

# TEST DATA OF PBA1000F-15

Regulated DC Power Supply  
Mar.30, 2004

Approved by : Kuniaki Nagahara  
Kuniaki Nagahara Design Manager

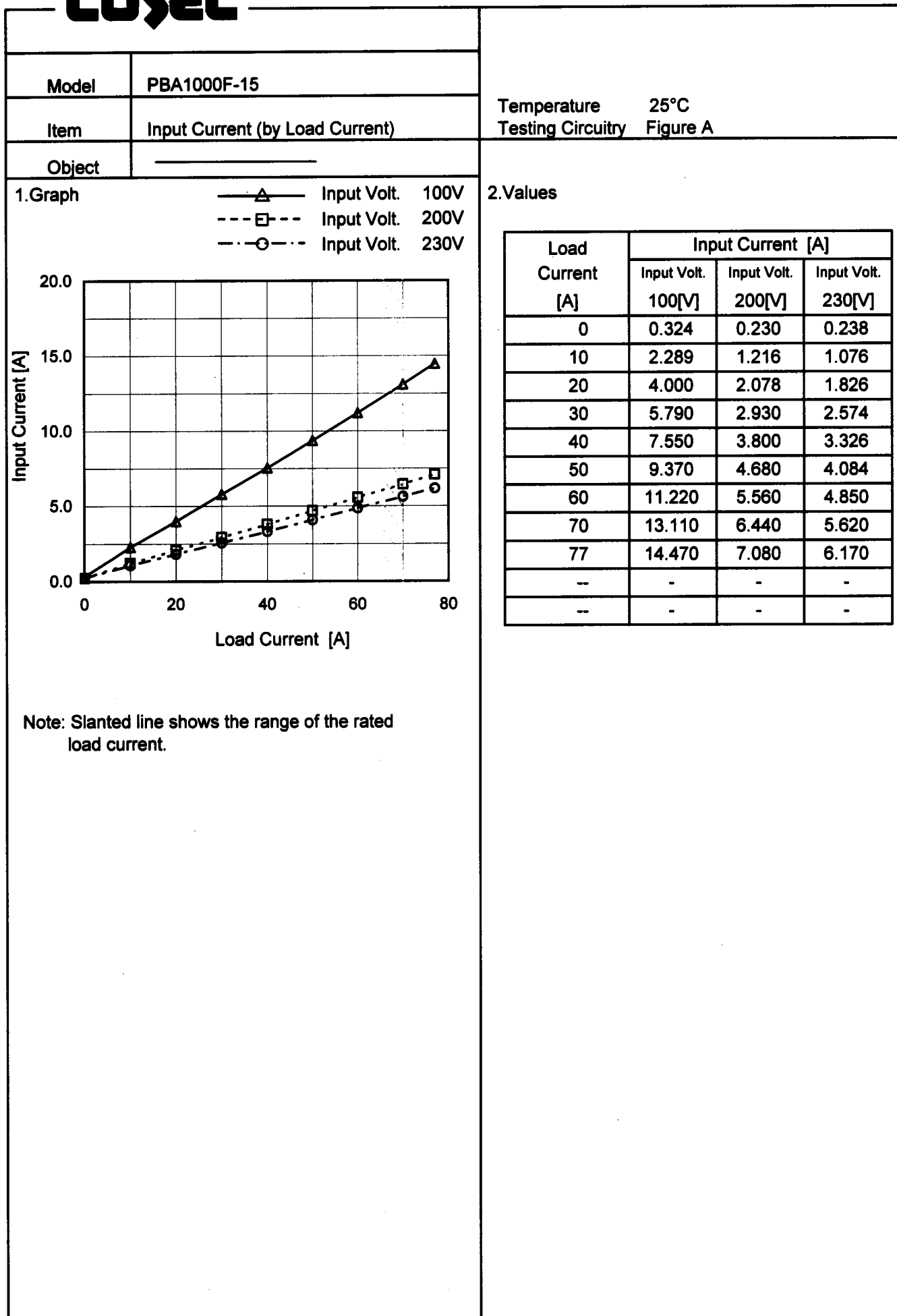
Prepared by : Kazunari Uotani  
Kazunari Uotani Design Engineer

**COSEL CO.,LTD.**

## CONTENTS

1.Input Current (by Load Current) . . . . .	1
2.Input Power (by Load Current) . . . . .	2
3.Efficiency (by Input Voltage) . . . . .	3
4.Efficiency (by Load Current) . . . . .	4
5.Power Factor (by Input Voltage) . . . . .	5
6.Power Factor (by Load Current) . . . . .	6
7.Inrush Current . . . . .	7
8.Leakage Current . . . . .	8
9.Line Regulation . . . . .	9
10.Load Regulation . . . . .	10
11.Dynamic Load Response . . . . .	11
12.Ripple Voltage (by Load Current) . . . . .	12
13.Ripple-Noise . . . . .	13
14.Ripple Voltage (by Ambient Temperature) . . . . .	14
15.Ambient Temperature Drift . . . . .	15
16.Output Voltage Accuracy . . . . .	16
17.Time Lapse Drift . . . . .	17
18.Rise and Fall Time . . . . .	18
19.Hold-Up Time . . . . .	19
20.Instantaneous Interruption Compensation . . . . .	20
21.Minimum Input Voltage for Regulated Output Voltage . . . . .	21
22.Overcurrent Protection . . . . .	22
23.Overvoltage Protection . . . . .	23
24.Figure of Testing Circuitry . . . . .	24

(Final Page 24)

**COSEL**

**COSEL**

Model		PBA1000F-15		Temperature 25°C																																																		
Item		Input Power (by Load Current)		Testing Circuitry Figure A																																																		
Object																																																						
1.Graph		<div><div><div>—△—</div><div>Input Volt. 100V</div></div><div><div>---□---</div><div>Input Volt. 200V</div></div><div><div>---○---</div><div>Input Volt. 230V</div></div></div>		2.Values																																																		
<div><div>Input Power [W]</div><div>Load Current [A]</div></div>		<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Input Power [W]</th></tr><tr><th>Input Volt. 100[V]</th><th>Input Volt. 200[V]</th><th>Input Volt. 230[V]</th></tr><tr><td>0</td><td>25</td><td>19</td><td>16</td></tr><tr><td>10</td><td>214</td><td>212</td><td>212</td></tr><tr><td>20</td><td>385</td><td>381</td><td>380</td></tr><tr><td>30</td><td>564</td><td>554</td><td>551</td></tr><tr><td>40</td><td>741</td><td>728</td><td>726</td></tr><tr><td>50</td><td>925</td><td>906</td><td>901</td></tr><tr><td>60</td><td>1110</td><td>1083</td><td>1079</td></tr><tr><td>70</td><td>1298</td><td>1260</td><td>1258</td></tr><tr><td>77</td><td>1433</td><td>1388</td><td>1384</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table>		Load Current [A]	Input Power [W]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	0	25	19	16	10	214	212	212	20	385	381	380	30	564	554	551	40	741	728	726	50	925	906	901	60	1110	1083	1079	70	1298	1260	1258	77	1433	1388	1384	--	-	-	-	--	-	-	-
Load Current [A]	Input Power [W]																																																					
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]																																																			
0	25	19	16																																																			
10	214	212	212																																																			
20	385	381	380																																																			
30	564	554	551																																																			
40	741	728	726																																																			
50	925	906	901																																																			
60	1110	1083	1079																																																			
70	1298	1260	1258																																																			
77	1433	1388	1384																																																			
--	-	-	-																																																			
--	-	-	-																																																			
Note: Slanted line shows the range of the rated load current.																																																						

