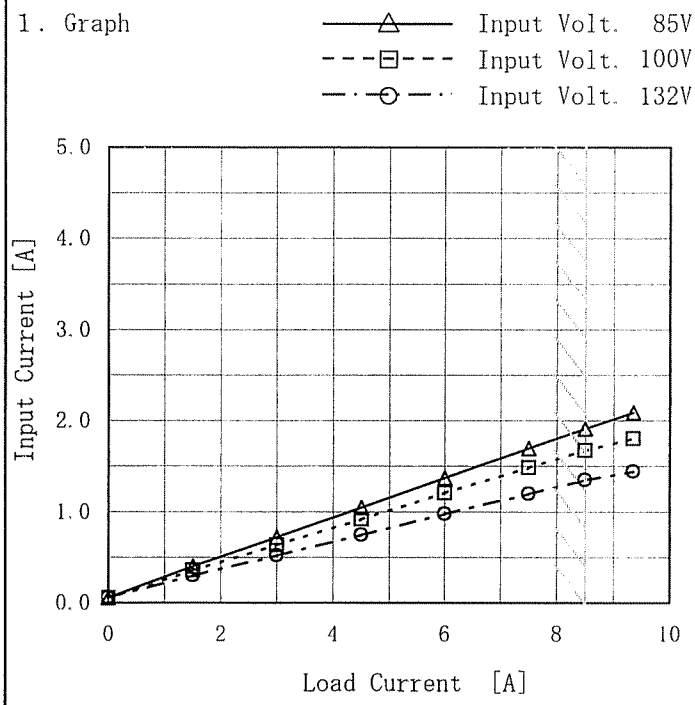
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
75	9.070	9.066
80	9.070	9.066
85	9.070	9.066
90	9.071	9.066
100	9.070	9.066
110	9.070	9.066
120	9.071	9.066
132	9.071	9.066
140	9.071	9.066

COSEL

Model	LDA75F-9
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

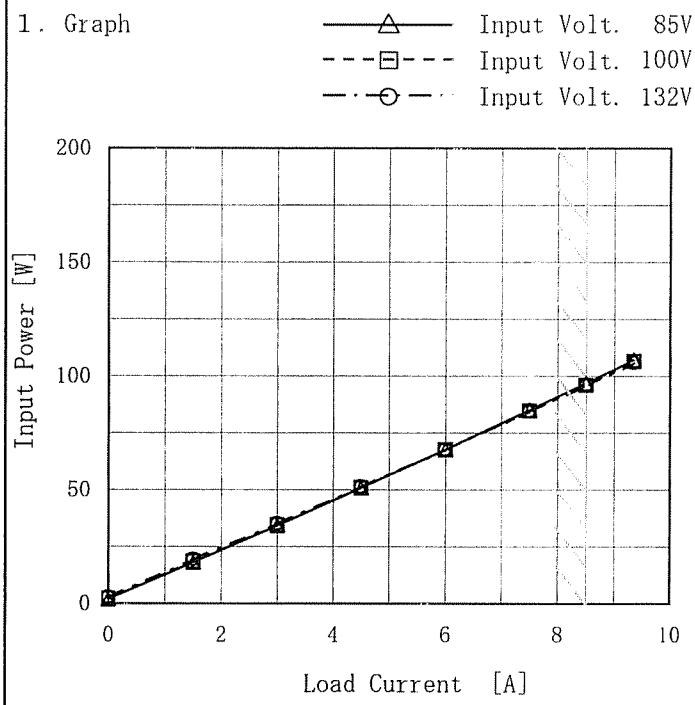
Load Current [A]	Input Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	0.053	0.054	0.056
1.50	0.398	0.356	0.299
3.00	0.720	0.637	0.522
4.50	1.046	0.922	0.748
6.00	1.372	1.207	0.974
7.50	1.694	1.488	1.199
8.50	1.910	1.675	1.348
9.35	2.091	1.809	1.447
--	—	—	—
--	—	—	—
--	—	—	—

COSEL

Model	LDA75F-9
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

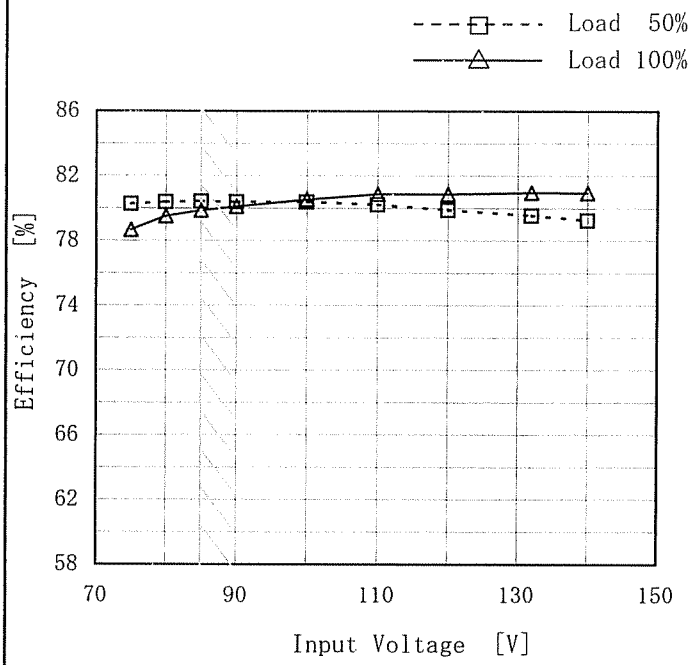
Load Current [A]	Input Power [W]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	1.8	2.1	2.7
1.50	18.2	18.5	19.2
3.00	34.3	34.4	35.1
4.50	50.8	50.8	51.3
6.00	67.7	67.6	67.7
7.50	85.0	84.6	84.4
8.50	96.8	96.1	95.8
9.35	107.1	106.5	105.8
--	—	—	—
--	—	—	—
--	—	—	—

COSEL

Model	LDA75F-9
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

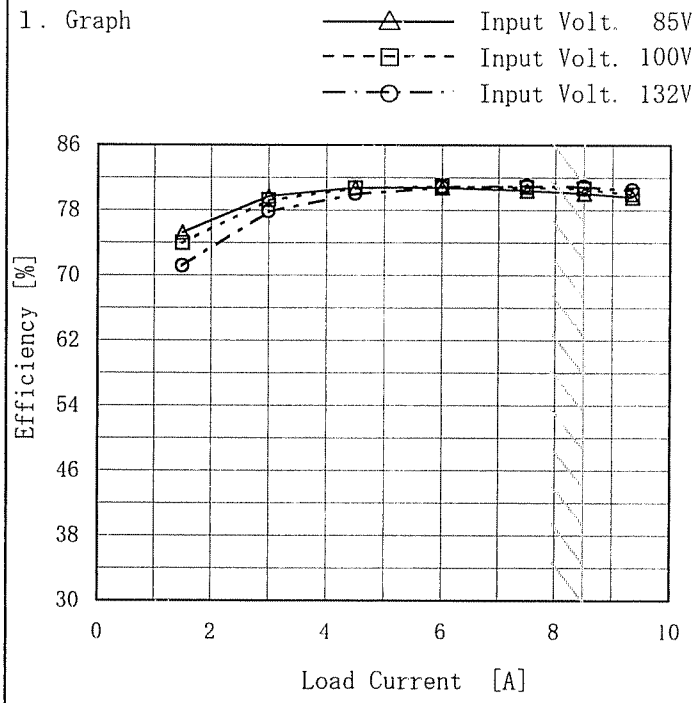
Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
75	80.3	78.7
80	80.4	79.5
85	80.4	79.9
90	80.4	80.1
100	80.4	80.5
110	80.2	80.9
120	79.9	80.9
132	79.6	81.0
140	79.3	81.0

