



# TEST DATA OF PBA300F-48

Regulated DC Power Supply  
May 27, 2004

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COSEL CO.,LTD.



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Model PBA300F-48

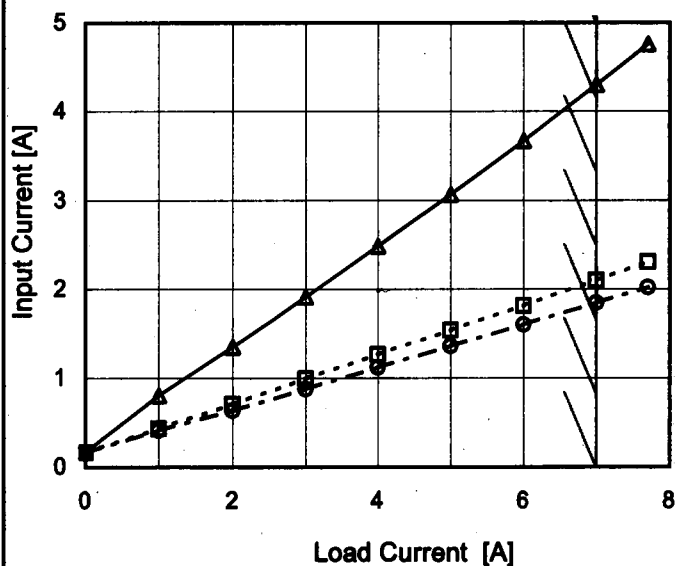
Item Input Current (by Load Current)

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 Current [A]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	0.168	0.164	0.160
1.0	0.804	0.436	0.412
2.0	1.352	0.708	0.634
3.0	1.914	0.996	0.876
4.0	2.484	1.268	1.122
5.0	3.068	1.540	1.362
6.0	3.670	1.818	1.602
7.0	4.300	2.102	1.848
7.7	4.760	2.308	2.022
—	—	—	—
—	—	—	—

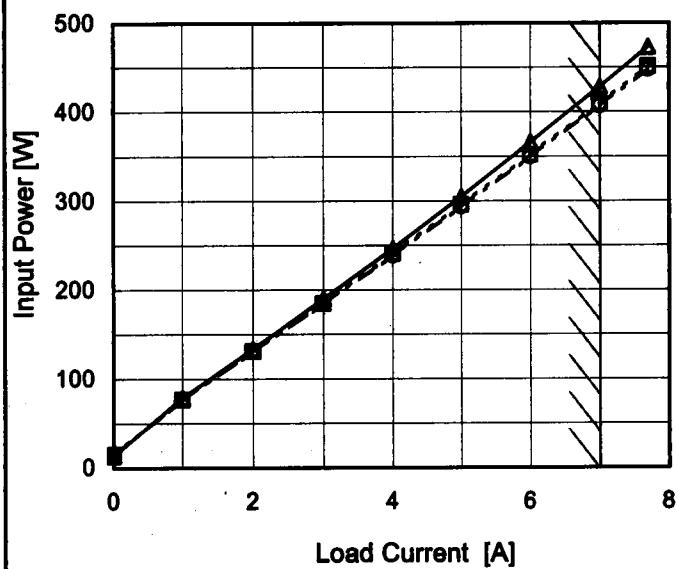
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Model	PBA300F-48
Item	Input Power (by Load Current)
Object	

Temperature 25°C  
Testing Circuitry Figure A

## 1. Graph

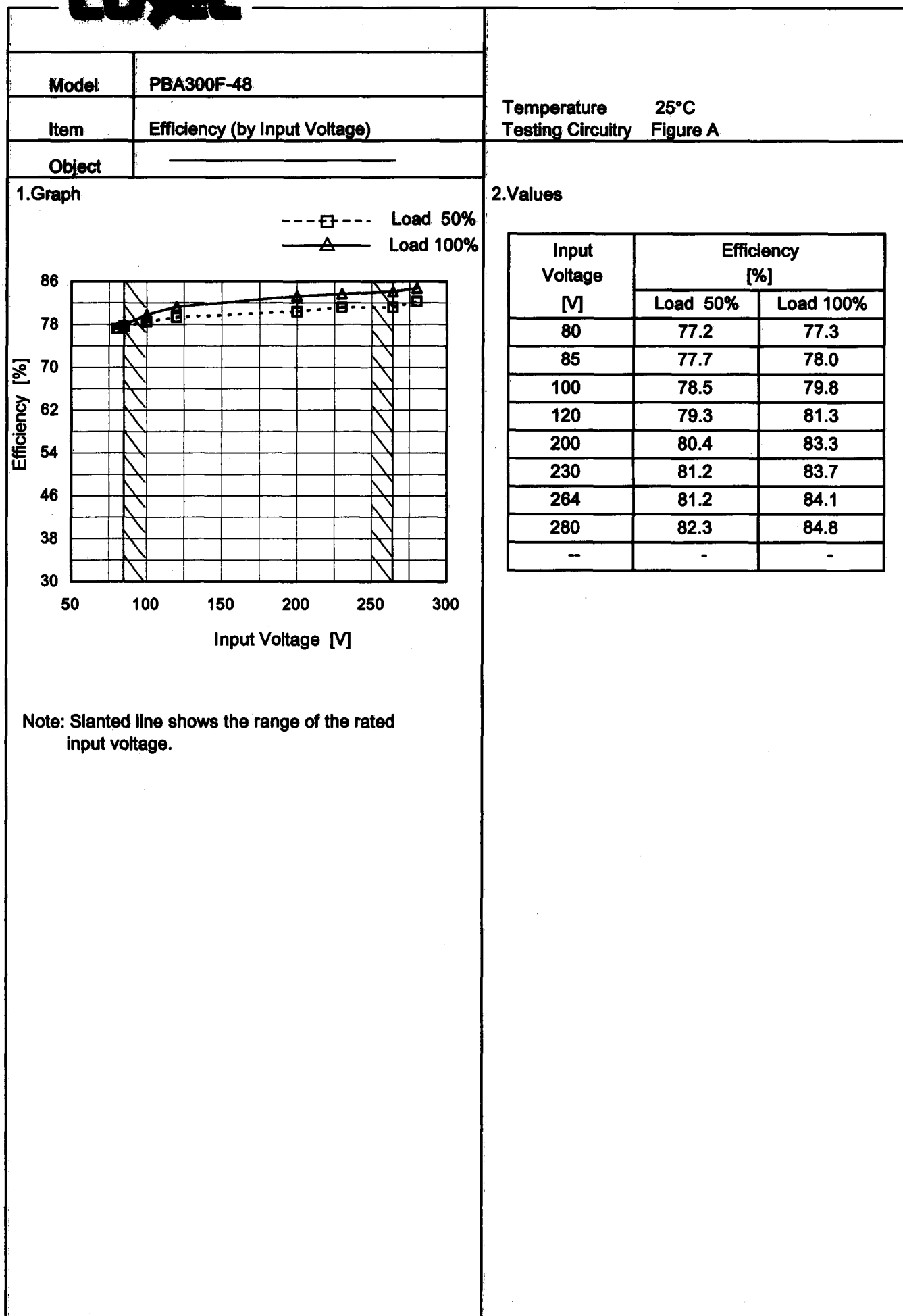
—△— Input Volt. 100V  
 ---□--- Input Volt. 200V  
 -○- Input Volt. 230V

