COSEL

TEST DATA OF WBA350B-36

Regulated DC Power Supply
July 6, 2021

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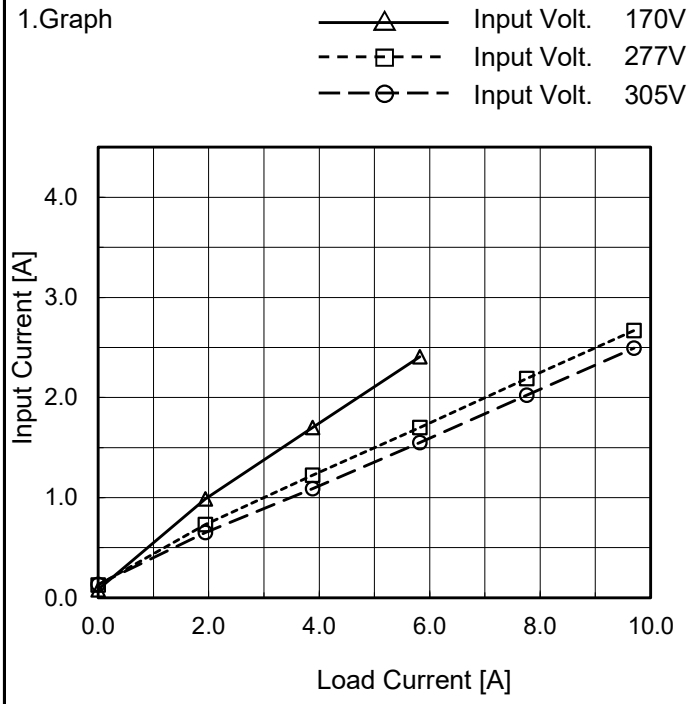
Model	WBA350B-36
Item	Input Current (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



2.Values

Load Current [A]	Input Current [A]		
	Input Volt. 170[V]	Input Volt. 277[V]	Input Volt. 305[V]
0.00	0.081	0.126	0.134
1.94	0.986	0.733	0.651
3.88	1.702	1.225	1.091
5.82	2.408	1.702	1.550
7.76	-	2.189	2.022
9.70	-	2.669	2.493
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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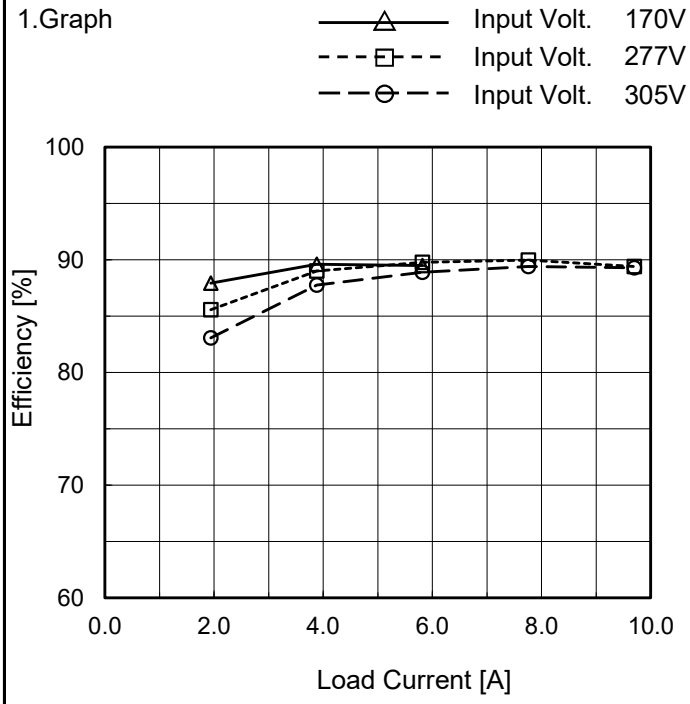
Model	WBA350B-36
Item	Efficiency (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