COSEL

Model	LDA75F-9
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

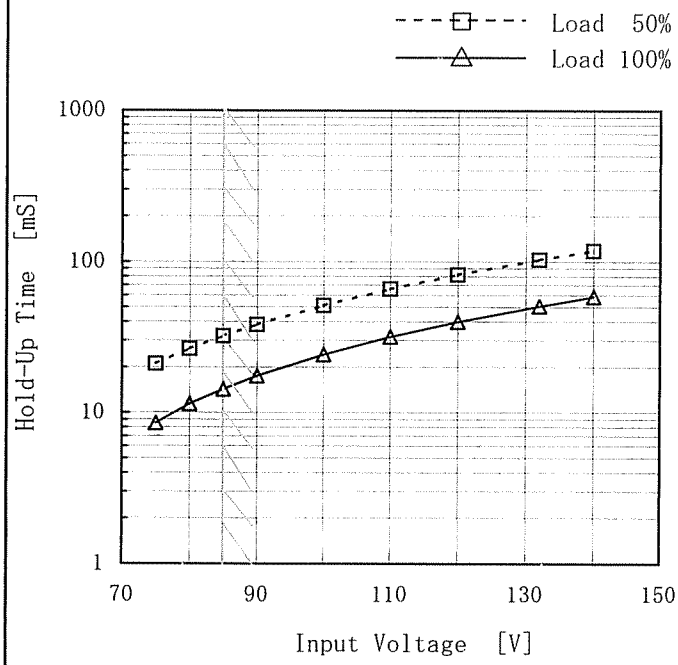
Load Current [A]	Efficiency [%]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	—	—	—
1.50	75.2	74.0	71.1
3.00	79.7	79.3	77.8
4.50	80.8	80.7	80.0
6.00	80.8	81.0	80.8
7.50	80.4	80.8	81.0
8.50	80.1	80.6	80.9
9.35	79.6	80.0	80.5
--	—	—	—
--	—	—	—
--	—	—	—

COSEL

Model	LDA75F-9
Item	Hold-Up Time 出力保持時間
Object	+9V8.5A

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 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

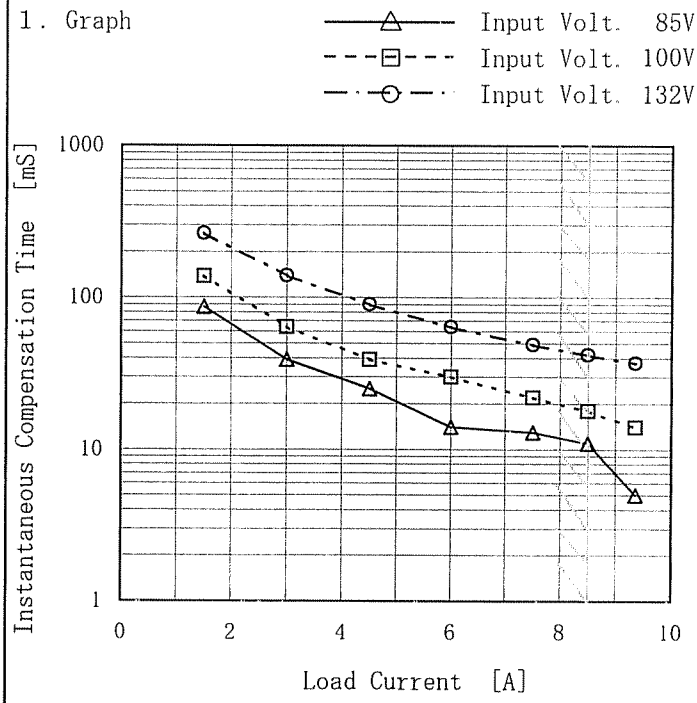
Input Voltage [V]	Hold-Up Time [mS]	
	Load 50%	Load 100%
75	21	9
80	27	11
85	32	14
90	38	18
100	51	24
110	66	32
120	82	40
132	103	51
140	118	59

COSEL

Model	LDA75F-9
Item	Instantaneous Interruption Compensation 瞬時停電保障
Object	+9V8.5A

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

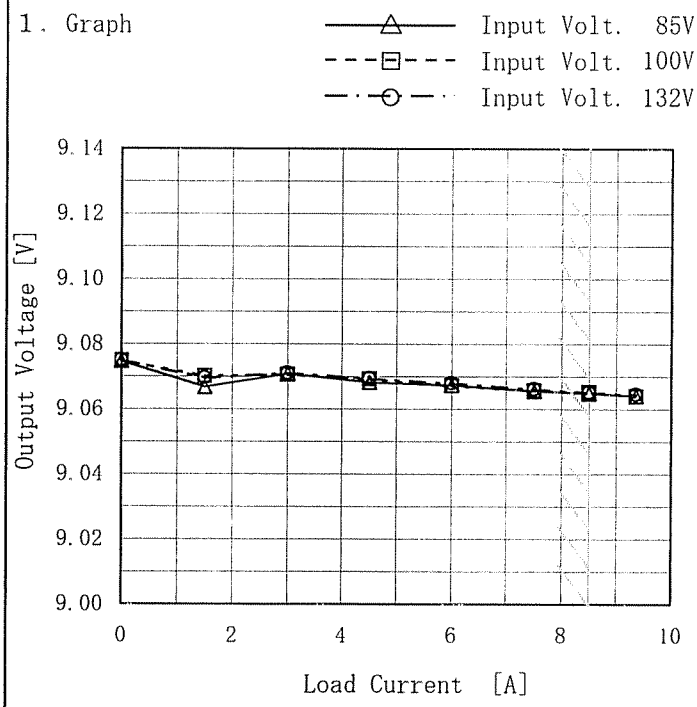
Load Current [A]	Time [mS]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	—	—	—
1.50	87	138	264
3.00	39	64	139
4.50	25	39	90
6.00	14	30	64
7.50	13	22	49
8.50	11	18	42
9.35	5	14	37
--	—	—	—
--	—	—	—
--	—	—	—

