参考資料

COSEL

# TEST DATA OF PAA50F-12

(200V INPUT)

Regulated DC Power Supply

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Design Engineer

コーセル株式会社

COSEL CO., LTD.

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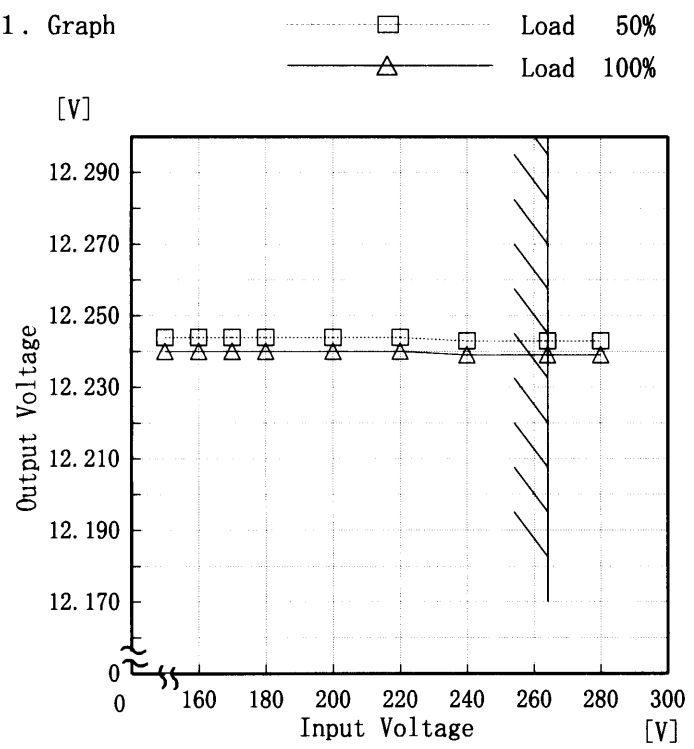
| | |
|---|---|
| Model | PAA50F-12 |
| Item | Line Regulation 静的入力変動 |
| Object | ＋１２Ｖ４．３Ａ |

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] | Load 50% Output Volt. [V] | Load 100% Output Volt. [V] |
|---|---|---|
| 150 | 12.244 | 12.240 |
| 160 | 12.244 | 12.240 |
| 170 | 12.244 | 12.240 |
| 180 | 12.244 | 12.240 |
| 200 | 12.244 | 12.240 |
| 220 | 12.244 | 12.240 |
| 240 | 12.243 | 12.239 |
| 264 | 12.243 | 12.239 |
| 280 | 12.243 | 12.239 |

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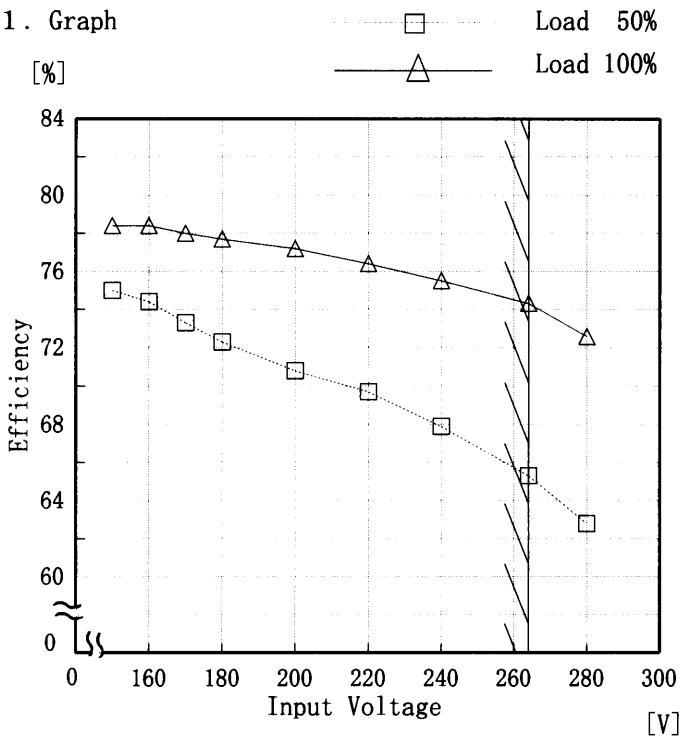
| | |
|---|---|
| Model | PAA50F-12 |
| Item | Efficiency 効率 |
| Object | ——— |

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] | Load 50% Efficiency [%] | Load 100% Efficiency [%] |
|---|---|---|
| 150 | 75.0 | 78.4 |
| 160 | 74.4 | 78.4 |
| 170 | 73.3 | 78.0 |
| 180 | 72.3 | 77.7 |
| 200 | 70.8 | 77.2 |
| 220 | 69.7 | 76.4 |
| 240 | 67.9 | 75.5 |
| 264 | 65.3 | 74.3 |
| 280 | 62.8 | 72.6 |

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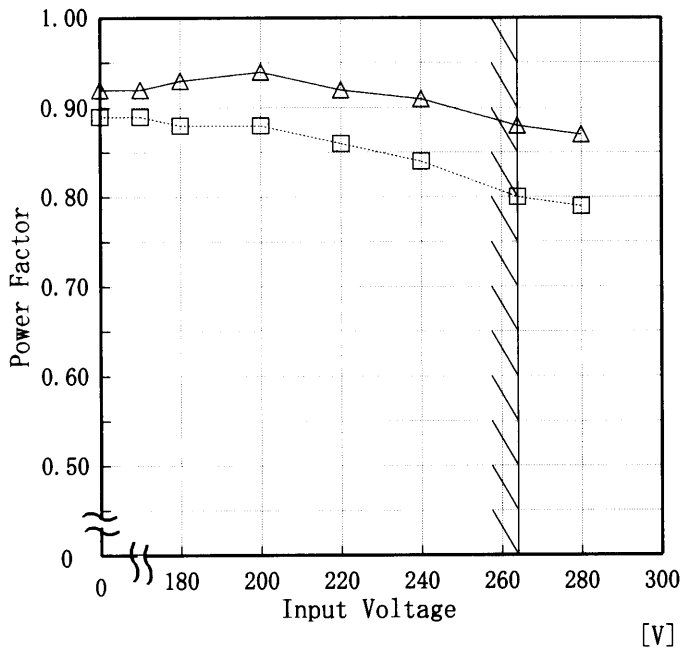
| | |
|---|---|
| Model | PAA50F-12 |
| Item | Power Factor 力率 |
| Object | ——————————— |

Temperature 25℃
Testing Circuitry Figure A

1. Graph

load 50%
load 100%




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] | load 50% Power Factor | load 100% Power Factor |
|---|---|---|
| 150 | 0.90 | 0.94 |
| 160 | 0.89 | 0.92 |
| 170 | 0.89 | 0.92 |
| 180 | 0.88 | 0.93 |
| 200 | 0.88 | 0.94 |
| 220 | 0.86 | 0.92 |
| 240 | 0.84 | 0.91 |
| 264 | 0.80 | 0.88 |
| 280 | 0.79 | 0.87 |

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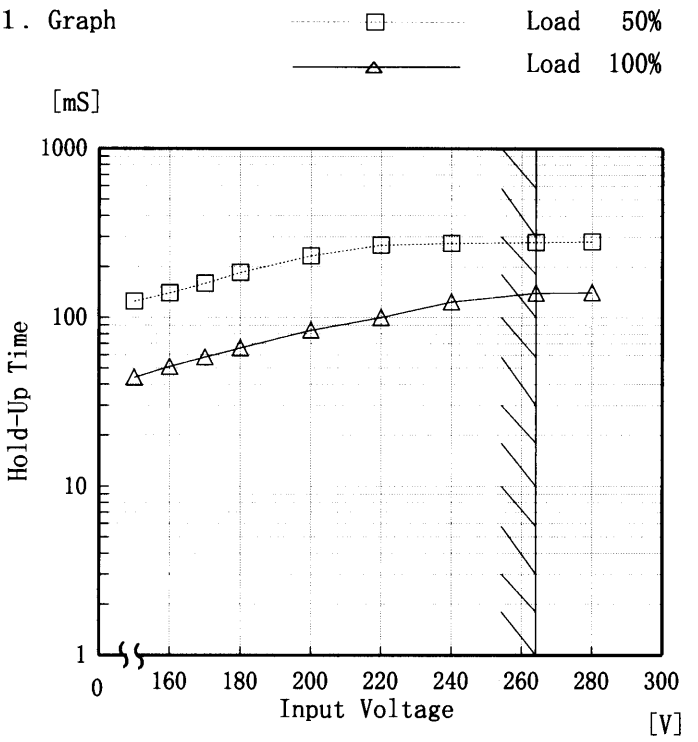
| | |
|---|---|
| Model | PAA50F-12 |
| Item | Hold-Up Time　出力保持時間 |
| Object | ＋１２Ｖ４．３Ａ |