# COSEL

Model		PBA1000F-15	
Item		Efficiency (by Input Voltage)	
Object			

1.Graph

---

□

---

Load 50%

---

△

---

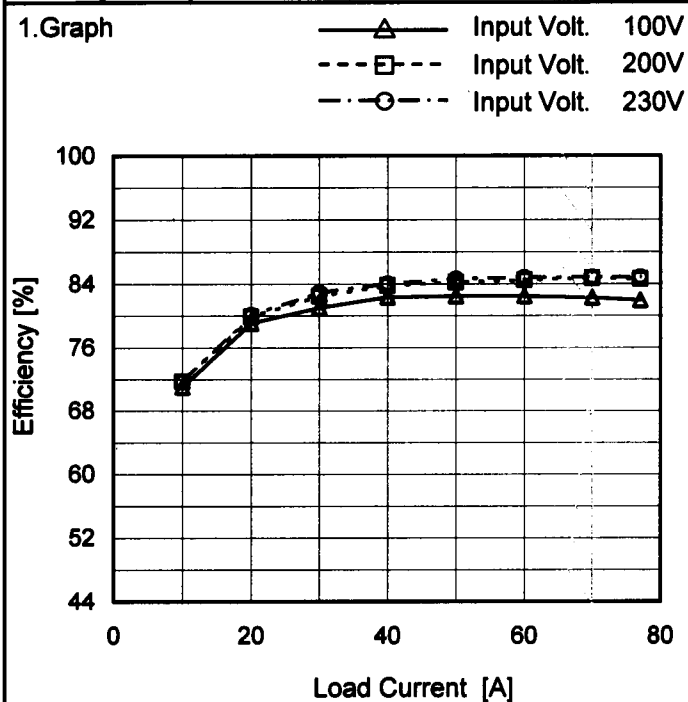
Load 100%

Efficiency [%]

Model	PBA1000F-15
Item	Efficiency (by Load Current)
Object	_____

Temperature 25°C  
Testing Circuitry Figure A

## 1. Graph



**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	-	-	-
10	71.0	71.7	71.7
20	79.1	79.9	80.1
30	81.0	82.5	82.9
40	82.3	83.8	84.0
50	82.5	84.2	84.6
60	82.5	84.5	84.8
70	82.2	84.7	84.8
77	81.9	84.6	84.8
--	-	-	-
--	-	-	-

# COSEL

Model	PBA1000F-15																																		
Item	Power Factor (by Input Voltage)	Temperature	25°C																																
		Testing Circuitry	Figure A																																
Object																																			
1.Graph		2.Values																																	
<div><div><div>---</div><div>□</div><div>---</div></div><div>Load 50%</div></div> <div><div>—</div><div>△</div><div>—</div></div> <div>Load 100%</div> <p>Note: Slanted line shows the range of the rated input voltage.</p>		<table><tr><th rowspan="2">Input Voltage [V]</th><th colspan="2">Power Factor</th></tr><tr><th>Load 50%</th><th>Load 100%</th></tr><tr><td>77</td><td>0.989</td><td>0.999</td></tr><tr><td>85</td><td>0.986</td><td>0.997</td></tr><tr><td>100</td><td>0.982</td><td>0.996</td></tr><tr><td>120</td><td>0.980</td><td>0.995</td></tr><tr><td>200</td><td>0.955</td><td>0.982</td></tr><tr><td>230</td><td>0.942</td><td>0.975</td></tr><tr><td>264</td><td>0.934</td><td>0.967</td></tr><tr><td>280</td><td>0.694</td><td>0.717</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></table>		Input Voltage [V]	Power Factor		Load 50%	Load 100%	77	0.989	0.999	85	0.986	0.997	100	0.982	0.996	120	0.980	0.995	200	0.955	0.982	230	0.942	0.975	264	0.934	0.967	280	0.694	0.717	--	-	-
Input Voltage [V]	Power Factor																																		
	Load 50%	Load 100%																																	
77	0.989	0.999																																	
85	0.986	0.997																																	
100	0.982	0.996																																	
120	0.980	0.995																																	
200	0.955	0.982																																	
230	0.942	0.975																																	
264	0.934	0.967																																	
280	0.694	0.717																																	
--	-	-																																	

# COSEL

Model		PBA1000F-15	
Item		Power Factor (by Load Current)	
Object			

1.Graph

△

Input Volt.

100V

□

Input Volt.

200V

○

Input Volt.

230V

Power Factor

1.0

0.9

0.8

0.7

0.6

0.5

0.4

0

20

40

60

80

Load Current [A]

