参考資料

COSEL

TEST DATA OF VAF503
(200V INPUT)

Regulated DC Power Supply

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Approved by : M. Nakata
Design Manager

Prepared by : T. Yamashina
Design Engineer

コーセル株式会社

COSEL CO.,LTD.

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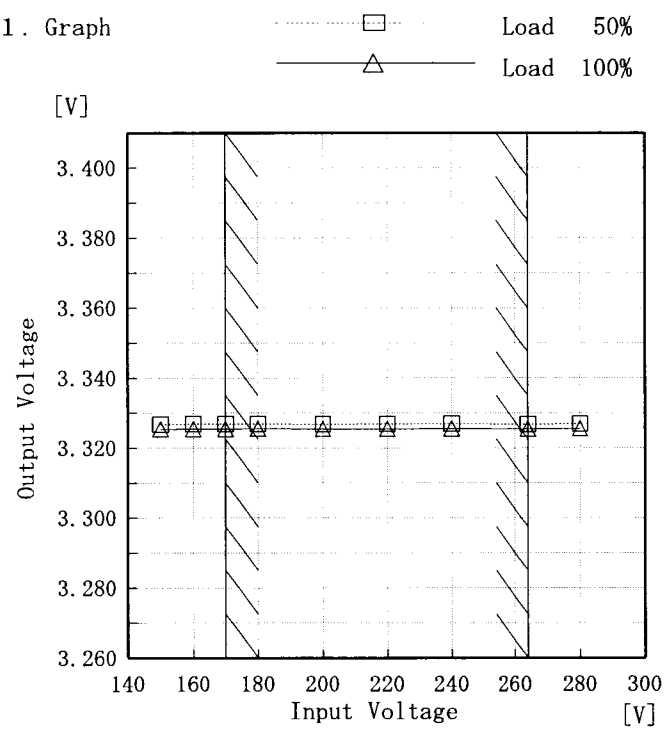
Testing Circuitry Figure A

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	3.327	3.325
160	3.327	3.325
170	3.327	3.325
180	3.327	3.326
200	3.327	3.325
220	3.327	3.325
240	3.327	3.326
264	3.327	3.325
280	3.327	3.326

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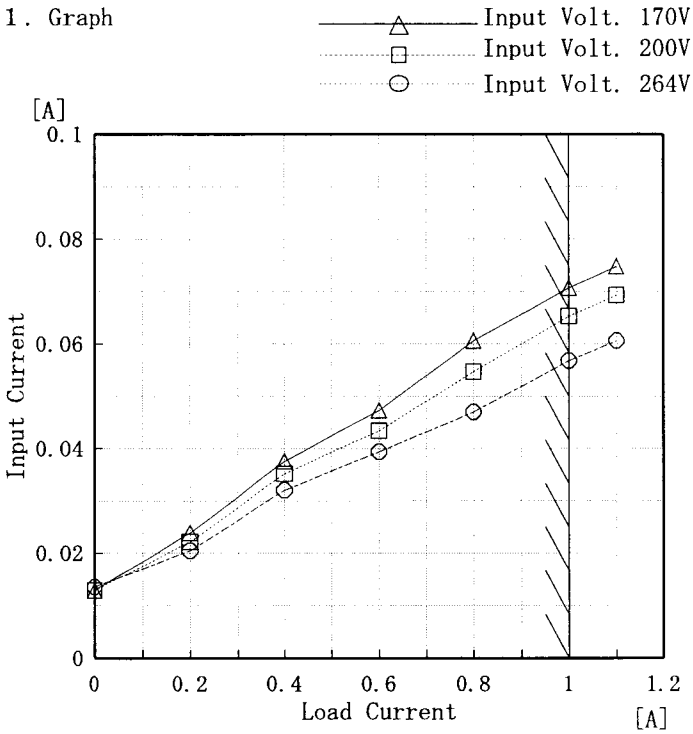
Model	VAF503
Item	Input Current (by Load Current) 入力電流 (負荷特性)
Object	————

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	0.013	0.013	0.014
0.2	0.024	0.022	0.021
0.4	0.038	0.035	0.032
0.6	0.047	0.043	0.039
0.8	0.061	0.055	0.047
1.0	0.071	0.065	0.057
1.1	0.075	0.069	0.061
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

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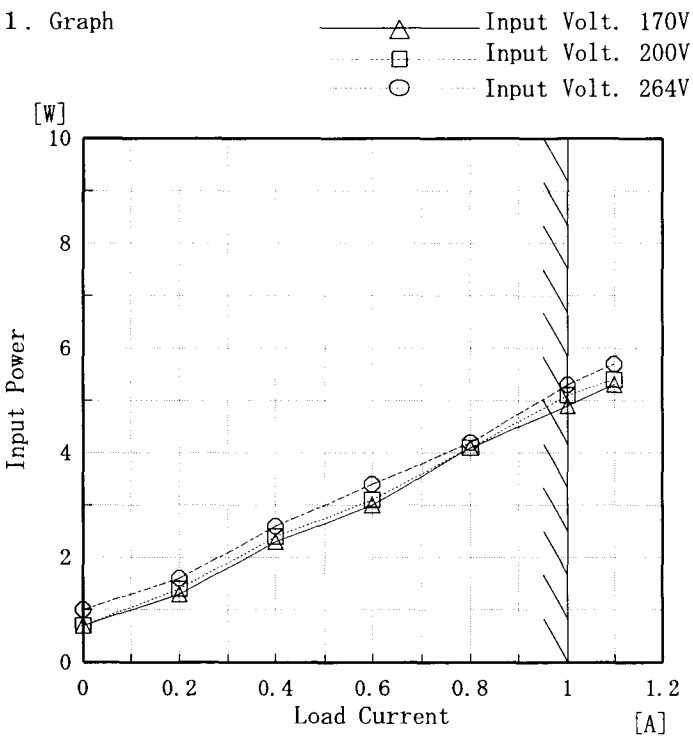
Model	VAF503
Item	Input Power (by Load Current) 入力電力 (負荷特性)
Object	————

