TEST DATA OF PDA100F-15

Regulated DC Power Supply
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Model	PDA100F-15
Item	Input Current (by Load Current)
Object	

Temperature 25°C
Testing Circuitry Figure A
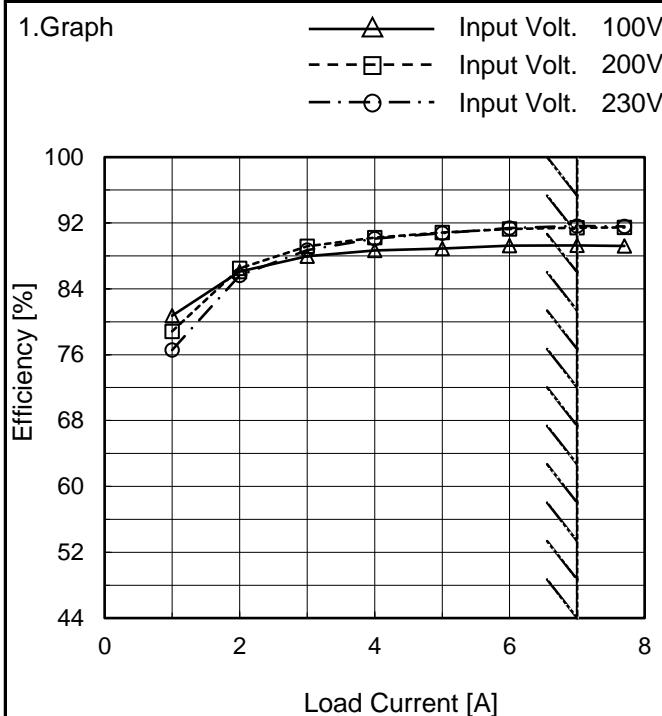
1.Graph — △ — Input Volt. 100V
--- □ --- Input Volt. 200V
— · ○ — ·· Input Volt. 230V

2.Values

Load Current [A]	Input Current [A]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.00	0.039	0.057	0.064
1.00	0.217	0.164	0.160
2.00	0.382	0.244	0.233
3.00	0.543	0.321	0.301
4.00	0.707	0.397	0.369
5.00	0.874	0.474	0.436
6.00	1.038	0.554	0.502
7.00	1.206	0.634	0.570
7.70	1.326	0.689	0.620
--	-	-	-
--	-	-	-

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

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Model	PDA100F-15
Item	Efficiency (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph

— △ — Input Volt. 100V
--- ☐ --- Input Volt. 200V
—·— ○ —·· Input Volt. 230V

Efficiency [%]

Load Current [A]

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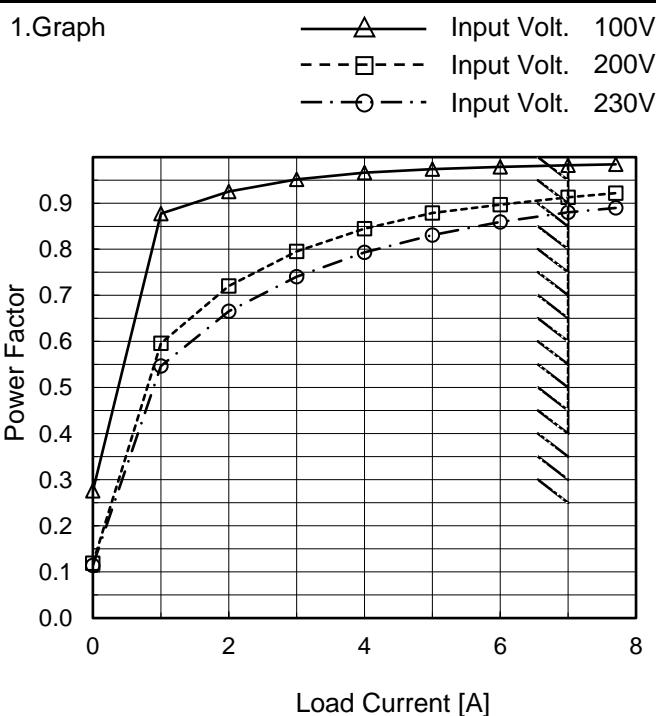
2.Values

