



TEST DATA OF PBA300F-36

Regulated DC Power Supply
May 27, 2004

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Hajime Goto Design Engineer

COSEL CO.,LTD.

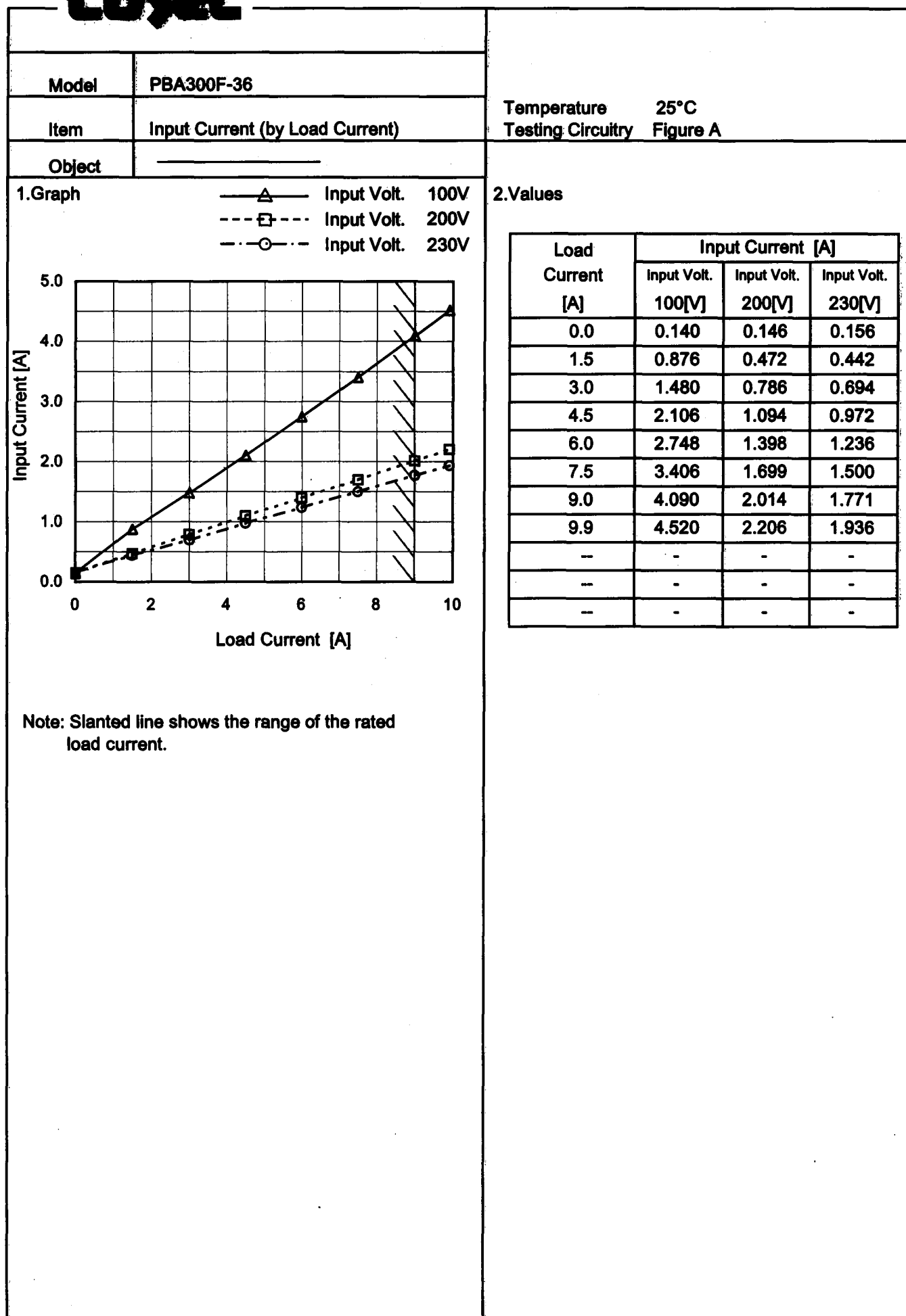


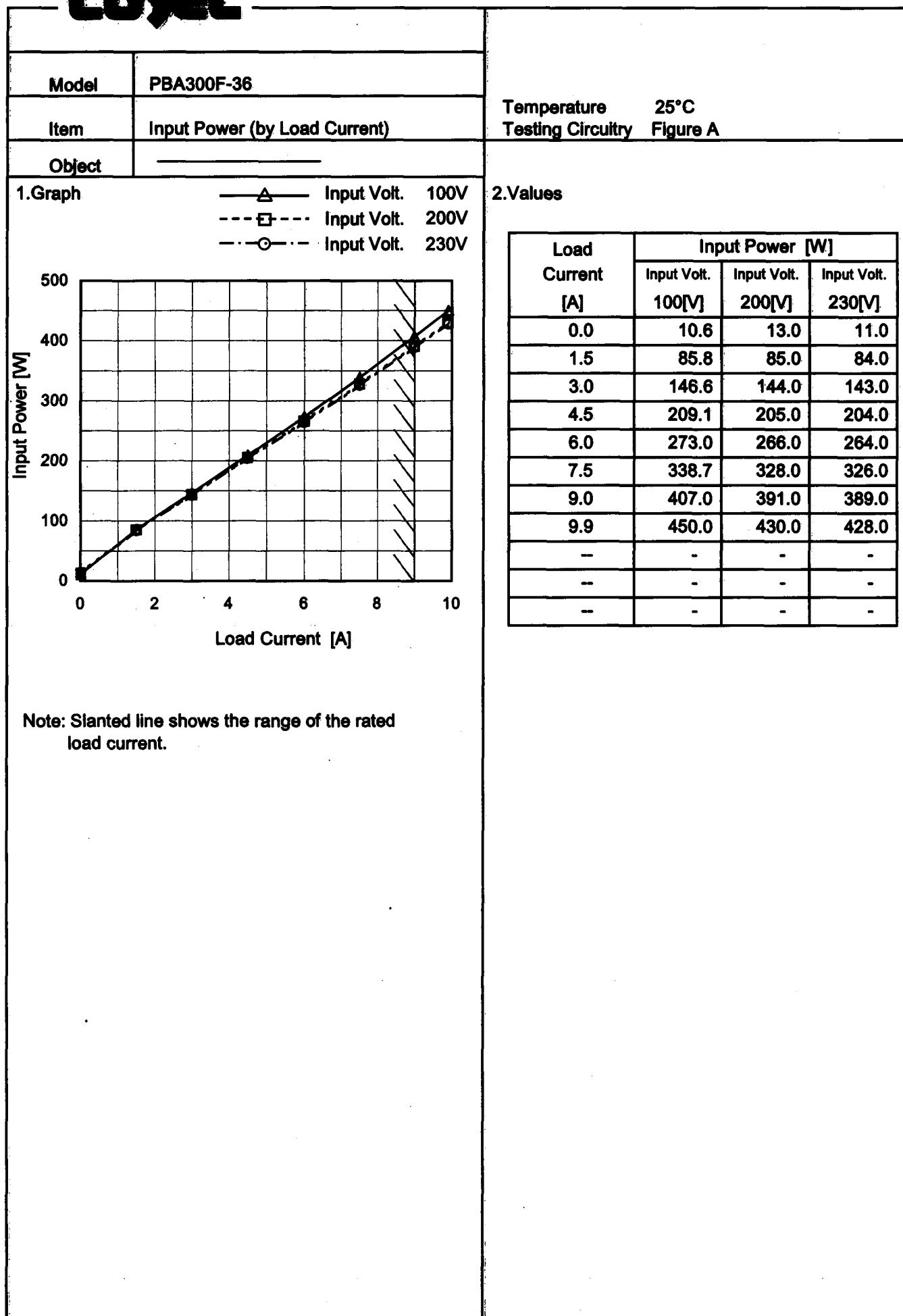
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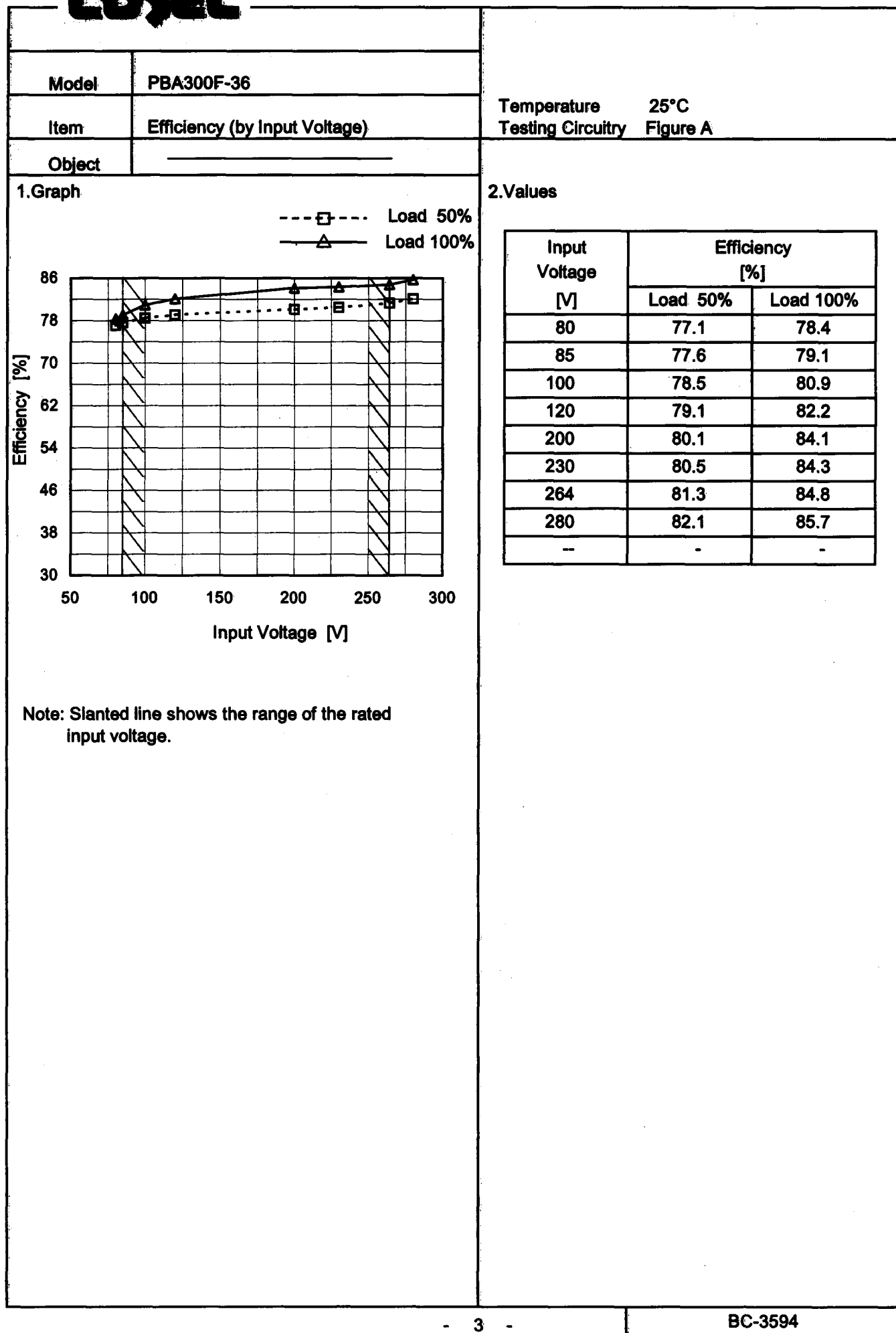