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

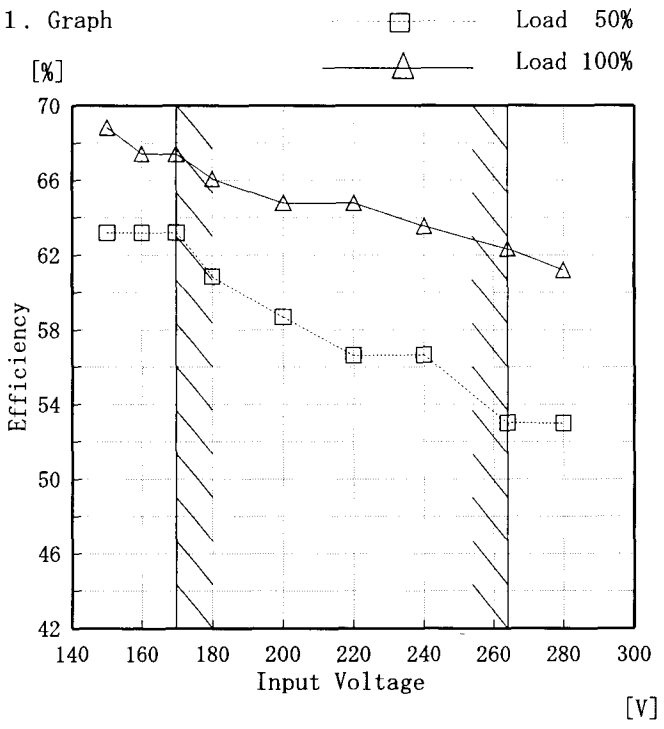
Load Current [A]	Input Power [W]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.0	0.70	0.70	1.00
0.2	1.30	1.40	1.60
0.4	2.30	2.40	2.60
0.6	3.00	3.10	3.40
0.8	4.10	4.10	4.20
1.0	4.90	5.10	5.30
1.1	5.30	5.40	5.70
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	VAF503
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	63.2	68.8
160	63.2	67.4
170	63.2	67.4
180	60.9	66.1
200	58.7	64.8
220	56.6	64.8
240	56.7	63.5
264	53.0	62.3
280	53.0	61.2

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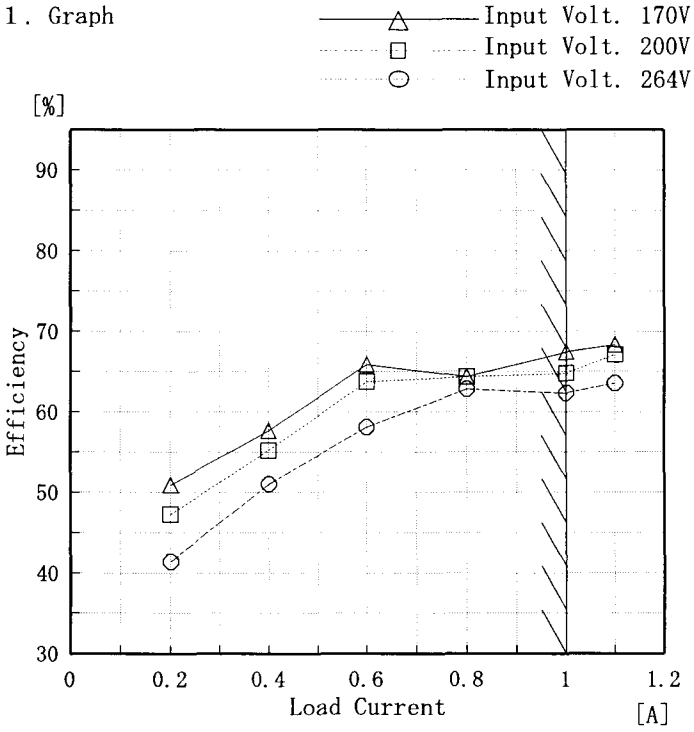
Model	VAF503
Item	Efficiency (by Load Current) 効率（負荷特性）
Object	————

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

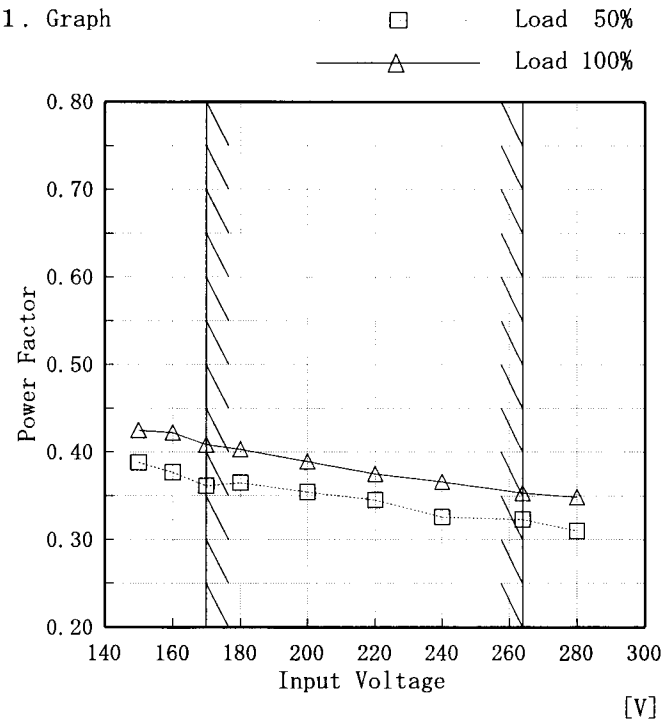
Load Current [A]	Efficiency [%] Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
0.2	50.9	47.3	41.4
0.4	57.7	55.2	51.0
0.6	65.9	63.7	58.1
0.8	64.4	64.4	62.9
1.0	67.4	64.8	62.3
1.1	68.3	67.1	63.5
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