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、ＡＣ入力断から出力電圧が、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] | Load 50% Hold-Up Time [mS] | Load 100% Hold-Up Time [mS] |
|---|---|---|
| 150 | 125 | 44 |
| 160 | 140 | 51 |
| 170 | 159 | 58 |
| 180 | 185 | 66 |
| 200 | 232 | 84 |
| 220 | 268 | 100 |
| 240 | 275 | 124 |
| 264 | 279 | 140 |
| 280 | 282 | 141 |

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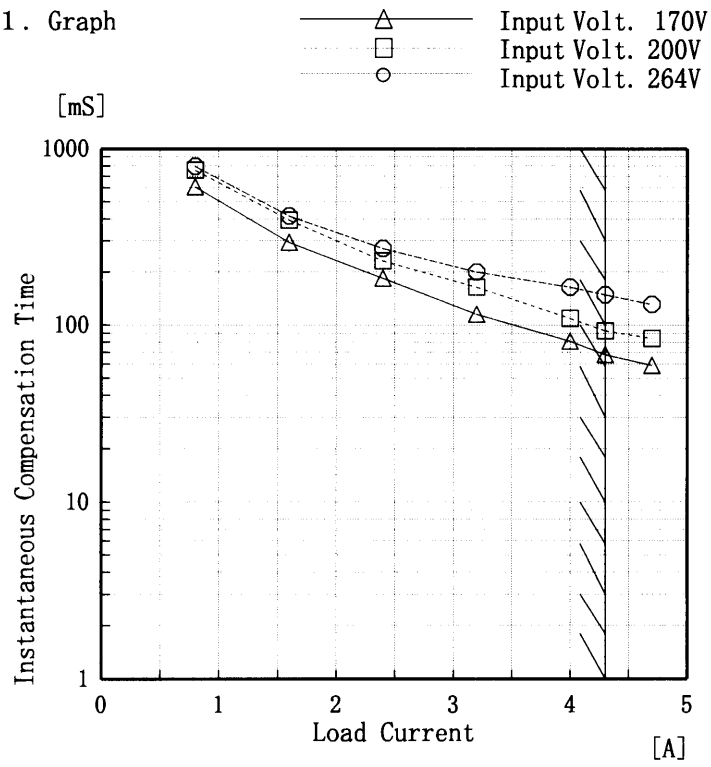
|---|---|
| Model | PAA50F-12 |
| Item | Instantaneous Interruption Compensation<br>瞬時停電保障 |
| Object | ＋１２Ｖ４．３Ａ |

Testing Circuitry　Figure A

1．Graph




This duration counts between Shut-off and on of input voltage automatically.

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

瞬時停電保障時間とは、出力電圧が定格値の９５％になる時の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] | Input Volt. 170[V] | Input Volt. 200[V] | Input Volt. 264[V] |
|---|---|---|---|
| | Time [mS] | | |
| 0.0 | — | — | — |
| 0.8 | 608 | 758 | 794 |
| 1.6 | 294 | 392 | 414 |
| 2.4 | 184 | 231 | 272 |
| 3.2 | 115 | 164 | 200 |
| 4.0 | 81 | 109 | 164 |
| 4.3 | 68 | 93 | 148 |
| 4.7 | 59 | 84 | 131 |
| — | — | — | — |
| — | — | — | — |
| - | — | — | — |

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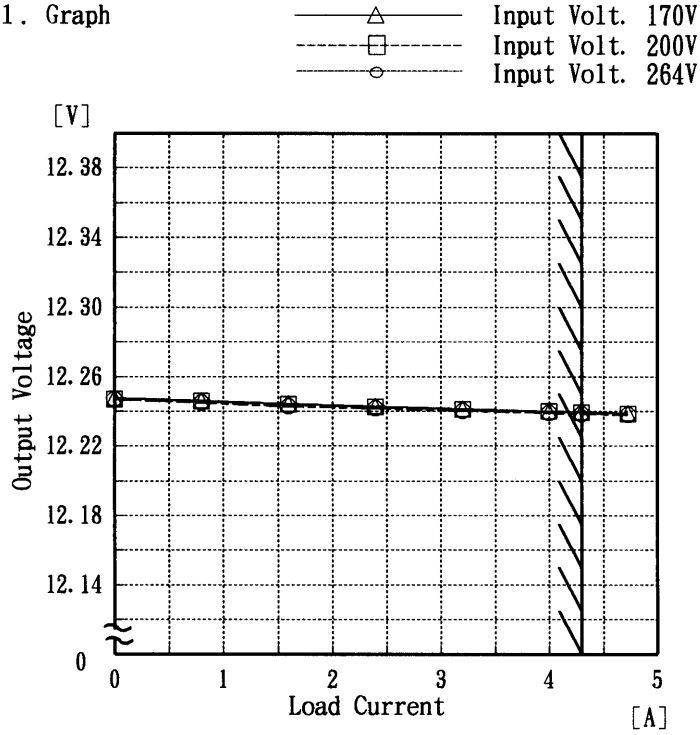
| | |
|---|---|
| Model | PAA50F-12 |
| Item | Load Regulation 静的負荷変動 |
| Object | +12V4.3A |

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 Volt. 170[V] Output Volt. [V] | Input Volt. 200[V] Output Volt. [V] | Input Volt. 264[V] Output Volt. [V] |
|---|---|---|---|
| 0.0 | 12.248 | 12.247 | 12.247 |
| 0.8 | 12.246 | 12.246 | 12.245 |
| 1.6 | 12.244 | 12.244 | 12.243 |
| 2.4 | 12.243 | 12.242 | 12.242 |
| 3.2 | 12.242 | 12.241 | 12.240 |
| 4.0 | 12.240 | 12.240 | 12.239 |
| 4.3 | 12.240 | 12.239 | 12.239 |
| 4.7 | 12.239 | 12.238 | 12.238 |
| — | — | — | — |
| — | — | — | — |



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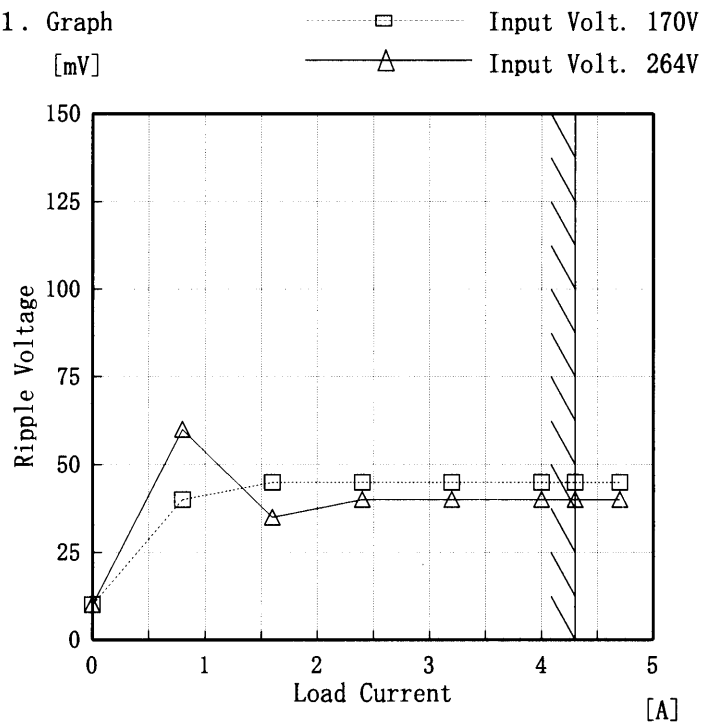
| Model | PAA50F-12 |
|---|---|
| Item | Ripple Voltage(by Load Current)<br>リップル電圧(負荷電流特性) |
| Object | ＋１２Ｖ４．３Ａ |

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

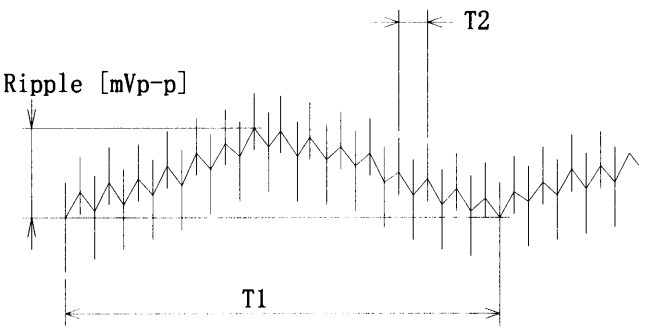



Fig. Complex Ripple Wave Form
図　リップル波形詳細図

2.Values

| Load Current [A] | Input Volt. 170 [V] Ripple Output Volt. [mV] | Input Volt. 264 [V] Ripple Output Volt. [mV] |
|---|---|---|
| 0.0 | 10 | 10 |
| 0.8 | 40 | 60 |
| 1.6 | 45 | 35 |
| 2.4 | 45 | 40 |
| 3.2 | 45 | 40 |
| 4.0 | 45 | 40 |
| 4.3 | 45 | 40 |
| 4.7 | 45 | 40 |
| — | — | — |
| — | — | — |
| — | — | — |