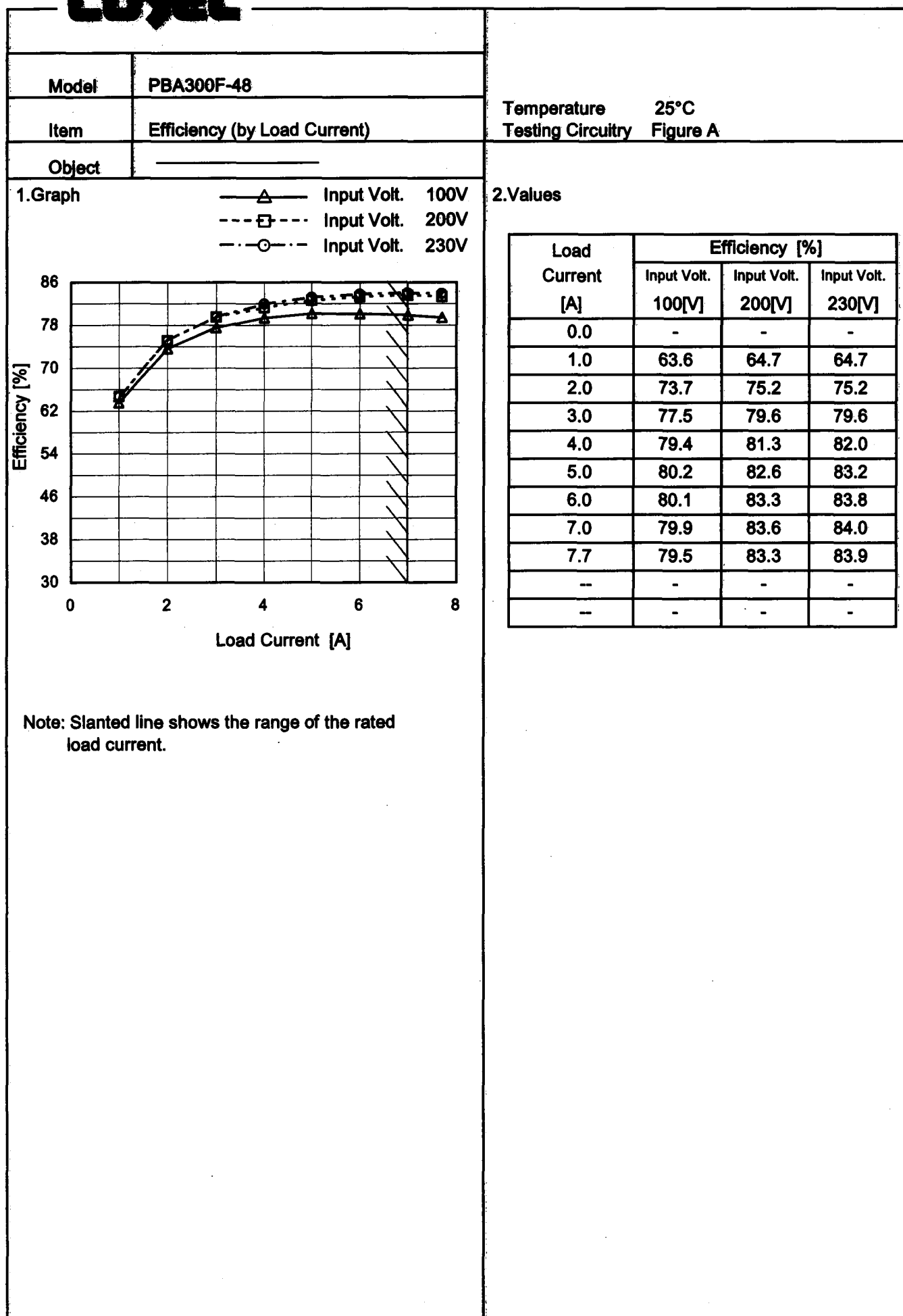


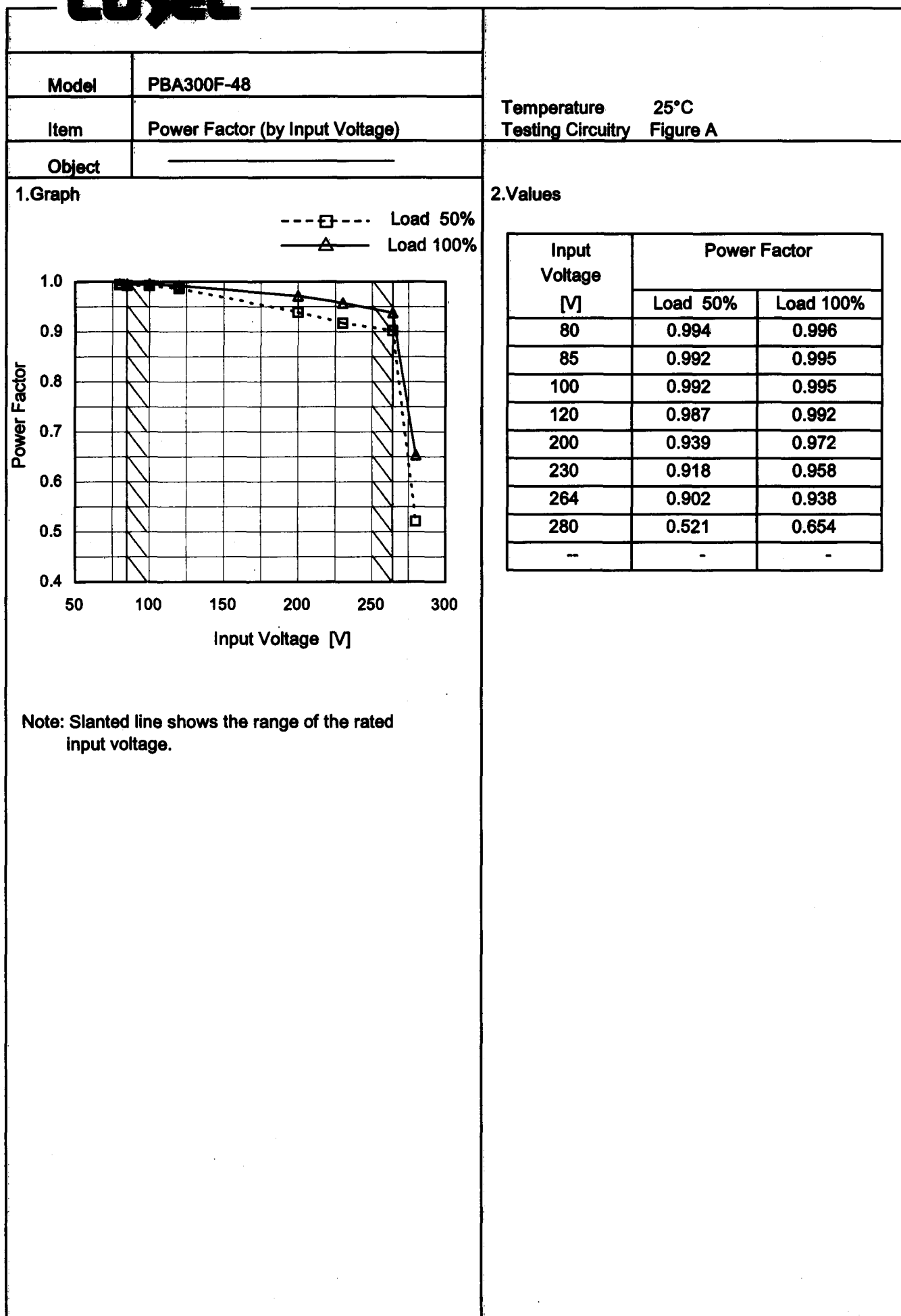
Note: Slanted line shows the range of the rated load current.

