



TEST DATA OF PBA600F-5

Regulated DC Power Supply
Sep.23. 2003

Approved by : Kuniaki Nagahara
Kuniaki Nagahara Design Manager

Prepared by : Haruki Morita
Haruki Morita Design Engineer

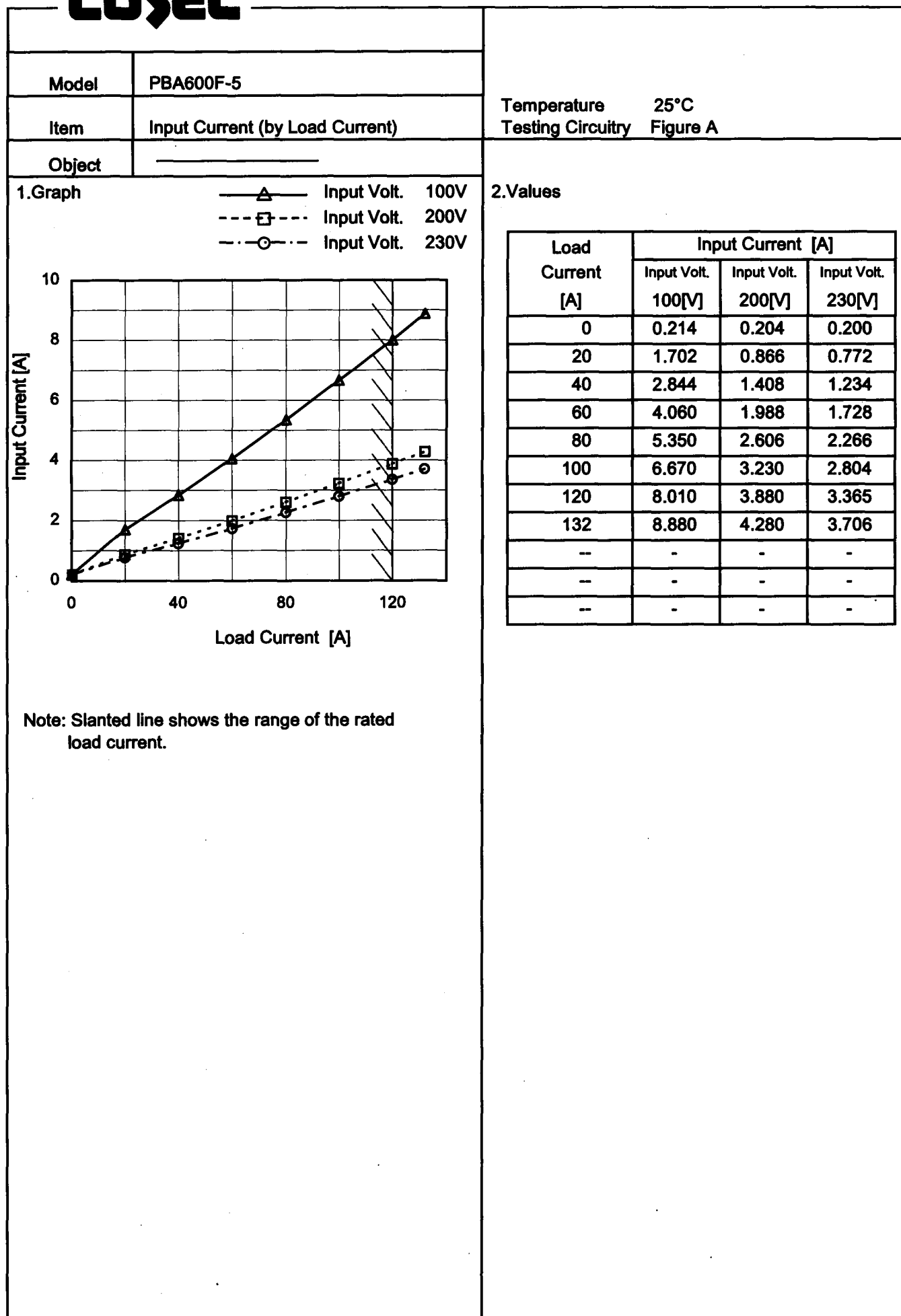
COSEL CO.,LTD.

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Model

PBA600F-5

Item

Input Power (by Load Current)

Object

Temperature

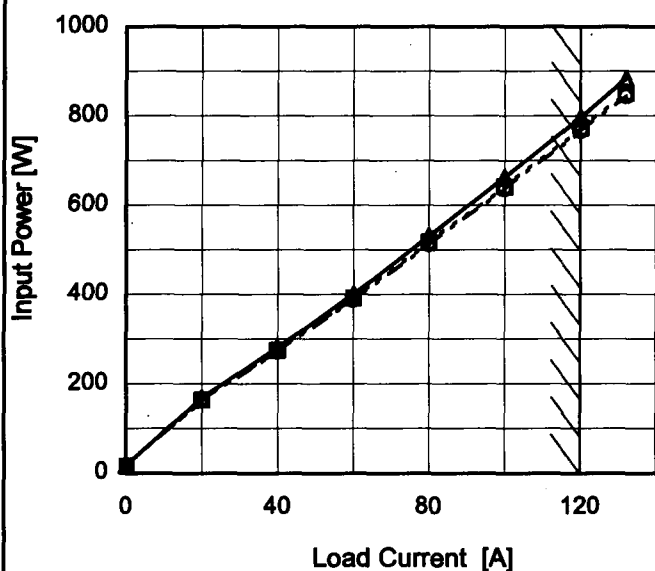
25°C

Testing Circuitry

Figure A

1. Graph

—△— Input Volt. 100V
 ---□--- Input Volt. 200V
 ---○--- Input Volt. 230V



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

2. Values

| Load Current [A] | Input Power [W] | | |
|------------------|--------------------|--------------------|--------------------|
| | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] |
| 0 | 16.5 | 16.0 | 15.0 |
| 20 | 168.0 | 164.0 | 163.0 |
| 40 | 281.1 | 275.0 | 273.0 |
| 60 | 401.0 | 392.0 | 389.0 |
| 80 | 531.0 | 517.0 | 513.0 |
| 100 | 662.0 | 641.0 | 637.0 |
| 120 | 797.0 | 773.0 | 767.0 |
| 132 | 883.0 | 851.0 | 845.0 |
| -- | - | - | - |
| -- | - | - | - |
| -- | - | - | - |

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| | | | |
|--------|--|-------------------------------|--|
| Model | | PBA600F-5 | |
| Item | | Efficiency (by Input Voltage) | |
| Object | | | |

1.Graph

Load 50%

Load 100%

Efficiency [%]

100

92

84

76

68

60

52

44

50

100

150

200

250

300

Input Voltage [V]

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

2.Values

| Input Voltage [V] | Efficiency [%] | |
|-------------------|----------------|-----------|
| | Load 50% | Load 100% |
| 77 | 74.7 | 74.2 |
| 85 | 75.3 | 75.4 |
| 100 | 75.9 | 76.2 |
| 120 | 76.3 | 76.9 |
| 200 | 77.6 | 78.7 |
| 230 | 78.2 | 79.2 |
| 264 | 78.8 | 79.8 |
| 280 | 79.2 | 80.1 |
| -- | - | - |

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| | | | |
|--------|--|------------------------------|--|
| Model | | PBA600F-5 | |
| Item | | Efficiency (by Load Current) | |
| Object | | | |

1.Graph

—△—

Input Volt.

100V

---□---

Input Volt.

200V

-○-

Input Volt.