COSEL

Model	VAF503
Item	Power Factor (by Input Voltage) 力率（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]	Power Factor	
	Load 50%	Load 100%
150	0.39	0.42
160	0.38	0.42
170	0.36	0.41
180	0.36	0.40
200	0.35	0.39
220	0.35	0.38
240	0.33	0.37
264	0.32	0.35
280	0.31	0.35

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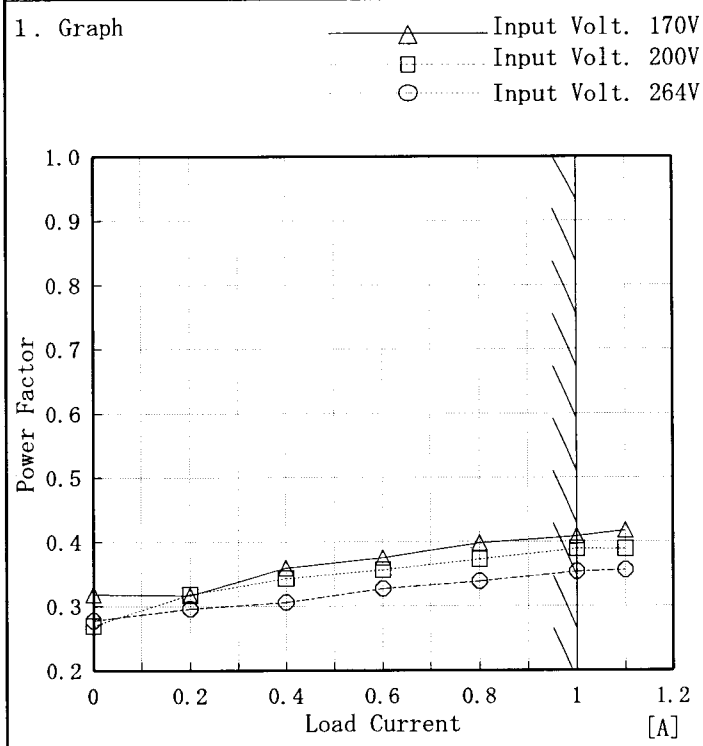
Model	VAF503
Item	Power Factor (by Load Current) 力率（負荷特性）
Object	————

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	0.32	0.27	0.28
0.2	0.32	0.32	0.30
0.4	0.36	0.34	0.31
0.6	0.38	0.36	0.33
0.8	0.40	0.37	0.34
1.0	0.41	0.39	0.35
1.1	0.42	0.39	0.36
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

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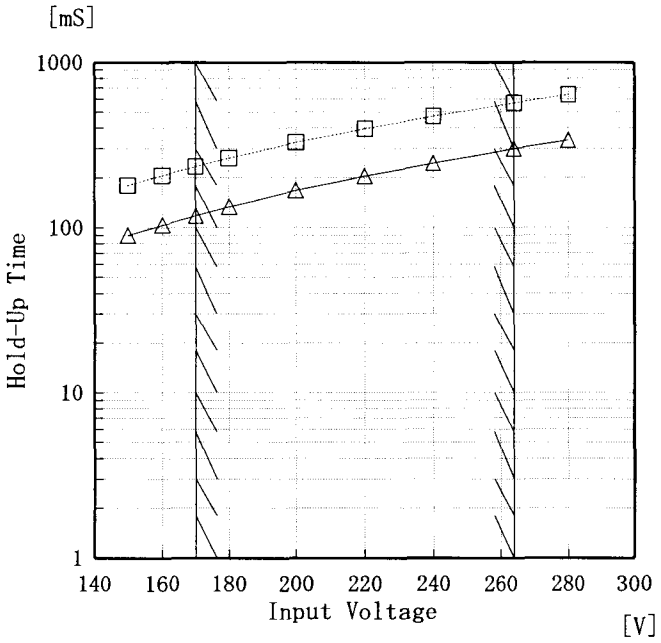
Model	VAF503
Item	Hold-Up Time 出力保持時間
Object	+3.3V1A

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	180	90
160	206	104
170	234	119
180	264	134
200	327	168
220	397	205
240	471	246
264	568	299
280	638	338

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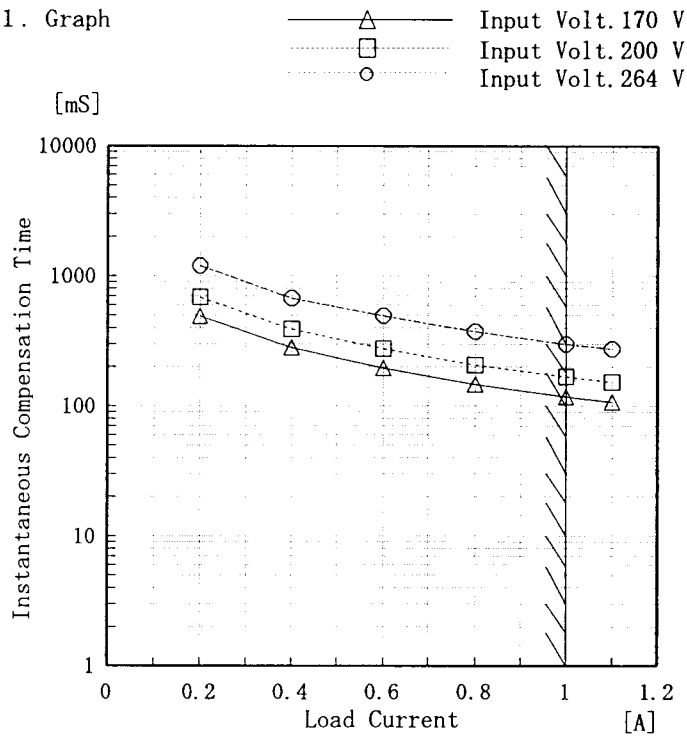
Model	VAF503
Item	Instantaneous Interruption Compensation 瞬時停電保障
Object	+3.3V1A