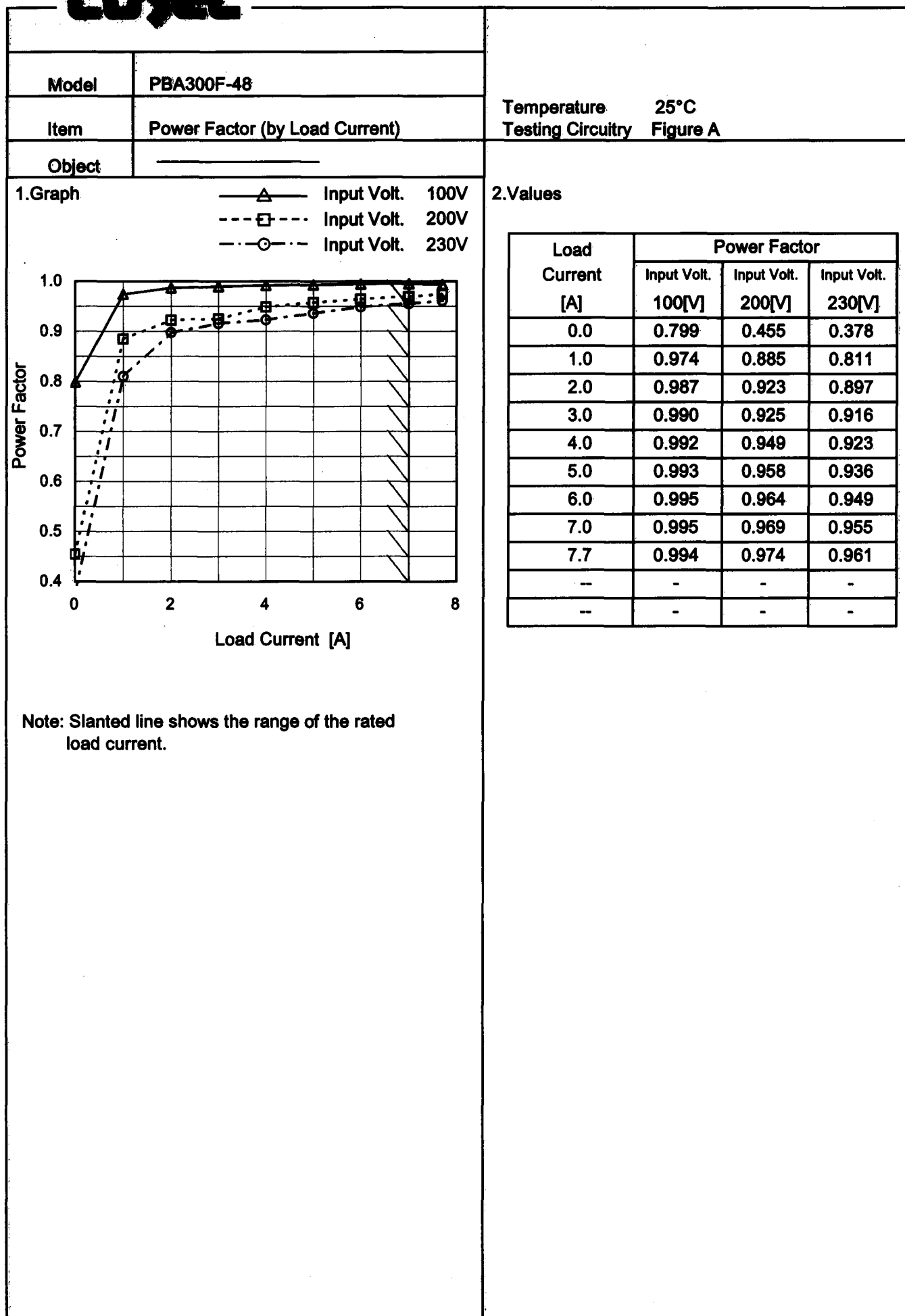
## 2. Values

Load Current [A]	Input Power [W]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	13.5	15.0	14.0
1.0	78.6	77.0	77.0
2.0	133.8	131.0	131.0
3.0	189.9	185.0	185.0
4.0	246.9	241.0	239.0
5.0	305.1	296.0	294.0
6.0	366.0	352.0	350.0
7.0	428.0	409.0	407.0
7.7	473.0	451.0	448.0
--	-	-	-
--	-	-	-

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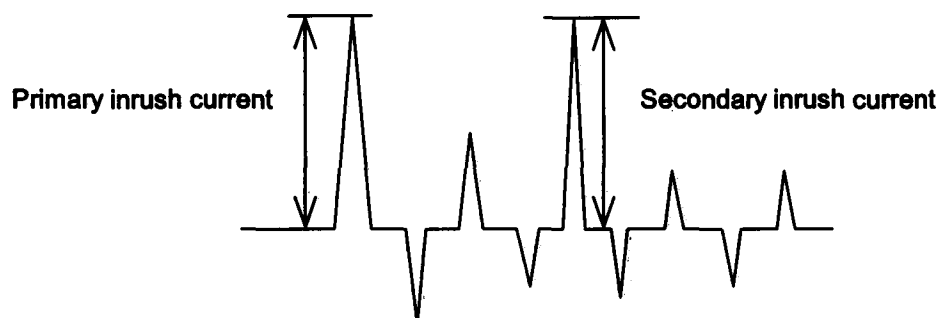
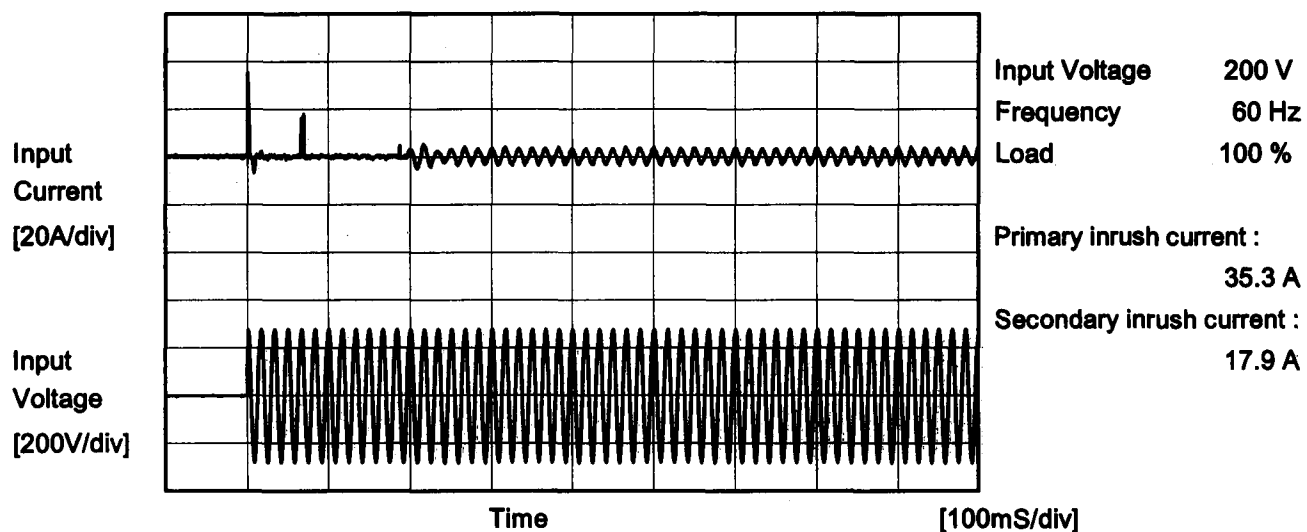
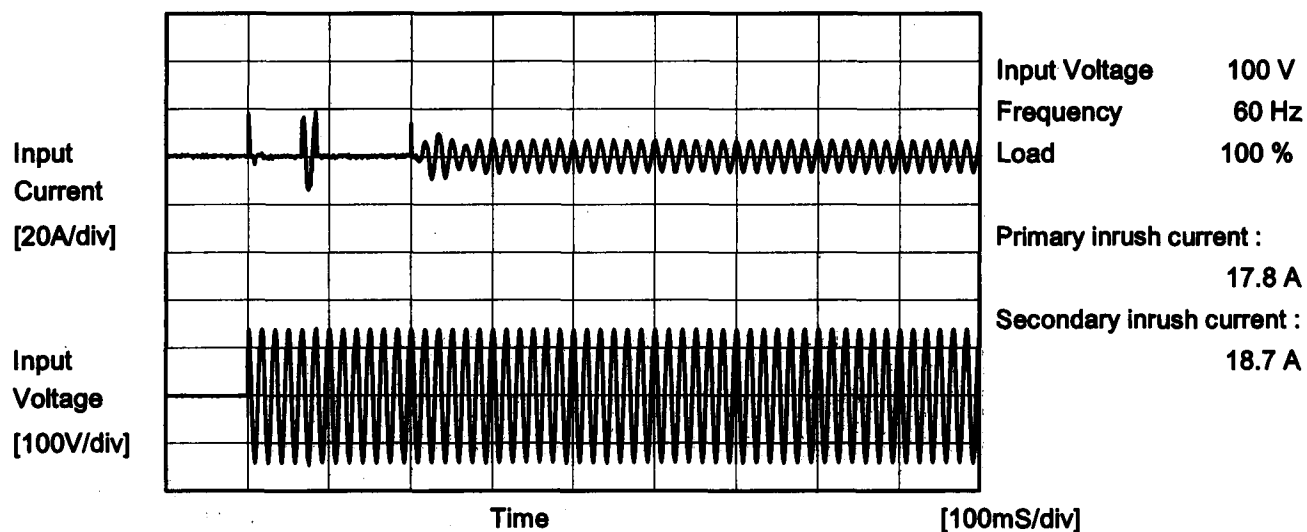
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Model	PBA300F-48	Temperature 25°C Testing Circuitry Figure A	
Item	Inrush Current		
Object	_____		