230V

Efficiency [%]

100

92

84

76

68

60

52

44

0

40

80

120

Load Current [A]

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

2.Values

| Load Current [A] | Efficiency [%] | | |
|------------------|--------------------|--------------------|--------------------|
| | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] |
| 0 | - | - | - |
| 20 | 60.2 | 61.7 | 62.1 |
| 40 | 72.0 | 73.6 | 74.1 |
| 60 | 75.7 | 77.4 | 78.0 |
| 80 | 76.2 | 78.3 | 78.9 |
| 100 | 76.4 | 78.9 | 79.4 |
| 120 | 76.1 | 78.5 | 79.1 |
| 132 | 75.6 | 78.4 | 79.0 |
| -- | - | - | - |
| -- | - | - | - |
| -- | - | - | - |

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Model

PBA600F-5

Item

Power Factor (by Input Voltage)

Object

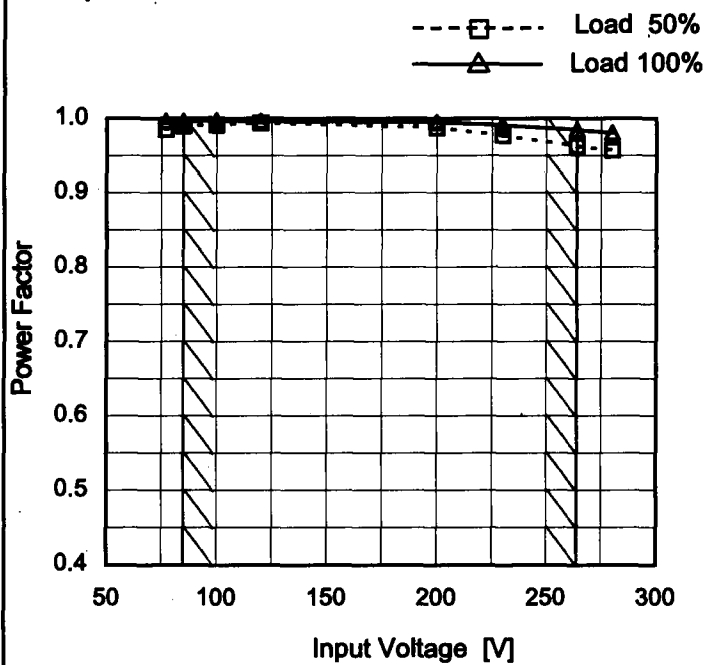
Temperature

25°C

Testing Circuitry

Figure A

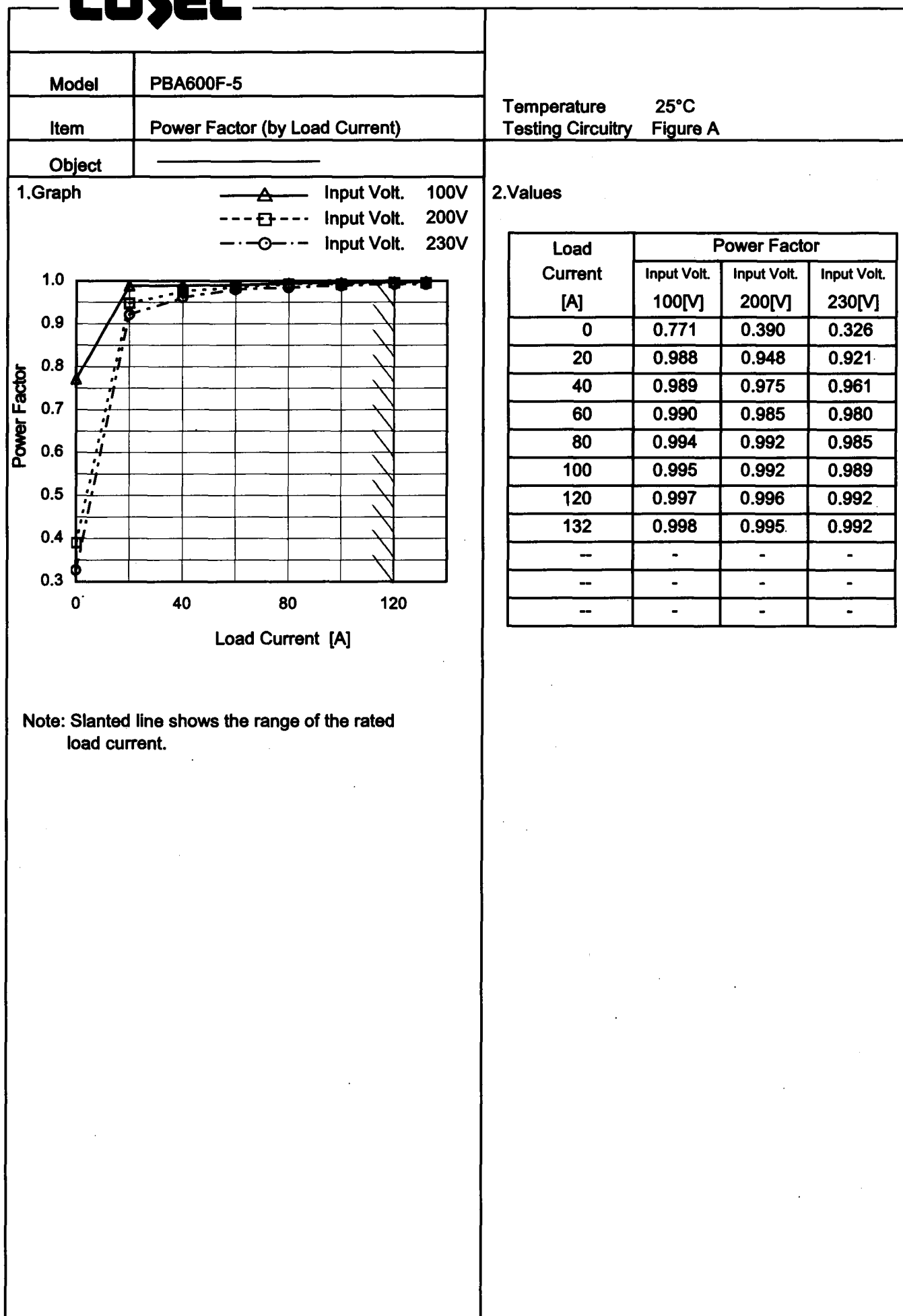
1. Graph



2. Values

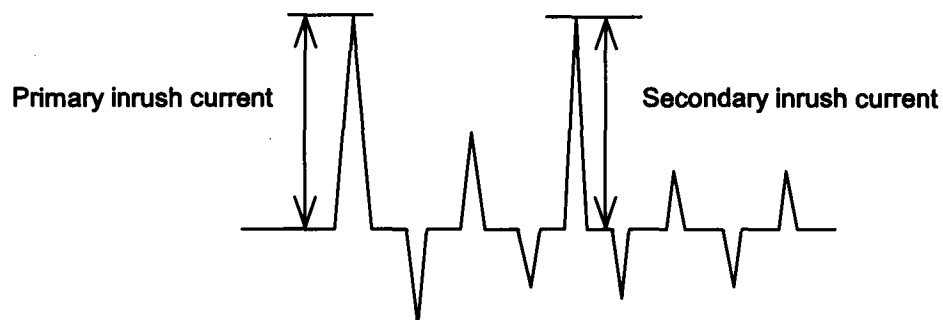
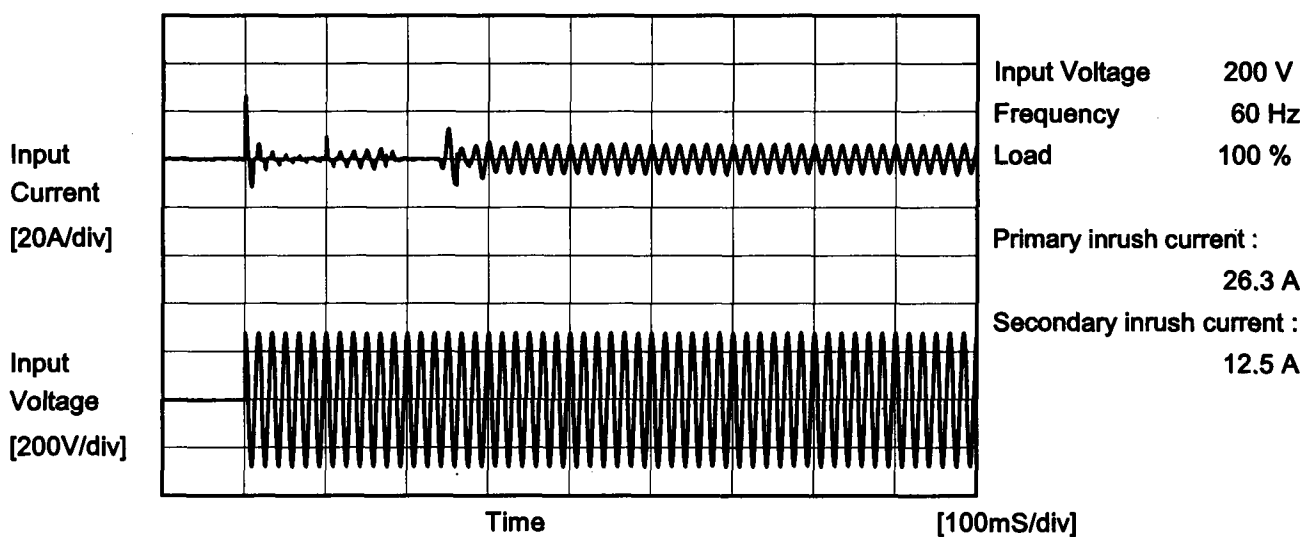
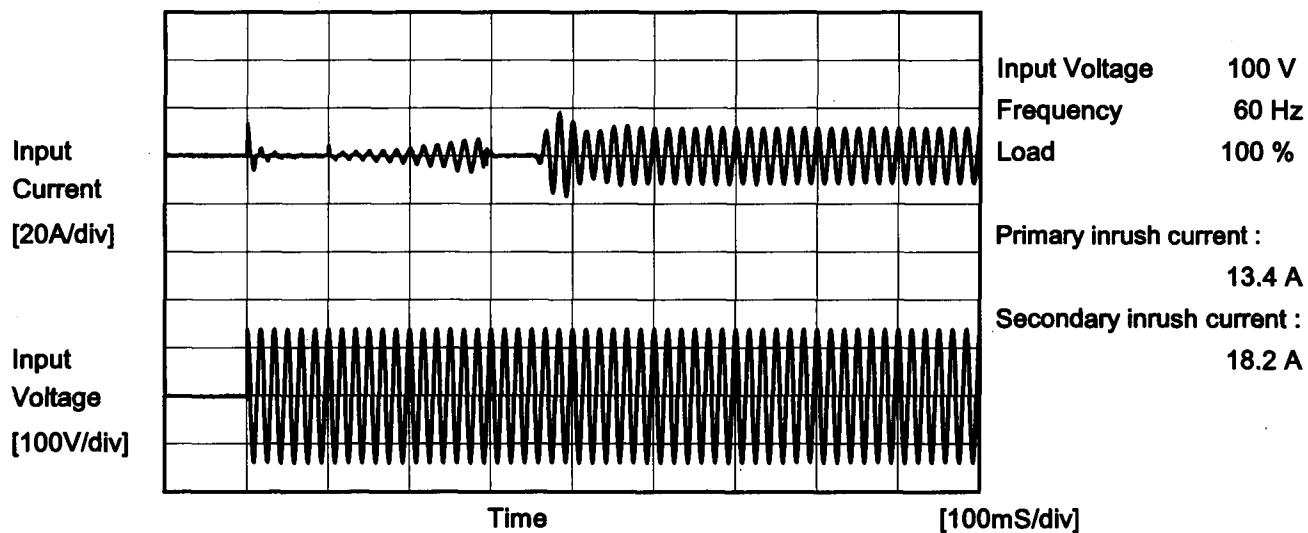
| Input Voltage [V] | Power Factor | |