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]
0.0	—	—	—
0.2	490	685	1199
0.4	281	390	676
0.6	196	277	493
0.8	147	207	375
1.0	118	168	299
1.1	107	153	275
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

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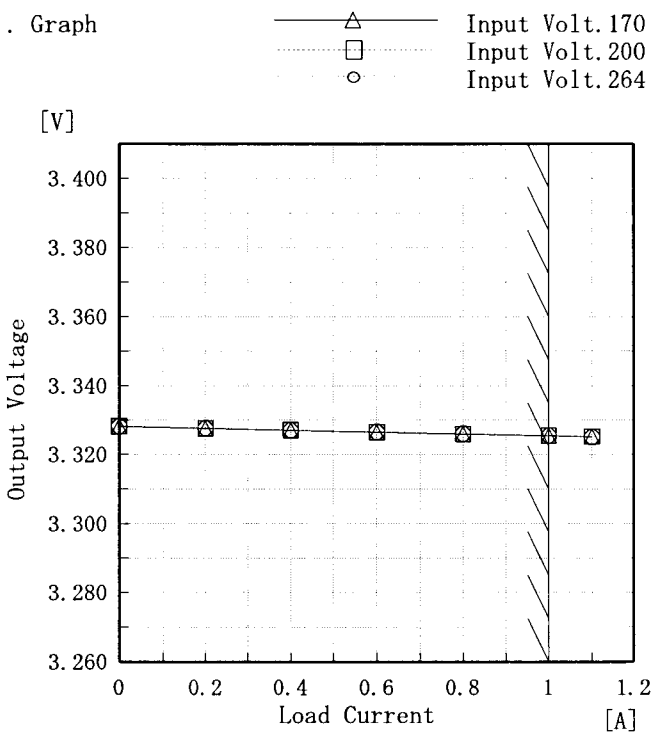
Model	VAF503
Item	Load Regulation 静的負荷変動
Object	+3.3V1A

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]
0.0	3.328	3.328	3.328
0.2	3.328	3.328	3.328
0.4	3.327	3.327	3.327
0.6	3.327	3.327	3.327
0.8	3.326	3.326	3.326
1.0	3.325	3.325	3.325
1.1	3.325	3.325	3.325
—	—	—	—
—	—	—	—
—	—	—	—

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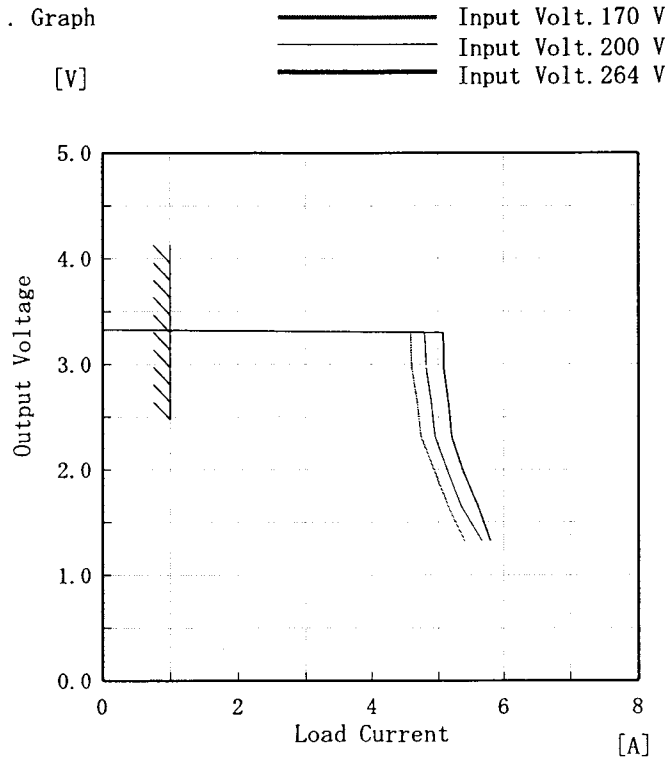
Model	VAF503
Item	Overcurrent Protection 過電流保護
Object	+3.3V1A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



Note1: Slanted line shows the range of the rated load current.

Note2: The lines shows peak current of intermittent operation of power supply when output voltage drops less than rated voltage value at overcurrent.

(注１)斜線は定格負荷電流範囲を示す。

(注２)垂下部分は間欠モード時のピーク電流を示す。

2. Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]
3.30	4.60	4.80	5.07
3.13	4.60	4.81	5.08
2.97	4.61	4.82	5.08
2.64	4.69	4.90	5.15
2.31	4.75	4.95	5.20
1.98	4.95	5.14	5.38
1.65	5.15	5.35	5.61
1.32	5.40	5.67	5.80
0.99	—	—	—
0.66	—	—	—
0.33	—	—	—
0.00	—	—	—