COSEL

Model	LDA75F-9
Item	Load Regulation 静的負荷変動
Object	+9V8.5A

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

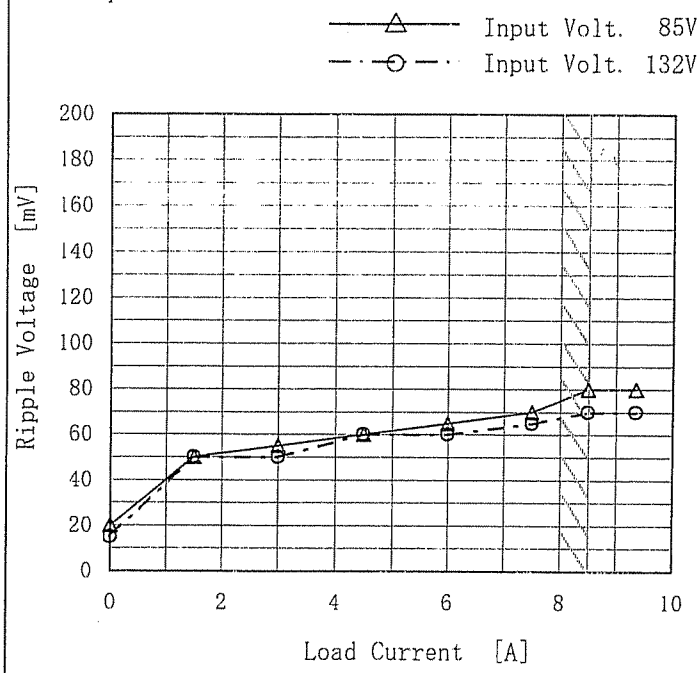
Load Current [A]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
0.00	9.075	9.075	9.075
1.50	9.067	9.070	9.070
3.00	9.071	9.071	9.071
4.50	9.068	9.069	9.069
6.00	9.067	9.067	9.068
7.50	9.066	9.066	9.066
8.50	9.065	9.065	9.065
9.35	9.064	9.064	9.065
--	—	—	—
--	—	—	—

COSEL

Model	LDA75F-9
Item	Ripple Voltage (by Load Current) リップル電圧（負荷特性）
Object	+9V8.5A

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

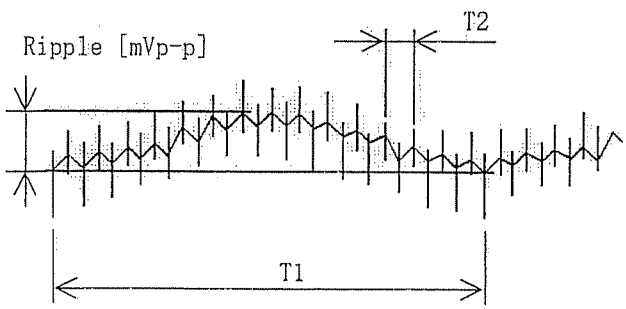


Fig. Complex Ripple Wave Form
図 リップル波形詳細図

2. Values

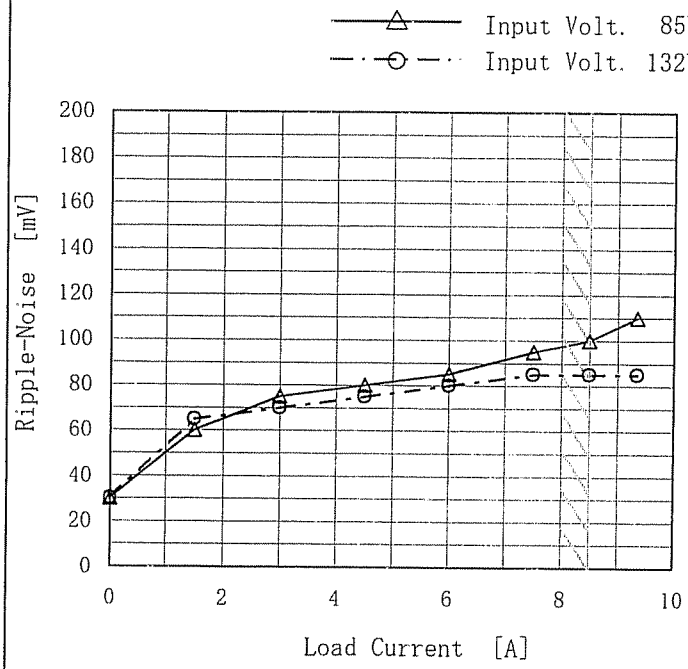
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.00	20	15
1.50	50	50
3.00	55	50
4.50	60	60
6.00	65	60
7.50	70	65
8.50	80	70
9.35	80	70
--	—	—
--	—	—
--	—	—

COSEL

Model	LDA75F-9
Item	Ripple-Noise リップルノイズ
Object	+9V8.5A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



2. Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 85 [V]	Input Volt. 132 [V]
0.00	30	30
1.50	60	65
3.00	75	70
4.50	80	75
6.00	85	80
7.50	95	85
8.50	100	85
9.35	110	85
--	—	—
--	—	—
--	—	—

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

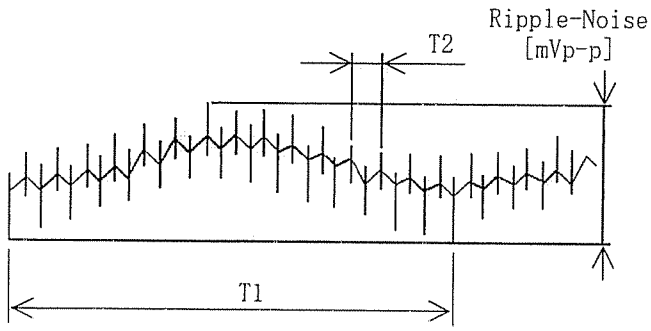


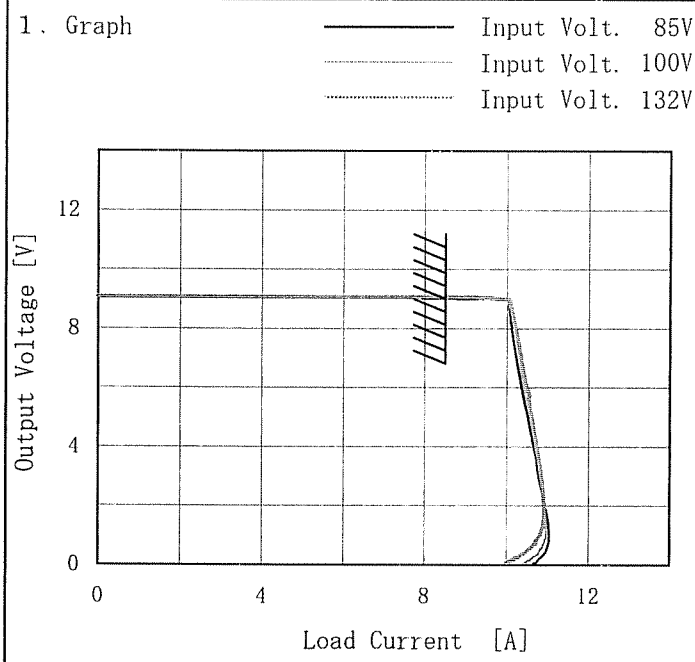
Fig. Complex Ripple Wave Form
図 リップル波形詳細図