2.Values

Load Current [A]	Efficiency [%]		
	Input Volt. 170[V]	Input Volt. 277[V]	Input Volt. 305[V]
0.00	-	-	-
1.94	87.9	85.6	83.1
3.88	89.6	89.0	87.8
5.82	89.5	89.8	88.9
7.76	-	90.0	89.4
9.70	-	89.4	89.3
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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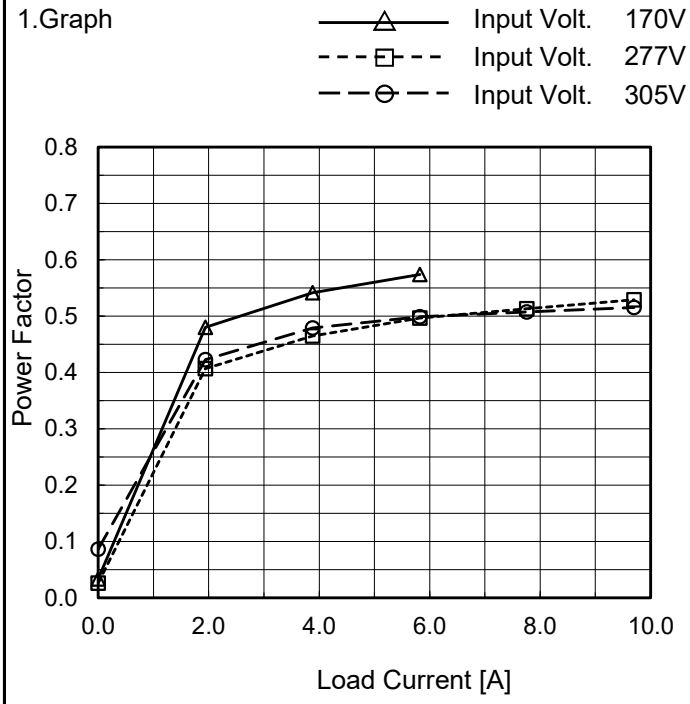
Model	WBA350B-36
Item	Power Factor (by Load Current)
Object	――――――――

Temperature 25°C
Testing Circuitry Figure A

1.Graph



2.Values

Load Current [A]	Power Factor		
	Input Volt. 170[V]	Input Volt. 277[V]	Input Volt. 305[V]
0.00	0.033	0.026	0.086
1.94	0.480	0.407	0.423
3.88	0.542	0.465	0.479
5.82	0.574	0.497	0.499
7.76	-	0.513	0.508
9.70	-	0.529	0.515
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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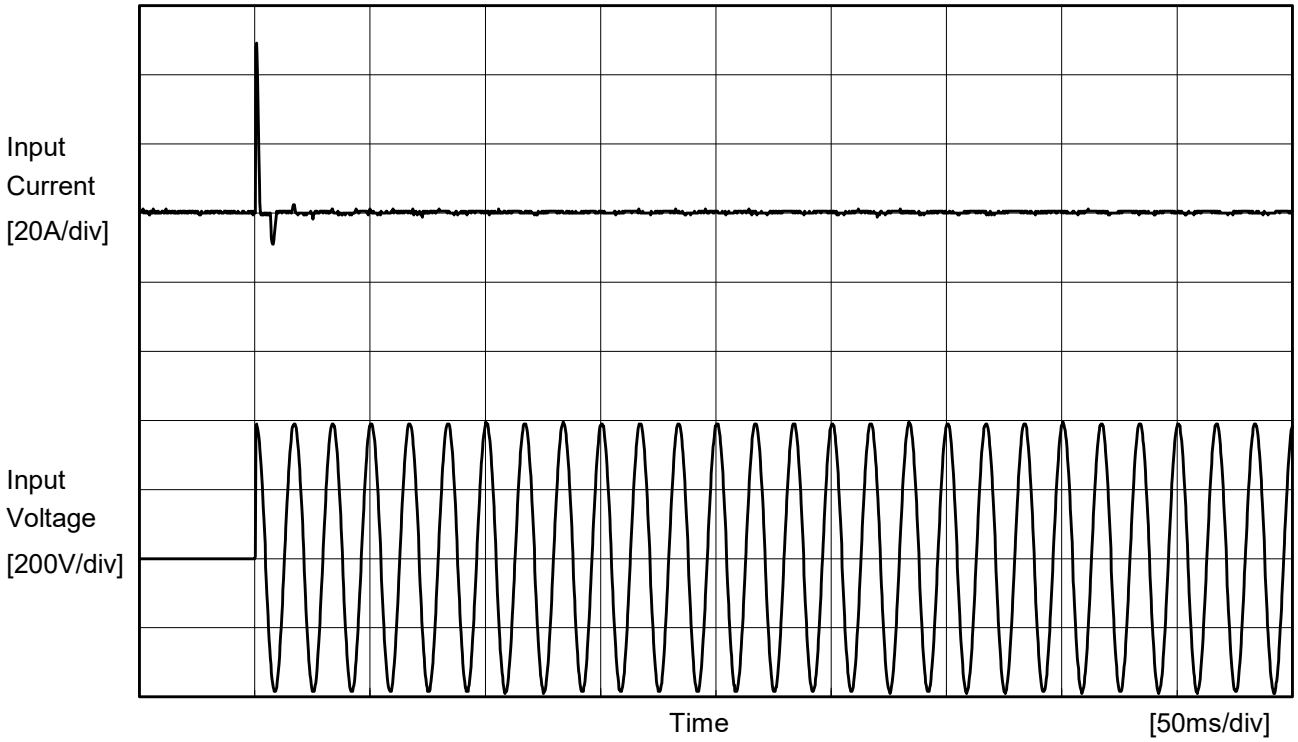
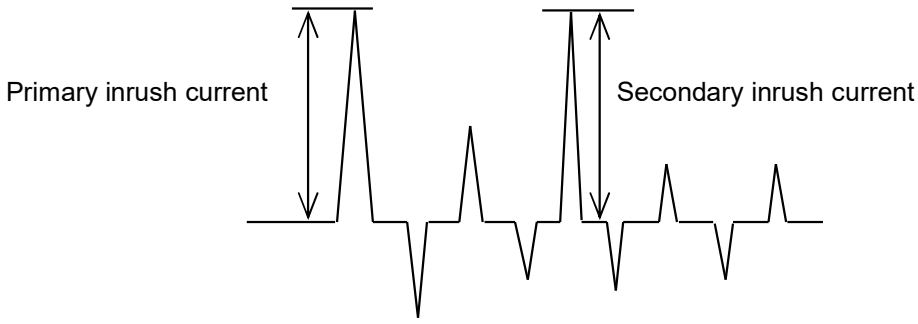
Model	WBA350B-36	
Item	Inrush Current	Temperature 25°C Testing Circuitry Figure A
Object	————————	