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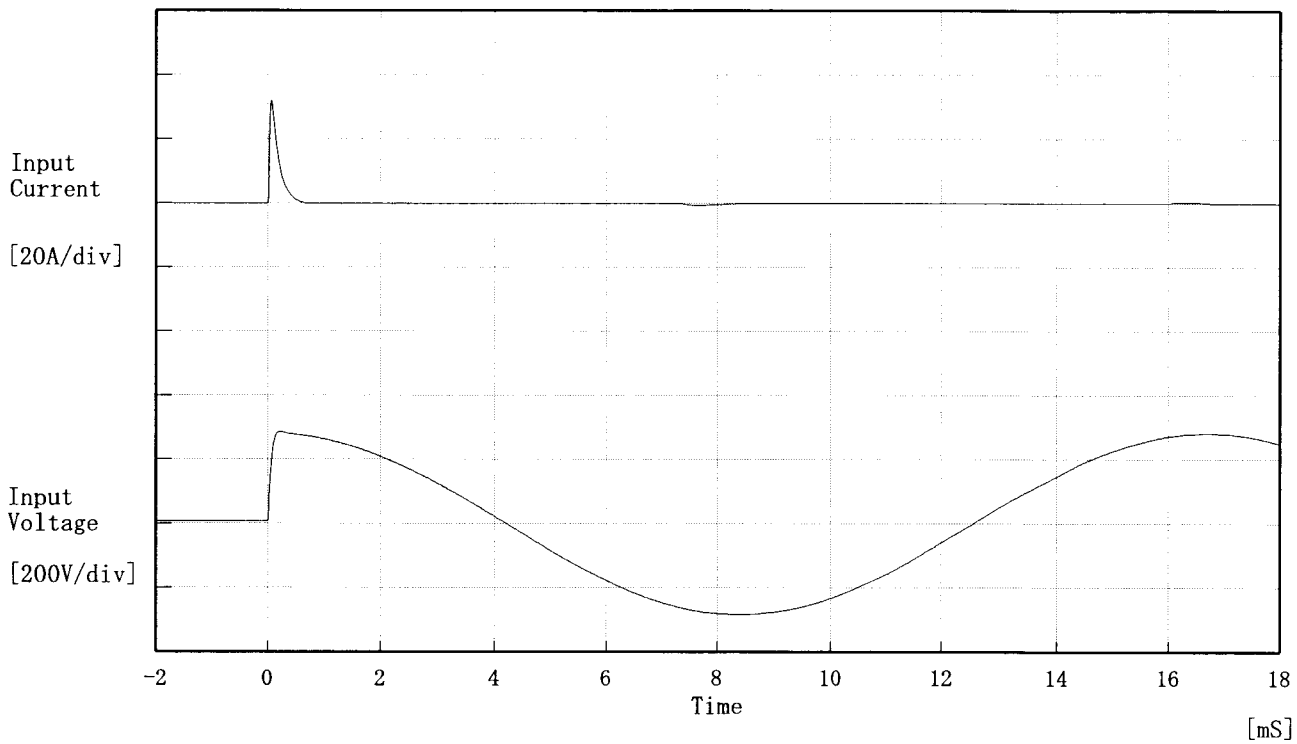
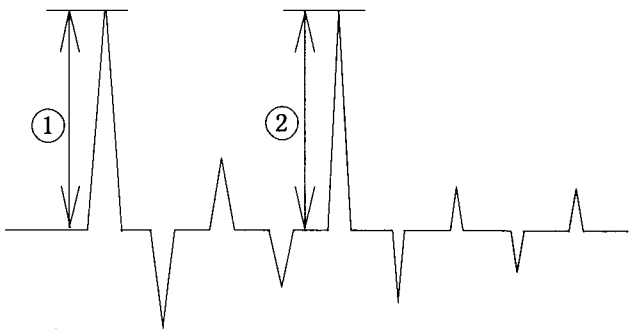
Model	VAF503		
Item	Inrush Current 突入電流	Temperature Testing Circuitry	25℃ Figure A
Object	――――――――		



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



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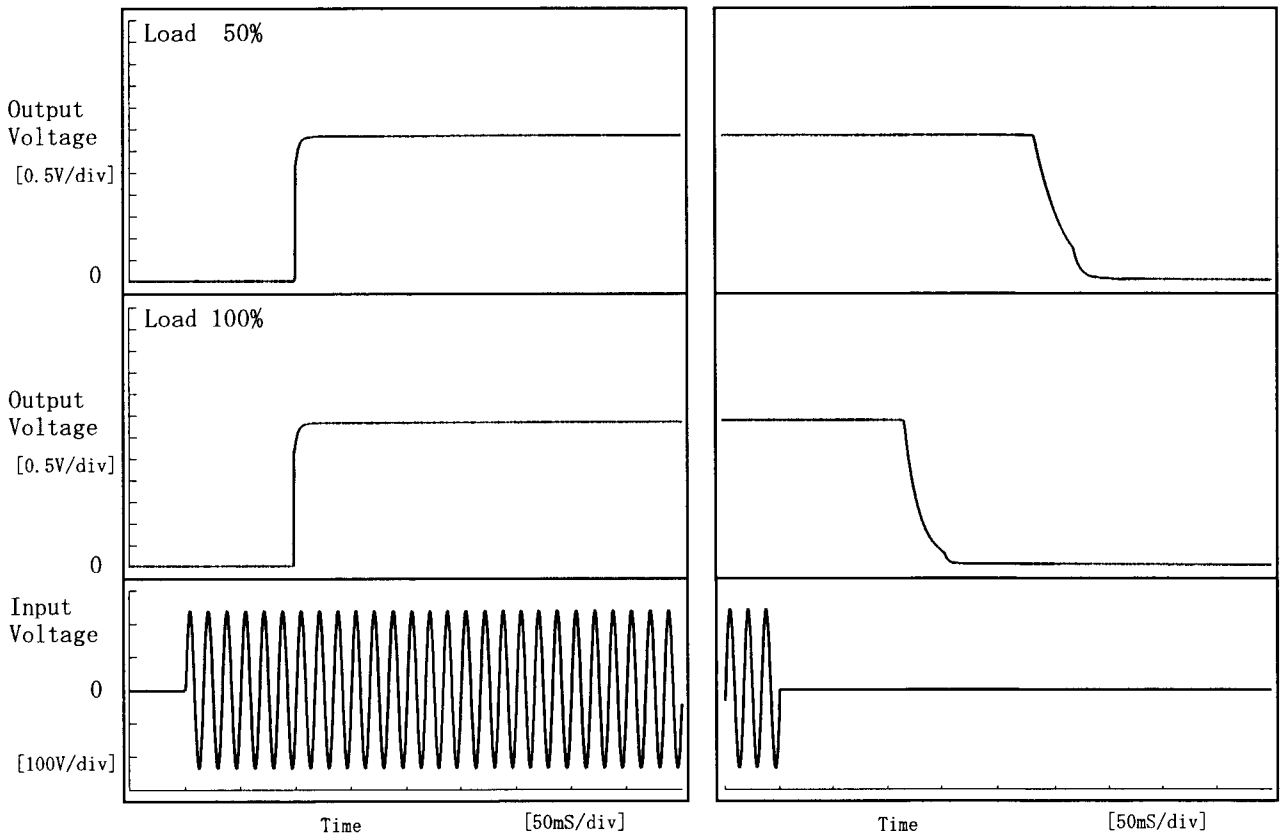
Model	VAF503		
Item	Rise and Fall Time 立上り、立下り時間	Temperature Testing Circuitry	25℃ Figure A
Object	+3.3V1A		