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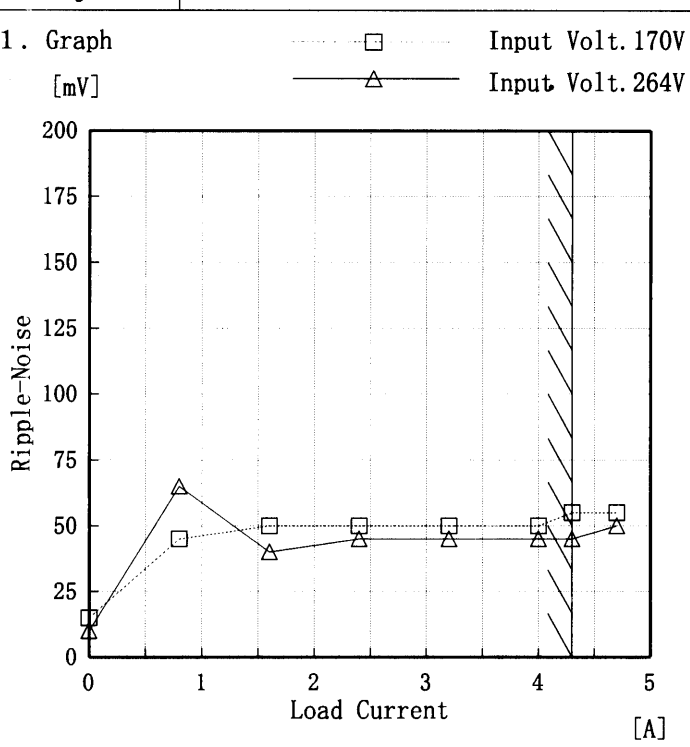
| | |
|---|---|
| Model | PAA50F-12 |
| Item | Ripple-Noise　リップルノイズ |
| Object | ＋１２Ｖ４．３Ａ |

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

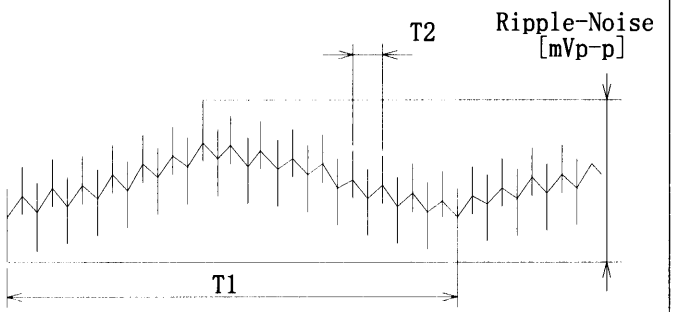



Fig. Complex Ripple Wave Form
図　リップル波形詳細図

2．Values

| Load current [A] | Input Volt. 170 [V] Ripple-Noise [mV] | Input Volt. 264 [V] Ripple-Noise [mV] |
|---|---|---|
| 0.0 | 15 | 10 |
| 0.8 | 45 | 65 |
| 1.6 | 50 | 40 |
| 2.4 | 50 | 45 |
| 3.2 | 50 | 45 |
| 4.0 | 50 | 45 |
| 4.3 | 55 | 45 |
| 4.7 | 55 | 50 |
| — | — | — |
| — | — | — |
| — | — | — |

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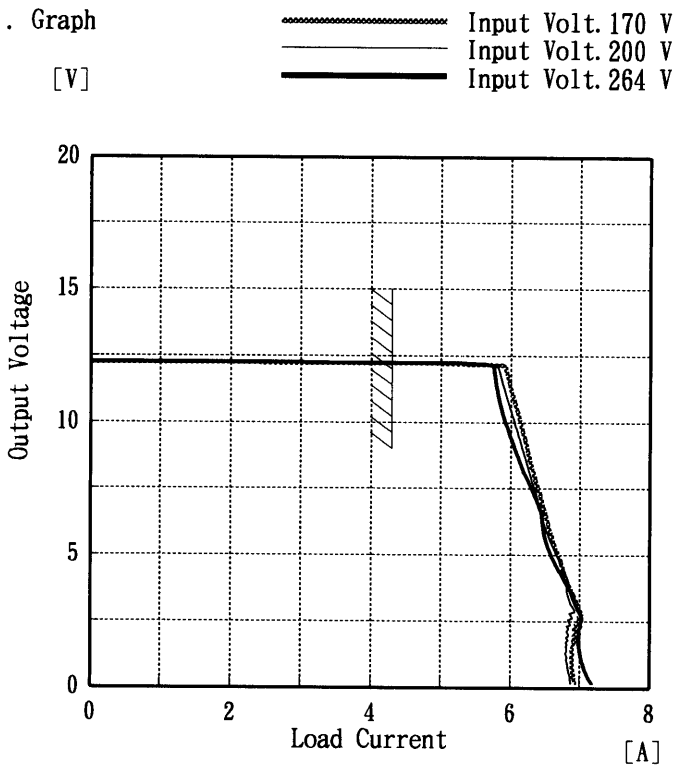
|---|---|
| Model | PAA50F-12 |
| Item | Overcurrent Protection<br>過電流保護 |
| Object | +12V4.3A |

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] | Input Volt. 170[V] Load Current [A] | Input Volt. 200[V] Load Current [A] | Input Volt. 264[V] Load Current [A] |
|---|---|---|---|
| 12.00 | 5.93 | 5.83 | 5.76 |
| 11.40 | 5.99 | 5.90 | 5.80 |
| 10.80 | 6.05 | 5.96 | 5.84 |
| 9.60 | 6.17 | 6.09 | 5.97 |
| 8.40 | 6.30 | 6.24 | 6.15 |
| 7.20 | 6.43 | 6.37 | 6.35 |
| 6.00 | 6.56 | 6.50 | 6.47 |
| 4.80 | 6.71 | 6.70 | 6.61 |
| 3.60 | 6.89 | 6.81 | 6.87 |
| 2.40 | 7.00 | 6.85 | 7.01 |
| 1.20 | 6.88 | 6.80 | 7.01 |
| 0.00 | 6.93 | 6.87 | 7.19 |

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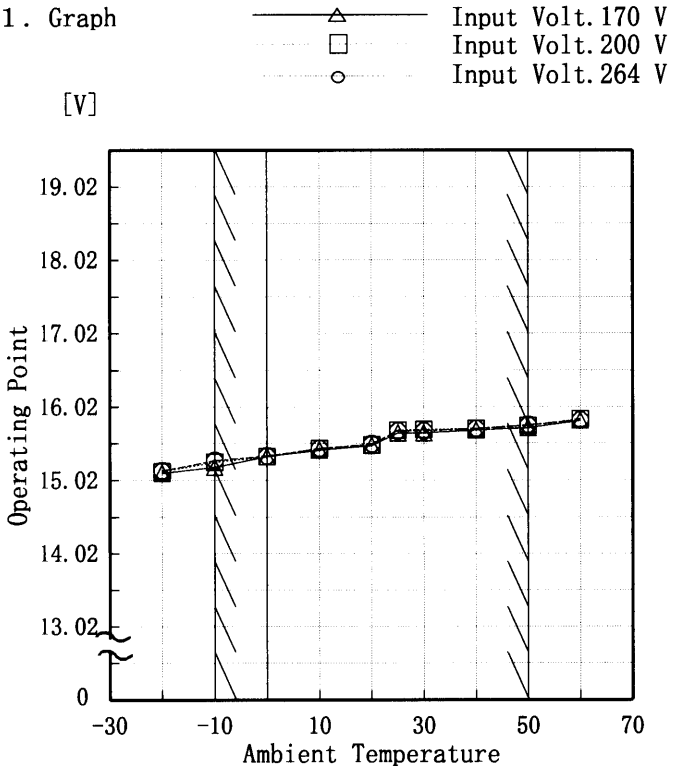
| | |
|---|---|
| Model | PAA50F-12 |
| Item | Overvoltage Protection<br>過電圧保護 |
| Object | ＋１２Ｖ４．３Ａ |

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 Temp. [℃] | Input Volt. 170[V] | Input Volt. 200[V] | Input Volt. 264[V] |
|---|---|---|---|
| | Operating Point [V] | | |
| -20 | 15.12 | 15.14 | 15.15 |
| -10 | 15.20 | 15.27 | 15.29 |
| 0 | 15.34 | 15.34 | 15.35 |
| 10 | 15.43 | 15.45 | 15.45 |
| 20 | 15.49 | 15.50 | 15.51 |
| 25 | 15.66 | 15.70 | 15.69 |
| 30 | 15.66 | 15.71 | 15.69 |
| 40 | 15.70 | 15.72 | 15.72 |
| 50 | 15.73 | 15.76 | 15.77 |
| 60 | 15.83 | 15.85 | 15.84 |
| — | — | — | — |