Input Voltage	277 V
Frequency	60 Hz
Load	100 %
Primary inrush current	49.2 A



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Model	WBA350B-36	
Item	Leakage Current	Temperature 25°C Testing Circuitry Figure C
Object	――――――――――――	

1.Results

[mA]

Standards	Testing Circuitry	Measuring Method	Input Volt.			Note
			170 [V]	277 [V]	305 [V]	
DEN-AN	Figure C-1	Both phases	0.18	0.30	0.32	Operation
		One of phases	0.34	0.57	0.62	Stand by
IEC62368-1	Figure C-2	Both phases	0.17	0.29	0.32	Operation
		One of phases	0.32	0.55	0.61	Stand by
	Figure C-3	Both phases	0.17	0.29	0.32	Operation
		One of phases	0.33	0.55	0.61	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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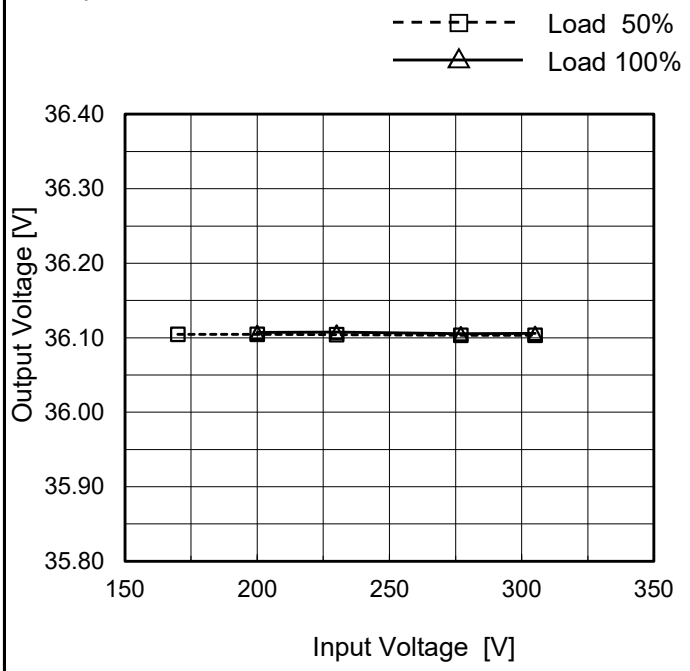
Model	WBA350B-36
Item	Line Regulation
Object	+36V9.7A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
170	36.104	-
200	36.105	36.107
230	36.104	36.107
277	36.103	36.105
305	36.103	36.106
--	-	-
--	-	-
--	-	-
--	-	-