2.Values

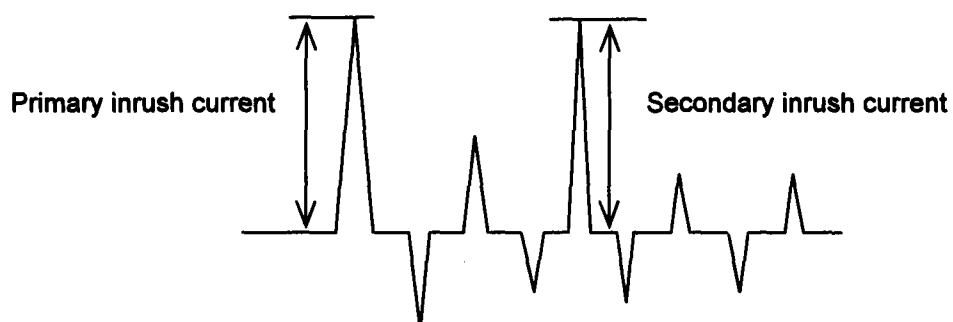
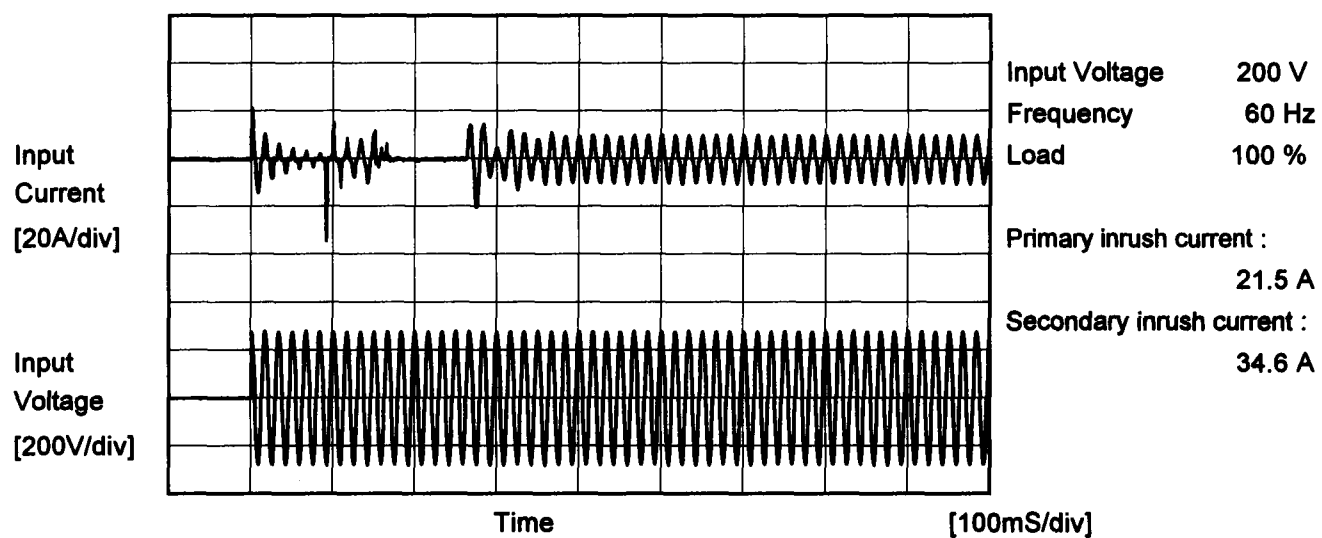
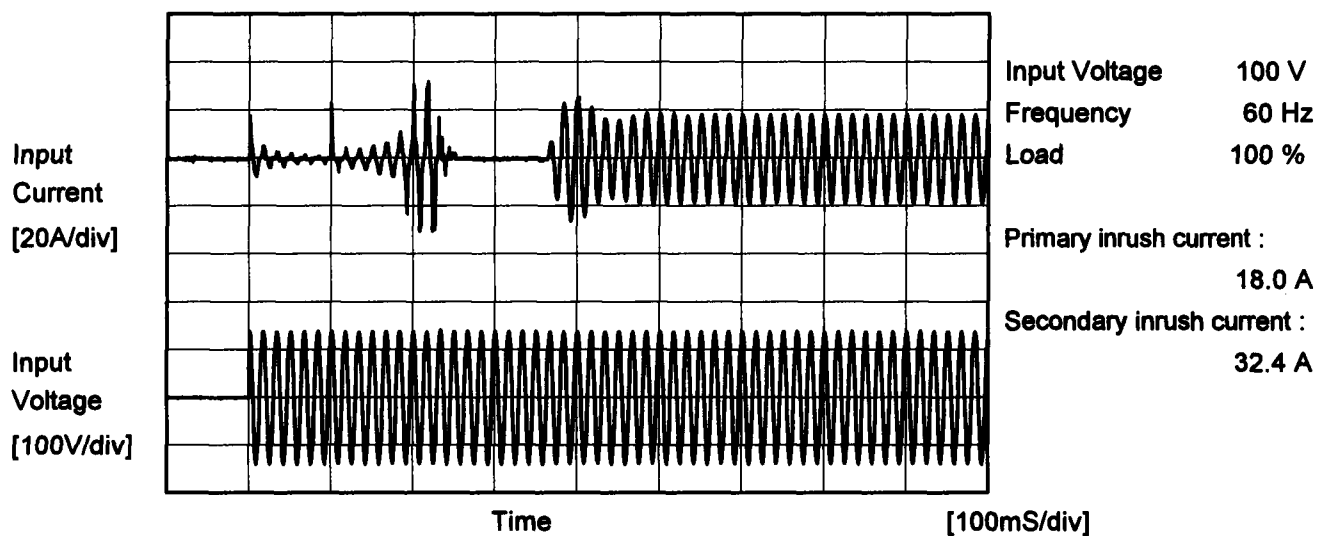
Load Current [A]	Power Factor		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0	0.762	0.413	0.291
10	0.938	0.872	0.858
20	0.965	0.918	0.907
30	0.979	0.947	0.932
40	0.985	0.959	0.952
50	0.992	0.970	0.962
60	0.996	0.977	0.970
70	0.996	0.981	0.976
77	0.997	0.983	0.979
--	-	-	-
--	-	-	-

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



**COSEL**

Model	PBA1000F-15		
Item	Inrush Current	Temperature	25°C
Object		Testing Circuitry	Figure A





		Temperature 25°C Testing Circuitry Figure B
Model	PBA1000F-15	
Item	Leakage Current	
Object		

## 1.Results

[mA]

Standards		Input Volt.			Note
		100[V]	200[V]	240[V]	
DEN-AN	Both phases	0.20	0.40	0.42	Operation
	One of phase	0.35	0.73	0.78	stand by
IEC60950	Both phases	0.21	0.40	0.52	Operation
	One of phase	0.36	0.72	0.87	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.

# COSEL

Model

PBA1000F-15

Item

Line Regulation

Object

+15V70A

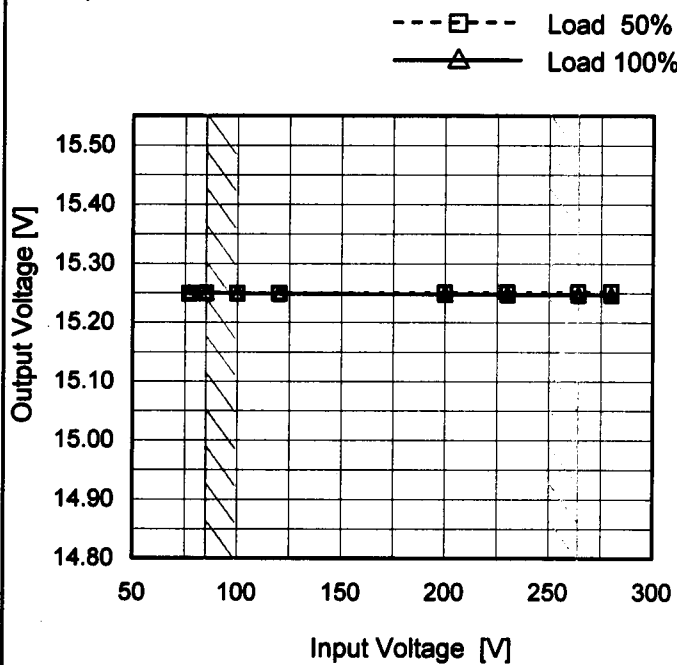
Temperature

25°C

Testing Circuitry

Figure A

## 1. Graph



## 2. Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
77	15.249	15.251
85	15.250	15.251
100	15.250	15.250
120	15.250	15.249
200	15.251	15.248
230	15.251	15.248
264	15.252	15.247
280	15.252	15.247
--	-	-