Load Current [A]	Efficiency [%]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.00	-	-	-
1.00	80.7	78.8	76.6
2.00	86.1	86.5	85.6
3.00	88.0	89.2	88.7
4.00	88.7	90.2	90.1
5.00	88.9	90.9	90.8
6.00	89.3	91.3	91.4
7.00	89.3	91.4	91.6
7.70	89.2	91.5	91.6
--	-	-	-
--	-	-	-

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Model	PDA100F-15
Item	Power Factor (by Load Current)
Object	

Temperature 25°C
Testing Circuitry Figure A

1.Graph

— △ — Input Volt. 100V
---☐--- Input Volt. 200V
—·—○—·· Input Volt. 230V

Power Factor vs Load Current [A]

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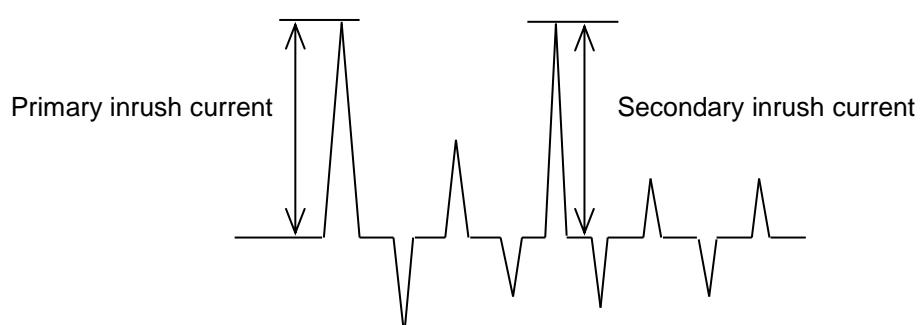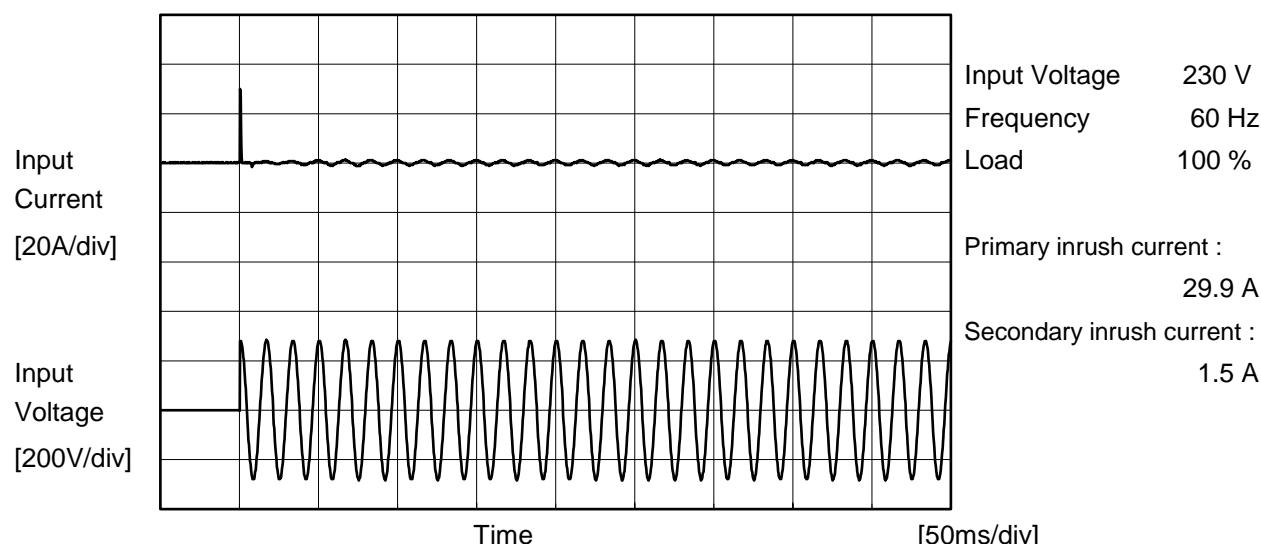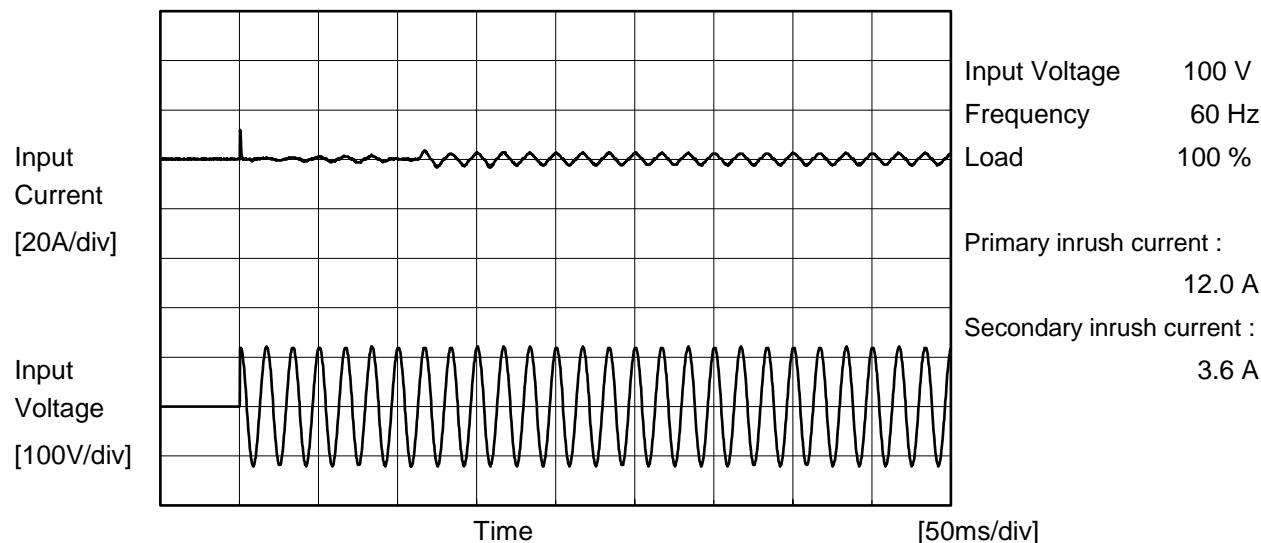
2.Values