COSEL

Model	LDA75F-9
Item	Overcurrent Protection 過電流保護
Object	+9V8.5A

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

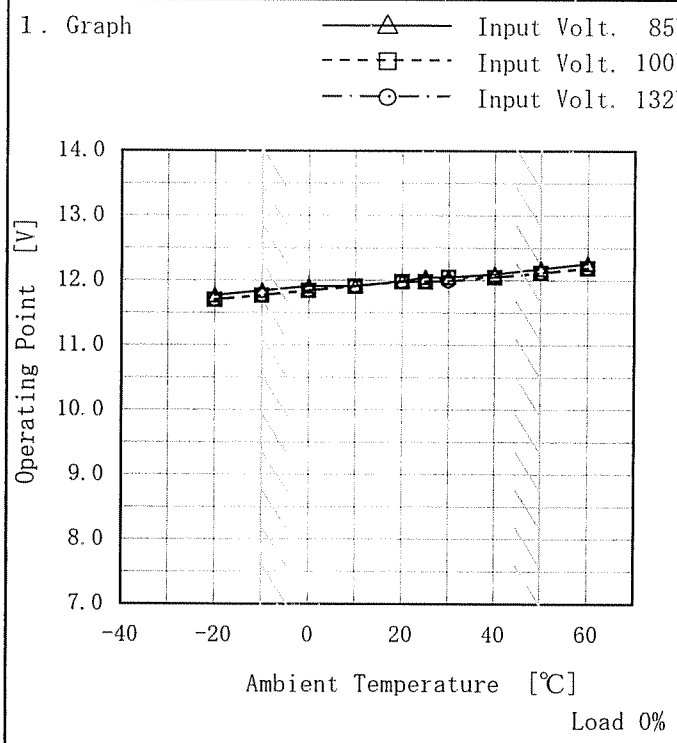
Output Voltage [V]	Load Current [A]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
9.000	10.06	10.02	10.07
8.550	10.07	10.04	10.12
8.100	10.11	10.09	10.20
7.200	10.19	10.21	10.32
6.300	10.31	10.35	10.45
5.400	10.44	10.48	10.56
4.500	10.59	10.61	10.68
3.600	10.73	10.71	10.78
2.700	10.82	10.83	10.88
1.800	10.97	10.95	10.92
0.900	11.04	10.95	10.79
0.000	10.67	10.43	9.99

COSEL

Model	LDA75F-9
Item	Overvoltage Protection 過電圧保護
Object	+9V8.5A

Testing Circuitry Figure A

1. Graph



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

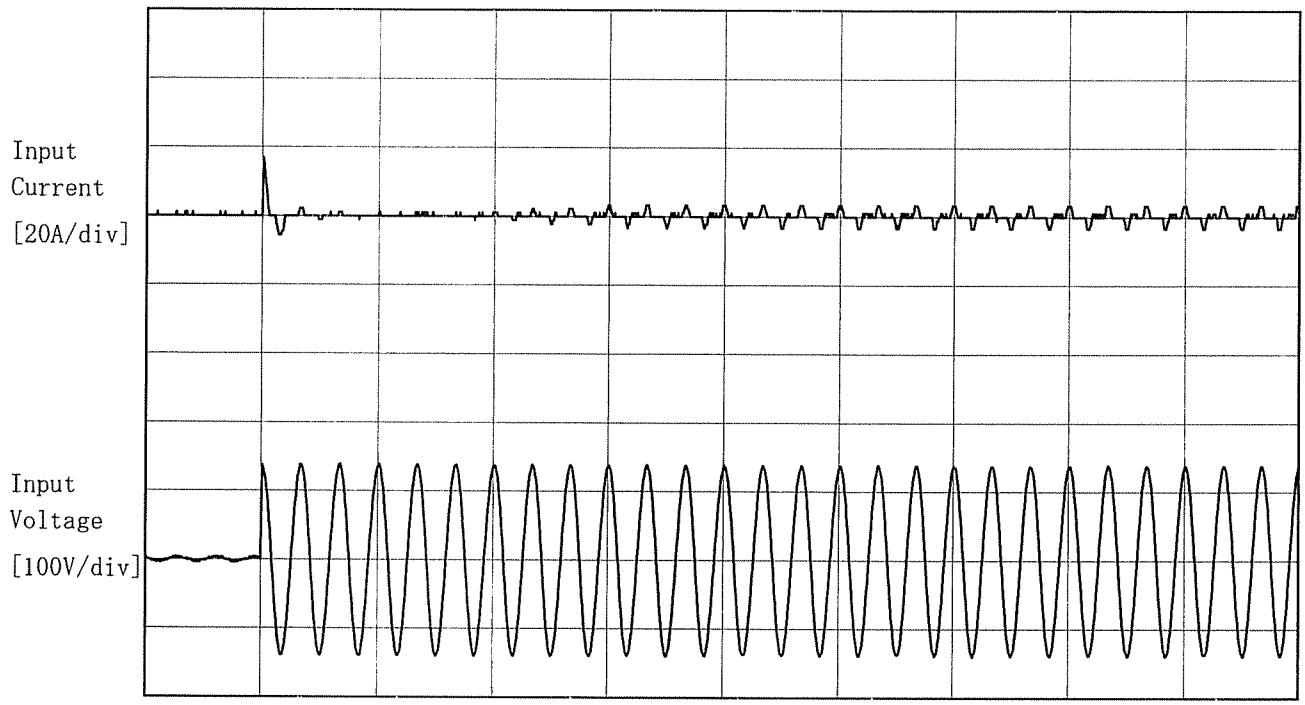
(注) 斜線は定格周囲温度範囲を示す。

2. Values

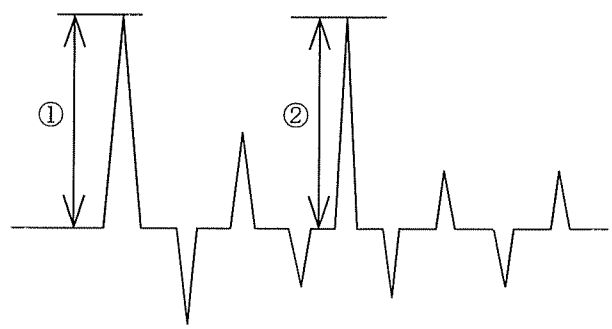
Ambient Temperature [℃]	Operating Point [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	11.77	11.70	11.70
-10	11.84	11.77	11.77
0	11.91	11.84	11.84
10	11.91	11.91	11.91
20	11.99	11.98	11.98
25	12.05	11.98	11.98
30	12.05	12.05	11.99
40	12.10	12.05	12.05
50	12.18	12.12	12.12
60	12.26	12.19	12.19
--	—	—	—