**COSEL**

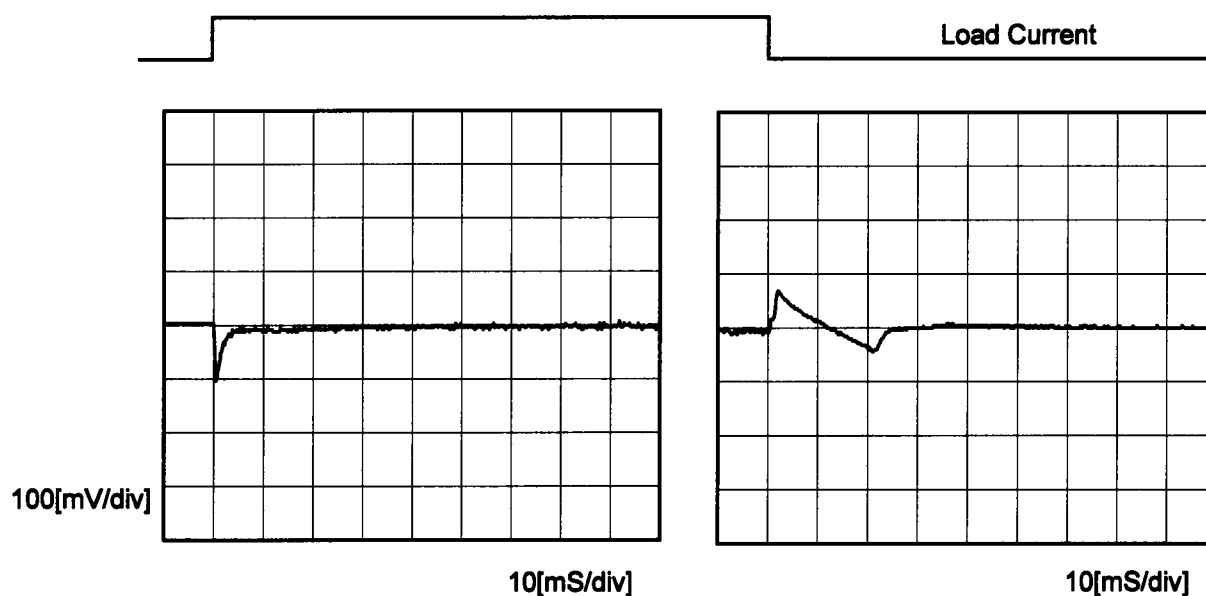
Model	PBA1000F-15																																																					
Item	Load Regulation	Temperature	25°C																																																			
Object	+15V70A	Testing Circuitry	Figure A																																																			
1.Graph		2.Values																																																				
<div><div>—△— Input Volt. 100V</div><div>---□--- Input Volt. 200V</div><div>-·-○-·- Input Volt. 230V</div></div> <p>Note: Slanted line shows the range of the rated load current.</p>		<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Output Voltage [V]</th></tr><tr><th>Input Volt. 100[V]</th><th>Input Volt. 200[V]</th><th>Input Volt. 230[V]</th></tr><tr><td>0</td><td>15.264</td><td>15.266</td><td>15.264</td></tr><tr><td>10</td><td>15.263</td><td>15.262</td><td>15.259</td></tr><tr><td>20</td><td>15.262</td><td>15.262</td><td>15.258</td></tr><tr><td>30</td><td>15.261</td><td>15.261</td><td>15.258</td></tr><tr><td>40</td><td>15.261</td><td>15.260</td><td>15.257</td></tr><tr><td>50</td><td>15.260</td><td>15.259</td><td>15.256</td></tr><tr><td>60</td><td>15.259</td><td>15.257</td><td>15.254</td></tr><tr><td>70</td><td>15.258</td><td>15.255</td><td>15.253</td></tr><tr><td>77</td><td>15.257</td><td>15.254</td><td>15.252</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table>		Load Current [A]	Output Voltage [V]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	0	15.264	15.266	15.264	10	15.263	15.262	15.259	20	15.262	15.262	15.258	30	15.261	15.261	15.258	40	15.261	15.260	15.257	50	15.260	15.259	15.256	60	15.259	15.257	15.254	70	15.258	15.255	15.253	77	15.257	15.254	15.252	--	-	-	-	--	-	-	-
Load Current [A]	Output Voltage [V]																																																					
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]																																																			
0	15.264	15.266	15.264																																																			
10	15.263	15.262	15.259																																																			
20	15.262	15.262	15.258																																																			
30	15.261	15.261	15.258																																																			
40	15.261	15.260	15.257																																																			
50	15.260	15.259	15.256																																																			
60	15.259	15.257	15.254																																																			
70	15.258	15.255	15.253																																																			
77	15.257	15.254	15.252																																																			
--	-	-	-																																																			
--	-	-	-																																																			

**COSEL**

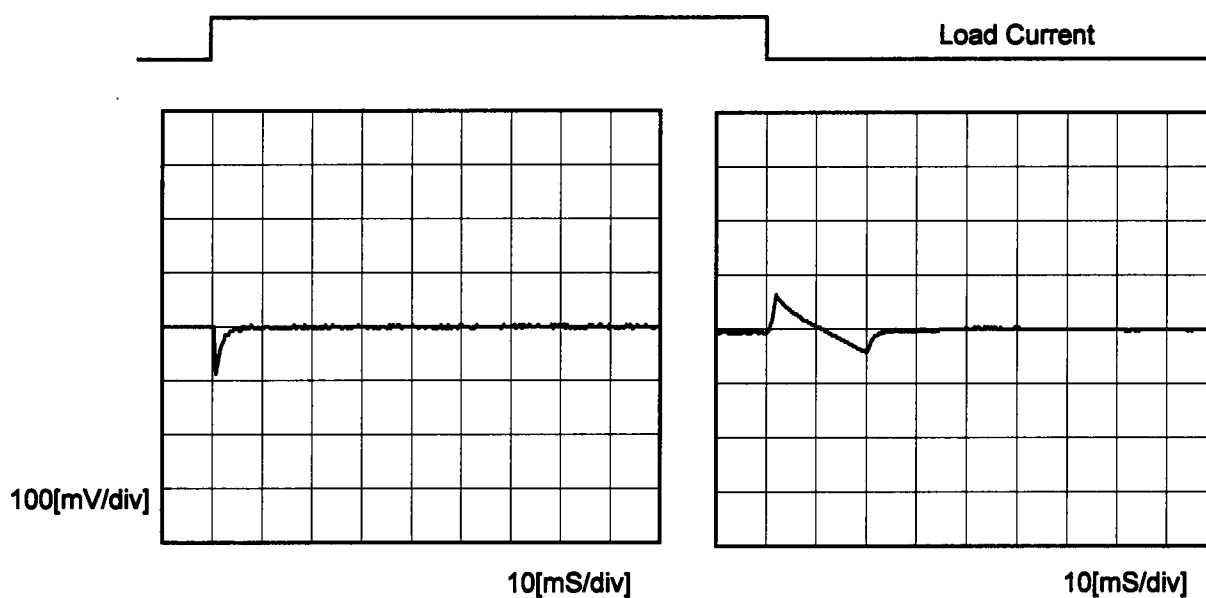
Model	PBA1000F-15	Temperature	25°C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	+15V70A		

Input Volt. 100 V  
Cycle 1000 mS

Min. Load ( 0 A ) – Load 100% ( 70 A )