Load Current	Power Factor		
	Input Volt.	Input Volt.	Input Volt.
[A]	100[V]	200[V]	230[V]
0.00	0.276	0.119	0.114
1.00	0.877	0.596	0.547
2.00	0.926	0.720	0.665
3.00	0.952	0.795	0.740
4.00	0.967	0.845	0.793
5.00	0.974	0.879	0.831
6.00	0.979	0.897	0.859
7.00	0.982	0.913	0.880
7.70	0.984	0.922	0.890
--	-	-	-
--	-	-	-

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For Reference

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Model	PDA100F-15
Item	Inrush Current
Object	————————

Temperature   25°C
Testing Circuitry   Figure A

Input
Current
[20A/div]

Input
Voltage
[100V/div]

Time   [50ms/div]

Input Voltage   100 V
Frequency   60 Hz
Load   100 %

Primary inrush current :
12.0 A
Secondary inrush current :
3.6 A

Input
Current
[20A/div]

Input
Voltage
[200V/div]

Time   [50ms/div]

Input Voltage   230 V
Frequency   60 Hz
Load   100 %

Primary inrush current :
29.9 A
Secondary inrush current :
1.5 A

Primary inrush current   Secondary inrush current

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Model	PDA100F-15		
Item	Leakage Current	Temperature	25°C
		Testing Circuitry	Figure C
Object	————————		

1.Results

[mA]

Standards	Testing Circuitry	Measuring Method	Input Volt.			Note
			100 [V]	230 [V]	240 [V]	
DEN-AN	Figure C-1	Both phases	0.14	0.37	0.38	Operation
		One of phases	0.28	0.70	0.73	Stand by
IEC62368-1	Figure C-2	Both phases	0.14	0.36	0.37	Operation
		One of phases	0.27	0.69	0.72	Stand by
	Figure C-3	Both phases	0.14	0.35	0.37	Operation
		One of phases	0.27	0.67	0.71	Stand by

The value for "One of phases" is the reference value only.