		Temperature 25°C Testing Circuitry Figure B
Model	PBA300F-48	
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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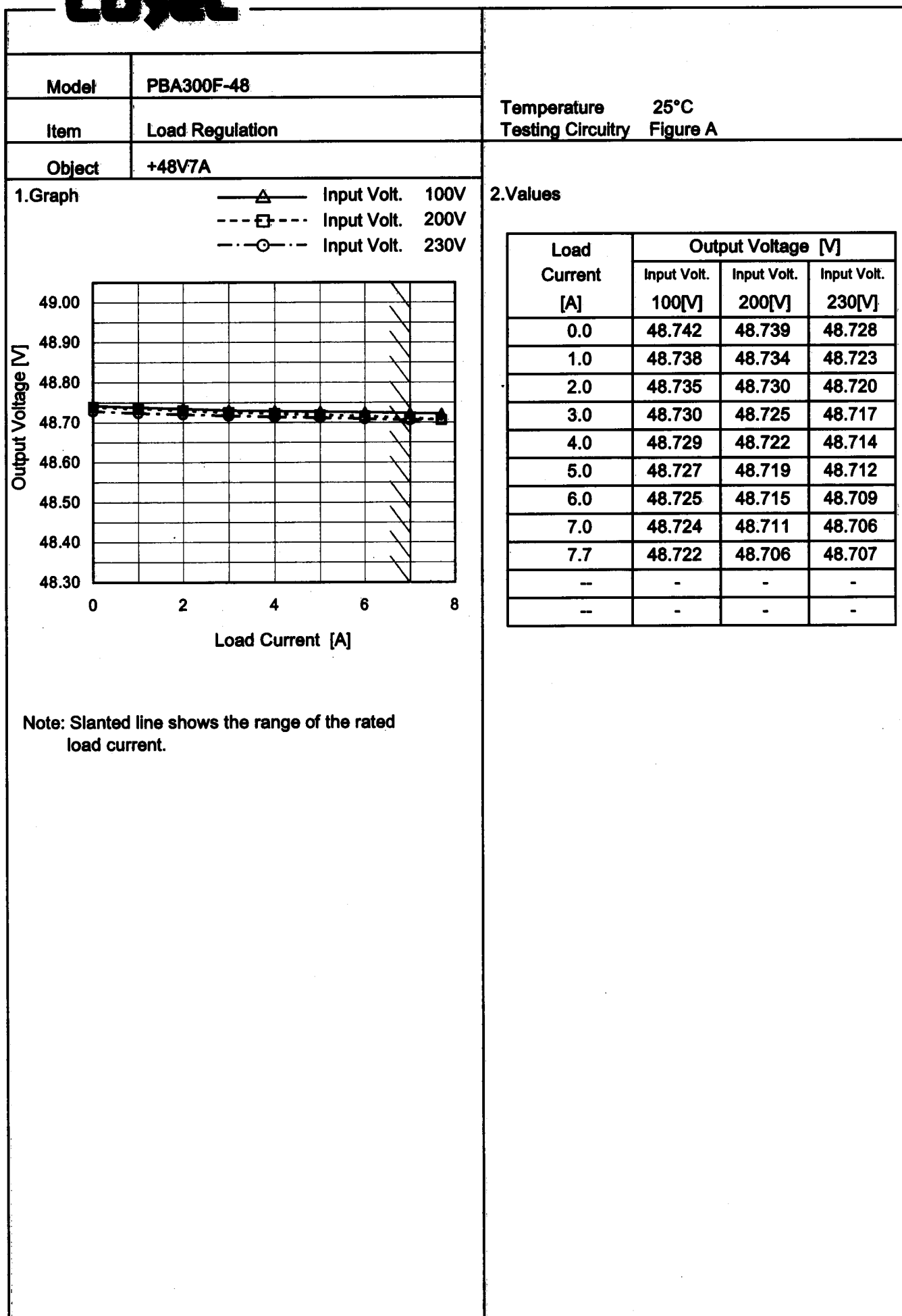
Model		PBA300F-48	
Item		Line Regulation	
Object		+48V7A	

1.Graph

Load 50%

Load 100%

Output Voltage [V]

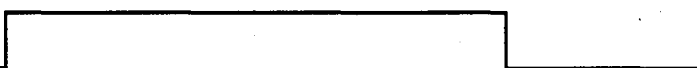
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Model	PBA300F-48	Temperature	25°C
Item	Dynamic Load Response 動的負荷変動	Testing Circuitry	Figure A
Object	+48V7A		

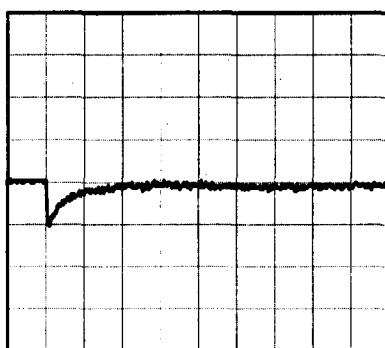
Input Volt. 100 V  
Cycle 1000 ms

Load Current

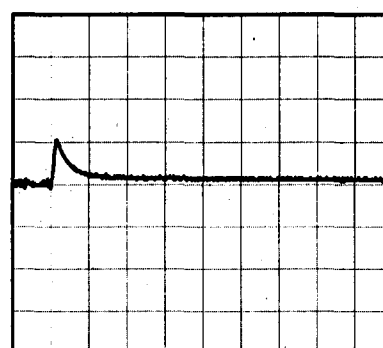


Min. Load (0A) ←→  
Load 100% (7A)

100 mV/div



10 ms/div



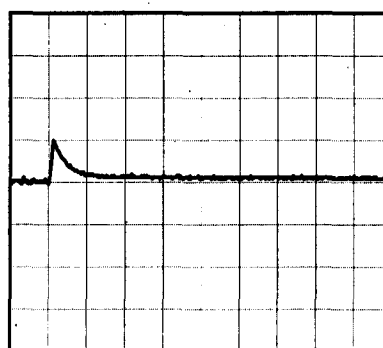
10 ms/div

Min. Load (0A) ←→  
Load 50% (3.5A)