|-------------------|--------------|-----------|
| | Load 50% | Load 100% |
| 77 | 0.985 | 0.996 |
| 85 | 0.990 | 0.996 |
| 100 | 0.991 | 0.997 |
| 120 | 0.994 | 0.996 |
| 200 | 0.987 | 0.995 |
| 230 | 0.977 | 0.991 |
| 264 | 0.963 | 0.984 |
| 280 | 0.958 | 0.981 |
| — | — | — |

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| | | | |
|--------|----------------|-------------------|----------|
| | | | |
| Model | PBA600F-5 | Temperature | 25°C |
| Item | Inrush Current | Testing Circuitry | Figure A |
| Object | | | |





| | | | |
|--------|--|-----------------|--|
| Model | | PBA600F-5 | Temperature 25°C Testing Circuitry Figure B |
| Item | | Leakage Current | |
| Object | | | |

1.Results

[mA]

| Standards | | Input Volt. | | | Note |
|-----------|--------------|-------------|--------|--------|-----------|
| | | 100[V] | 200[V] | 240[V] | |
| DEN-AN | Both phases | 0.30 | 0.47 | 0.58 | Operation |
| | One of phase | 0.38 | 0.77 | 0.98 | stand by |
| IEC60950 | Both phases | 0.24 | 0.42 | 0.56 | Operation |
| | One of phase | 0.34 | 0.77 | 0.91 | stand by |