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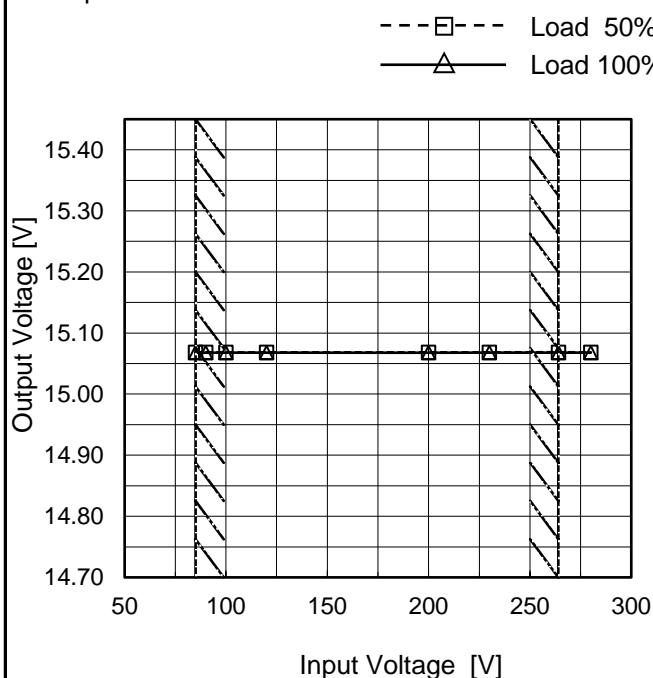
Leakage current value is concluded after measuring both phases of
AC input and by choosing the larger one.

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Model	PDA100F-15
Item	Line Regulation
Object	+15V7A

Temperature   25°C
Testing Circuitry   Figure A

1.Graph

- - -☐- - - Load 50%
———△——— Load 100%

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

2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
85	15.068	15.068
90	15.069	15.068
100	15.068	15.068
120	15.069	15.068
200	15.068	15.068
230	15.068	15.068
264	15.069	15.068
280	15.069	15.068
--	-	-

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Model	PDA100F-15
Item	Load Regulation
Object	+15V7A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

⎯△⎯ Input Volt. 100V
---⊟--- Input Volt. 200V
—·⊖—·· Input Volt. 230V

Load Current [A]

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

2.Values

Load Current [A]	Output Voltage [V]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.00	15.080	15.081	15.071
1.00	15.072	15.072	15.072
2.00	15.071	15.071	15.072
3.00	15.071	15.071	15.071
4.00	15.070	15.071	15.071
5.00	15.070	15.070	15.070
6.00	15.070	15.070	15.070
7.00	15.069	15.069	15.069
7.70	15.069	15.069	15.069
--	--	--	--
--	--	--	--

Item	Ripple-Noise
Object	+15V7A

Temperature 25°C
Testing Circuitry Figure B

1.Graph

Input Voltage 230V
Load 100%

20[mV/div]

10[µs/div]

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Model	PDA100F-15
Item	Dynamic Load Response
Object	+15V7A

Temperature 25°C
Testing Circuitry Figure A

Input Volt. 230 V Response. t1=t2=50μs. Typ
Cycle 1000 ms

Load Current

t1 t2

Load 0%(0A) ←→
Load 100%(7A)

200[mV/div]

4[ms/div]   10[ms/div]

Load 50%(3.5A) ←→
Load 100%(7A)

200[mV/div]

4[ms/div]   10[ms/div]

Load 0%(0A) ←→
Load 50%(3.5A)

200[mV/div]

4[ms/div]   10[ms/div]