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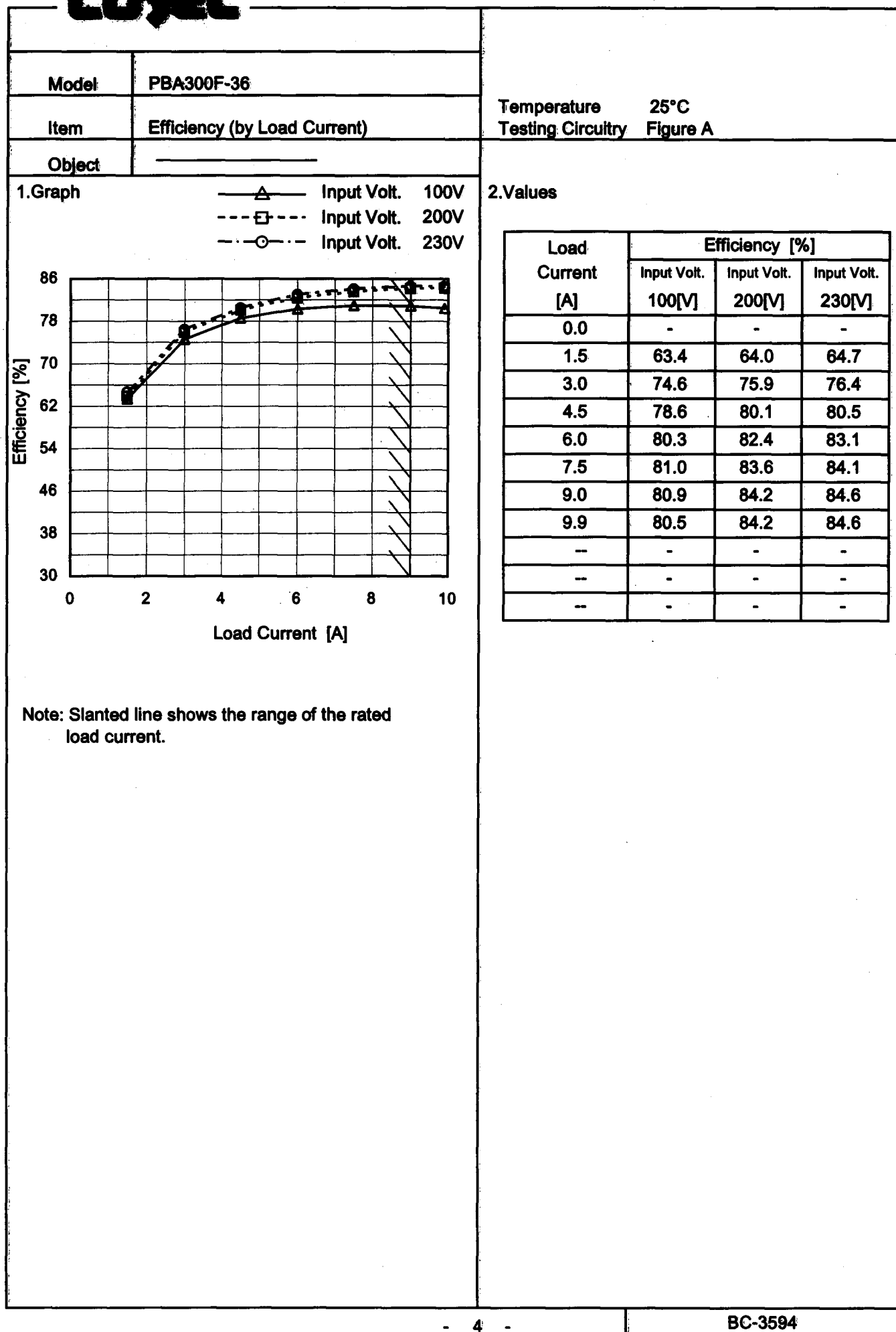
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Model

PBA300F-36

Item

Power Factor (by Input Voltage)

Object

1.Graph

---□---

Load 50%

—△—

Load 100%

Power Factor

1.0

0.9

0.8

0.7

0.6

0.5

0.4

50

100

150

200

250

300

Input Voltage [V]