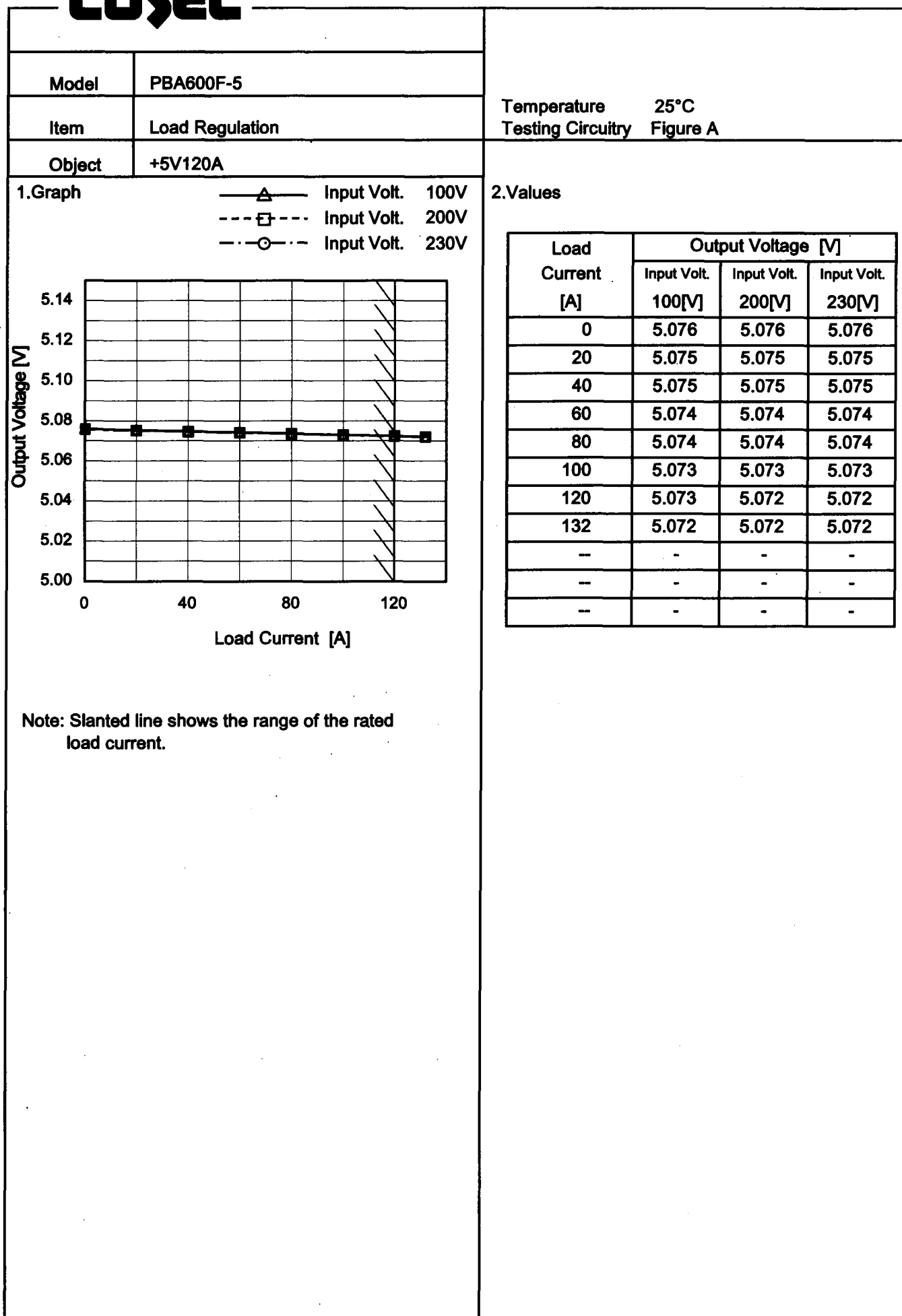
The value for "One phase" is the reference value only.

2.Condition

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

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| Model | PBA600F-5 | Temperature 25°C Testing Circuitry Figure A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------------------|--|--------------------|--|----------|-----------|----|-------|-------|----|-------|-------|-----|-------|-------|-----|-------|-------|-----|-------|-------|-----|-------|-------|-----|-------|-------|-----|-------|-------|----|---|---|--|--|
| Item | Line Regulation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Object | +5V120A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.Graph | | 2.Values | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div><div><div>---□---</div><div>Load 50%</div></div><div><div>—△—</div><div>Load 100%</div></div></div> <table><thead><tr><th rowspan="2">Input Voltage [V]</th><th colspan="2">Output Voltage [V]</th></tr><tr><th>Load 50%</th><th>Load 100%</th></tr></thead><tbody><tr><td>77</td><td>5.074</td><td>5.072</td></tr><tr><td>85</td><td>5.074</td><td>5.072</td></tr><tr><td>100</td><td>5.074</td><td>5.072</td></tr><tr><td>120</td><td>5.074</td><td>5.072</td></tr><tr><td>200</td><td>5.074</td><td>5.072</td></tr><tr><td>230</td><td>5.074</td><td>5.072</td></tr><tr><td>264</td><td>5.074</td><td>5.072</td></tr><tr><td>280</td><td>5.074</td><td>5.072</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></tbody></table> | | Input Voltage [V] | Output Voltage [V] | | Load 50% | Load 100% | 77 | 5.074 | 5.072 | 85 | 5.074 | 5.072 | 100 | 5.074 | 5.072 | 120 | 5.074 | 5.072 | 200 | 5.074 | 5.072 | 230 | 5.074 | 5.072 | 264 | 5.074 | 5.072 | 280 | 5.074 | 5.072 | -- | - | - | | |
| Input Voltage [V] | Output Voltage [V] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Load 50% | Load 100% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 77 | 5.074 | 5.072 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 85 | 5.074 | 5.072 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | 5.074 | 5.072 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | 5.074 | 5.072 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 200 | 5.074 | 5.072 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 230 | 5.074 | 5.072 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 264 | 5.074 | 5.072 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 280 | 5.074 | 5.072 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Note: Slanted line shows the range of the rated input voltage. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

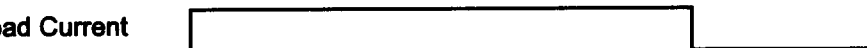
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| | | | |
|--------|-----------------------|-------------------|----------|
| | | | |
| Model | PBA600F-5 | | |
| Item | Dynamic Load Response | Temperature | 25°C |
| Object | +5V120A | Testing Circuitry | Figure A |

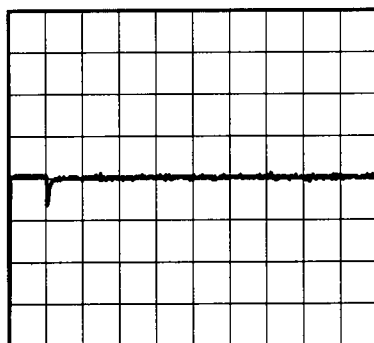
Input Volt. 100 V
Cycle 1000 mS

Load Current

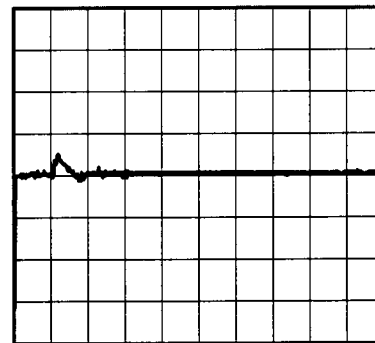


Min.Load (0A) ←→
Load 100% (120A)

100mV/div



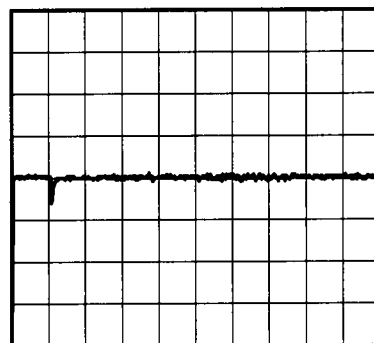
10ms/div



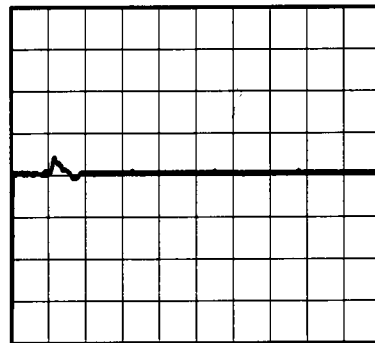
10ms/div

Min.Load (0A) ←→
Load 50% (60A)