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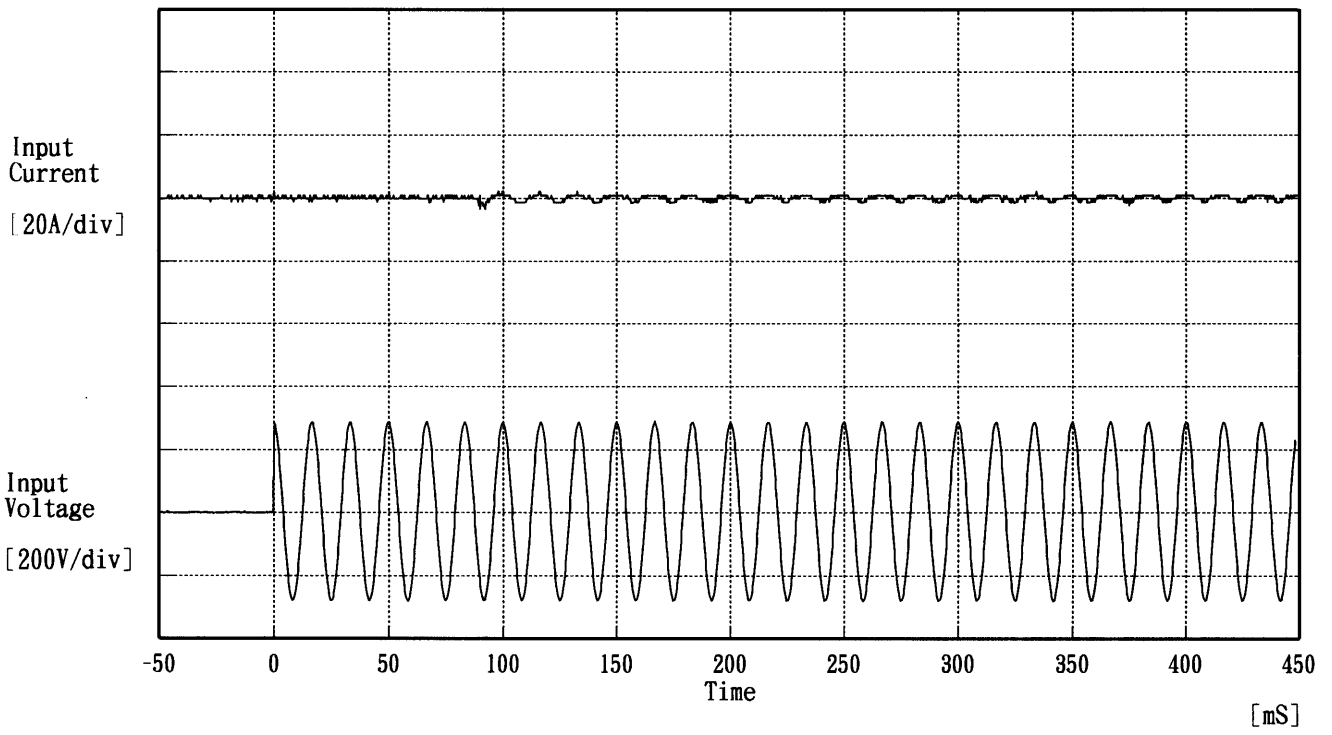
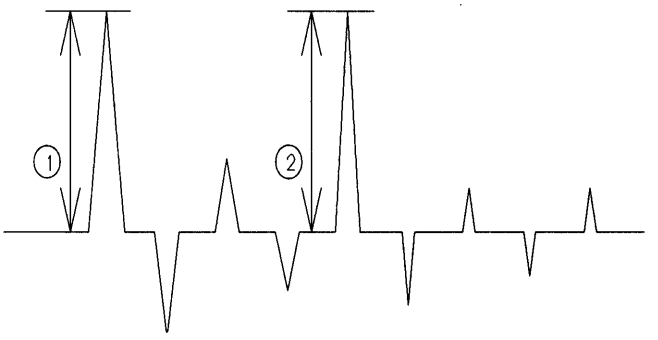
| | | | |
|---|---|---|---|
| Model | PAA50F-12 | | |
| Item | Inrush Current 突入電流 | Temperature | 25℃ |
| | | Testing Circuitry | Figure A |
| Object | ―――――― | | |




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



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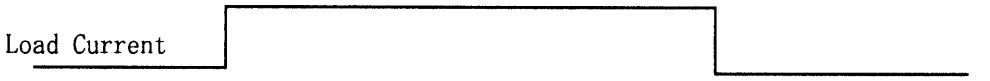
| | | | |
|---|---|---|---|
| Model | PAA50F-12 | | |
| Item | Dynamic Load Responce<br>動的負荷変動 | Temperature<br>Testing Circuitry | 25℃<br>Figure A |
| Object | ＋１２Ｖ４．３Ａ | | |

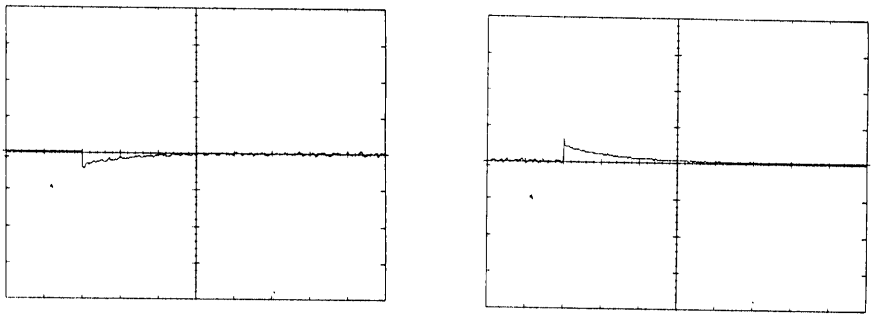
Input Volt. 200 V

Cycle 200 mS



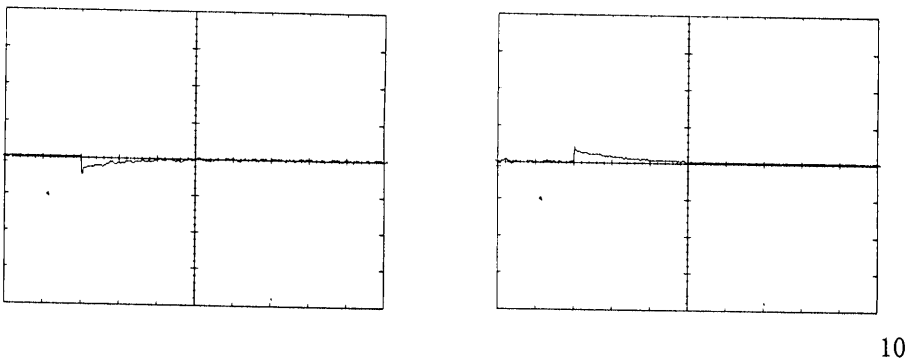

Min. Load ⟷

Load 100 %



Min. Load ⟷

Load 50 %



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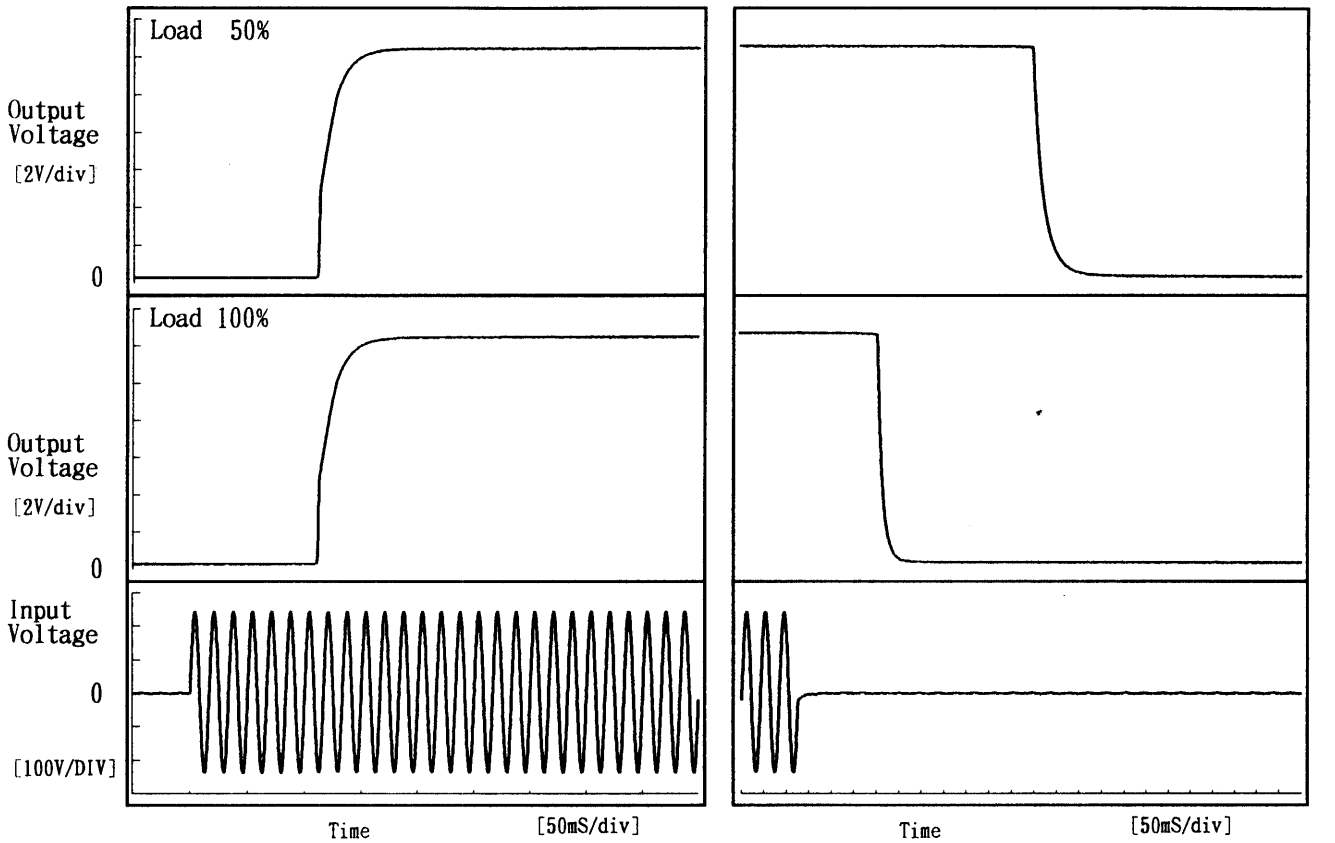
| | | | |
|---|---|---|---|
| Model | PAA50F-12 | | |
| Item | Rise and Fall Time 立上り、立下り時間 | Temperature | 25℃ |
| | | Testing Circuitry | Figure A |
| Object | +12V4.3A | | |