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

Temperature

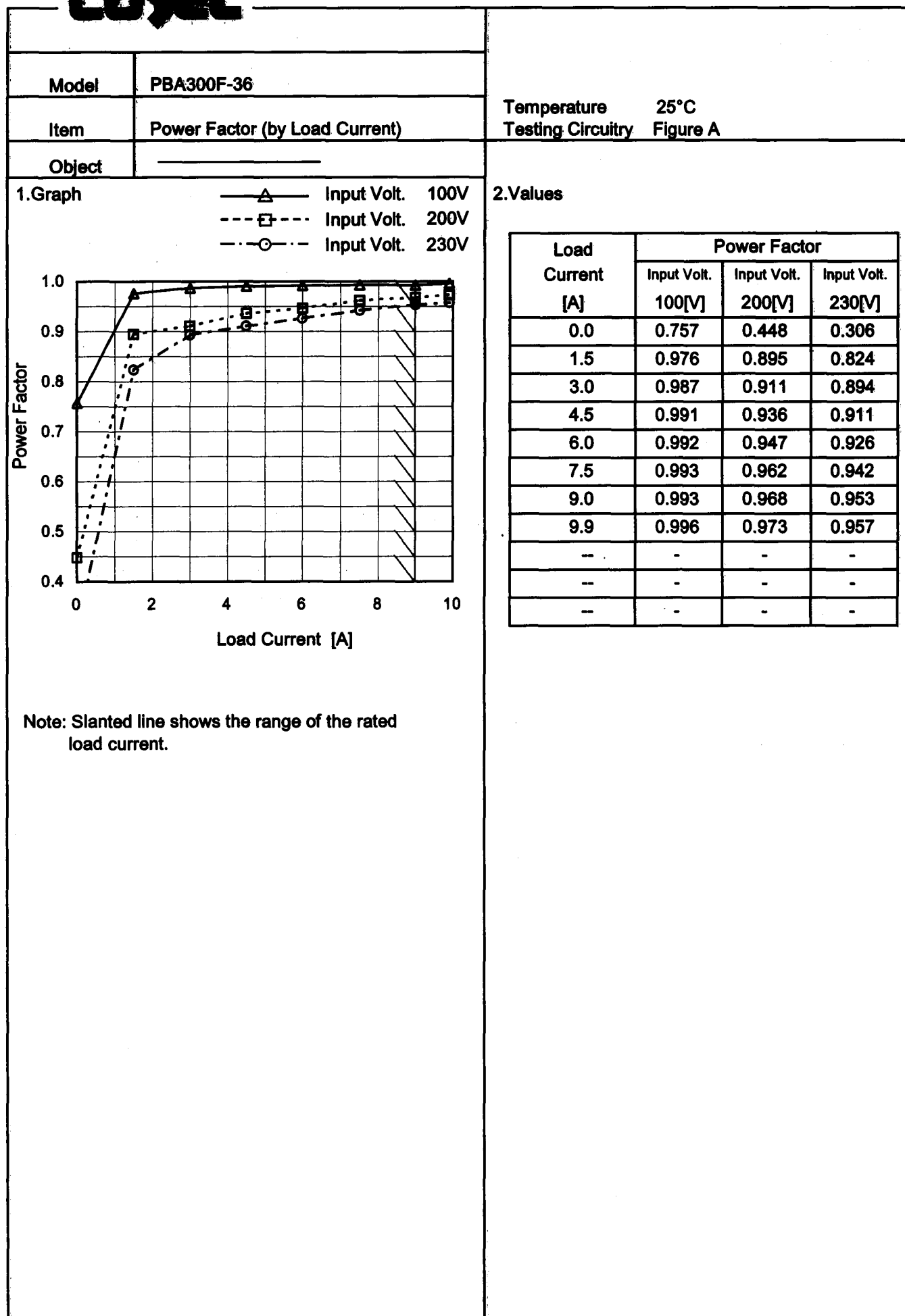
25°C

Testing Circuitry

Figure A

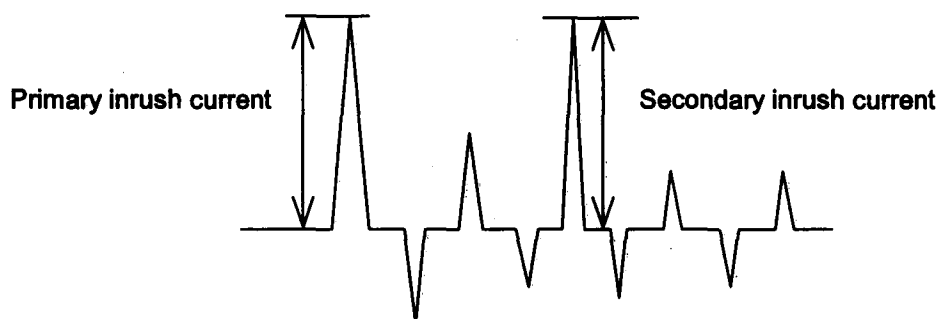
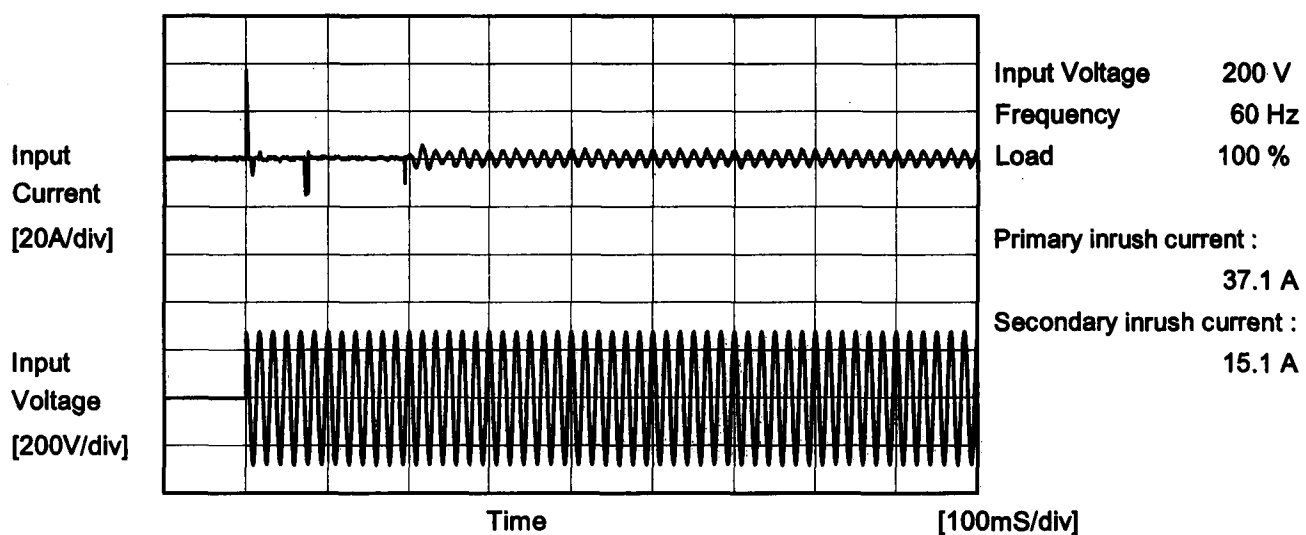
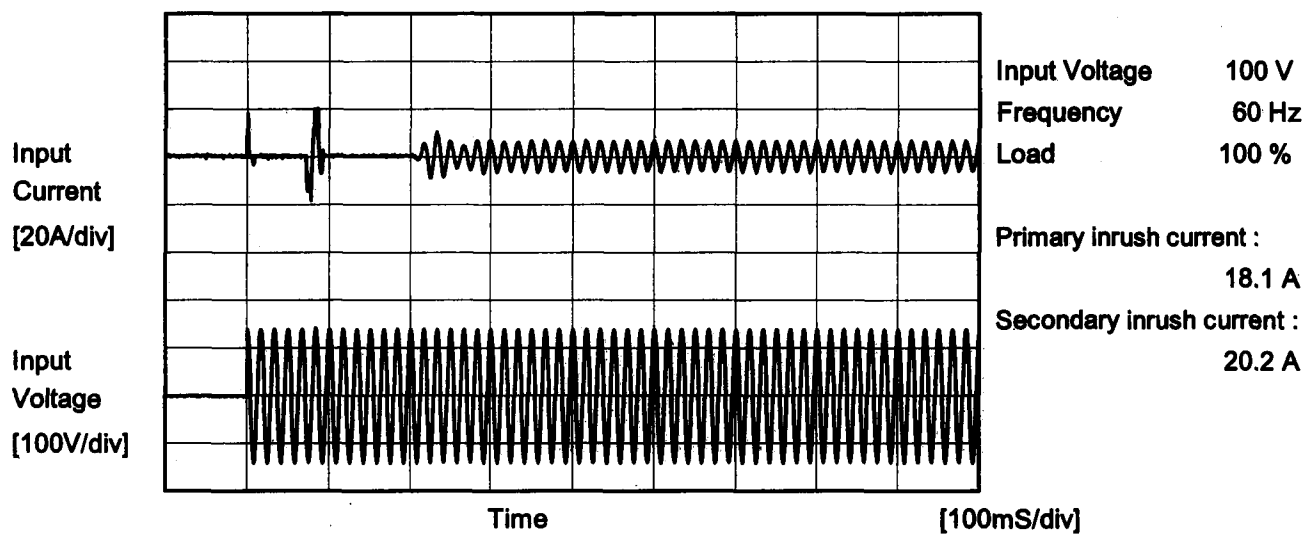
2.Values