COSEL

Model	LDA75F-9		
Item	Inrush Current 突入電流	Temperature Testing Circuitry	25℃ Figure A
Object	――――――		



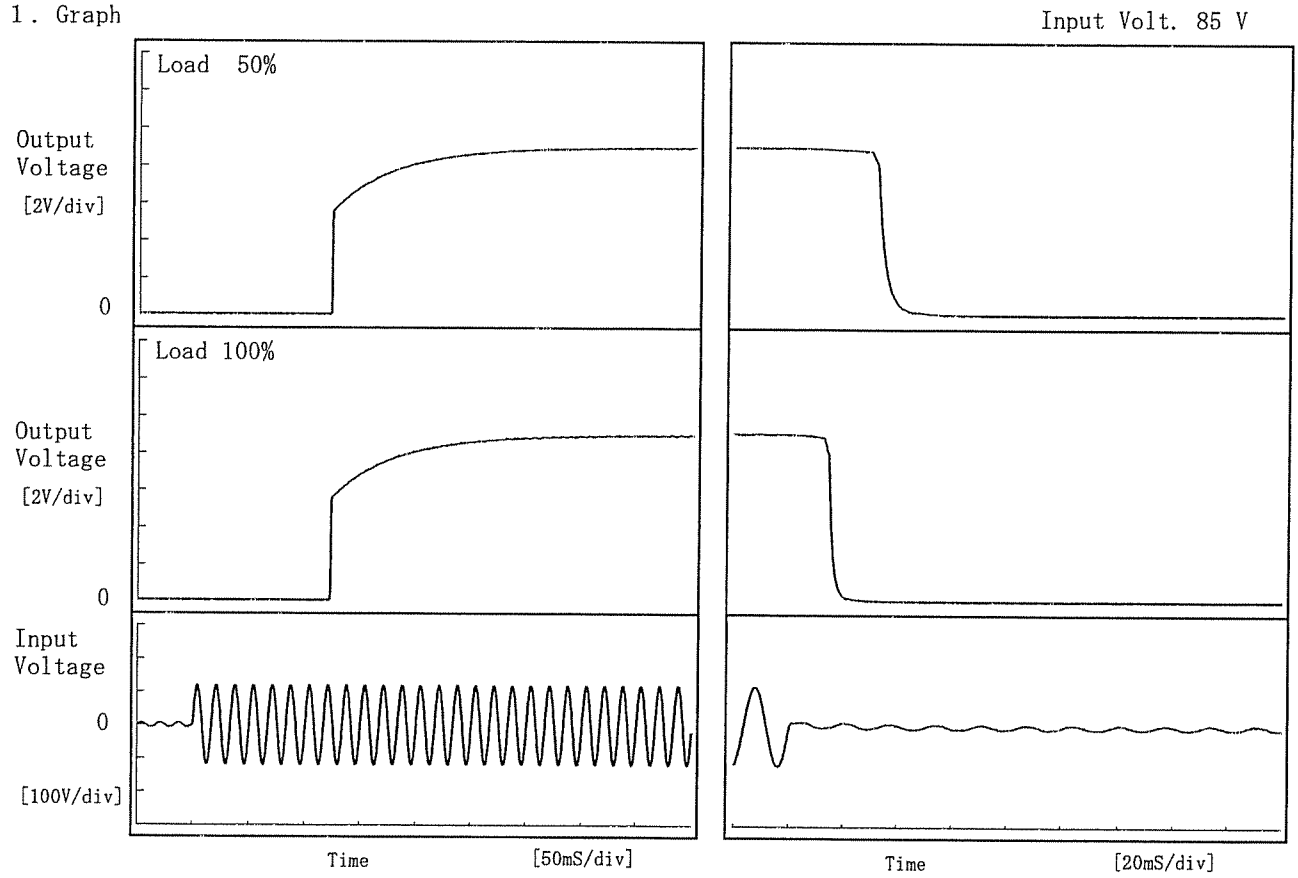
Input Voltage 100 V
Frequency 60 Hz
Load 100 %
Inrush Current
① 16.8 [A]
② 3.4 [A]



COSEL

Model	LDA75F-9		
Item	Rise and Fall Time 立上り、立下り時間	Temperature Testing Circuitry	25℃ Figure A
Object	+9.0V8.5A		

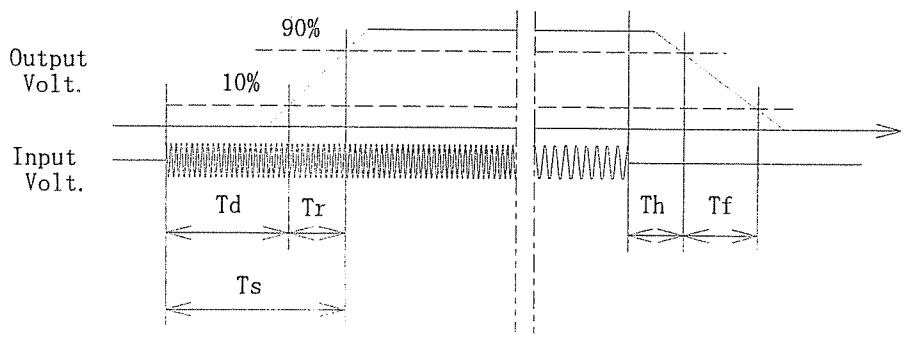
1. Graph



2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	122.3	82.3	204.5	31.9	6.5
100 %	122.3	83.3	205.5	14.2	3.9