1. Graph

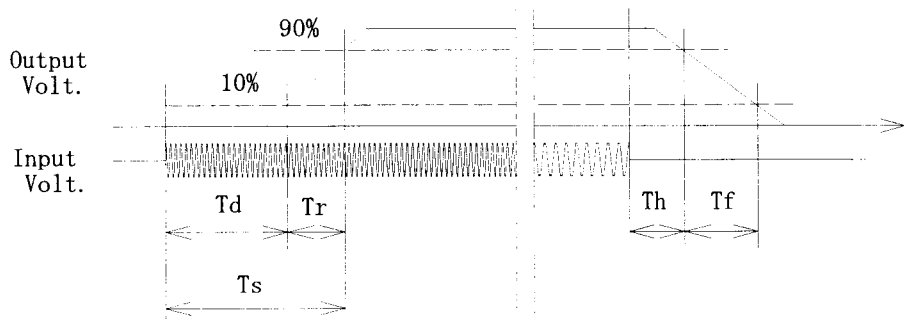
Input Volt. 170 V



2. Values

[mS]

Load \ Time	T d	T r	T s	T h	T f
50 %	99.0	2.8	101.8	235.0	39.5
100 %	97.8	3.0	100.8	119.0	33.3



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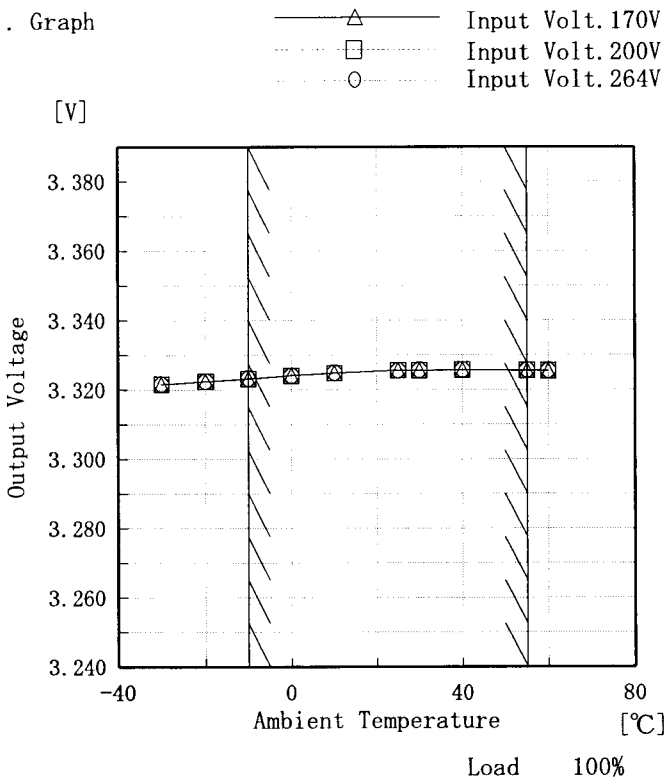
Model	VAF503
Item	Ambient Temperature Drift 周囲温度変動
Object	+3.3V1A

Testing Circuitry Figure A

1. Graph



Load 100%

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]
-30	3.322	3.322	3.322
-20	3.322	3.322	3.322
-10	3.323	3.323	3.323
0	3.324	3.324	3.324
10	3.325	3.325	3.325
25	3.326	3.326	3.326
30	3.325	3.326	3.326
40	3.326	3.326	3.326
55	3.325	3.326	3.326
60	3.325	3.325	3.326
—	—	—	—

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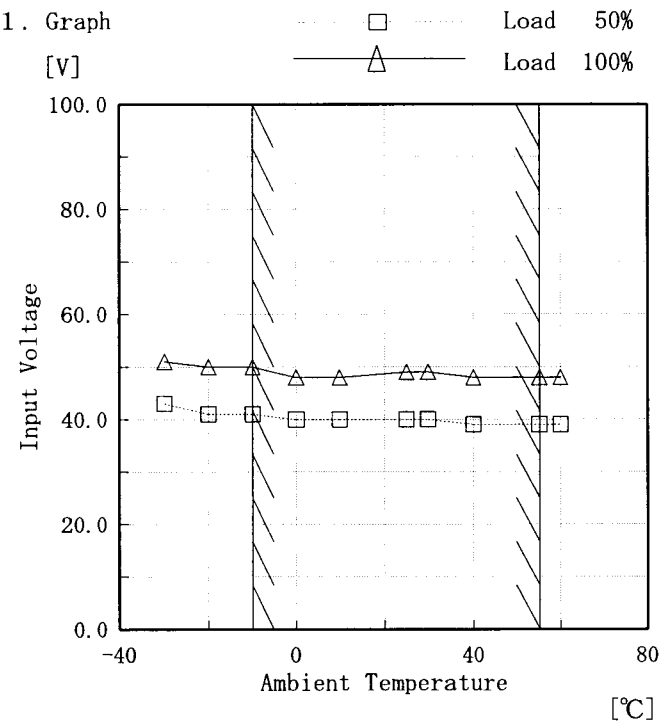
Model	VAF503
Item	Minimum Input Voltage for Regulated Output Voltage 最低レギュレーション電圧
Object	+3.3V1A