Input Voltage [V]	Power Factor	
	Load 50%	Load 100%
80	0.993	0.995
85	0.992	0.995
100	0.991	0.993
120	0.985	0.991
200	0.932	0.968
230	0.911	0.954
264	0.890	0.933
280	0.474	0.561
--	-	-

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Model	PBA300F-36	Temperature 25°C Testing Circuitry Figure A	
Item	Inrush Current		
Object			





		Temperature 25°C Testing Circuitry Figure B
Model	PBA300F-36	
Item	Leakage Current	
Object		

1.Results

[mA]

Standards		Input Volt.			Note
		100[V]	200[V]	240[V]	
DEN-AN	Both phases	0.14	0.25	0.29	Operation
	One of phase	0.23	0.45	0.54	stand by
IEC60950	Both phases	0.14	0.25	0.29	Operation
	One of phase	0.23	0.45	0.54	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		PBA300F-36	
Item		Line Regulation	
Object		+36V9A	

1.Graph

---□---

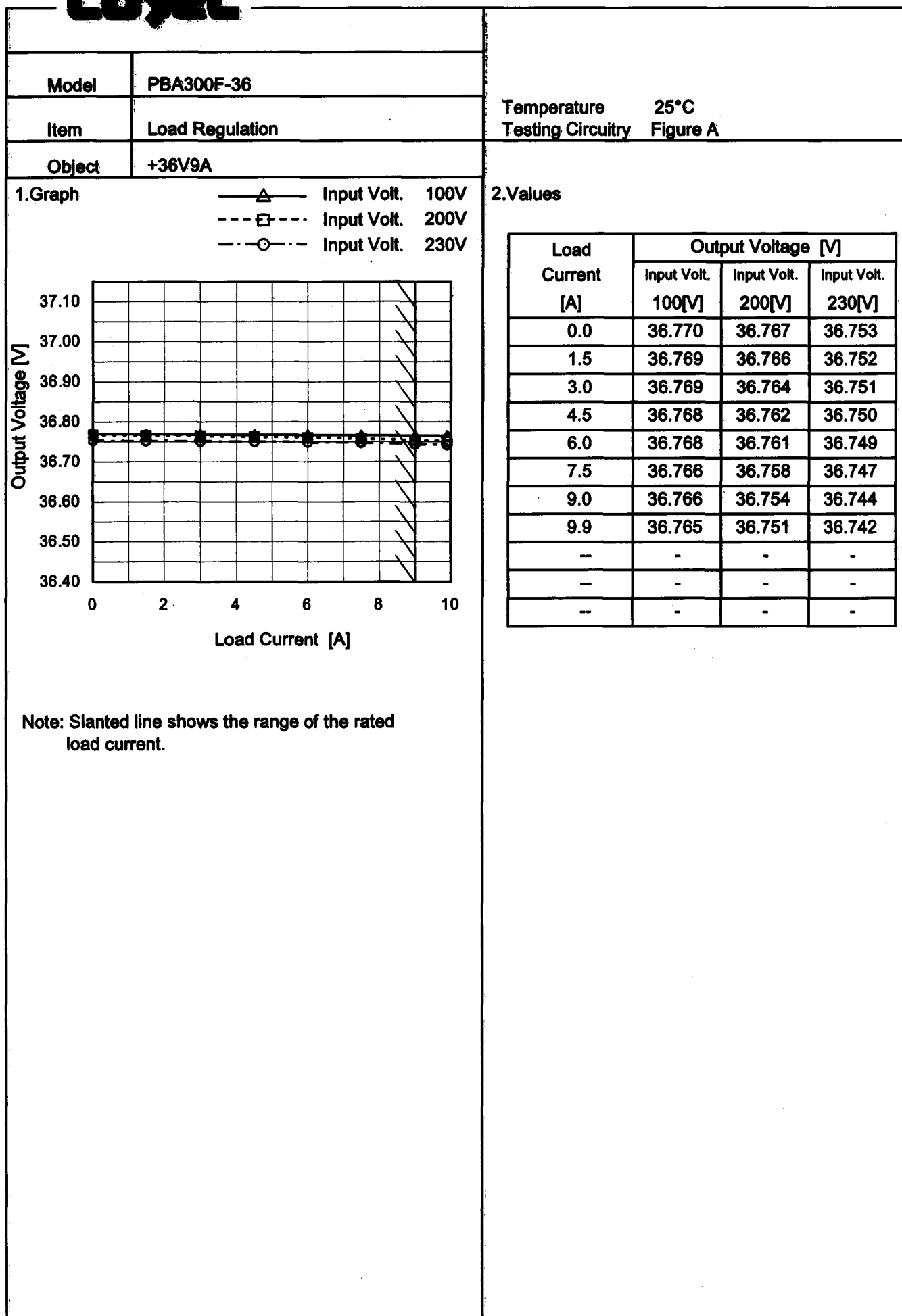
Load 50%

—△—

Load 100%

Output Voltage [V]

</

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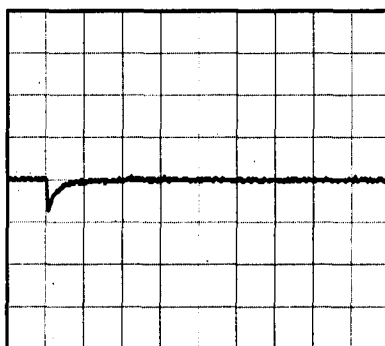
Model	PBA300F-36	Temperature	25°C
Item	Dynamic Load Response 動的負荷変動	Testing Circuitry	Figure A
Object	+36V9A		

Input Volt. 100 V
Cycle 1000 ms

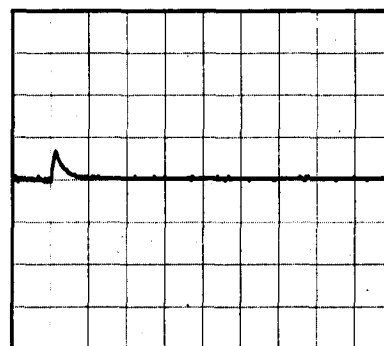
Load Current

Min. Load (0A) ←→
Load 100% (9A)