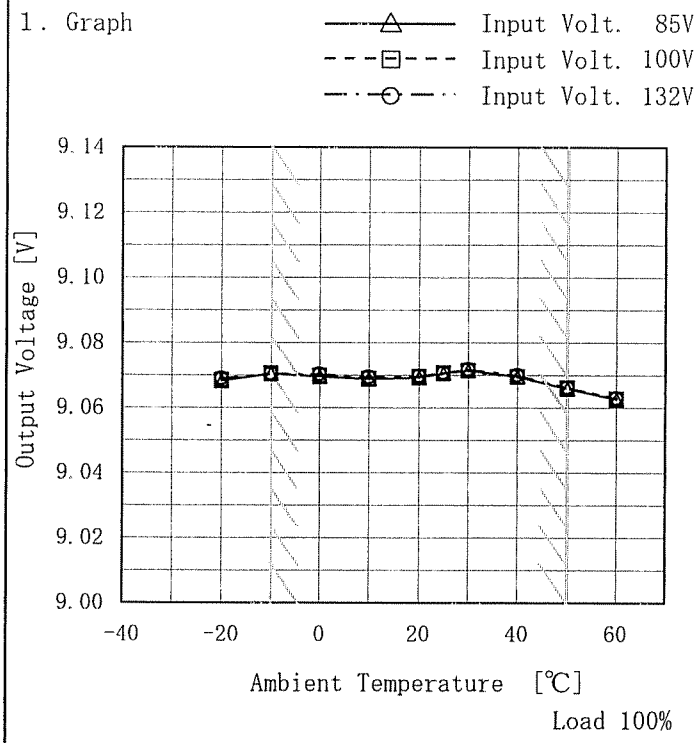


COSEL

Model	LDA75F-9
Item	Ambient Temperature Drift 周囲温度変動
Object	+9V8.5A

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

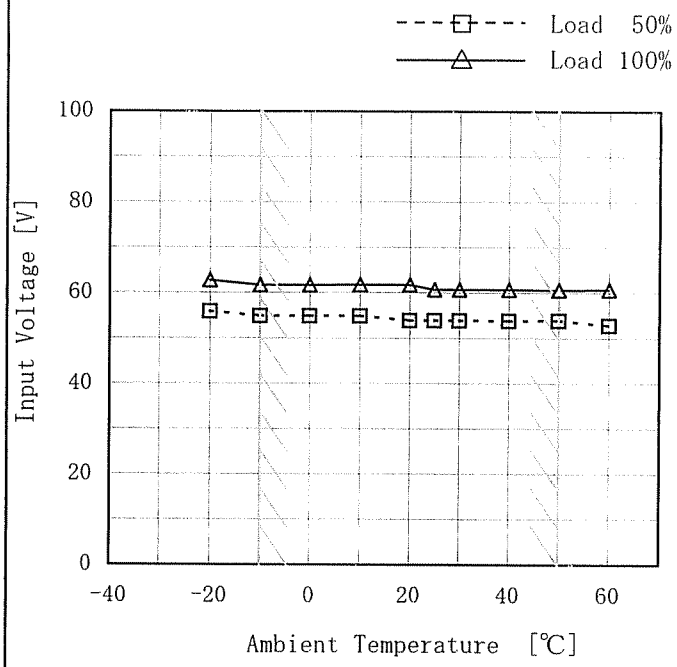
Ambient Temperature [℃]	Output Voltage [V]		
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]
-20	9.068	9.069	9.069
-10	9.070	9.071	9.071
0	9.070	9.070	9.070
10	9.069	9.069	9.069
20	9.069	9.070	9.070
25	9.071	9.071	9.071
30	9.071	9.072	9.072
40	9.070	9.070	9.070
50	9.066	9.066	9.066
60	9.063	9.063	9.063
--	—	—	—

COSEL

Model	LDA75F-9
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	+9V8.5A

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

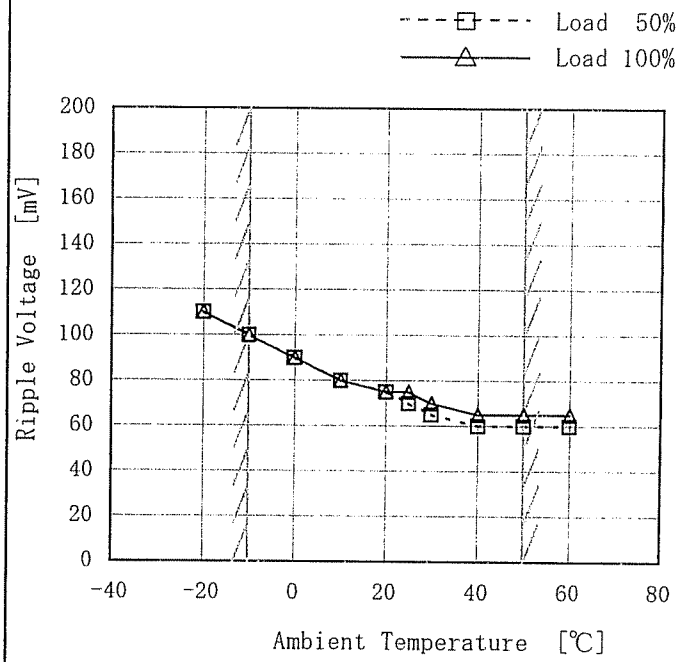
Ambient Temperature [℃]	Input Voltage [V]	
	Load 50%	Load 100%
-20	56	63
-10	55	62
0	55	62
10	55	62
20	54	62
25	54	61
30	54	61
40	54	61
50	54	61
60	53	61
--	—	—

COSEL

Model	LDA75F-9
Item	Ripple Voltage (by Ambient Temp.) リップル電圧（周囲温度特性）
Object	+9V8.5A

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	110	110
-10	100	100
0	90	90
10	80	80
20	75	75
25	70	75
30	65	70
40	60	65
50	60	65
60	60	65
—	—	—

COSEL

Model	LDA75F-9
Item	Output Voltage Accuracy 定電圧精度
Object	+9V8.5A

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℃
Input Voltage : 85 ～ 132V
Load Current : 0 ～ 8.5A

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

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

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 : 85 ～ 132V
負荷電流 : 0 ～ 8.5A

* 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		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	25	132	0	9.080	±8	±0.1
Minimum Voltage	50	132	8.5	9.065		

COSEL

Model	LDA75F-9		
Item	Leakage Current 漏洩電流	Temperature Testing Circuitry	25℃ Figure B
Object	――――――――		

1. Results

Standards	Leakage Current [mA]		
	Input Volt. 85 [V]	Input Volt. 100 [V]	Input Volt. 132 [V]
(A)DEN-AN	0.14	0.17	0.22
(B)IEC60950	0.14	0.16	0.20

Standards	Leakage Current [mA]		
	Input Volt. 170 [V]	Input Volt. 230 [V]	Input Volt. 264 [V]
(B)IEC60950	―	―	―

2. Condition

Leakage current value is concluded after measuring both phases of AC input and by choosing the larger one.

交流入力の両相について測定し、その大きい方を漏洩電流測定値とする。

COSEL

Model	LDA75F-9		
Item	Line Noise Tolerance 入力雑音耐量	Temperature Testing Circuitry	25℃ Figure C
Object	+9V8.5A		

1. Conditions

- Input Voltage : 100 V
- Pulse Voltage : 2000 V
- Pulse Cycle : 10 mS
- Pulse Input Duration : 1 min. or more
- Load : 100 %

2. Results

Pulse Width [nS]	MODE	POLARITY	No protection failure should occur 保護回路の誤動作がない	DC-like Regulation of Output Voltage 出力電圧の直流的変動
50	COMMON	+	OK	no fluctuation
		−	OK	no fluctuation
	NORMAL	+	OK	no fluctuation
		−	OK	no fluctuation
1000	COMMON	+	OK	no fluctuation
		−	OK	no fluctuation
	NORMAL	+	OK	no fluctuation
		−	OK	no fluctuation

COSEL

Model	LDA75F-9		
Item	Conducted Emission 雑音端子電圧	Temperature Testing Circuitry	25℃ Figure D
Object	――――――――		