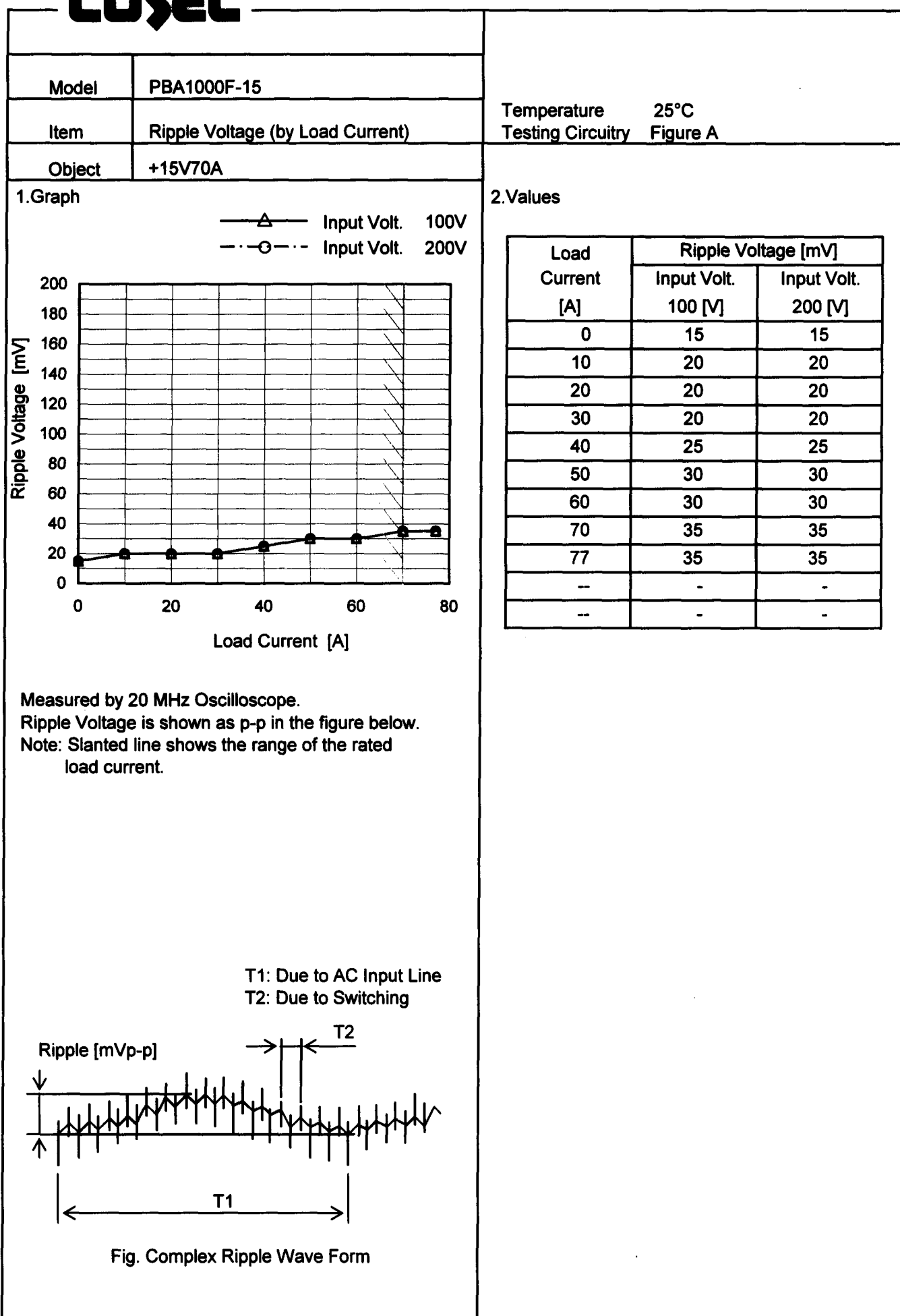


Min. Load ( 0 A ) – Load 50% ( 35 A )

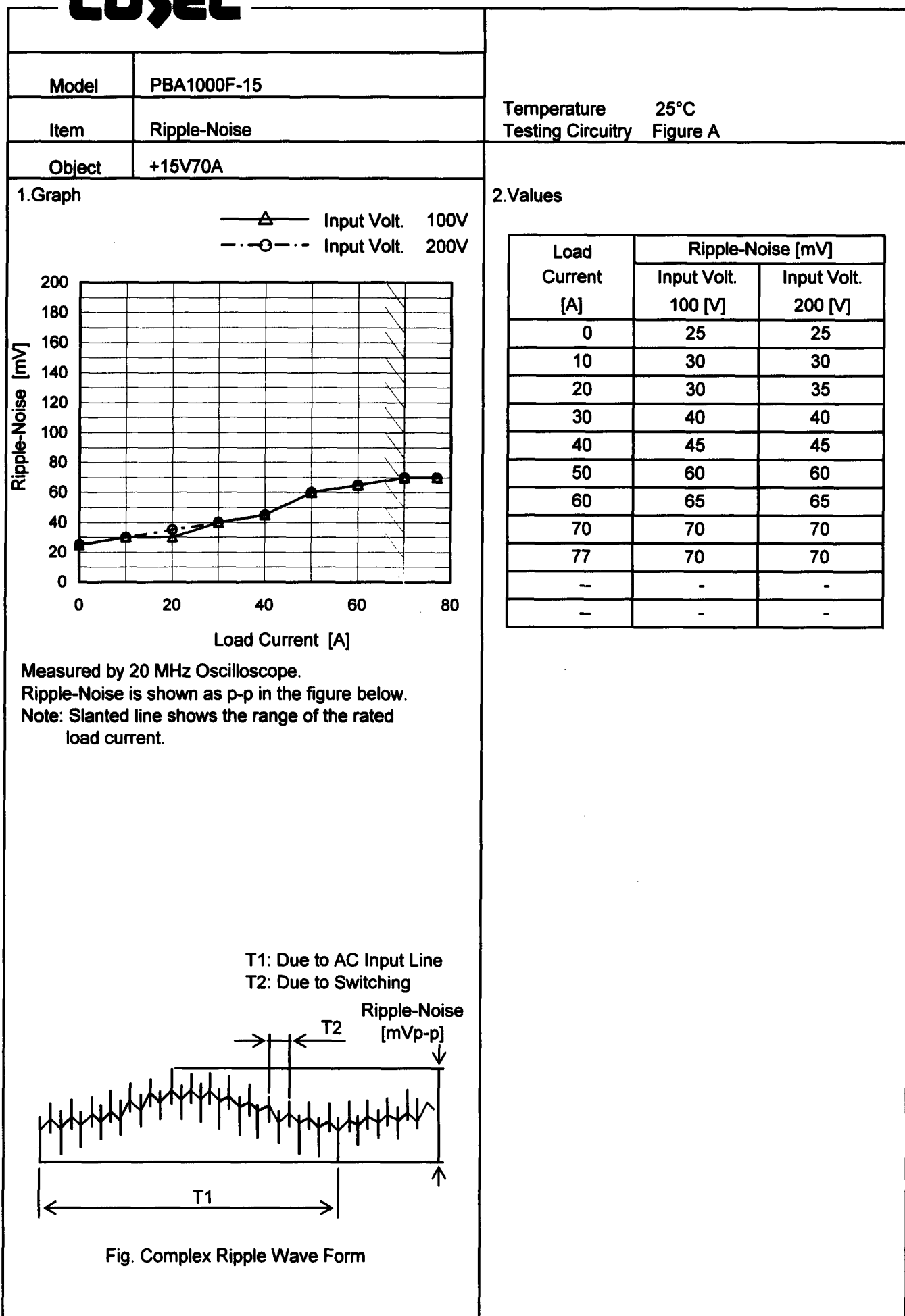


\* The characteristic of AC200V is equal.