100 mV/div



10 ms/div



10 ms/div

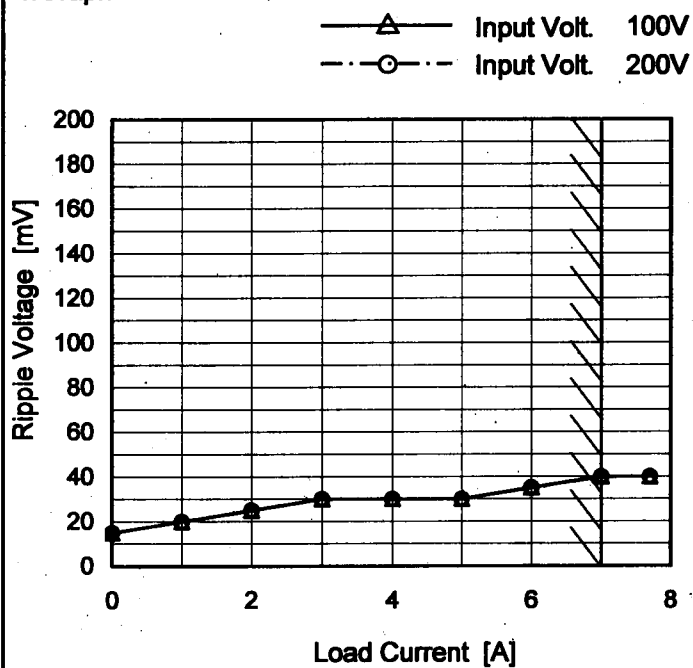
\* The characteristic of AC200V is equal.

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Model	PBA300F-48
Item	Ripple Voltage (by Load Current)
Object	+48V7A

Temperature 25°C  
Testing Circuitry Figure A

## 1. Graph



Measured by 20 MHz Oscilloscope.

Ripple Voltage 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 Voltage [mV]	
	Input Volt. 100 [V]	Input Volt. 200 [V]
0.0	15	15
1.0	20	20
2.0	25	25
3.0	30	30
4.0	30	30
5.0	30	30
6.0	35	35
7.0	40	40
7.7	40	40
—	—	—
—	—	—

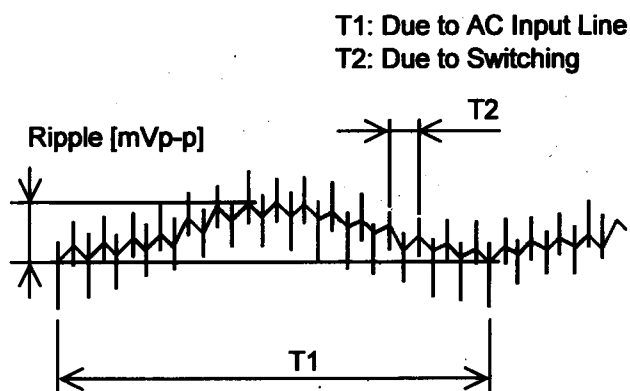


Fig. Complex Ripple Wave Form

# COSEL

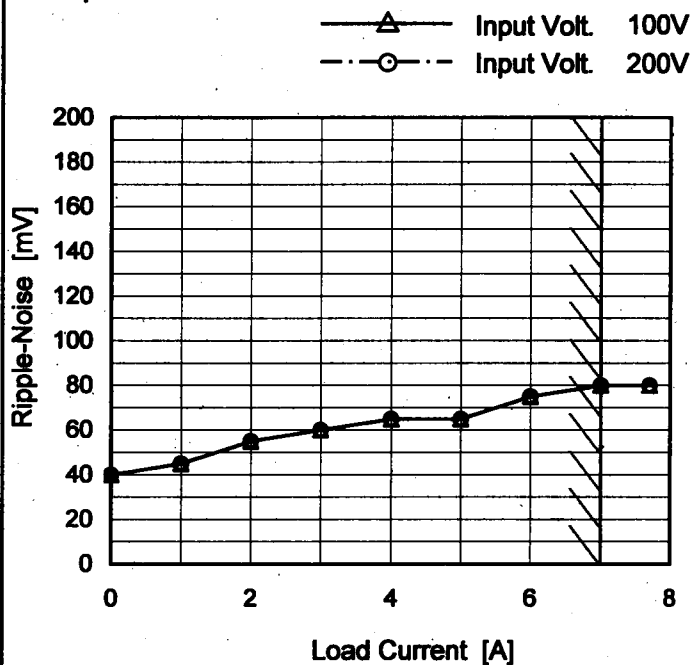
**Model** PBA300F-48

**Item** Ripple-Noise

**Object** +48V7A

**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	40	40
1.0	45	45
2.0	55	55
3.0	60	60
4.0	65	65
5.0	65	65
6.0	75	75
7.0	80	80
7.7	80	80
—	—	—
—	—	—

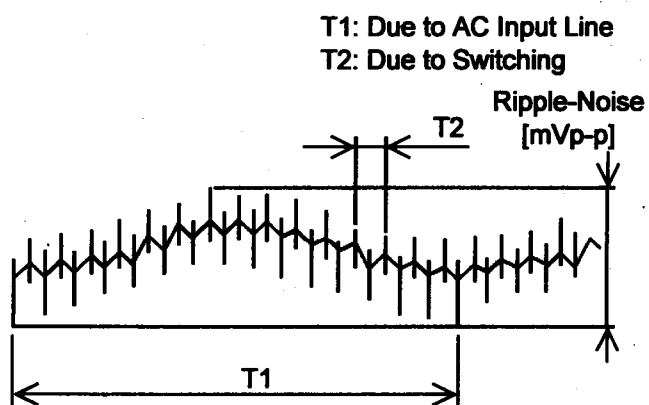


Fig. Complex Ripple Wave Form

# COSEL

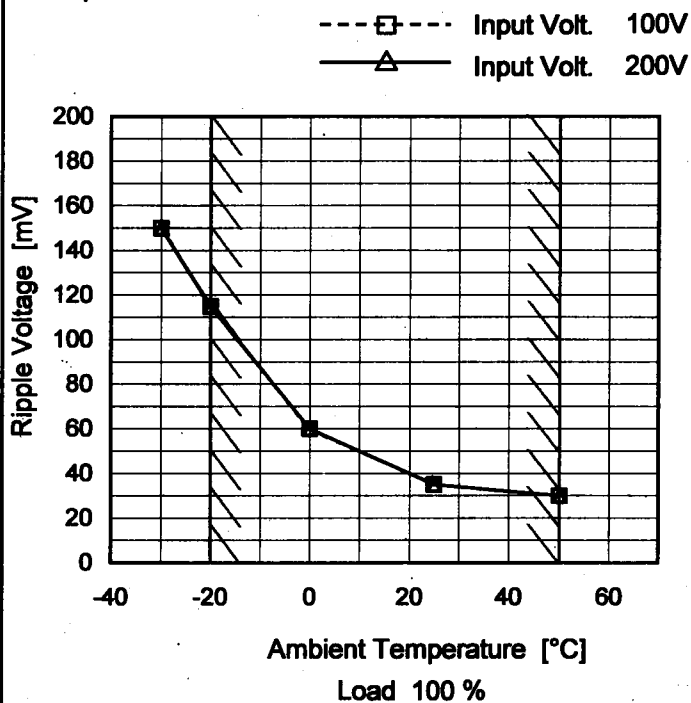
Model PBA300F-48

Item Ripple Voltage (by Ambient Temp.)

Object +48V7A

Testing Circuitry Figure A

## 1. Graph



Measured by 20 MHz Oscilloscope.