1. Graph

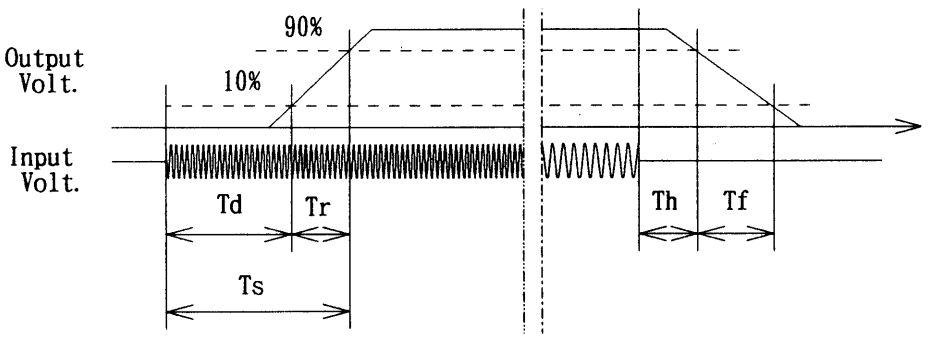
Input Volt. 170 V




2. Values

[mS]

| Load \ Time | T d | T r | T s | T h | T f |
|---|---|---|---|---|---|
| 50 % | 111.5 | 23.8 | 135.3 | 210.0 | 21.3 |
| 100 % | 111.5 | 23.8 | 135.3 | 72.5 | 10.3 |



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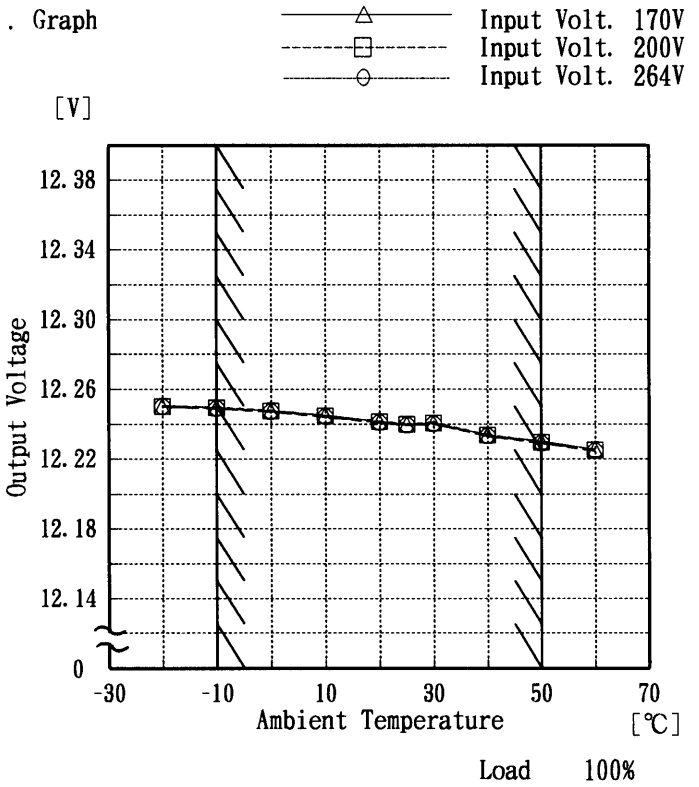
COSEL

| | |
|---|---|
| Model | PAA50F-12 |
| Item | Ambient Temperature Drift<br>周囲温度変動 |
| Object | +12V4.3A |

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

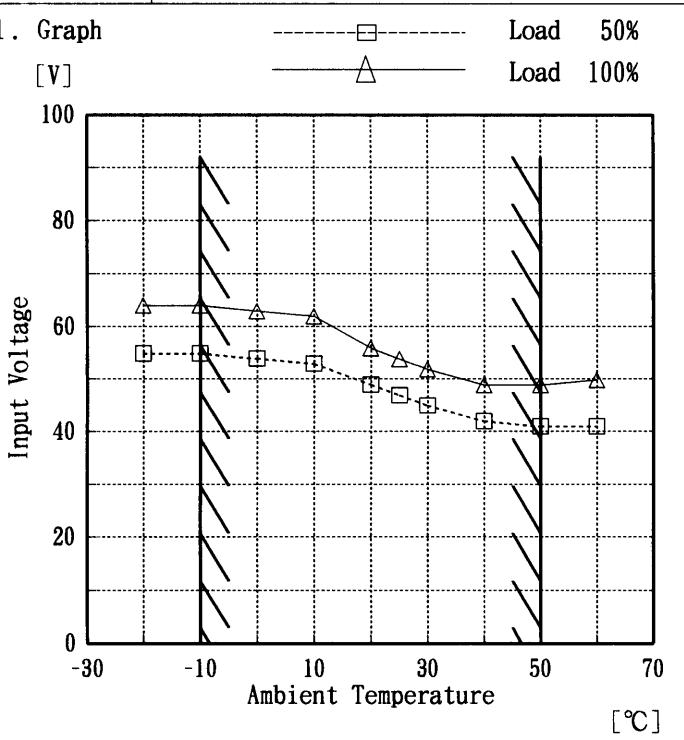
| Temperature [℃] | Input Volt. 170[V] Output Volt. [V] | Input Volt. 200[V] Output Volt. [V] | Input Volt. 264[V] Output Volt. [V] |
|---|---|---|---|
| -20 | 12.250 | 12.250 | 12.250 |
| -10 | 12.249 | 12.249 | 12.249 |
| 0 | 12.247 | 12.247 | 12.247 |
| 10 | 12.245 | 12.245 | 12.244 |
| 20 | 12.241 | 12.241 | 12.241 |
| 25 | 12.240 | 12.240 | 12.240 |
| 30 | 12.241 | 12.241 | 12.240 |
| 40 | 12.234 | 12.234 | 12.233 |
| 50 | 12.230 | 12.230 | 12.229 |
| 60 | 12.226 | 12.225 | 12.225 |
| — | — | — | — |

COSEL

| | |
|---|---|
| Model | PAA50F-12 |
| Item | Minimum Input Voltage for Regulated Output Voltage<br>最低レギュレーション電圧 |
| Object | +12V4.3A |

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

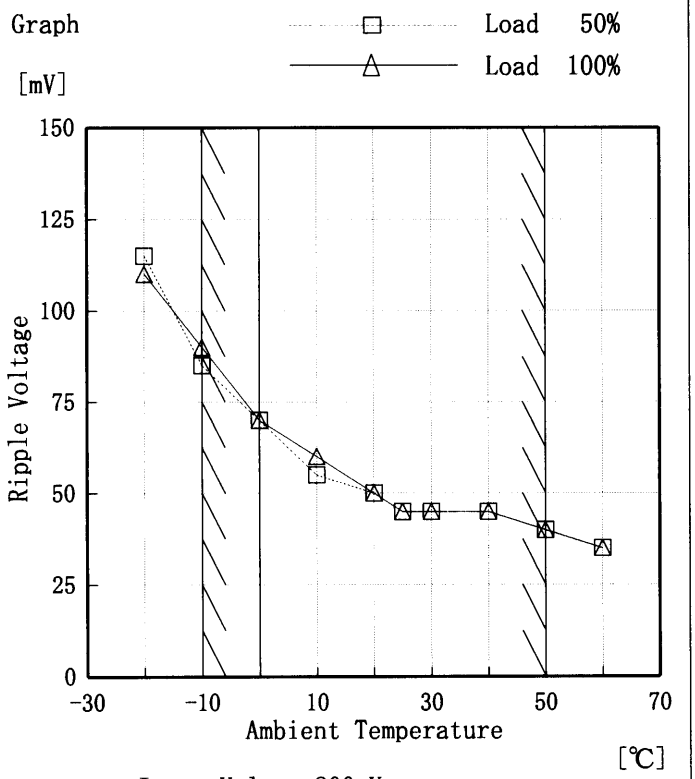
| Ambient Temp. [℃] | Load 50% Input Volt. [V] | Load 100% Input Volt. [V] |
|---|---|---|
| -20 | 55 | 64 |
| -10 | 55 | 64 |
| 0 | 54 | 63 |
| 10 | 53 | 62 |
| 20 | 49 | 56 |
| 25 | 47 | 54 |
| 30 | 45 | 52 |
| 40 | 42 | 49 |
| 50 | 41 | 49 |
| 60 | 41 | 50 |
| — | — | — |