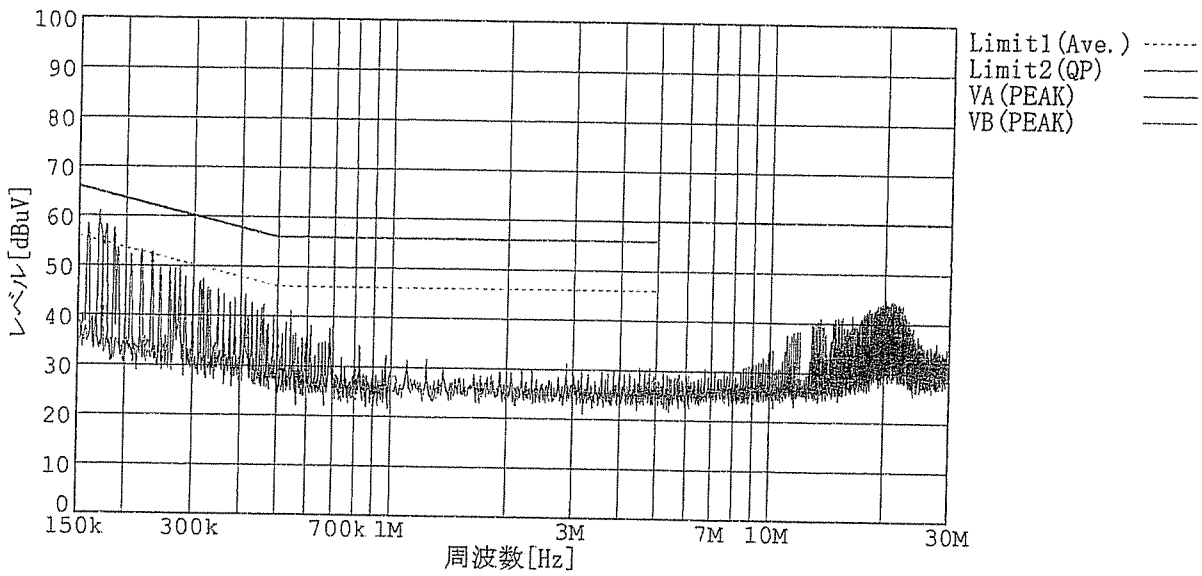
1. Graph

Remarks

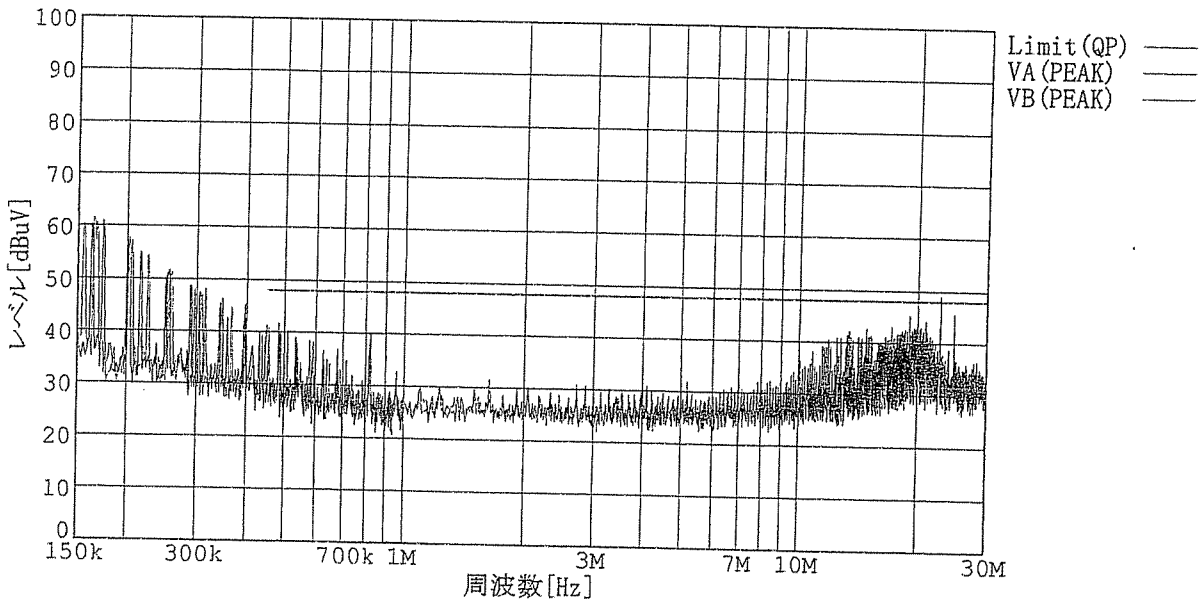
Input Volt. 100V (VCCI Class B)
120V (FCC Class B)

Load 100%

規格１：[VCCI] Class B(平均値)
規格２：[VCCI] Class B(QP)