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

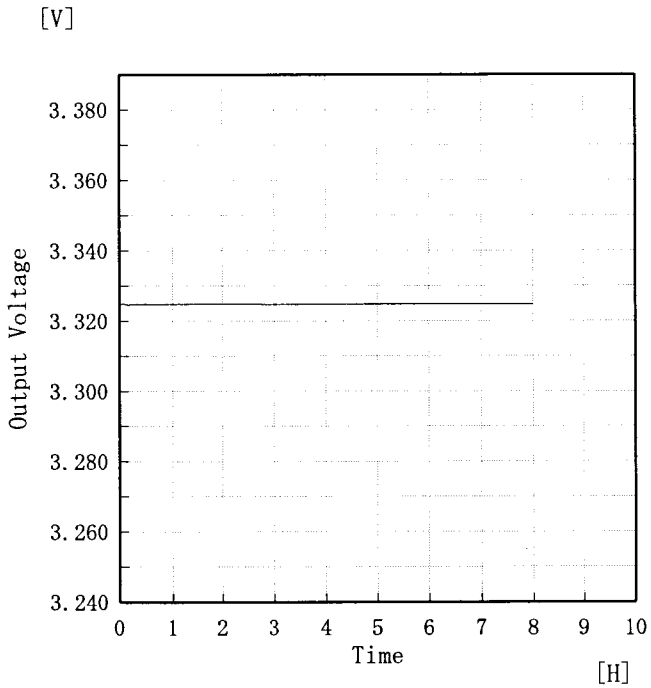
Ambient Temperature [℃]	Input Voltage [V]	
	Load 50%	Load 100%
-30	43	51
-20	41	50
-10	41	50
0	40	48
10	40	48
25	40	49
30	40	49
40	39	48
55	39	48
60	39	48
—	—	—

COSEL

Model	VAF503
Item	Time Lapse Drift 経時ドリフト
Object	+3.3V1A

Temperature 25℃
Testing Circuitry Figure A

1. Graph



Input Volt. 200V
Load 100%

2. Values

Time since start [H]	Output Voltage [V]
0.0	3.325
0.5	3.325
1.0	3.325
2.0	3.325
3.0	3.325
4.0	3.325
5.0	3.325
6.0	3.325
7.0	3.325
8.0	3.325

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Model	VAF503
Item	Output Voltage Accuracy 定電圧精度
Object	+3.3V1A

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 : -10～55 ℃
Input Voltage : 170～264 V
Load Current : 0～1 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 -10～55 ℃
入力電圧 170～264 V
負荷電流 0～1 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	55	170	0	3.329	±3	±0.1
Minimum Voltage	-10	170	1	3.323		

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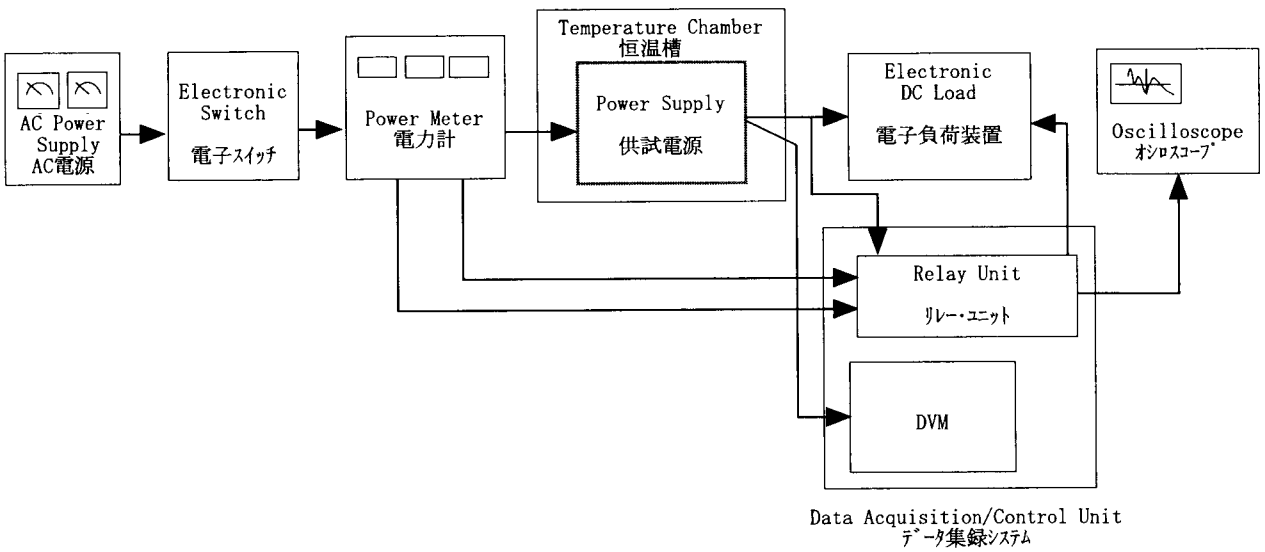

Figure A

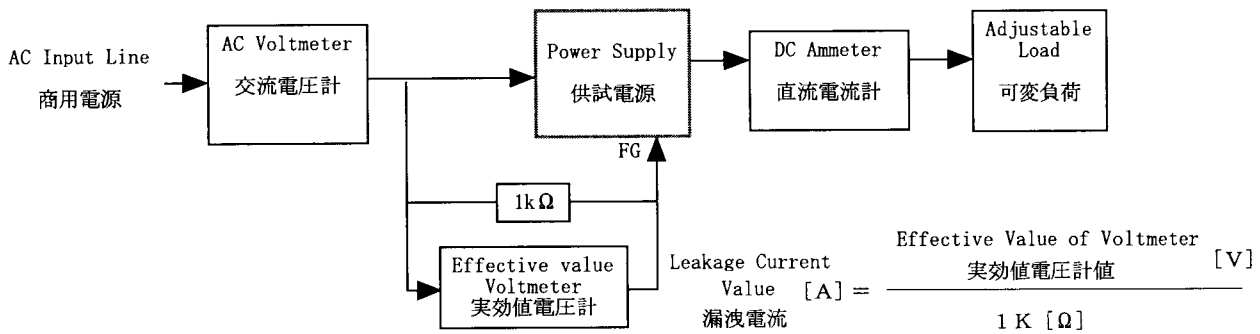

Figure B(DENTORI)