COSEL

| | |
|---|---|
| Model | PAA50F-12 |
| Item | Ripple Voltage (by Ambient Temp.)<br>リップル電圧（周囲温度特性） |
| Object | ＋１２Ｖ４．３Ａ |

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

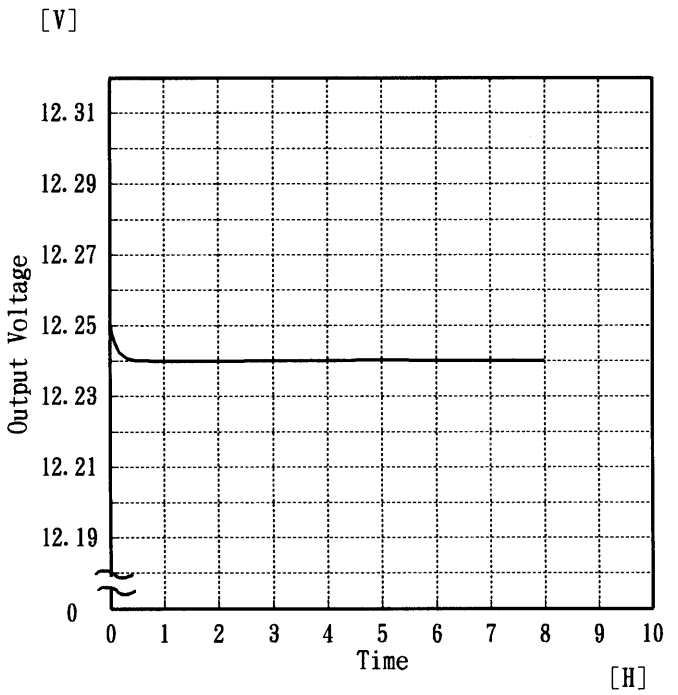
| Ambient Temp. [℃] | Load 50% Ripple Output Volt. [mV] | Load 100% Ripple Output Volt. [mV] |
|---|---|---|
| -20 | 115 | 110 |
| -10 | 85 | 90 |
| 0 | 70 | 70 |
| 10 | 55 | 60 |
| 20 | 50 | 50 |
| 25 | 45 | 45 |
| 30 | 45 | 45 |
| 40 | 45 | 45 |
| 50 | 40 | 40 |
| 60 | 35 | 35 |
| — | — | — |

COSEL

| | |
|---|---|
| Model | PAA50F-12 |
| Item | Time Lapse Drift 経時ドリフト |
| Object | +12V4.3A |

Temperature 25 ℃
Testing Circuitry Figure A

1. Graph




Input Volt. 200V
Load 100%

2. Values

| Time since start [H] | Output Voltage [V] |
|---|---|
| 0.0 | 12.251 |
| 0.5 | 12.240 |
| 1.0 | 12.240 |
| 2.0 | 12.240 |
| 3.0 | 12.240 |
| 4.0 | 12.240 |
| 5.0 | 12.240 |
| 6.0 | 12.240 |
| 7.0 | 12.240 |
| 8.0 | 12.240 |

COSEL

| | | |
|---|---|---|
| Model | PAA50F-12 | |
| Item | Output Voltage Accuracy 定電圧精度 | Testing Circuitry Figure A |
| Object | +12V4.3A | |

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 : 0.0～4.3 A

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

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

定電圧精度

周囲温度、入力電圧、負荷を下記仕様内で、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 0.0～4.3 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

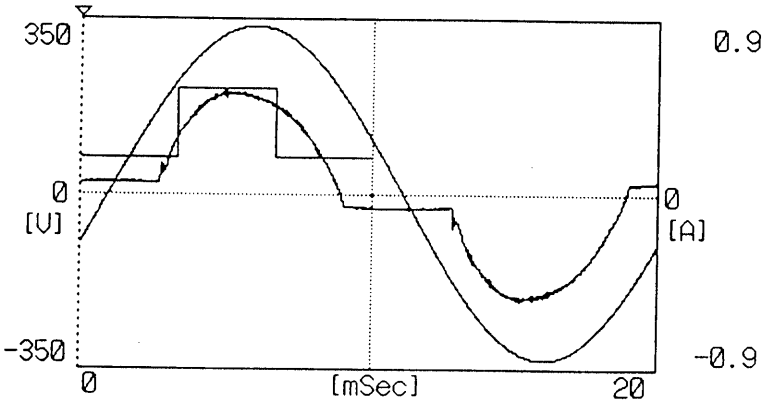
$$\text{* 定電圧精度(変動率)} = \frac{\text{変動値}}{\text{定格出力電圧}} \times 100$$

| Item | Temperature [℃] | Input Voltage [V] | Output Current [A] | Output Voltage [V] | Output Voltage Accuracy [mV] | Output Voltage Accuracy(Ration) [%] |
|---|---|---|---|---|---|---|
| Maximum Voltage | -10 | 170 | 0.0 | 12.256 | ±14 | ±0.1 |
| Minimum Voltage | 50 | 264 | 4.3 | 12.229 | | |

COSEL

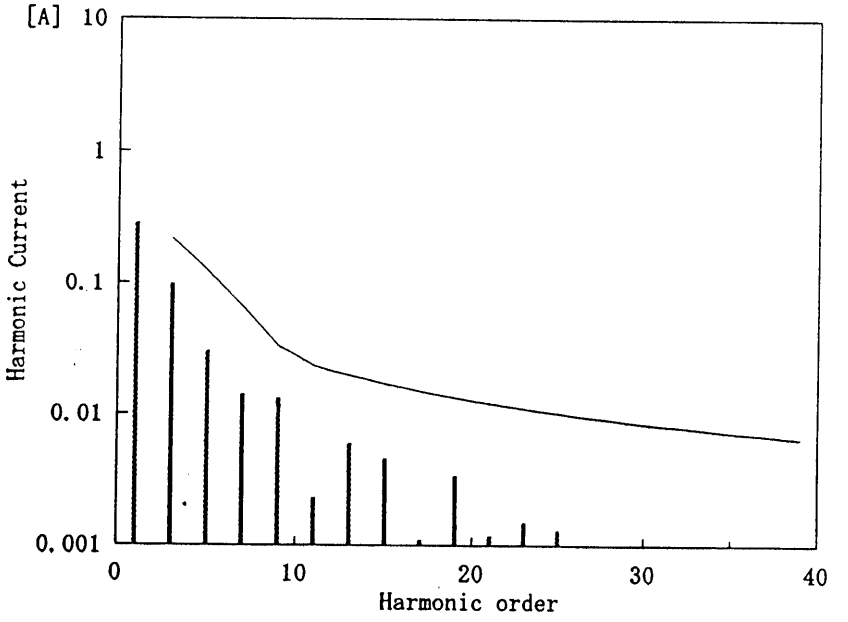
| | | | |
|---|---|---|---|
| Model | PAA50F-12 | | |
| Item | Harmonic Current<br>高調波電流 | Temperature | 25℃ |
| | | Testing Circuitry | Figure E |
| Object | ———— | | |

1. Input Current Waveform




| Conditions | Values |
|---|---|
| Input Voltage [V] | 232.1 |
| Input Current [A] | 0.31 |
| Active Power [W] | 66.3 |
| Apparent Power[VA] | 72 |
| Frequency [Hz] | 50 |
| Power Factor | 0.921 |
| Output Power [W] | 51.6 |