100mV/div



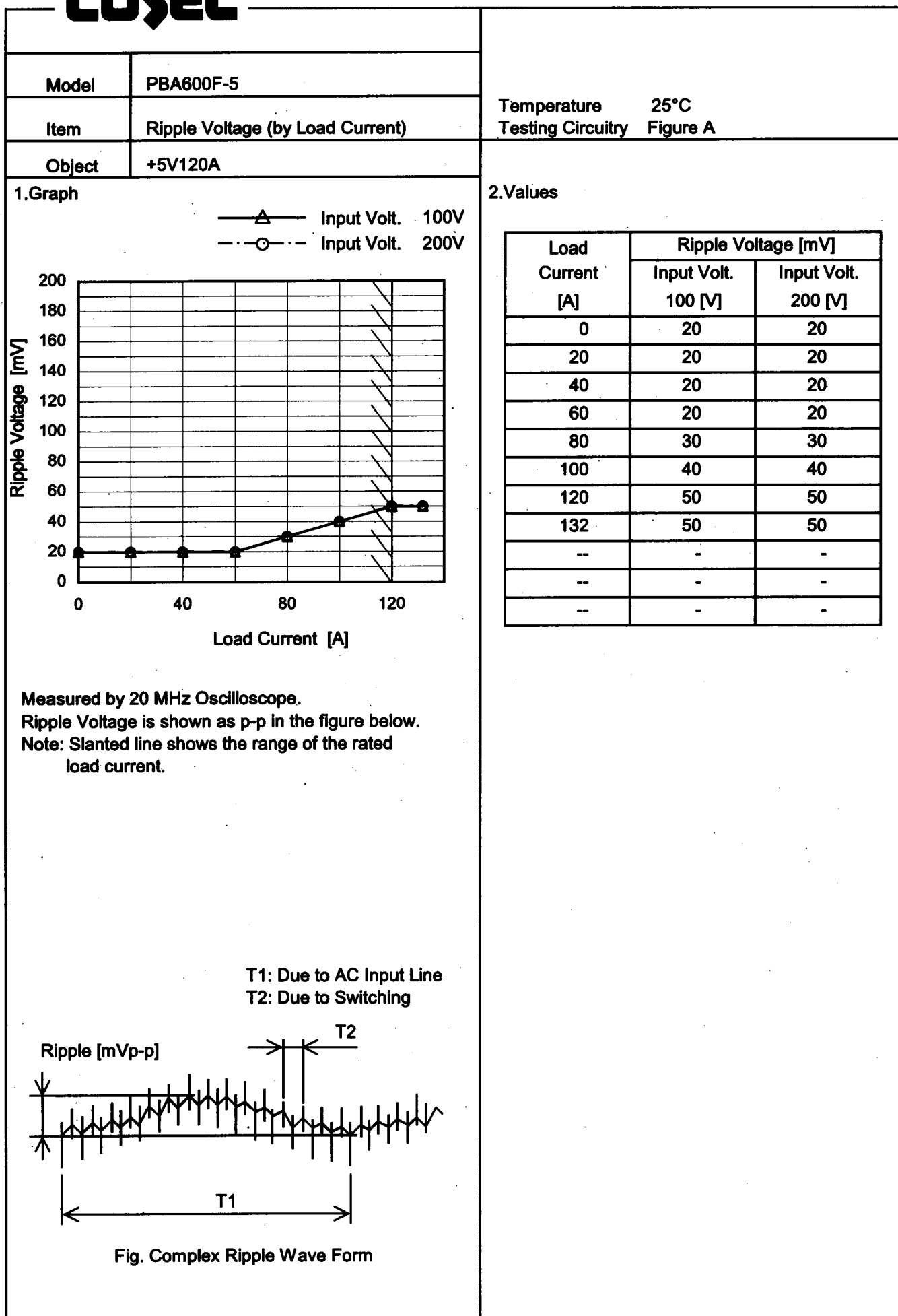
10ms/div

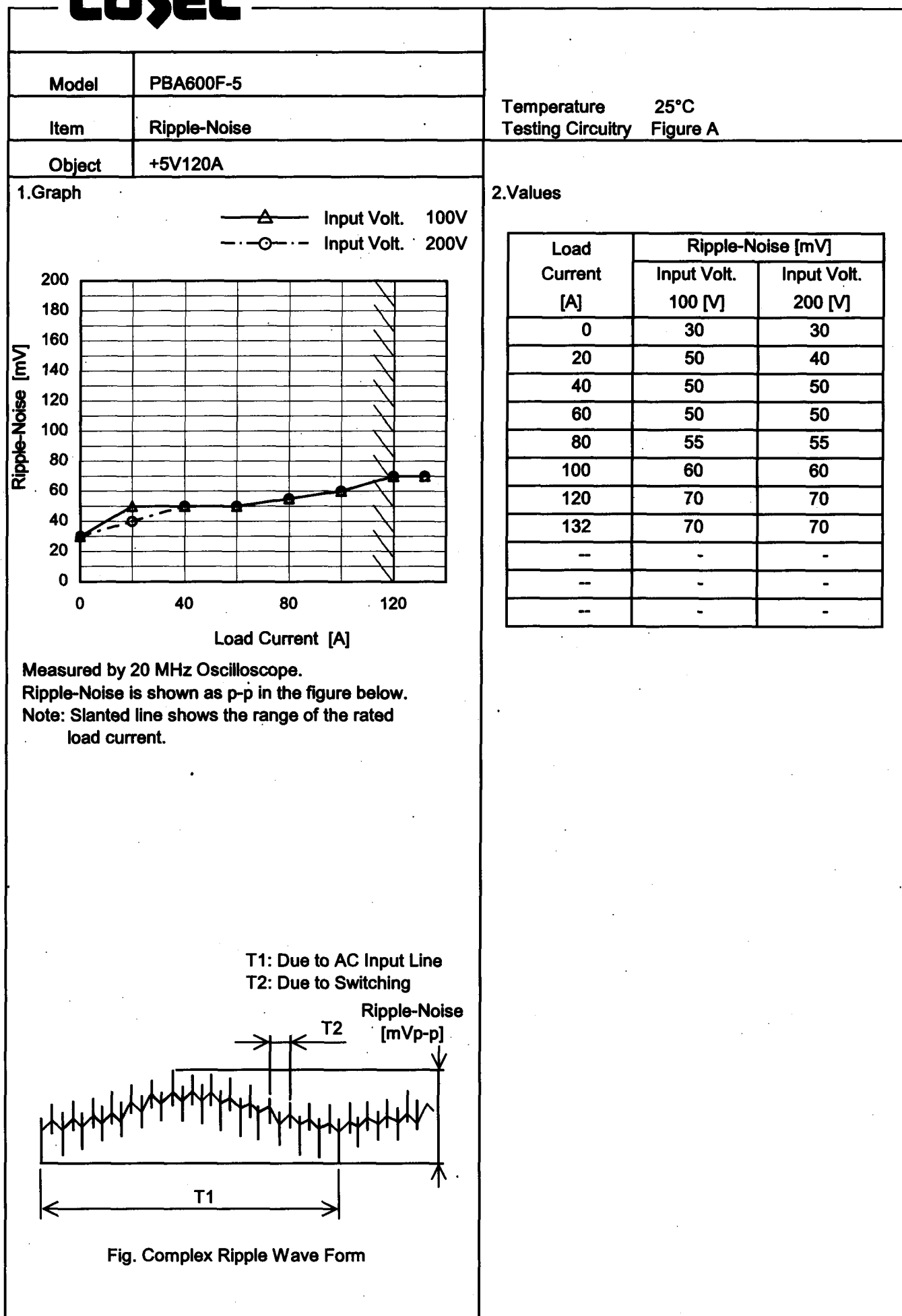


10ms/div

* The characteristic of AC200V is equal.