規格：[FCC Part15] Class B



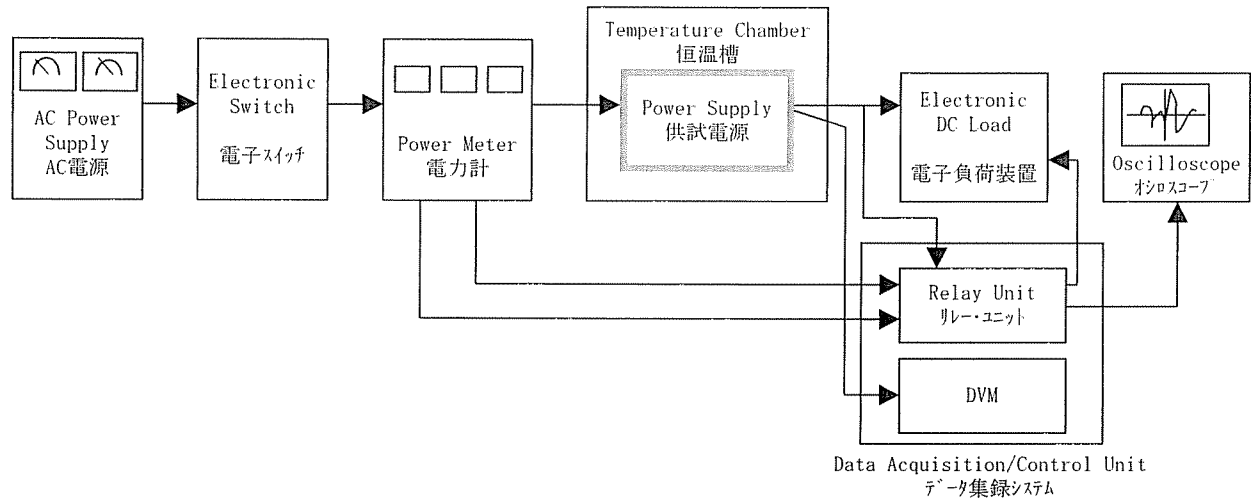


Figure A

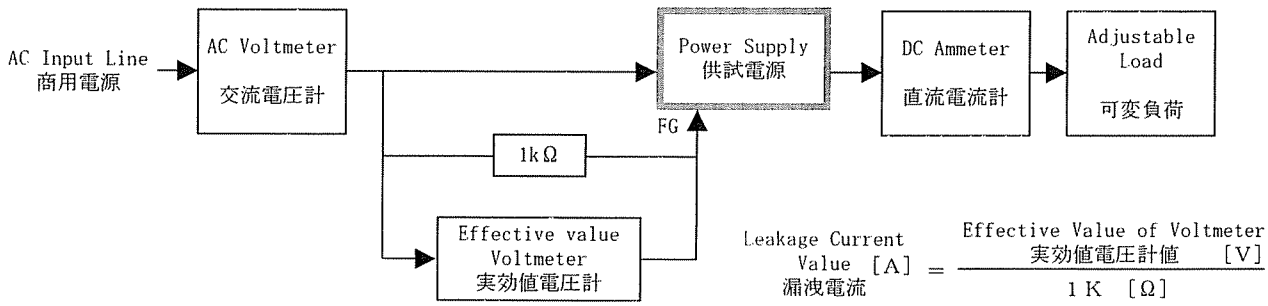


Figure B (DEN-AN)

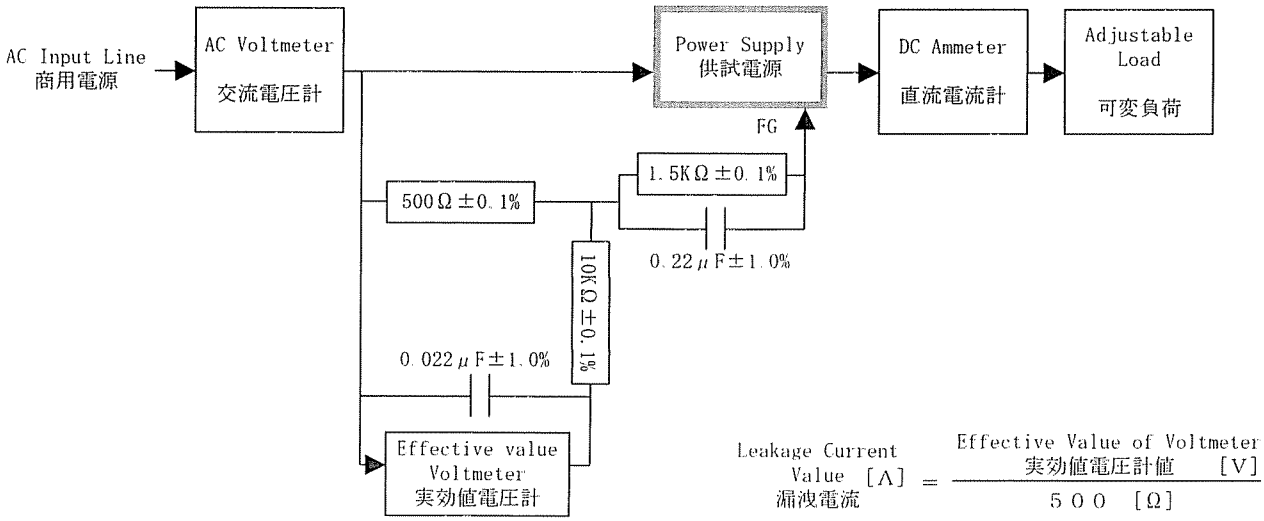


Figure B (IEC60950)

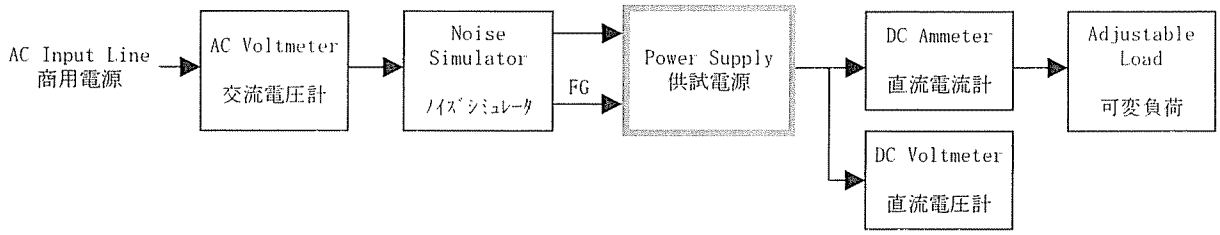


Figure C

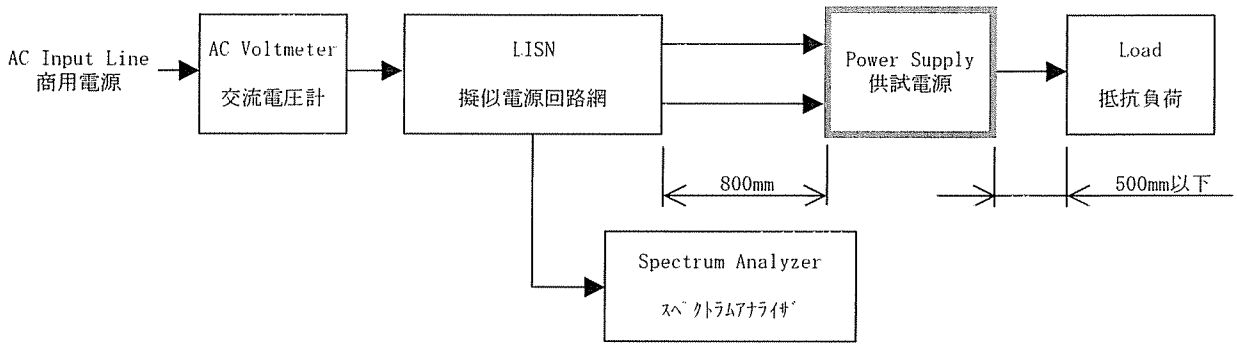


Figure D

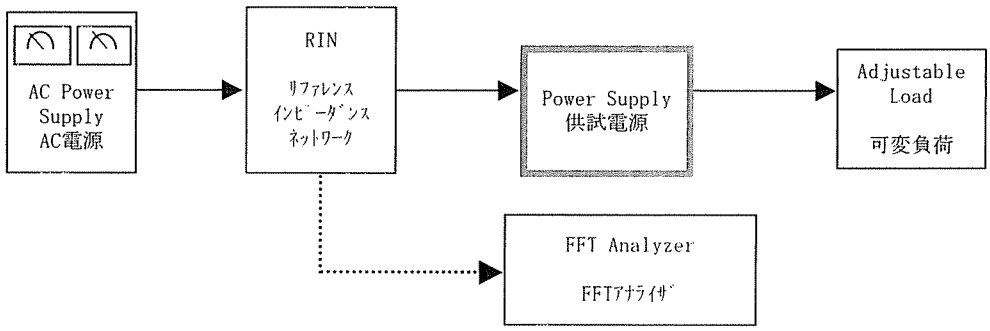


Figure E