2. Harmonic Current




——— Harmonic Current
高調波電流

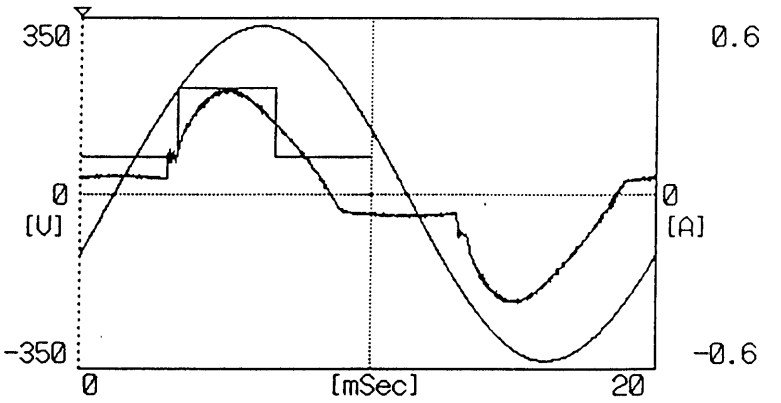
——— Limits for Class D equipment
ｸﾗｽDの機器に対する限度値

| Harmonics order 高調波次数 | Limits 限度値 [A] | Values 測定値 [A] |
|---|---|---|
| 1 | — | 0.295 |
| 2 | — | 0.000 |
| 3 | 0.223 | 0.099 |
| 4 | — | 0.000 |
| 5 | 0.125 | 0.030 |
| 6 | — | 0.000 |
| 7 | 0.066 | 0.014 |
| 8 | — | 0.000 |
| 9 | 0.033 | 0.013 |
| 10 | — | 0.000 |
| 11 | 0.023 | 0.002 |
| 12 | — | 0.000 |
| 13 | 0.019 | 0.006 |
| 14 | — | 0.000 |
| 15 | 0.017 | 0.005 |
| 16 | — | 0.000 |
| 17 | 0.015 | 0.001 |
| 18 | — | 0.000 |
| 19 | 0.013 | 0.003 |
| 20 | — | 0.000 |
| 21 | 0.012 | 0.001 |
| 22 | — | 0.000 |
| 23 | 0.011 | 0.002 |
| 24 | — | 0.000 |
| 25 | 0.010 | 0.001 |
| 26 | — | 0.000 |
| 27 | 0.009 | 0.001 |
| 28 | — | 0.000 |
| 29 | 0.009 | 0.001 |
| 30 | — | 0.000 |
| 31 | 0.008 | 0.001 |
| 32 | — | 0.000 |
| 33 | 0.008 | 0.001 |
| 34 | — | 0.000 |
| 35 | 0.007 | 0.000 |
| 36 | — | 0.000 |
| 37 | 0.007 | 0.001 |
| 38 | — | 0.000 |
| 39 | 0.006 | 0.000 |
| 40 | — | 0.000 |

COSEL

| | | | |
|---|---|---|---|
| Model | PAA50F-12 | | |
| Item | Harmonic Current<br>高調波電流 | Temperature<br>Testing Circuitry | 25℃<br>Figure E |
| Object | ——— | | |

1. Input Current Waveform




| Conditions | Values |
|---|---|
| Input Voltage [V] | 232.1 |
| Input Current [A] | 0.19 |
| Active Power [W] | 36.4 |
| Apparent Power[VA] | 43.2 |
| Frequency [Hz] | 50 |
| Power Factor | 0.843 |
| Output Power [W] | 25.8 |

2. Harmonic Current


——— Harmonic Current
高調波電流

——— Limits for Class D equipment
ｸﾗｽDの機器に対する限度値

| Harmonics order 高調波次数 | Limits 限度値 [A] | Values 測定値 [A] |
|---|---|---|
| 1 | — | 0.173 |
| 2 | — | 0.000 |
| 3 | 0.123 | 0.070 |
| 4 | — | 0.000 |
| 5 | 0.069 | 0.014 |
| 6 | — | 0.000 |
| 7 | 0.036 | 0.012 |
| 8 | — | 0.000 |
| 9 | 0.018 | 0.006 |
| 10 | — | 0.000 |
| 11 | 0.013 | 0.003 |
| 12 | — | 0.000 |
| 13 | 0.011 | 0.003 |
| 14 | — | 0.000 |
| 15 | 0.009 | 0.001 |
| 16 | — | 0.000 |
| 17 | 0.008 | 0.001 |
| 18 | — | 0.000 |
| 19 | 0.007 | 0.001 |
| 20 | — | 0.000 |
| 21 | 0.007 | 0.000 |
| 22 | — | 0.000 |
| 23 | 0.006 | 0.000 |
| 24 | — | 0.000 |
| 25 | 0.006 | 0.001 |
| 26 | — | 0.000 |
| 27 | 0.005 | 0.001 |
| 28 | — | 0.000 |
| 29 | 0.005 | 0.001 |
| 30 | — | 0.000 |
| 31 | 0.004 | 0.001 |
| 32 | — | 0.000 |
| 33 | 0.004 | 0.001 |
| 34 | — | 0.000 |
| 35 | 0.004 | 0.001 |
| 36 | — | 0.000 |
| 37 | 0.004 | 0.001 |
| 38 | — | 0.000 |
| 39 | 0.004 | 0.001 |
| 40 | — | 0.000 |

COSEL

| | | |
|---|---|---|
| Model | PAA50F-12 | |
| Item | Condensation　結露特性 | Testing Circuitry　Figure A |
| Object | ＋１２Ｖ４．３Ａ | |

1. Condensation test

Testing procedure is as follows.

① Keeping and cooling the unit in a tank at -10℃ for an hour with the input off.

② Taking it out of the tank and dewing itself in a room where the temperature is 25℃ and the humidity is 40%RH.

③ Testing electrical characteristics(Output Voltage, Ripple Voltage, Ripple noise) of the unit to confirm there be no fault.

④ Repeating ①, ② and ③ three times.

１．結露特性試験

入力を切った状態で、恒温槽で－１０℃に冷却しておき、約１時間後に恒温槽から取り出し、室温２５℃、湿度４０%RHの状態におき結露させ、その電気的特性（出力電圧、ﾘｯﾌﾟﾙ、ﾘｯﾌﾟﾙﾉｲｽﾞ）の測定を３度行い、異常のないことを確認する。

2．Values

| | Times | Output Voltage [V] | Ripple Voltage [mV] | Ripple Noise [mV] |
|---|---|---|---|---|
| Load 50 % | 1 | 12.244 | 45 | 50 |
| | 2 | 12.245 | 45 | 50 |
| | 3 | 12.244 | 45 | 50 |
| Load 100 % | 1 | 12.240 | 45 | 50 |
| | 2 | 12.240 | 45 | 50 |
| | 3 | 12.240 | 45 | 50 |

Input Volt. 200　V

COSEL

| | |
|---|---|
| Model | PAA50F-12 |
| Item | Leakage Current 漏洩電流 |
| Object | ―――――― |

Testing Circuitry Figure A

1. Results

| Standards | Leakage Current [mA] | | |
|---|---|---|---|
| | Input Volt. 85 [V] | Input Volt. 100 [V] | Input Volt. 132[V] |
| (A) DENTORI | ― | ― | ― |
| (B) UL | ― | ― | ― |
| (C) CSA | ― | ― | ― |

| Standards | Leakage Current [mA] | | |
|---|---|---|---|
| | Input Volt. 170 [V] | Input Volt. 220 [V] | Input Volt. 264 [V] |
| (D) VDE | 0.27 | 0.37 | 0.44 |

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。

Load 100 %

(A) Input Resistance :1KΩ

(B) Input Resistance :1.5KΩ
Input Capacitance :0.15μF

(C) Input Resistance :1.5KΩ
Input Capacitance :0.15μF

(D) Input Resistance :2KΩ
Input Capacitance :0.1μF

COSEL

| | |
|---|---|
| Model | PAA50F-12 |
| Item | Line Noise Tolerance<br>入力雑音耐量 |
| Object | ＋１２Ｖ４．３Ａ |

Testing Circuitry Figure C

1. Results

| Pulse Width [nS] | MODE | Operating Point of Overvoltage Protection [V]<br>過電圧保護動作値 | DC-like Regulation of Output Voltage<br>出力電圧の直流的変動 |
|---|---|---|---|
| 50 | COMMON | 15.70 | no regulation |
| | NORMAL | 15.70 | no regulation |
| 1000 | COMMON | 15.70 | no regulation |
| | NORMAL | 15.70 | no regulation |

Conditions

Input Voltage :200 V
Pulse Voltage :2000 V
Pulse Cycle :10 mS
Pulse Input Duration:1 min. or more
Load :100 %

COSEL

| | |
|---|---|
| Model | PAA50F-12 |
| Item | Conducted Emission<br>雑音端子電圧 |
| Object | ―――――― |

Testing Circuitry Figure D

1. Graph

Remarks

Input Volt. 230 V

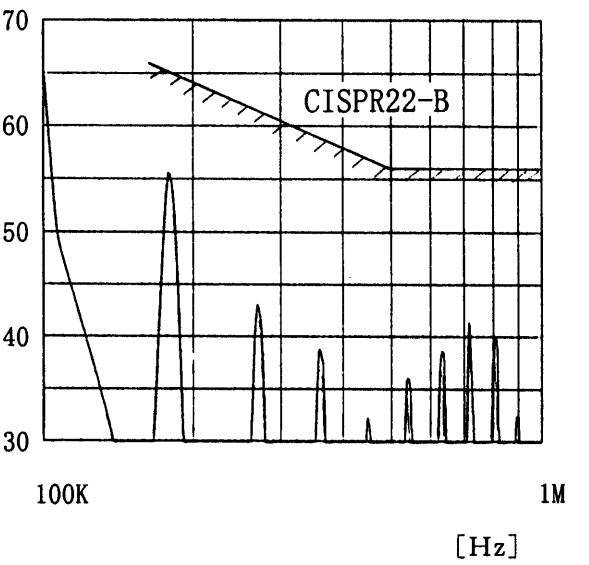
Load 100 %

Note: Slanted line shows the range of Tolerance.