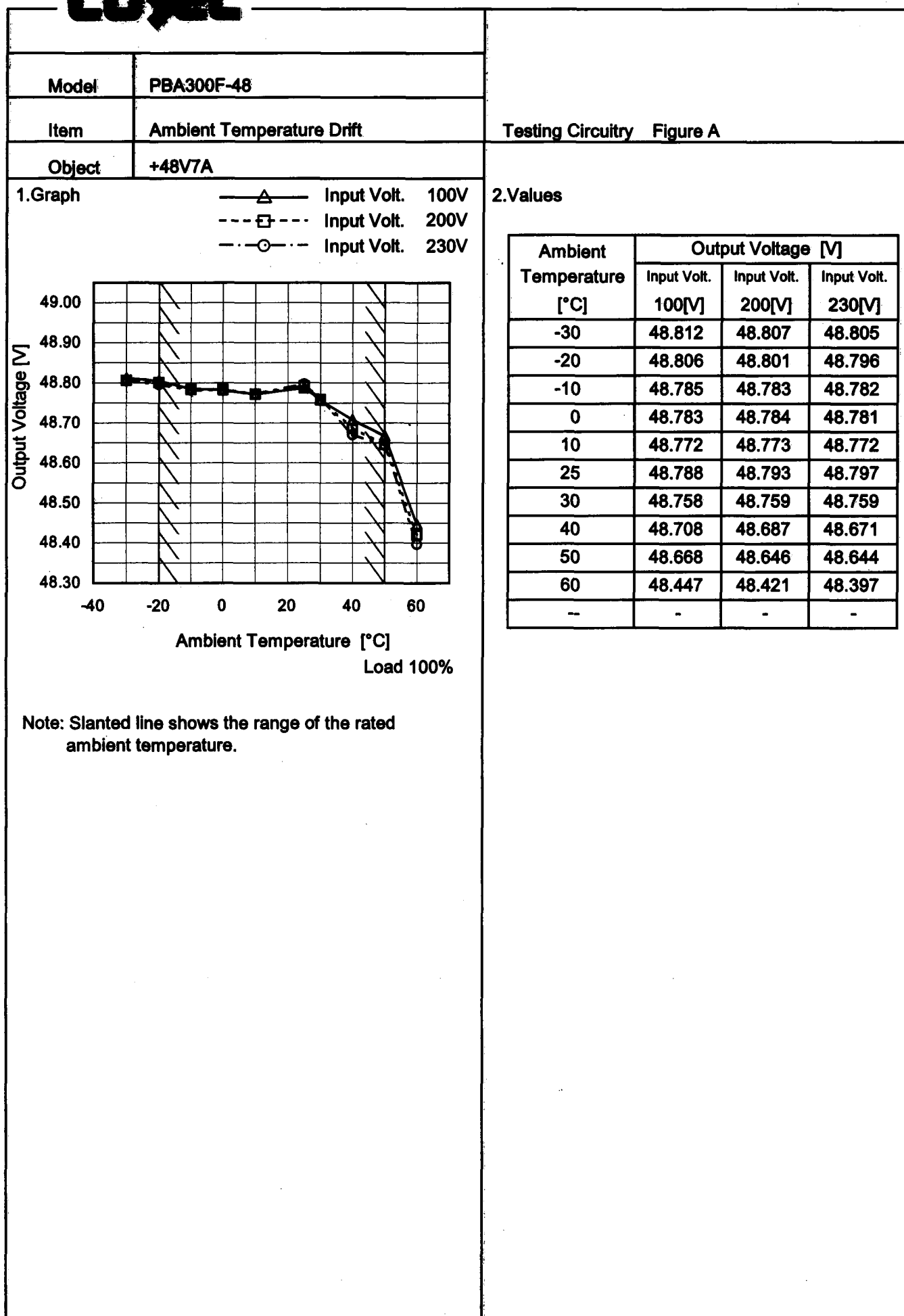
Note: Slanted line shows the range of the rated ambient temperature.

## 2. Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Input Volt. 100 [V]	Input Volt. 200 [V]
-30	150	150
-20	115	115
0	60	60
25	35	35
50	30	30
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—



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		Testing Circuitry Figure A
Model	PBA300F-48	
Item	Output Voltage Accuracy	
Object	+48V7A	

### 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 - 7A

\* 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	25	264	0	48.819	±125	±0.3
Minimum Voltage	50	264	7	48.570		

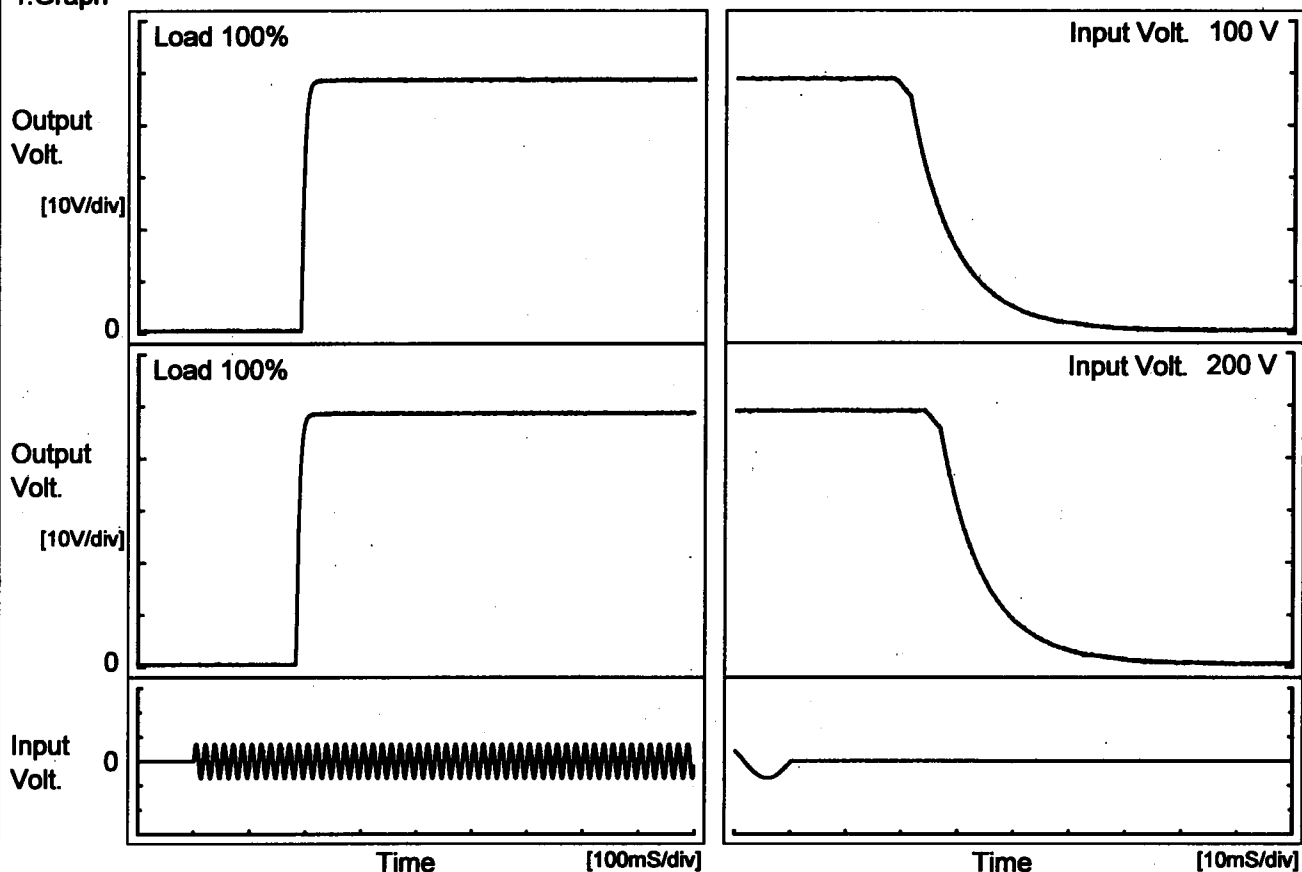
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Model	PBA300F-48		
Item	Time Lapse Drift	Temperature	25°C
Object	+48V7A	Testing Circuitry	Figure A
1.Graph		2.Values	
<div><div>Output Voltage [V]</div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><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**