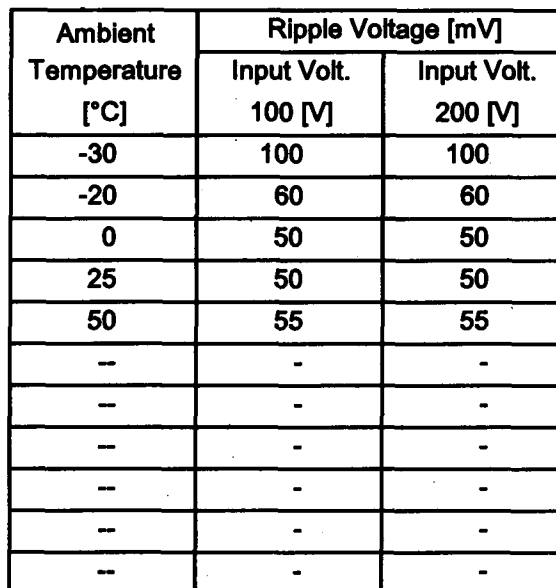
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Testing Circuitry Figure A

2.Values



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

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| | | | |
|--------|--|---------------------------|--|
| Model | | PBA600F-5 | |
| Item | | Ambient Temperature Drift | |
| Object | | +5V120A | |

1.Graph

—△—

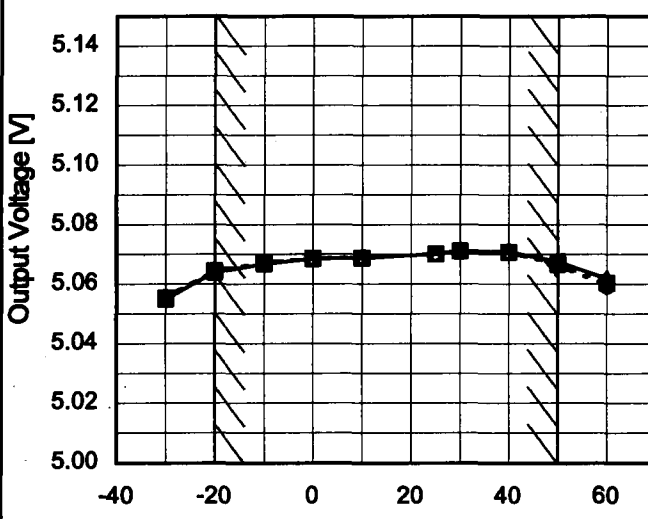
Input Volt. 100V

---□---

Input Volt. 200V

---○---

Input Volt. 230V



Output Voltage [V]

Ambient Temperature [°C]

Load 100%

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

2.Values

| Ambient Temperature [°C] | Output Voltage [V] | | |
|--------------------------|--------------------|--------------------|--------------------|
| | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] |
| -30 | 5.055 | 5.055 | 5.056 |
| -20 | 5.064 | 5.064 | 5.065 |
| -10 | 5.067 | 5.067 | 5.067 |
| 0 | 5.069 | 5.069 | 5.069 |
| 10 | 5.069 | 5.069 | 5.069 |
| 25 | 5.070 | 5.070 | 5.070 |
| 30 | 5.071 | 5.071 | 5.071 |
| 40 | 5.071 | 5.071 | 5.071 |
| 50 | 5.068 | 5.067 | 5.066 |
| 60 | 5.062 | 5.061 | 5.059 |
| -- | - | - | - |



| | | | |
|--------|--|-------------------------|----------------------------|
| Model | | PBA600F-5 | Testing Circuitry Figure A |
| Item | | Output Voltage Accuracy | |
| Object | | +5V120A | |

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 : -20 - 50°C

Input Voltage : 85 - 264V

Load Current : 0 - 120A

* Output Voltage Accuracy = $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

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

2. Values

| Item | Temperature [°C] | Input Voltage[V] | Output | | Output Voltage Accuracy | |
|-----------------|---------------------|---------------------|------------|------------|-------------------------|------------|
| | | | Current[A] | Voltage[V] | Value [mV] | Ration [%] |
| Maximum Voltage | 25 | 264 | 0 | 5.074 | ±6 | ±0.1 |
| Minimum Voltage | 50 | 264 | 120 | 5.063 | | |

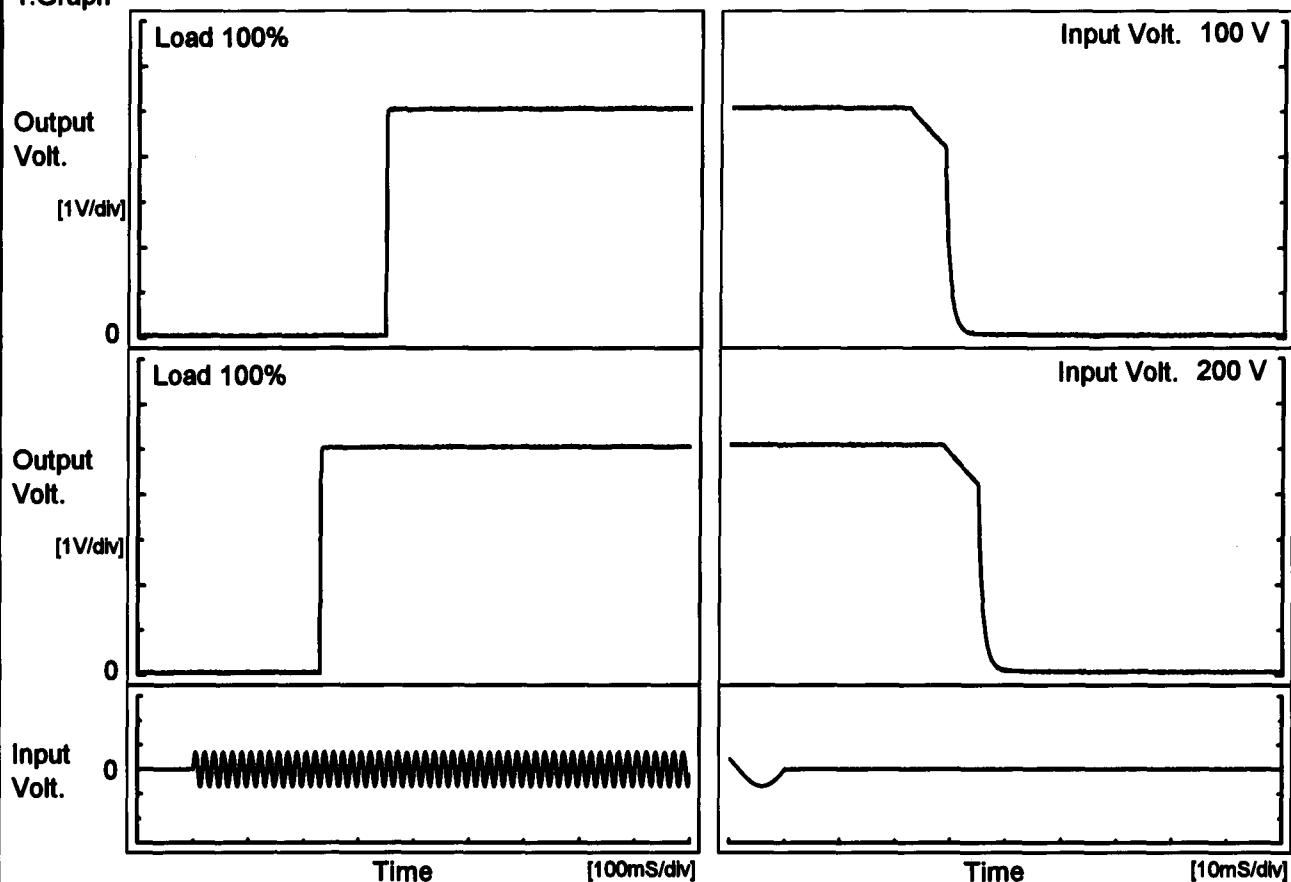
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| | | | |
|--|------------------|--|--|
| | | | |
| Model | PBA600F-5 | Temperature 25°C Testing Circuitry Figure A | |
| Item | Time Lapse Drift | | |
| Object | +5V120A | | |
| 1.Graph | | 2.Values | |
| <div><div>Output Voltage [V]</div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></di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COSEL