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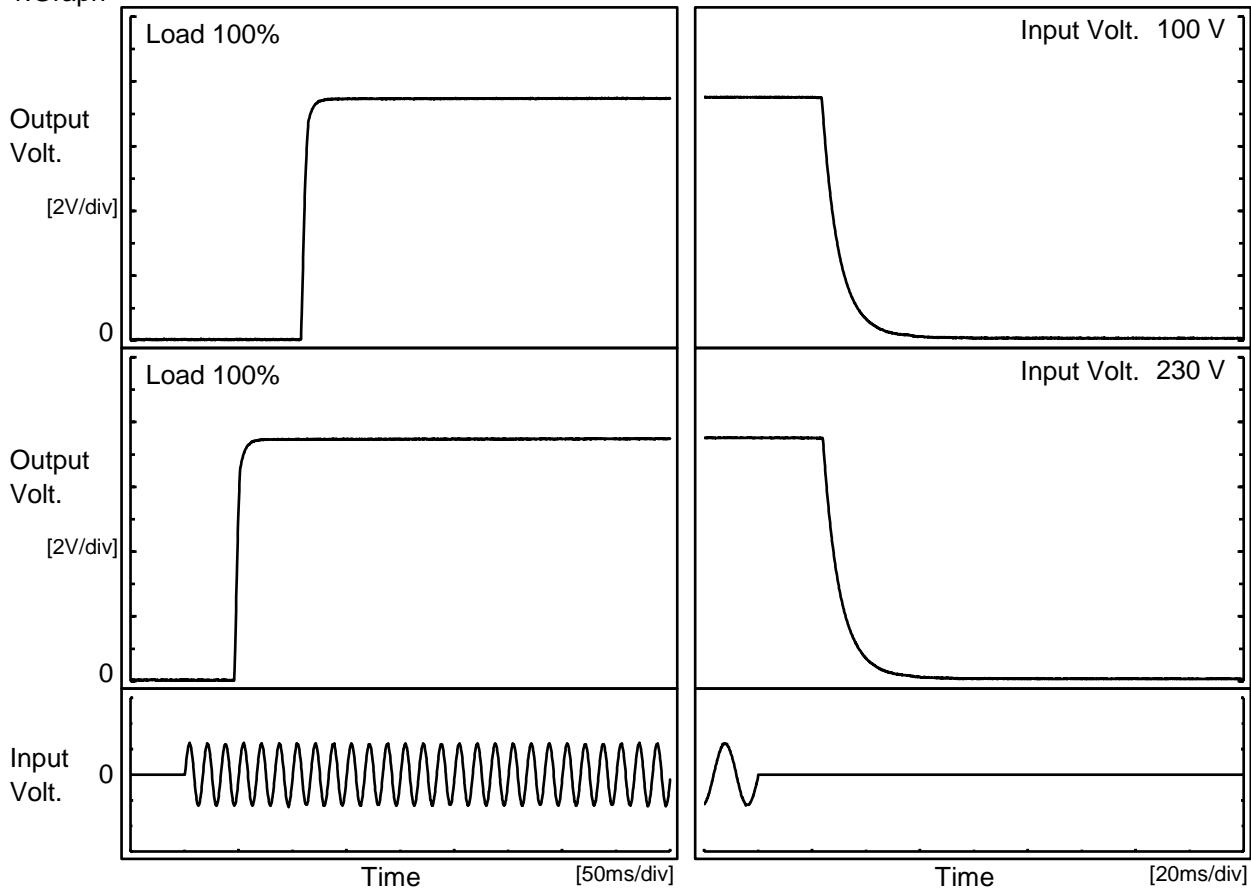
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Model	PDA100F-15
Item	Rise and Fall Time
Object	+15V7A

Temperature   25°C
Testing Circuitry   Figure A

1.Graph

Load 100%

Output
Volt.

[2V/div]

0

Load 100%

Output
Volt.