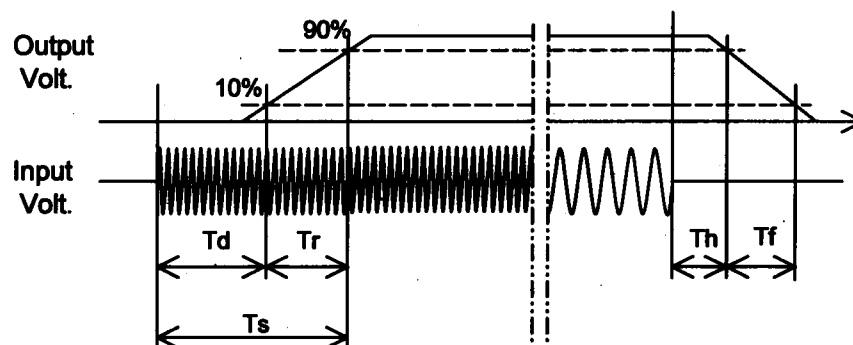
Model	PBA300F-48	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+48V7A		

## 1.Graph



## 2.Values

Input Volt.	Time	Td	Tr	Ts	Th	Tf
100 V		191.5	11.5	203.0	21.6	18.0
200 V		183.5	11.5	195.0	27.2	17.8



# COSEL

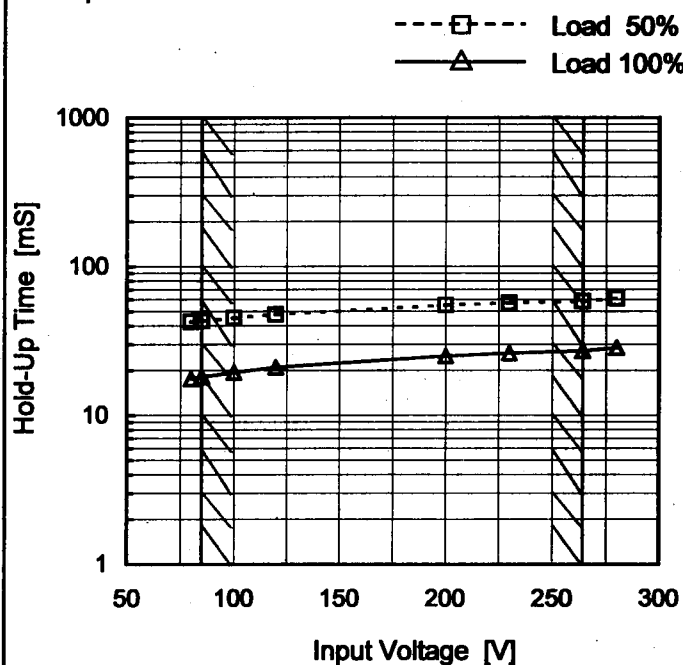
**Model** PBA300F-48

**Item** Hold-Up Time

**Object** +48V7A

**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	43	18
85	43	18
100	45	19
120	48	21
200	55	25
230	57	26
264	58	27
280	61	29
—	—	—

# COSEL

Model

PBA300F-48

Item

Instantaneous Interruption Compensation

Object

+48V7A

Temperature

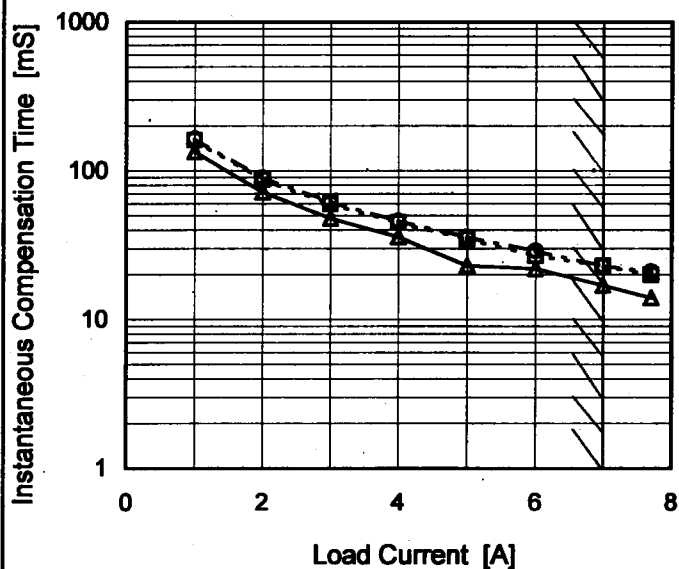
25°C

Testing Circuitry

Figure A

## 1. Graph

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



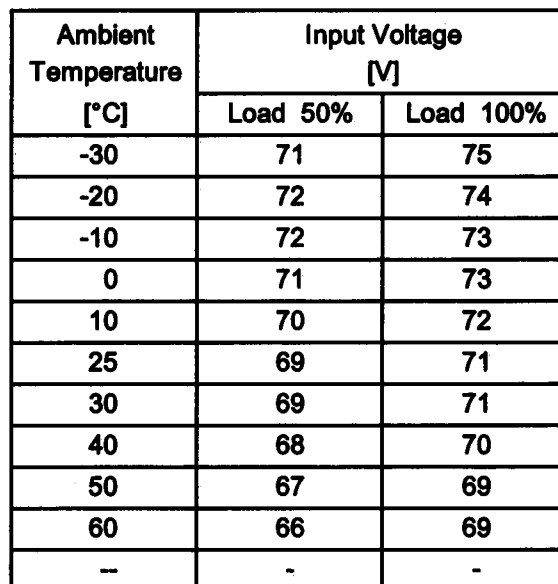
Note: Slanted line shows the range of the rated load current.

## 2. Values

Load Current [A]	Time [mS]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	-	-	-
1.0	135	161	165
2.0	72	88	90
3.0	48	60	62
4.0	36	45	46
5.0	23	35	36
6.0	22	27	29
7.0	17	23	23
7.7	14	20	21
—	—	—	—
—	—	—	—