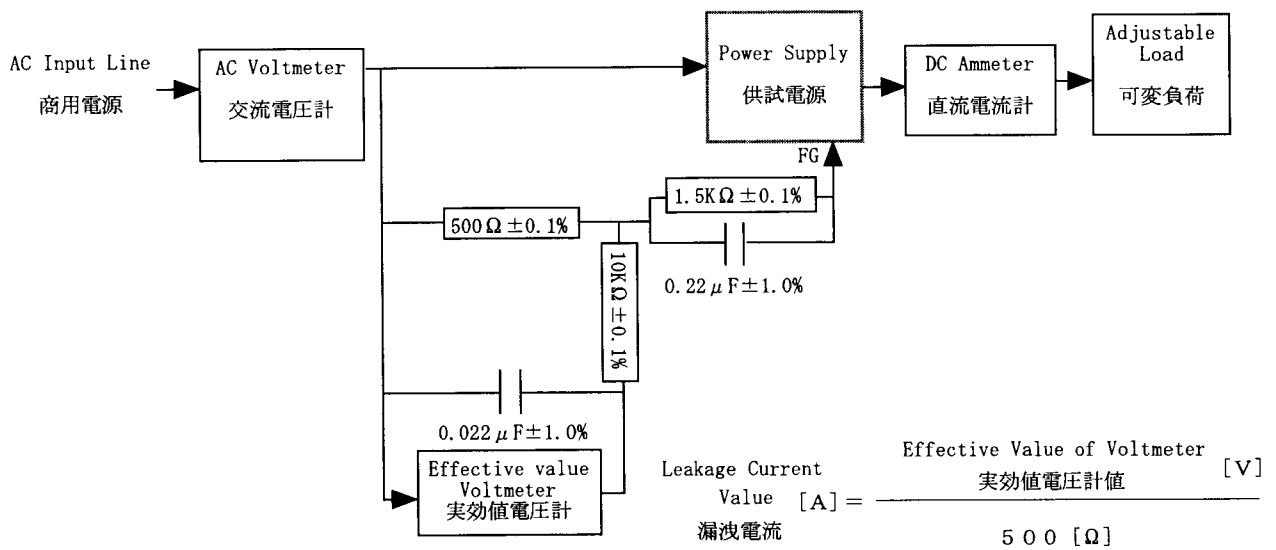

Figure B(IEC60950)

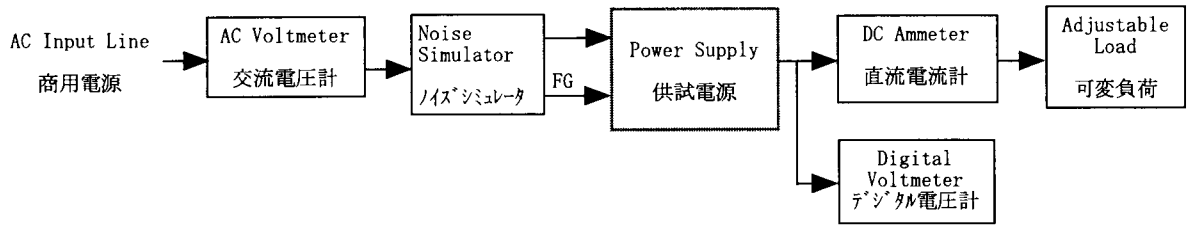

Figure C

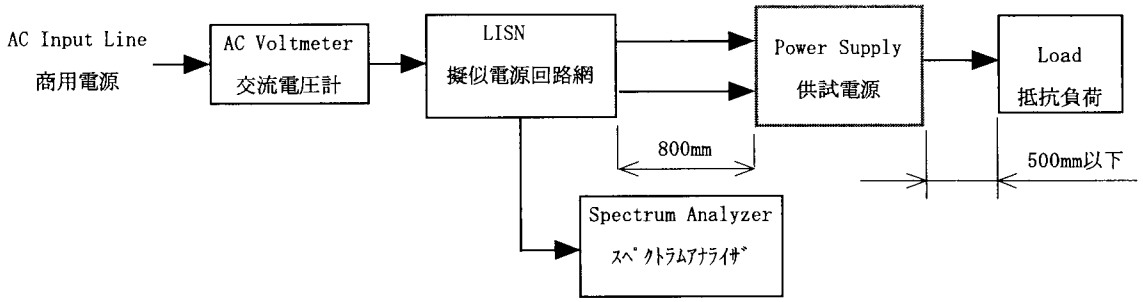

Figure D

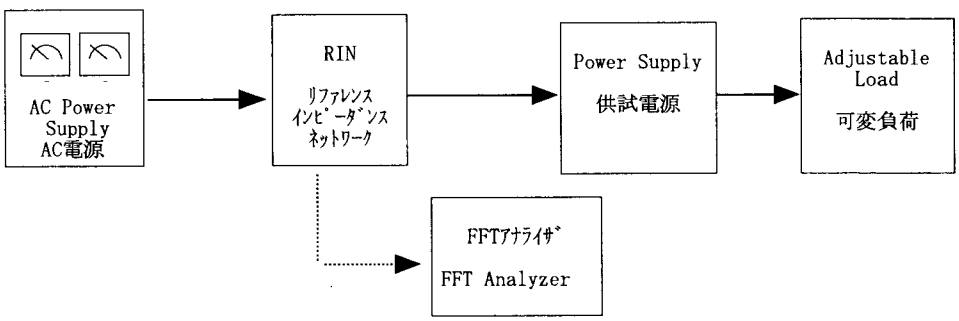

Figure E