100 mV/div



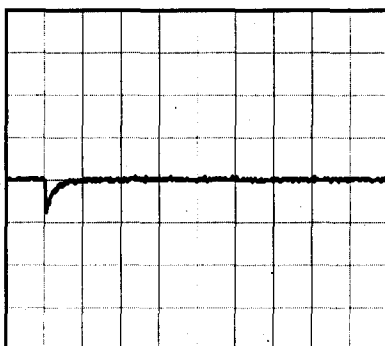
10 ms/div



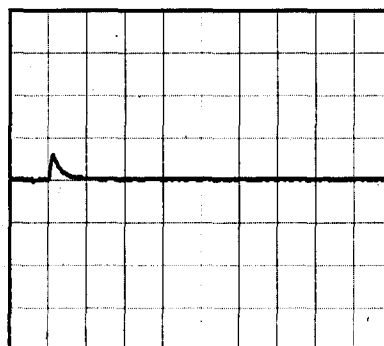
10 ms/div

Min. Load (0A) ←→
Load 50% (4.5A)

100 mV/div



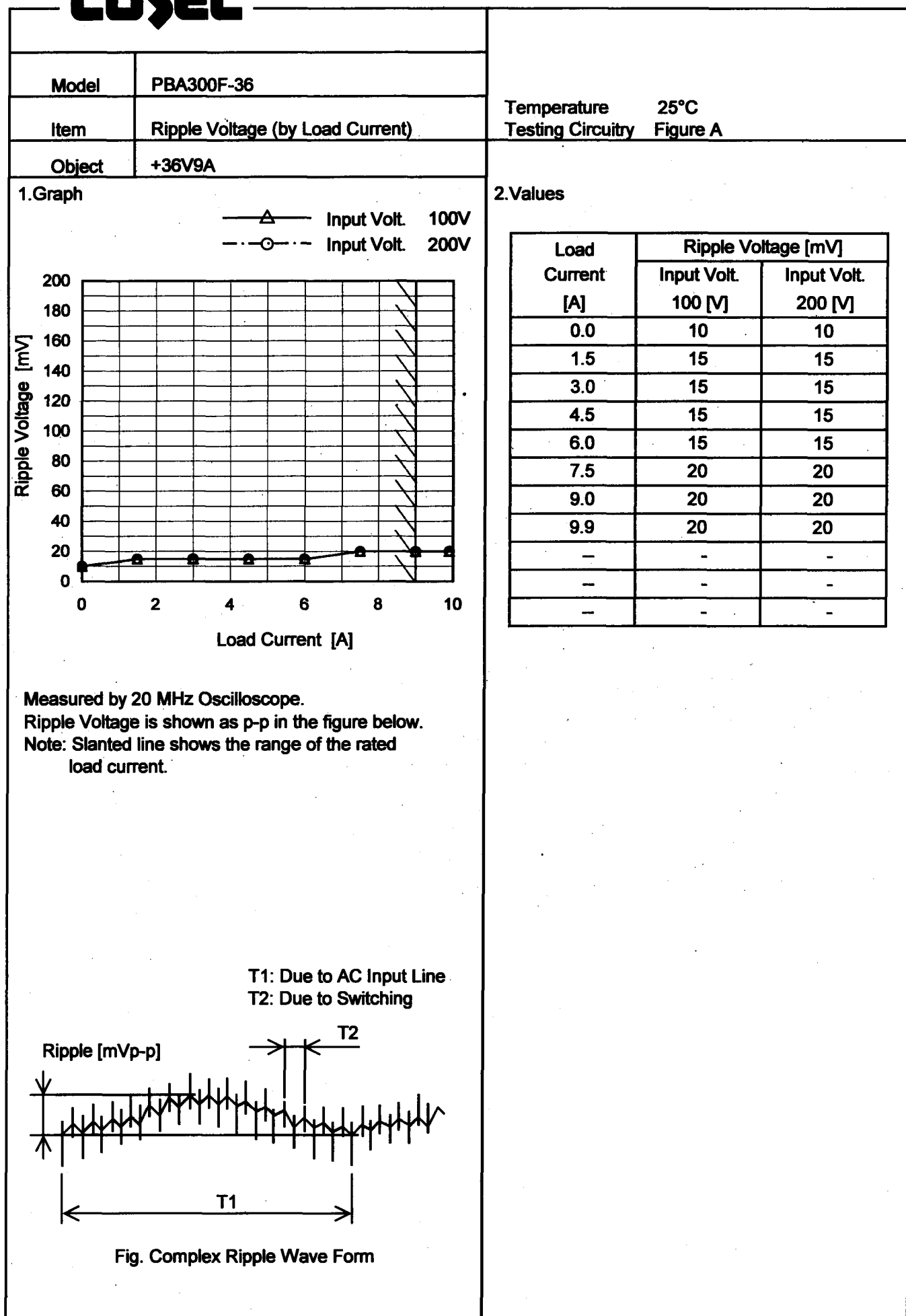
10 ms/div



10 ms/div

* The characteristic of AC200V is equal.

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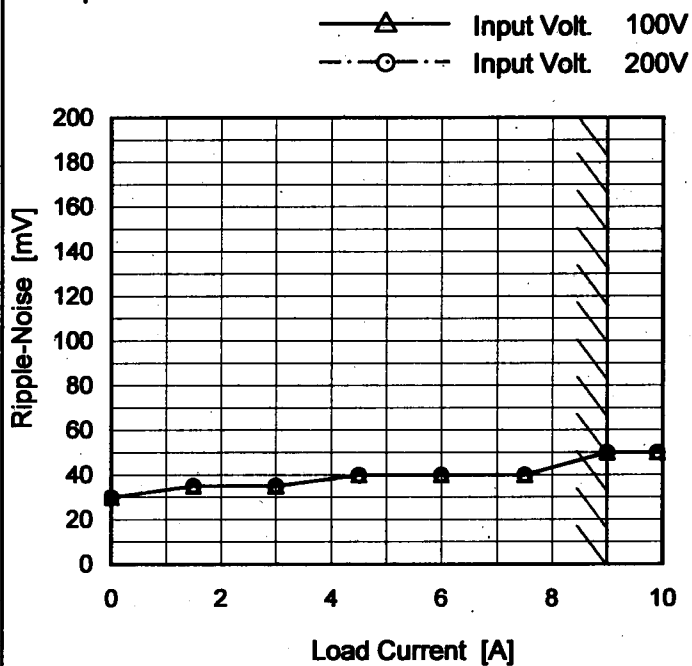


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Model	PBA300F-36
Item	Ripple-Noise
Object	+36V9A

Temperature 25°C
Testing Circuitry Figure A

1. Graph



Measured by 20 MHz Oscilloscope.

Ripple-Noise is shown as p-p in the figure below.

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

2. Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 100 [V]	Input Volt. 200 [V]
0.0	30	30
1.5	35	35
3.0	35	35
4.5	40	40
6.0	40	40
7.5	40	40
9.0	50	50
9.9	50	50
—	—	—
—	—	—
—	—	—