[2V/div]

0

Input
Volt.   0

Input Volt.   100 V

Input Volt.   230 V

Time   [50ms/div]

Time   [20ms/div]
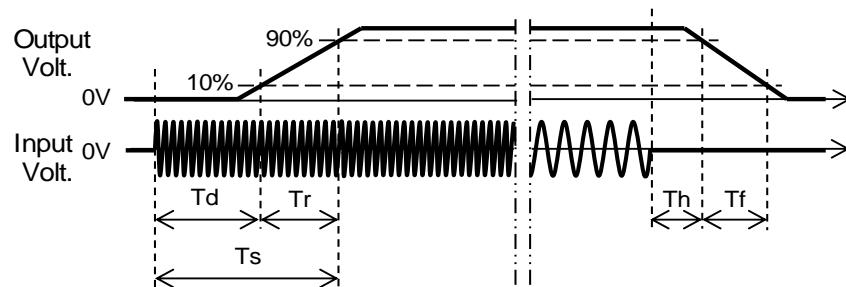
2.Values   [ms]
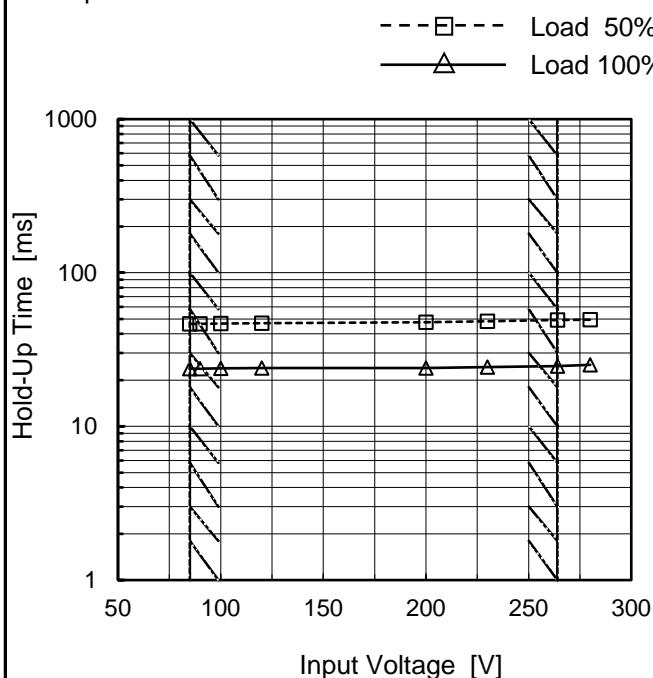
Input Volt. \ Time	Td	Tr	Ts	Th	Tf
100 V	108.8	6.5	115.3	24.2	14.4
230 V	47.0	6.3	53.3	24.6	14.4

Output
Volt.

90%

10%

0V

Input   0V
Volt.

Td   Tr

Th   Tf

Ts

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Model	PDA100F-15
Item	Hold-Up Time
Object	+15V7A

Temperature　　25°C
Testing Circuitry　Figure A

1.Graph

- - -□- - -　Load　50%
———△———　Load 100%

Hold-Up Time [ms] vs Input Voltage [V]

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.
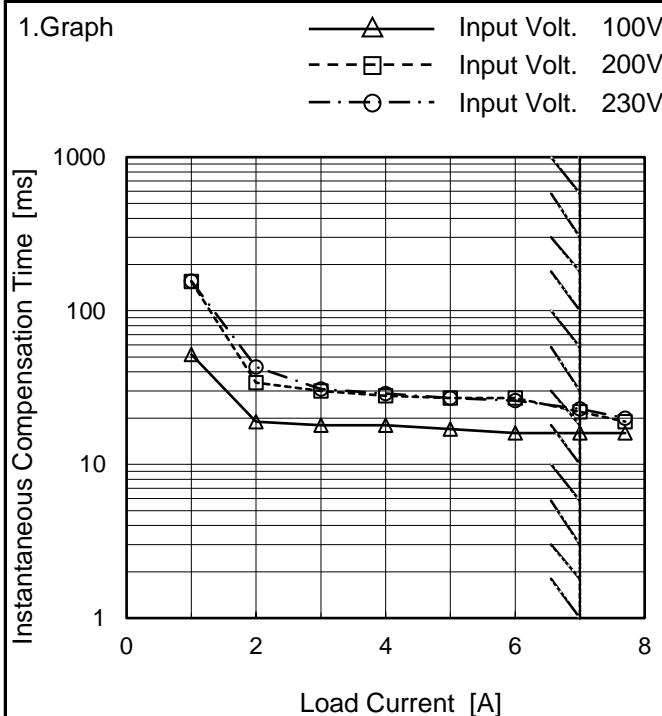
2.Values