# COSEL



# COSEL



# COSEL

Model	PBA1000F-15																																																													
Item	Ripple Voltage (by Ambient Temp.)	Testing Circuitry    Figure A																																																												
Object	+15V70A																																																													
1. Graph		2. Values																																																												
<div><div><div>---□---</div><div>Input Volt.    100V</div></div><div><div>—△—</div><div>Input Volt.    200V</div></div></div> <table border="1"><caption>Graph Data (Approximate)</caption><thead><tr><th>Ambient Temperature [°C]</th><th>100V Input [mV]</th><th>200V Input [mV]</th></tr></thead><tbody><tr><td>-30</td><td>75</td><td>80</td></tr><tr><td>-20</td><td>60</td><td>60</td></tr><tr><td>0</td><td>45</td><td>45</td></tr><tr><td>25</td><td>35</td><td>35</td></tr><tr><td>50</td><td>35</td><td>35</td></tr></tbody></table>		Ambient Temperature [°C]	100V Input [mV]	200V Input [mV]	-30	75	80	-20	60	60	0	45	45	25	35	35	50	35	35	<table><tr><th rowspan="2">Ambient Temperature [°C]</th><th colspan="2">Ripple Voltage [mV]</th></tr><tr><th>Input Volt. 100 [V]</th><th>Input Volt. 200 [V]</th></tr><tr><td>-30</td><td>75</td><td>80</td></tr><tr><td>-20</td><td>60</td><td>60</td></tr><tr><td>0</td><td>45</td><td>45</td></tr><tr><td>25</td><td>35</td><td>35</td></tr><tr><td>50</td><td>35</td><td>35</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>		Ambient Temperature [°C]	Ripple Voltage [mV]		Input Volt. 100 [V]	Input Volt. 200 [V]	-30	75	80	-20	60	60	0	45	45	25	35	35	50	35	35	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-
Ambient Temperature [°C]	100V Input [mV]	200V Input [mV]																																																												
-30	75	80																																																												
-20	60	60																																																												
0	45	45																																																												
25	35	35																																																												
50	35	35																																																												
Ambient Temperature [°C]	Ripple Voltage [mV]																																																													
	Input Volt. 100 [V]	Input Volt. 200 [V]																																																												
-30	75	80																																																												
-20	60	60																																																												
0	45	45																																																												
25	35	35																																																												
50	35	35																																																												
--	-	-																																																												
--	-	-																																																												
--	-	-																																																												
--	-	-																																																												
--	-	-																																																												
--	-	-																																																												
--	-	-																																																												
Measured by 20 MHz Oscilloscope. Note: Slanted line shows the range of the rated ambient temperature.																																																														



# COSEL

Model		PBA1000F-15	
Item		Ambient Temperature Drift	
Object		+15V70A	

1.Graph

△

Input Volt.

100V

□

Input Volt.

200V

○

Input Volt.

230V

Output Voltage [V]

Ambient Temperature [°C]

Load 100%

2.Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
-30	15.289	15.288	15.287
-20	15.288	15.285	15.285
-10	15.283	15.281	15.281
0	15.280	15.279	15.278
10	15.275	15.272	15.271
25	15.260	15.258	15.256
30	15.256	15.253	15.252
40	15.244	15.241	15.239
50	15.227	15.223	15.220
60	15.205	15.197	15.193
--	-	-	-

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

- 15 -

BC-3540



		Testing Circuitry Figure A
Model	PBA1000F-15	
Item	Output Voltage Accuracy	
Object	+15V70A	

### 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 - 70A

\* 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]	Ratio [%]
Maximum Voltage	-20	264	0	15.304	±47	±0.3
Minimum Voltage	50	264	70	15.211		

**COSEL**

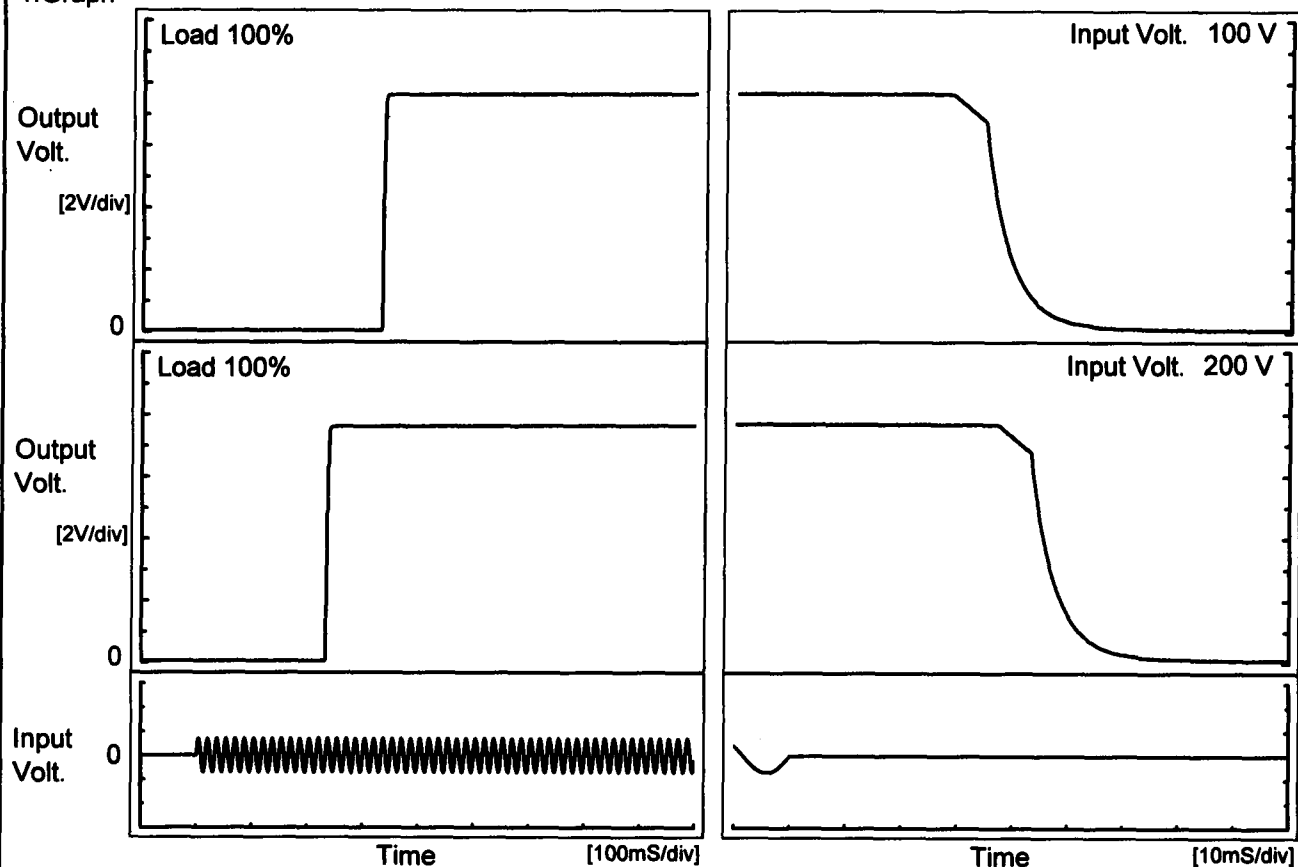
Model	PBA1000F-15	Temperature 25°C Testing Circuitry Figure A	
Item	Time Lapse Drift		
Object	+15V70A		
1.Graph		2.Values	
<div><div><div>Output Voltage [V]</div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><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></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div></div></div>			

\* The characteristic of AC200V is equal.