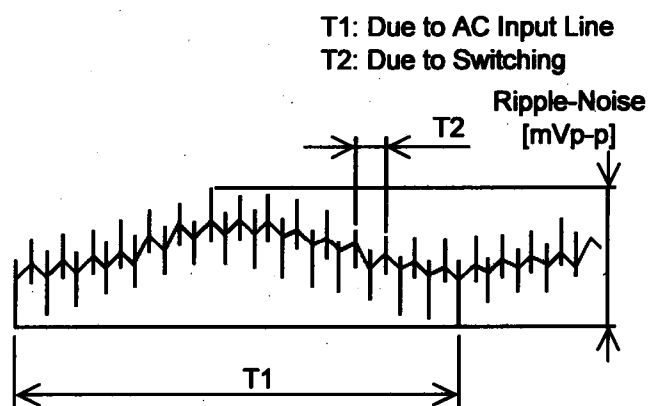
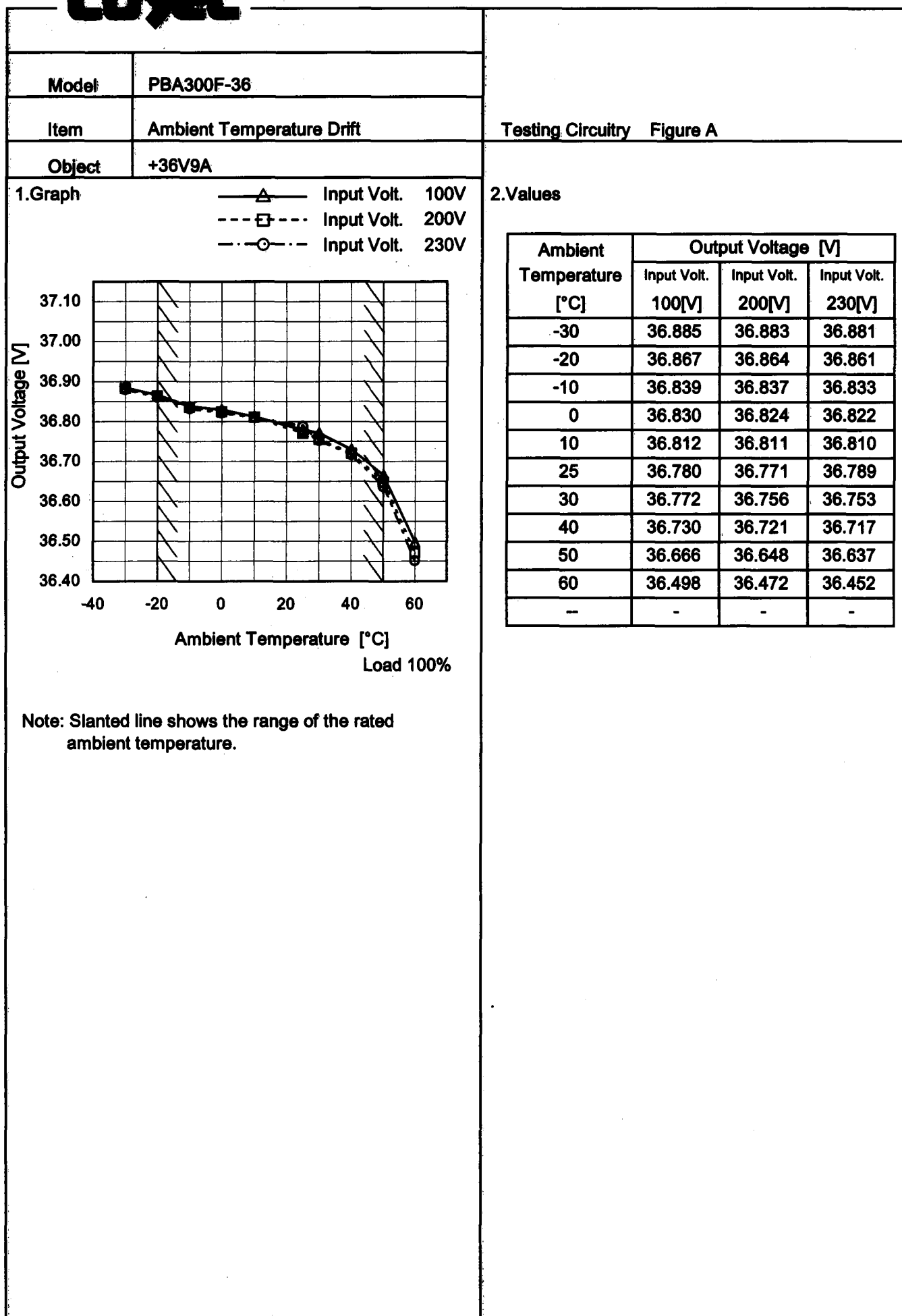


Fig. Complex Ripple Wave Form

BC-3594

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Model		PBA300F-36	Testing Circuitry Figure A
Item		Output Voltage Accuracy	
Object		+36V9A	

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 - 9A

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

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

2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-20	264	0	36.867	±124	±0.3
Minimum Voltage	50	264	9	36.619		

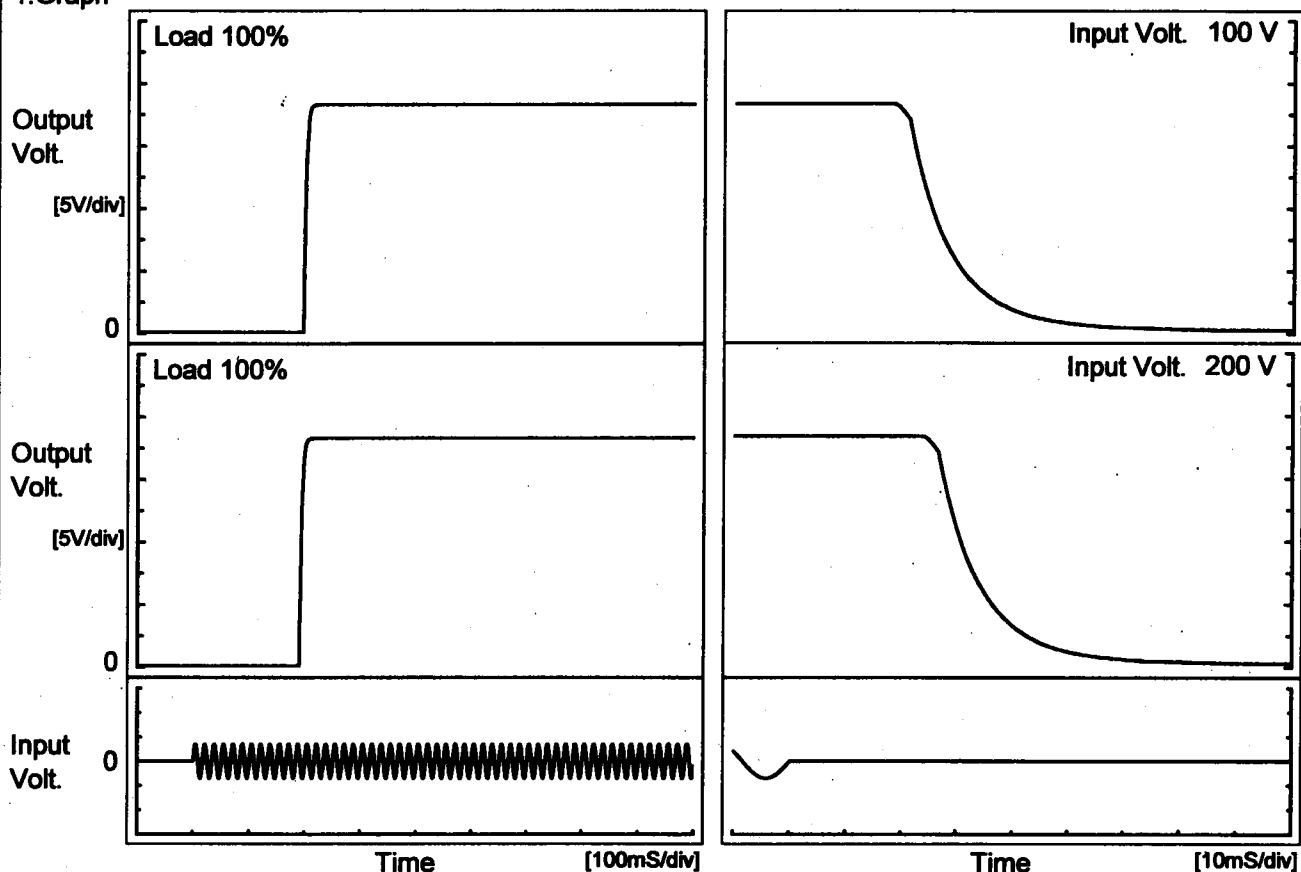
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Model	PBA300F-36		
Item	Time Lapse Drift	Temperature	25°C
Object	+36V9A	Testing Circuitry	Figure A
1.Graph		2.Values	
<div><div><div>Output Voltage [V]</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><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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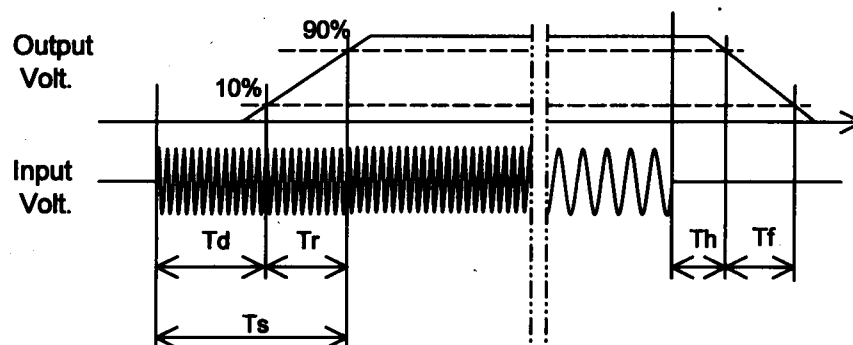
Model	PBA300F-36	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+36V9A		