Input Voltage [V]	Hold-Up Time [ms]	
	Load　50%	Load　100%
85	47	24
90	47	24
100	47	24
120	47	24
200	48	24
230	48	24
264	49	25
280	50	25
--	-	-

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Model	PDA100F-15
Item	Instantaneous Interruption Compensation
Object	+15V7A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

— △ — Input Volt. 100V
---☐--- Input Volt. 200V
—·—◯—·· Input Volt. 230V

Instantaneous Compensation Time [ms] vs Load Current [A]

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

2.Values
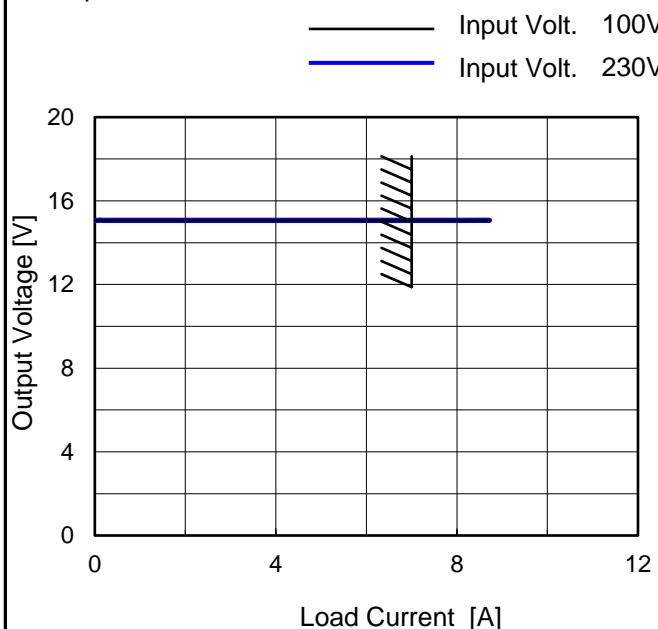
Load Current [A]	Time [ms]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.00	-	-	-
1.00	52	155	156
2.00	19	34	43
3.00	18	30	31
4.00	18	28	29
5.00	17	27	27
6.00	16	27	26
7.00	16	22	23
7.70	16	19	20
--	-	-	-
--	-	-	-

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Model	PDA100F-15
Item	Overcurrent Protection
Object	+15V7A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

———— Input Volt. 100V
———— Input Volt. 230V

Output Voltage [V] vs Load Current [A]

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. 230[V]
15.00	8.72	8.72
14.25	-	-
13.50	-	-
12.00	-	-
10.50	-	-
9.00	-	-
7.50	-	-
6.00	-	-
4.50	-	-
3.00	-	-
1.50	-	-
0.00	-	-

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Model	PDA100F-15
Item	Ambient Temperature Drift
Object	+15V7A

Testing Circuitry   Figure A

1.Values   Load 100%

Ambient Temperature[℃]	Output Voltage [V]		
	Input Volt. 100V	Input Volt. 200V	Input Volt. 230V
-10	15.029	15.030	15.030
25	15.067	15.067	15.067
50	15.084	15.084	15.084

Item	Minimum Input Voltage for Regulated Output Voltage
Object	+15V7A

Testing Circuitry   Figure A

1.Values

Ambient Temperature[℃]	Input Voltage [V]	
	Load 50%	Load 100%
-10	43	58
25	42	56
50	41	57

Item	Overvoltage Protection
Object	+15V7A

Testing Circuitry   Figure A

1.Values   Load 0%

Ambient Temperature[℃]	Operating Point [V]	
	Input Volt. 100V	Input Volt. 230V
-20	23.31	23.31
25	23.88	23.82
50	24.22	24.22