# COSEL

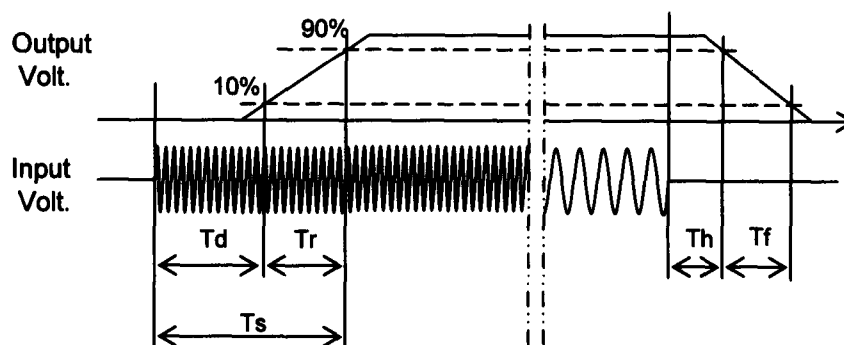
Model	PBA1000F-15	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+15V70A		

## 1. Graph



## 2. Values

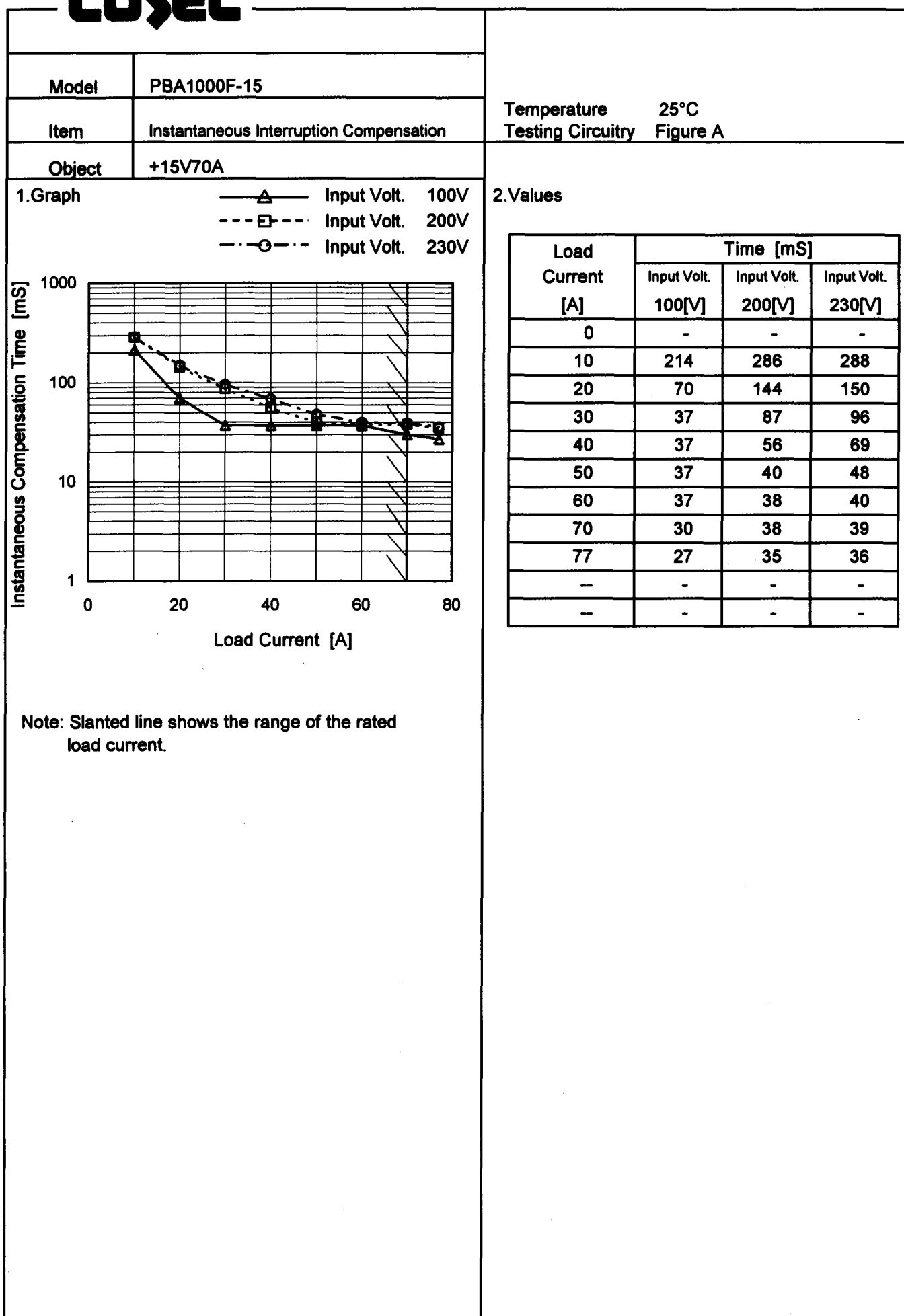
Input Volt.	Time	Td	Tr	Ts	Th	Tf
100 V		331.5	5.5	337.0	34.6	10.4
200 V		232.5	5.5	238.0	43.2	10.4



# COSEL

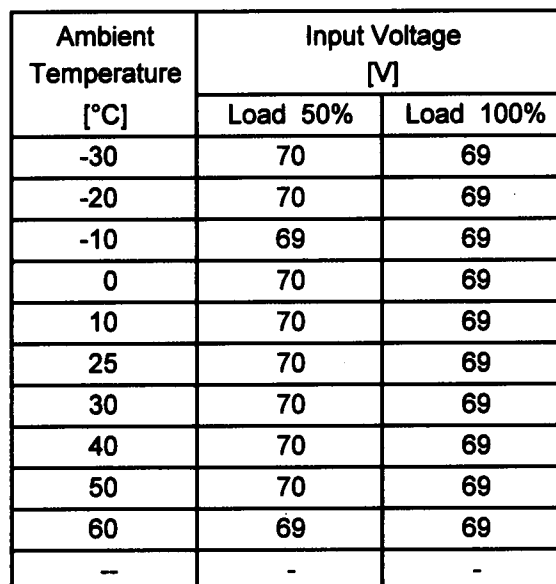
Model	PBA1000F-15																																		
Item	Hold-Up Time	Temperature	25°C																																
Object	+15V70A	Testing Circuitry	Figure A																																
1.Graph		2.Values																																	
<div><div><div>---□---</div><div>Load 50%</div></div><div><div>—△—</div><div>Load 100%</div></div></div> <table><thead><tr><th rowspan="2">Input Voltage [V]</th><th colspan="2">Hold-Up Time [mS]</th></tr><tr><th>Load 50%</th><th>Load 100%</th></tr></thead><tbody><tr><td>77</td><td>66</td><td>23</td></tr><tr><td>85</td><td>69</td><td>26</td></tr><tr><td>100</td><td>73</td><td>30</td></tr><tr><td>120</td><td>77</td><td>34</td></tr><tr><td>200</td><td>84</td><td>39</td></tr><tr><td>230</td><td>85</td><td>40</td></tr><tr><td>264</td><td>86</td><td>41</td></tr><tr><td>280</td><td>87</td><td>42</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></tbody></table>		Input Voltage [V]	Hold-Up Time [mS]		Load 50%	Load 100%	77	66	23	85	69	26	100	73	30	120	77	34	200	84	39	230	85	40	264	86	41	280	87	42	--	-	-		
Input Voltage [V]	Hold-Up Time [mS]																																		
	Load 50%	Load 100%																																	
77	66	23																																	
85	69	26																																	
100	73	30																																	
120	77	34																																	
200	84	39																																	
230	85	40																																	
264	86	41																																	
280	87	42																																	
--	-	-																																	
<p>This duration covers from Shut-off of input voltage to the moment when output voltage descends to the rated range of voltage accuracy.</p> <p>Note: Slanted line shows the range of the rated input voltage.</p>																																			