1. Graph



2. Values

Input Volt.	Time	Td	Tr	Ts	Th	Tf
100 V		196.5	8.5	205.0	21.6	18.2
200 V		190.0	8.5	198.5	27.1	18.1



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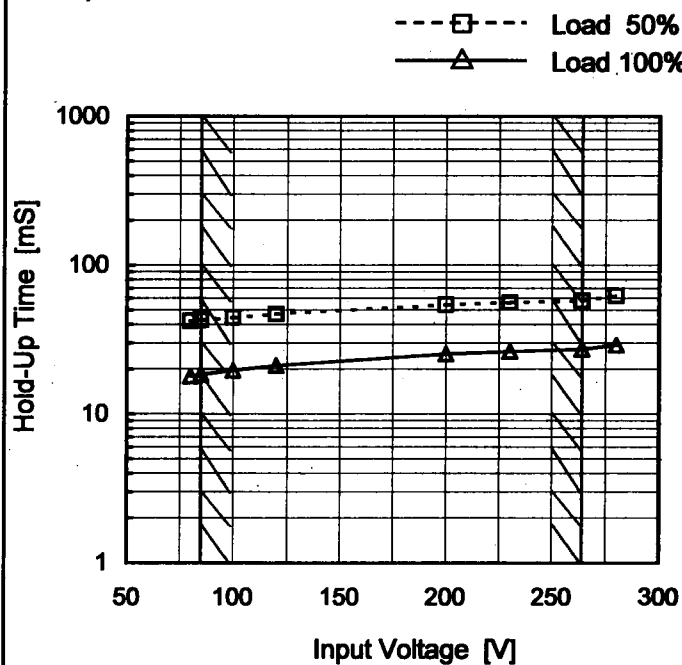
Model PBA300F-36

Item Hold-Up Time

Object +36V9A

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%
80	42	18
85	43	18
100	45	20
120	47	21
200	54	25
230	56	26
264	58	27
280	62	29
—	—	—

COSEL

Model

PBA300F-36

Item

Instantaneous Interruption Compensation

Object

+36V9A

Temperature

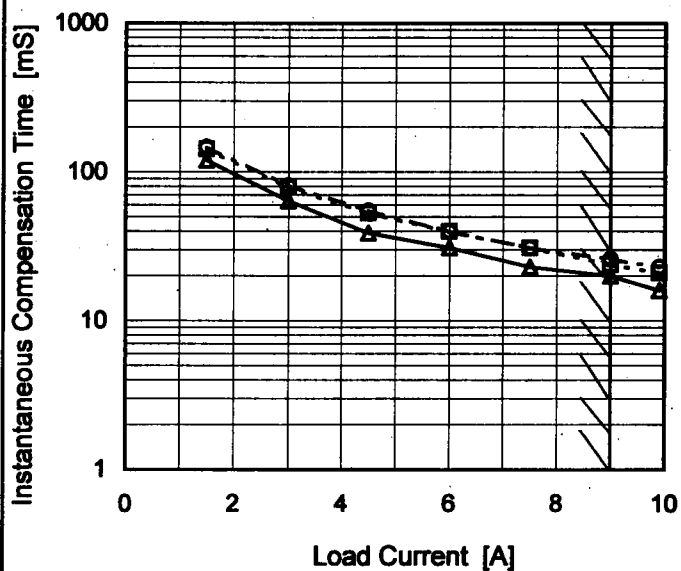
25°C

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

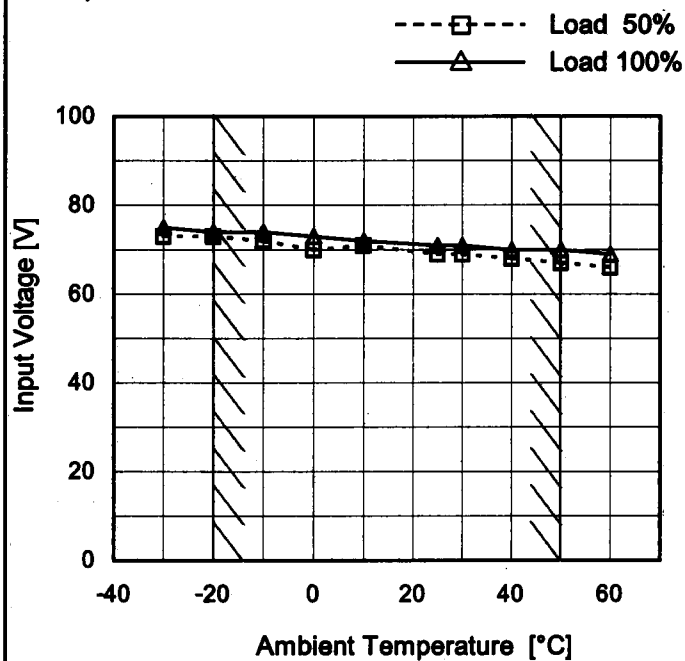
Load Current [A]	Time [mS]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	-	-	-
1.5	120	143	147
3.0	64	79	81
4.5	39	53	55
6.0	31	40	40
7.5	23	31	31
9.0	20	24	26
9.9	16	21	23
-	-	-	-
-	-	-	-
-	-	-	-

COSEL

Model	PBA300F-36
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+36V9A

Testing Circuitry Figure A

1. Graph



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

2. Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-30	73	75
-20	73	74
-10	72	74
0	70	73
10	71	72
25	69	71
30	69	71
40	68	70
50	67	70
60	66	69
--	-	-

COSEL

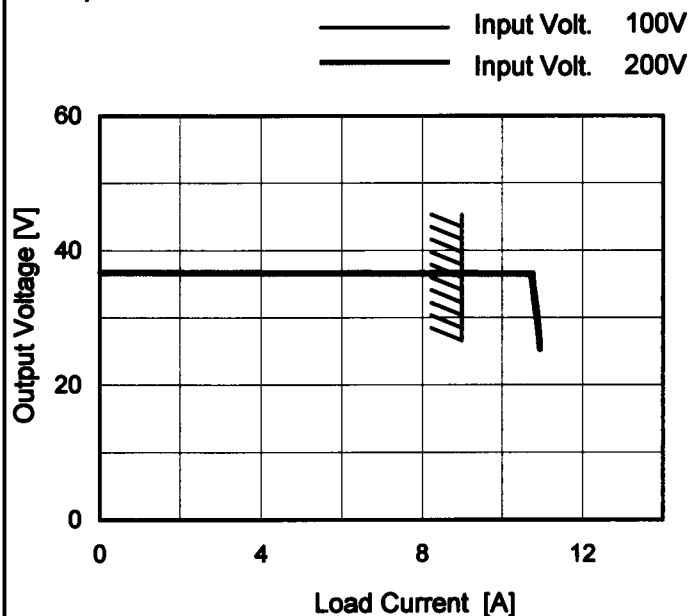
Model PBA300F-36

Item Overcurrent Protection

Object +36V9A

Temperature 25°C
Testing Circuitry Figure A

1. Graph



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

Intermittent operation occurs when the output voltage is from 25.2V to 0V.