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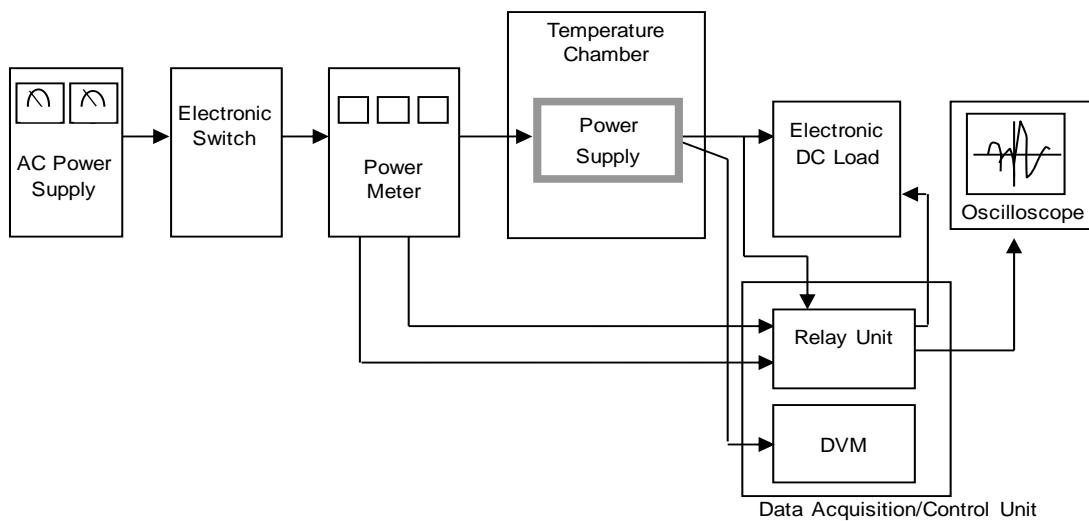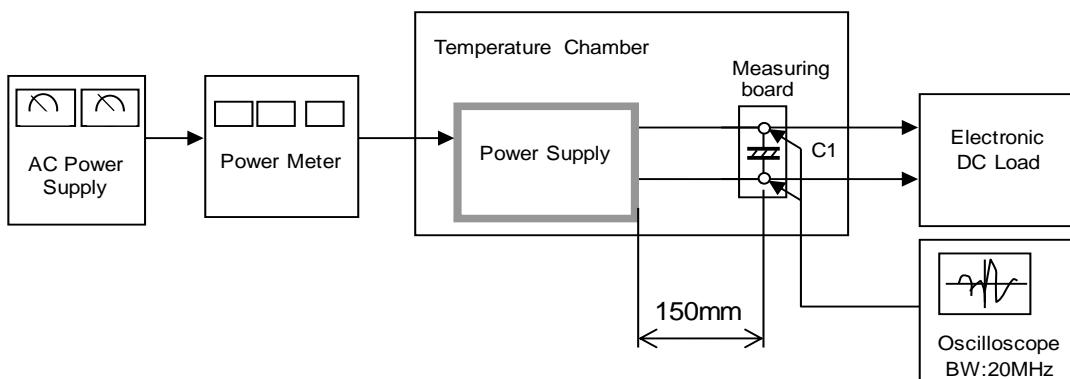
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Figure A

C1= 22 µF
(Electrolytic capacitor)

Figure B

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Figure C-1 (DEN-AN)

$$\text{Leakage Current Value [A]} = \frac{\text{Effective Value of Voltmeter[V]}}{1k \ [\Omega]}$$

Figure C-2 (IEC62368-1 refer to IEC60990 Fig.4)

$$\text{Leakage Current Value [A]} = \frac{\text{Effective Value of Voltmeter[V]}}{500 \ [\Omega]}$$

Figure C-3 (IEC62368-1 refer to IEC60990 Fig.5)

$$\text{Leakage Current Value [A]} = \frac{\text{Effective Value of Voltmeter[V]}}{500 \ [\Omega]}$$

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