### Testing Circuitry Figure A

## 2.Values



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

# COSEL

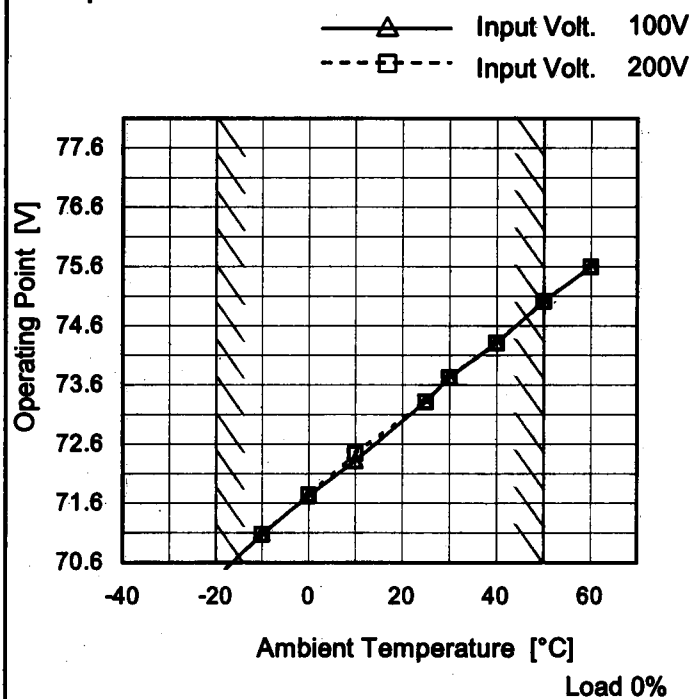
Model	PBA300F-48	Temperature 25°C Testing Circuitry Figure A																																													
Item	Overcurrent Protection																																														
Object	+48V7A																																														
1.Graph		2.Values																																													
<div><div><div></div>Input Volt. 100V</div><div><div></div>Input Volt. 200V</div></div> <p>Output Voltage [V]</p> <p>Load Current [A]</p> <p>Note: Slanted line shows the range of the rated load current.</p> <p>Intermittent operation occurs when the output voltage is from 28.8V to 0V:</p>		<table><tr><th rowspan="2">Output Voltage [V]</th><th colspan="2">Load Current [A]</th></tr><tr><th>Input Volt. 100[V]</th><th>Input Volt. 200[V]</th></tr><tr><td>48.0</td><td>8.89</td><td>8.90</td></tr><tr><td>45.6</td><td>8.89</td><td>8.90</td></tr><tr><td>43.2</td><td>8.91</td><td>8.92</td></tr><tr><td>38.4</td><td>8.96</td><td>8.96</td></tr><tr><td>33.6</td><td>8.99</td><td>8.98</td></tr><tr><td>28.8</td><td>9.08</td><td>9.00</td></tr><tr><td>—</td><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td><td>—</td></tr><tr><td>—</td><td>—</td><td>—</td></tr></table>		Output Voltage [V]	Load Current [A]		Input Volt. 100[V]	Input Volt. 200[V]	48.0	8.89	8.90	45.6	8.89	8.90	43.2	8.91	8.92	38.4	8.96	8.96	33.6	8.99	8.98	28.8	9.08	9.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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**COSEL**

Model	PBA300F-48
Item	Overvoltage Protection
Object	+48V7A

## 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	69.73	69.73
-20	70.37	70.37
-10	71.12	71.12
0	71.77	71.78
10	72.36	72.48
25	73.36	73.36
30	73.77	73.77
40	74.35	74.35
50	75.06	75.06
60	75.64	75.64
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**COSEL**

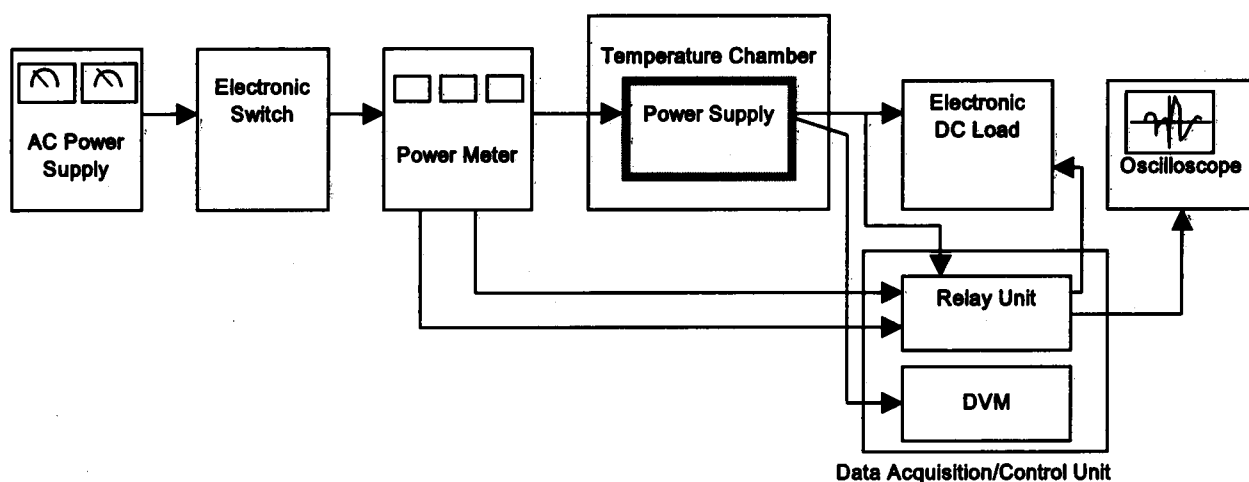


Figure A

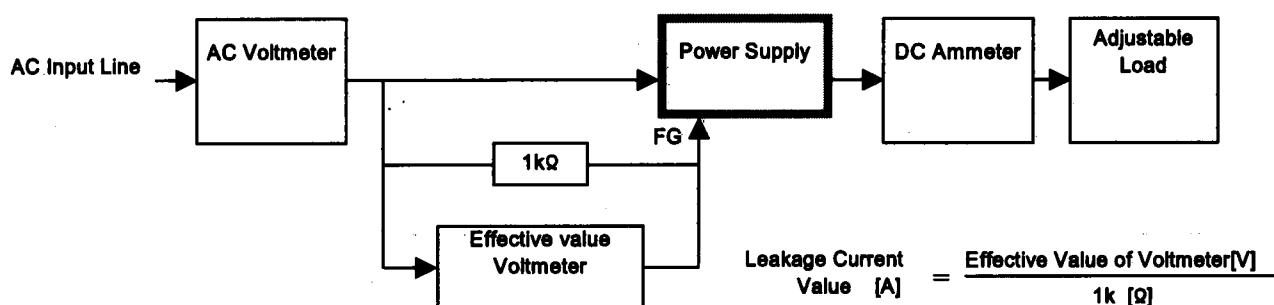


Figure B ( DEN-AN )

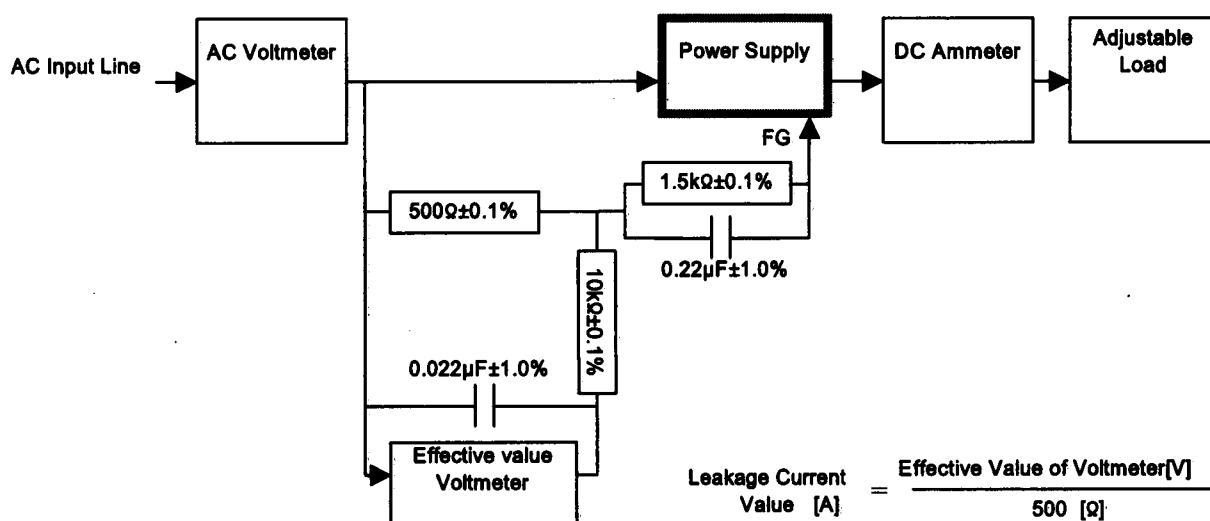


Figure B ( IEC60950 )