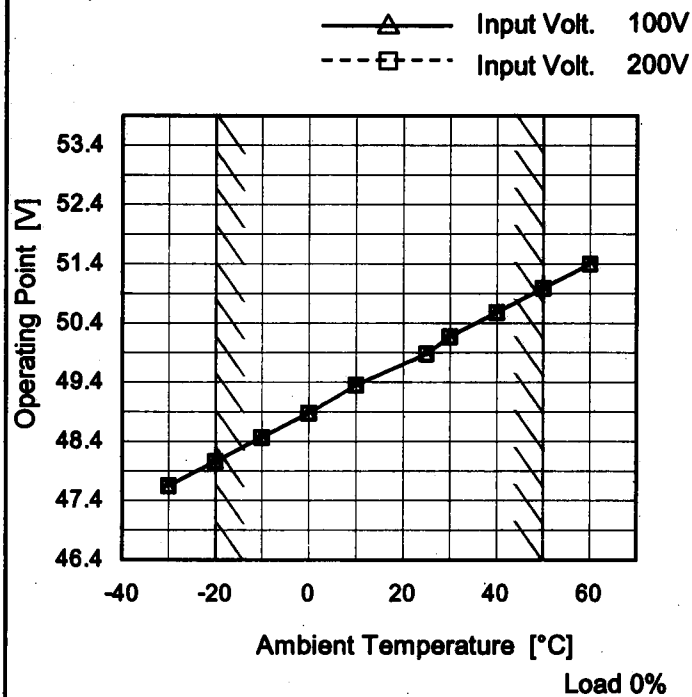
2. Values

Output Voltage [V]	Load Current [A]	
	Input Volt. 100[V]	Input Volt. 200[V]
36.0	10.73	10.75
34.2	10.75	10.78
32.4	10.78	10.83
28.8	10.87	10.89
25.2	10.93	10.95
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—

COSEL

Model	PBA300F-36
Item	Overvoltage Protection
Object	+36V9A

1. Graph



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

Testing Circuitry Figure A

2. Values

Ambient Temperature [°C]	Operating Point [V]	
	Input Volt. 100[V]	Input Volt. 200[V]
-30	47.63	47.63
-20	48.04	48.04
-10	48.45	48.45
0	48.86	48.86
10	49.33	49.33
25	49.86	49.86
30	50.15	50.15
40	50.56	50.56
50	50.97	50.97
60	51.38	51.38
--	-	-

COSEL

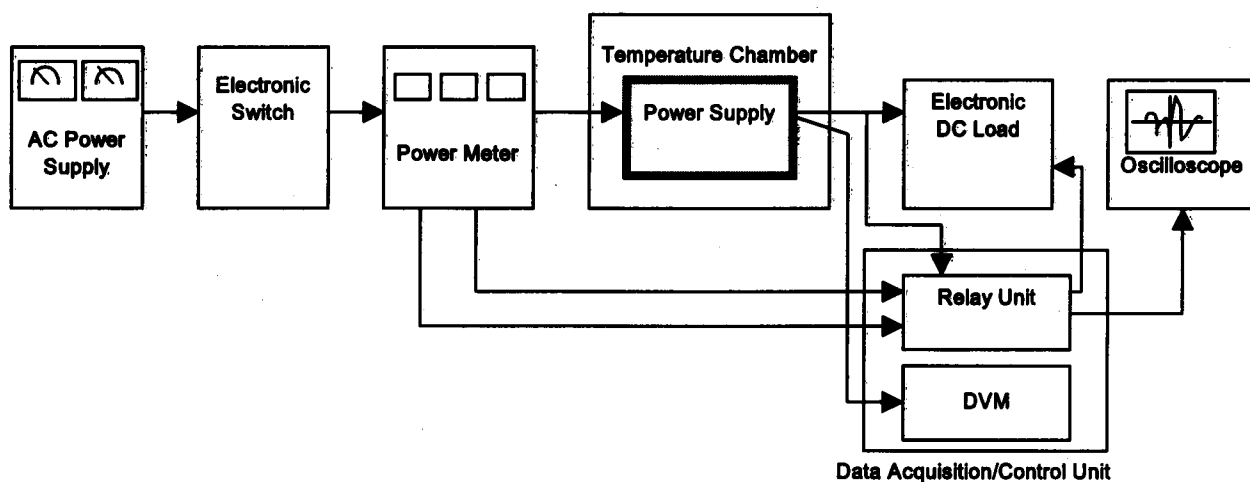


Figure A

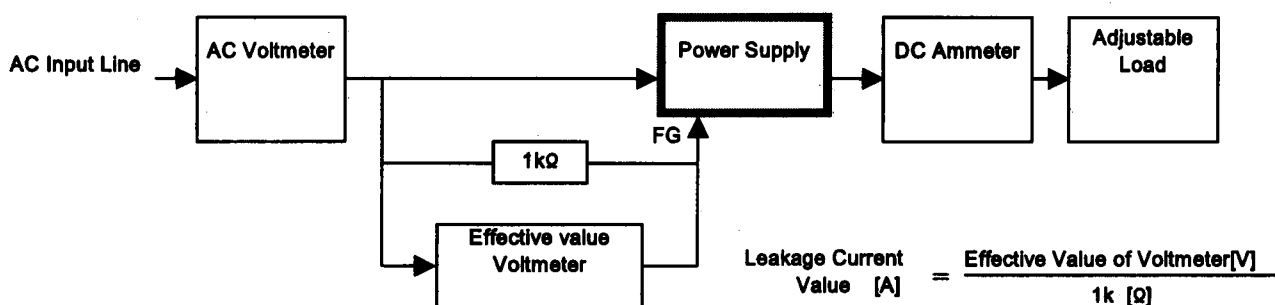


Figure B (DEN-AN)

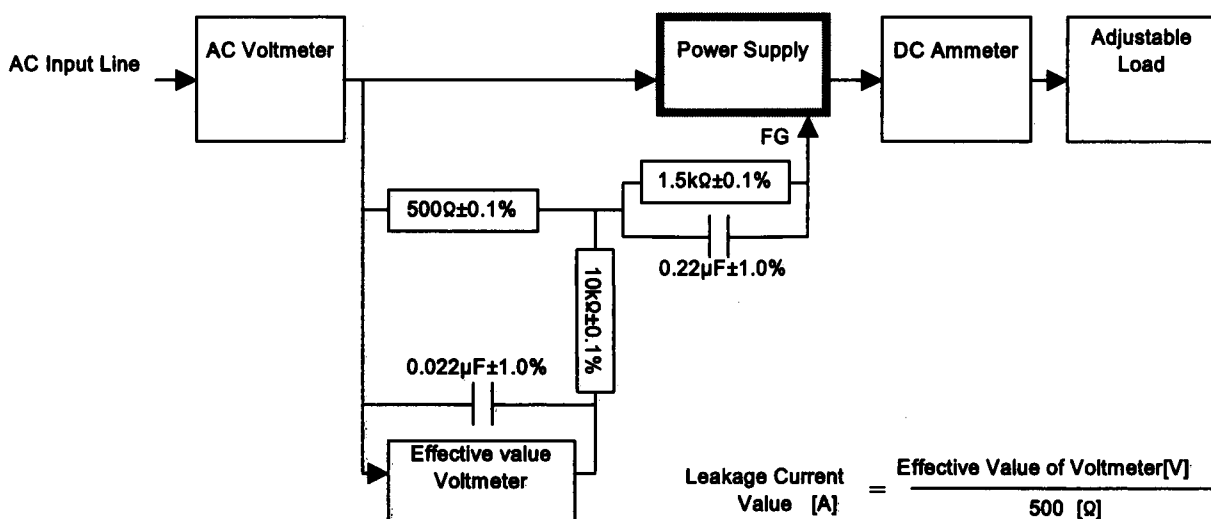


Figure B (IEC60950)