# COSEL

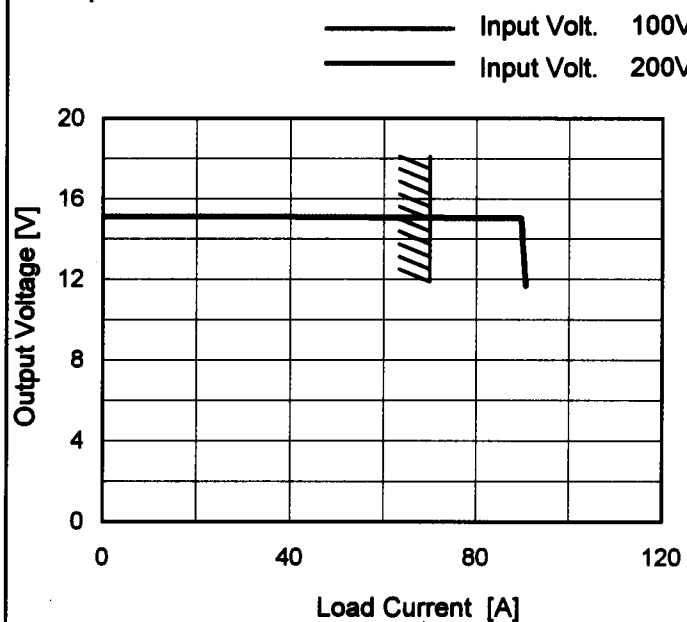


### Testing Circuitry Figure A

## 2.Values



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

**COSEL****Model****PBA1000F-15****Item****Overcurrent Protection****Object****+15V70A****Temperature  
Testing Circuitry****25°C  
Figure A****1.Graph**

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

**2.Values**

Output Voltage [V]	Load Current [A]	
	Input Volt. 100[V]	Input Volt. 200[V]
15.00	89.93	89.78
14.25	90.21	89.93
13.50	90.24	90.15
12.00	90.65	90.62
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-



**COSEL**

Model		PBA1000F-15	
Item		Overvoltage Protection	
Object		+15V70A	
1.Graph		2.Values	

</

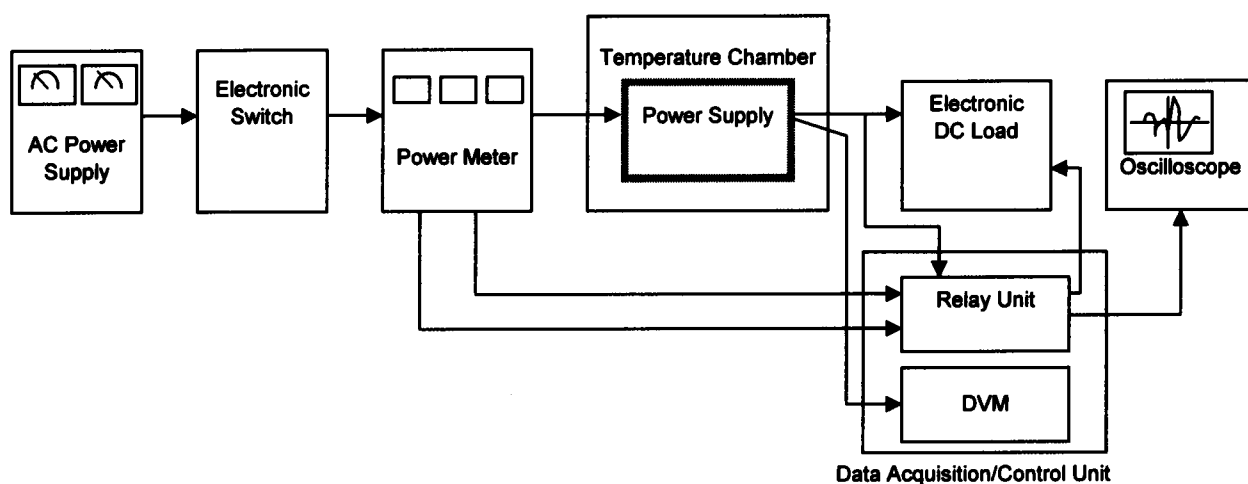


Figure A

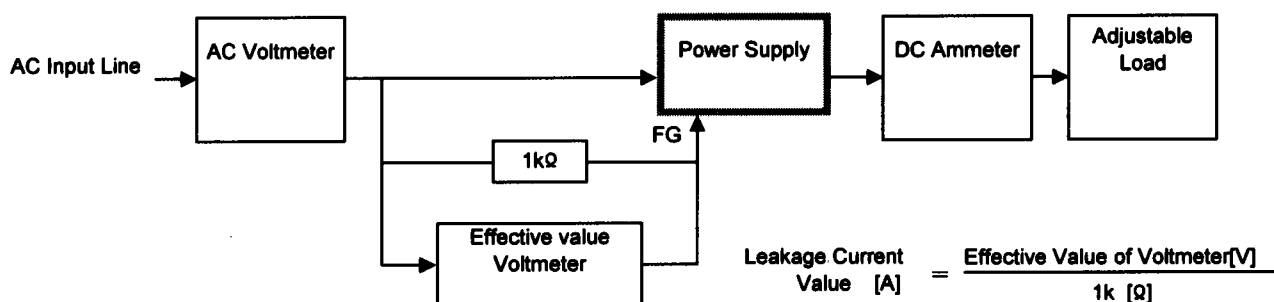


Figure B ( DEN-AN )

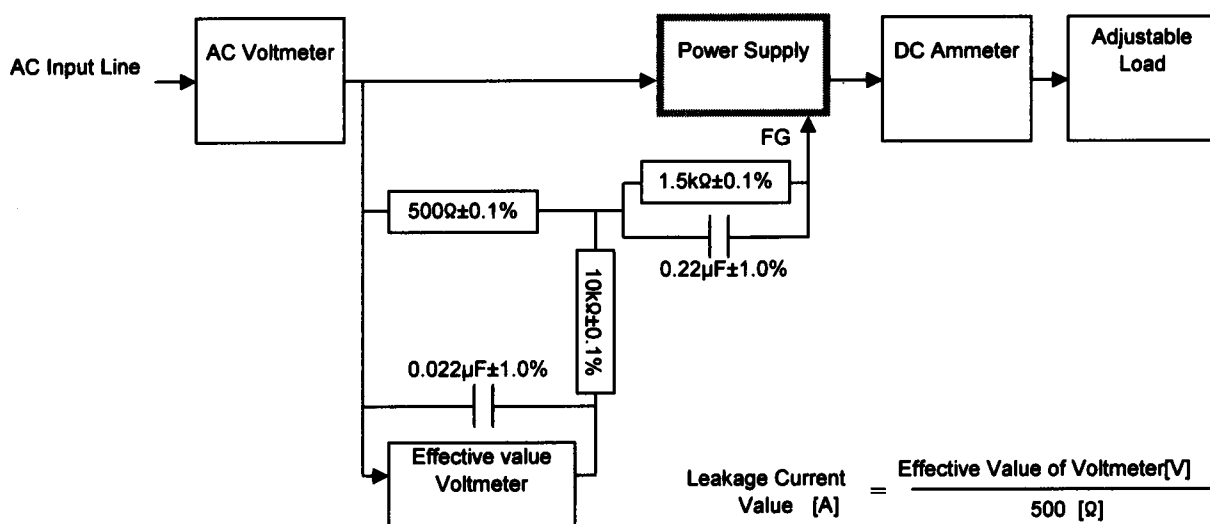


Figure B ( IEC60950 )