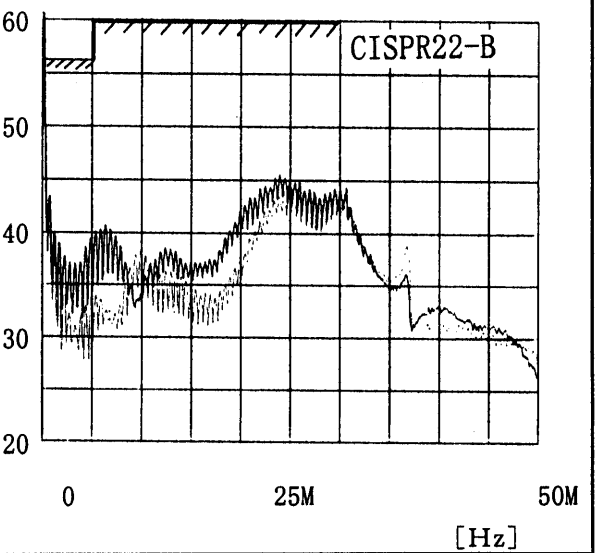
(注)斜線は許容値を示す。

| NO | Standards | Standards Complied | Frequency [MHz] | Tolerance [dBμV] |
|---|---|---|---|---|
| 1 | FCC class A | | 0.45～1.6 | 60 |
| | | | 1.6～30 | 69.5 |
| 2 | FCC class B | | 0.45～30 | 48 |
| 3 | VCCI -1 | | 0.15～0.5 | 79 |
| | | | 0.5～30 | 73 |
| 4 | VCCI -2 | | 0.15～0.5 | 66-56 |
| | | | 0.5～5 | 56 |
| | | | 5～30 | 60 |
| 5 | VDE class A | | 0.01～0.15 | 91-69.5 |
| | | | 0.15～0.5 | 66 |
| | | | 0.5～30 | 60 |
| 6 | CISPR 22 class B | ○ | 0.15～0.5 | 66-56 |
| | | | 0.5～5 | 56 |
| | | | 5～30 | 60 |

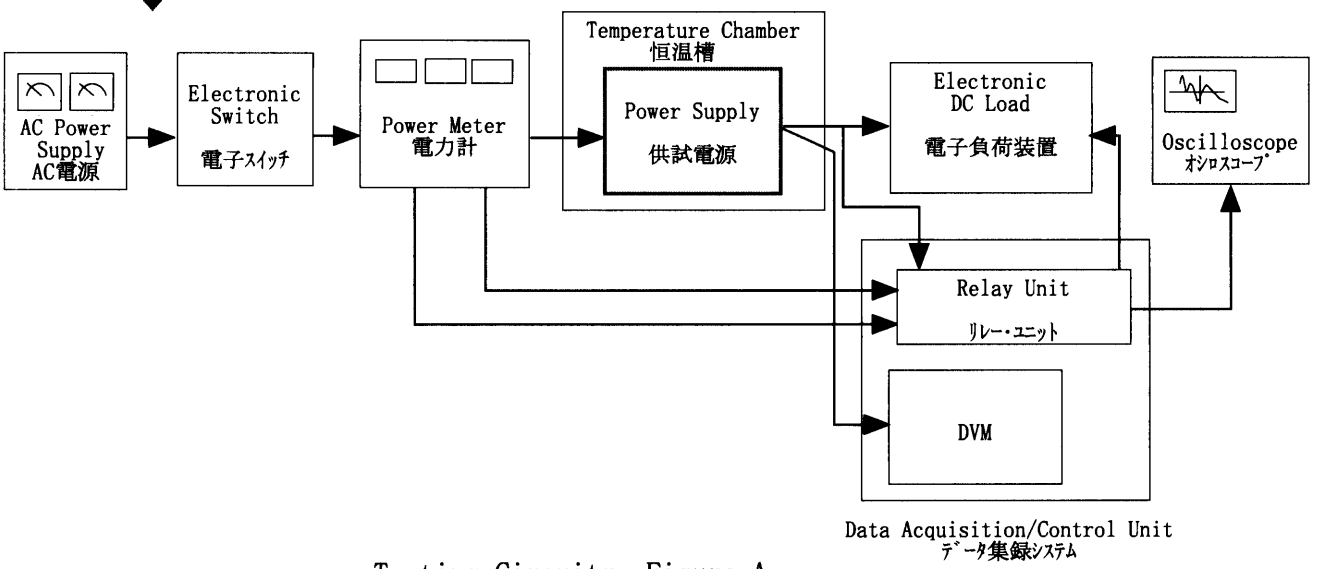
[dBμV]



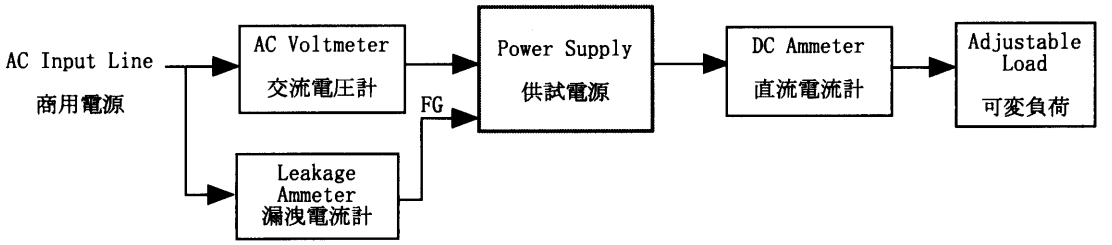

[dBμV]



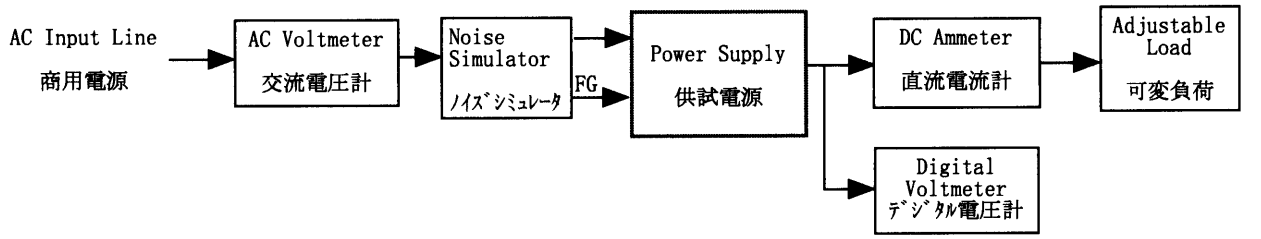
COSEL



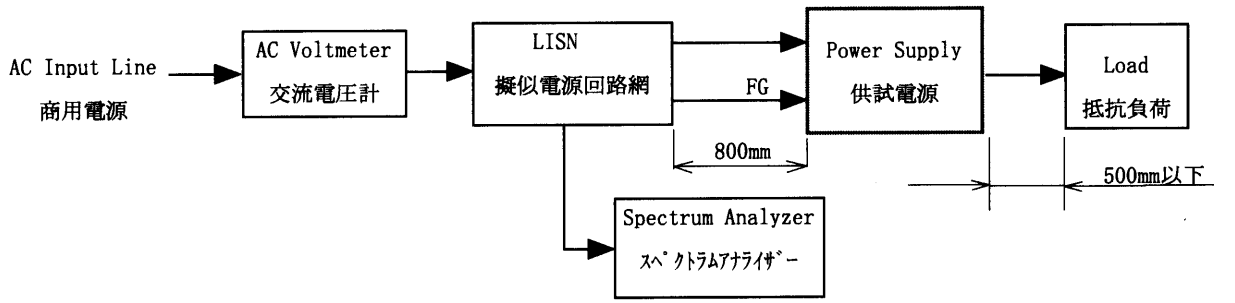

Testing Circuitry Figure A



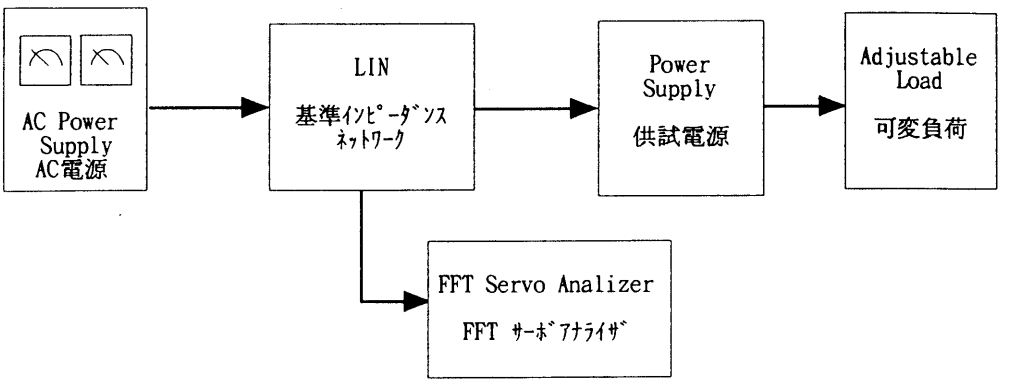

Testing Circuitry Figure B




Testing Circuitry Figure C




Testing Circuitry Figure D




Testing Circuitry Figure E