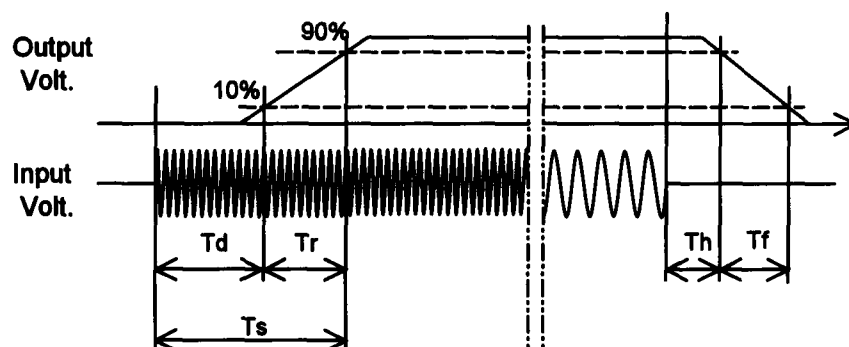
| | | | |
|--------|--------------------|-------------------|----------|
| Model | PBA600F-5 | Temperature | 25°C |
| Item | Rise and Fall Time | Testing Circuitry | Figure A |
| Object | +5V120A | | |

1. Graph



2. Values

| Input Volt. | Time | Td | Tr | Ts | Th | Tf |
|-------------|------|-------|-----|-------|------|-----|
| 100 V | | 346.5 | 2.0 | 348.5 | 26.1 | 4.5 |
| 200 V | | 229.0 | 2.0 | 231.0 | 32.4 | 4.6 |



COSEL

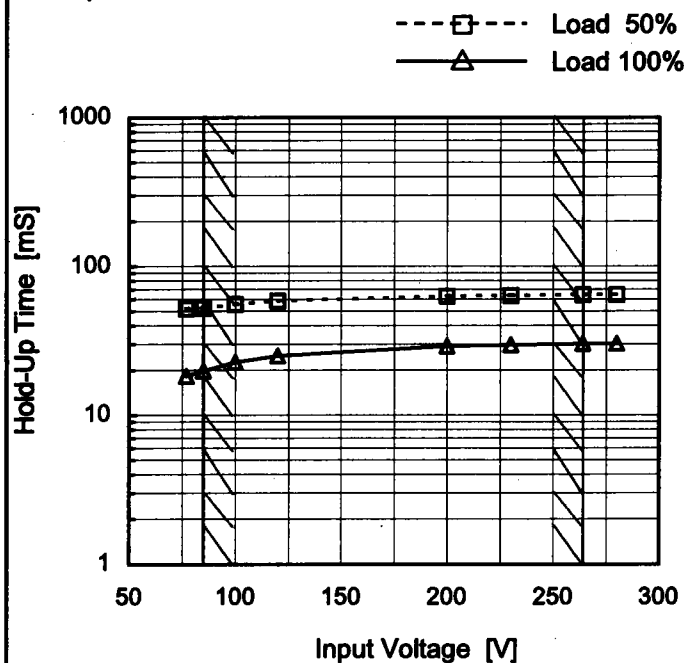
Model PBA600F-5

Item Hold-Up Time

Object +5V120A

Temperature 25°C
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.

2.Values

| Input Voltage [V] | Hold-Up Time [mS] | |
|-------------------|-------------------|-----------|
| | Load 50% | Load 100% |
| 77 | 52 | 18 |
| 85 | 52 | 20 |
| 100 | 56 | 23 |
| 120 | 59 | 25 |
| 200 | 63 | 29 |
| 230 | 64 | 30 |
| 264 | 64 | 30 |
| 280 | 64 | 30 |
| -- | - | - |

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Model

PBA600F-5

Item

Instantaneous Interruption Compensation

Object

+5V120A

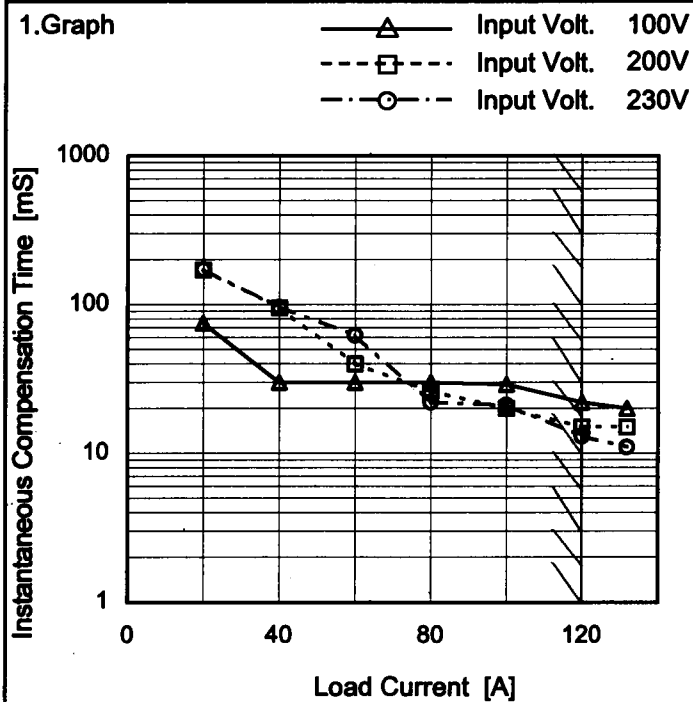
Temperature

25°C

Testing Circuitry

Figure A

1. Graph



2. Values

| Load Current [A] | Time [mS] | | |
|------------------|--------------------|--------------------|--------------------|
| | Input Volt. 100[V] | Input Volt. 200[V] | Input Volt. 230[V] |
| 0 | - | - | - |
| 20 | 75 | 171 | 172 |
| 40 | 30 | 95 | 96 |
| 60 | 30 | 40 | 62 |
| 80 | 30 | 26 | 22 |
| 100 | 29 | 20 | 21 |
| 120 | 22 | 15 | 13 |
| 132 | 20 | 15 | 11 |
| -- | - | - | - |
| -- | - | - | - |
| -- | - | - | - |

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Model

PBA600F-5

Item

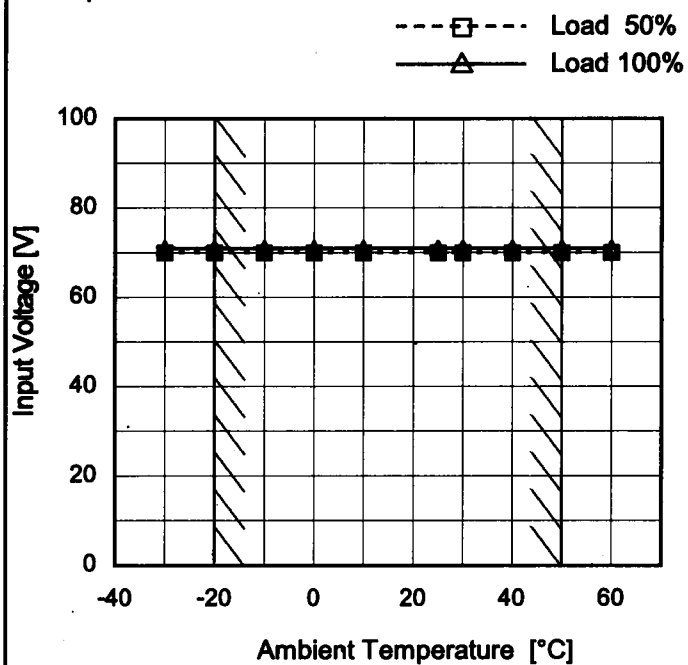
Minimum Input Voltage
for Regulated Output Voltage

Object

+5V120A

Testing Circuitry Figure A

1. Graph



2. Values

| Ambient Temperature [°C] | Input Voltage [V] | |
|--------------------------|-------------------|-----------|
| | Load 50% | Load 100% |
| -30 | 70 | 71 |
| -20 | 70 | 71 |
| -10 | 70 | 71 |
| 0 | 70 | 71 |
| 10 | 70 | 71 |
| 25 | 70 | 71 |
| 30 | 70 | 71 |
| 40 | 70 | 71 |
| 50 | 70 | 71 |
| 60 | 70 | 71 |
| -- | - | - |

COSEL

| | | | |
|--------|--|------------------------|--|
| Model | | PBA600F-5 | |
| Item | | Overcurrent Protection | |
| Object | | +5V120A | |

1.Graph

Input Volt. 100V

Input Volt. 200V

Output Voltage [V]

6

4

2

0

0

40

80

120

160

</

Testing Circuitry Figure A

2.Values



| Ambient Temperature [°C] | Operating Point [V] | |
|--------------------------|---------------------|--------------------|
| | Input Volt. 100[V] | Input Volt. 200[V] |
| -30 | 6.41 | 6.41 |
| -20 | 6.41 | 6.41 |
| -10 | 6.41 | 6.41 |
| 0 | 6.41 | 6.41 |
| 10 | 6.41 | 6.41 |
| 25 | 6.41 | 6.41 |
| 30 | 6.41 | 6.41 |
| 40 | 6.41 | 6.41 |
| 50 | 6.41 | 6.41 |
| 60 | 6.41 | 6.41 |
| - | - | - |

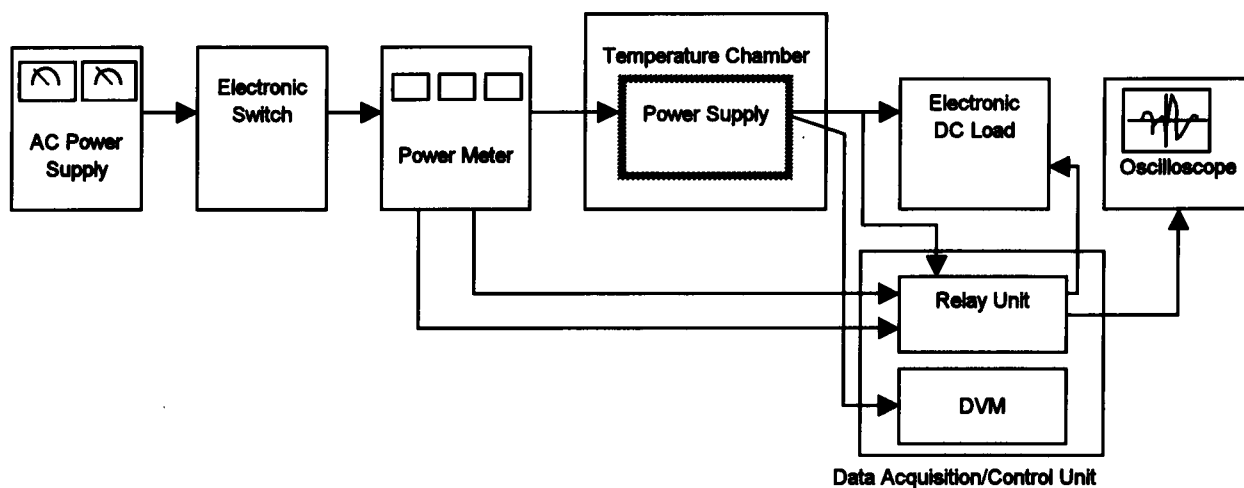


Figure A

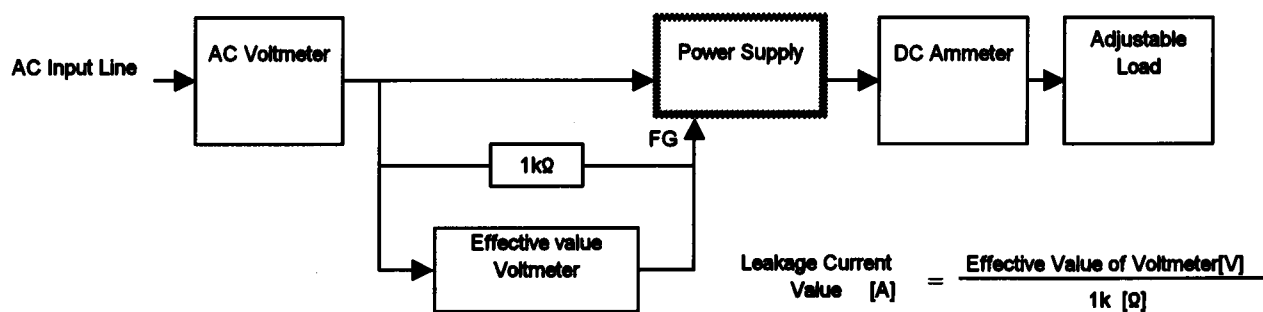


Figure B (DEN-AN)

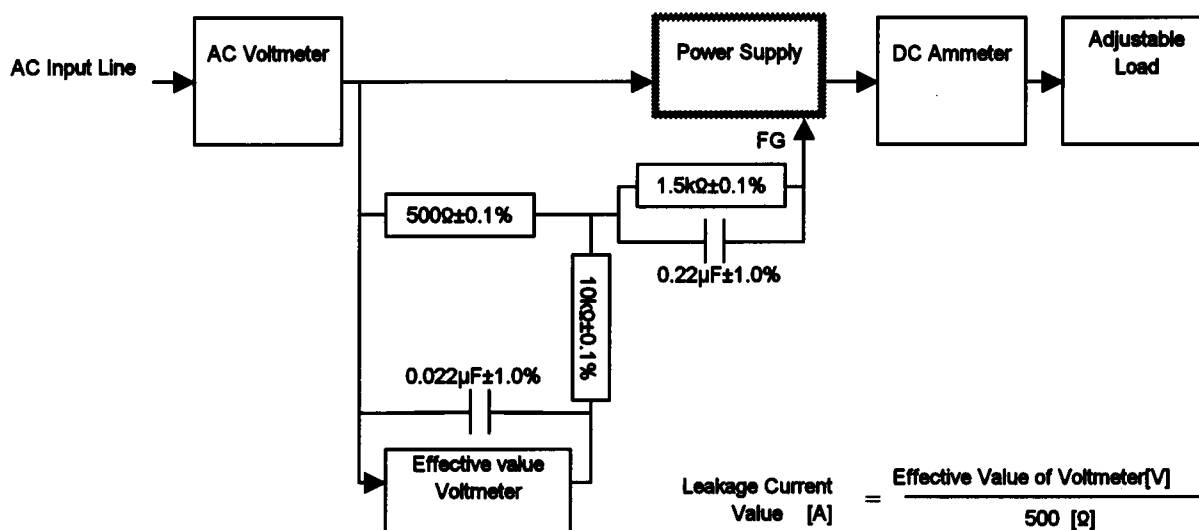


Figure B (IEC60950)