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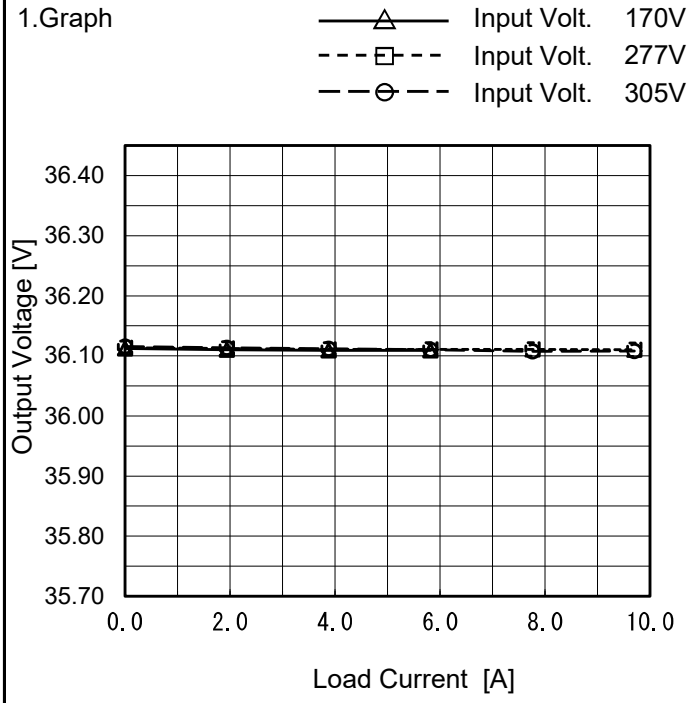
Model	WBA350B-36
Item	Load Regulation
Object	+36V9.7A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



2.Values

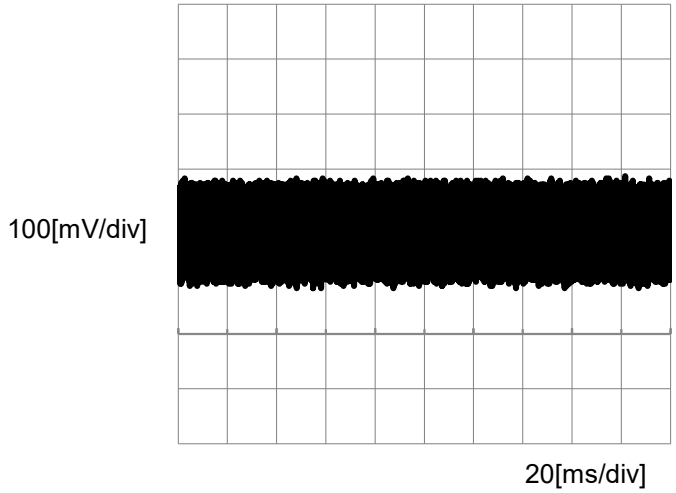
Load Current [A]	Output Voltage [V]		
	Input Volt. 170[V]	Input Volt. 277[V]	Input Volt. 305[V]
0.00	36.113	36.114	36.116
1.94	36.110	36.112	36.114
3.88	36.109	36.111	36.112
5.82	36.109	36.111	36.110
7.76	-	36.111	36.107
9.70	-	36.110	36.108
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

Item	Ripple-Noise
Object	+36V9.7A

Temperature 25°C
Testing Circuitry Figure B

1.Graph

Input Voltage 277V
Load 100%



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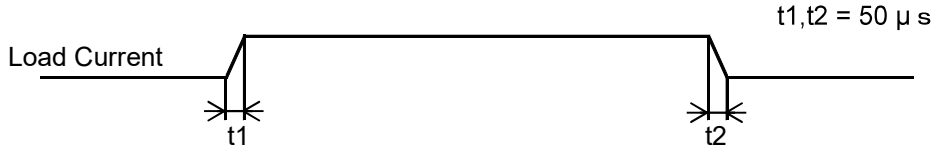
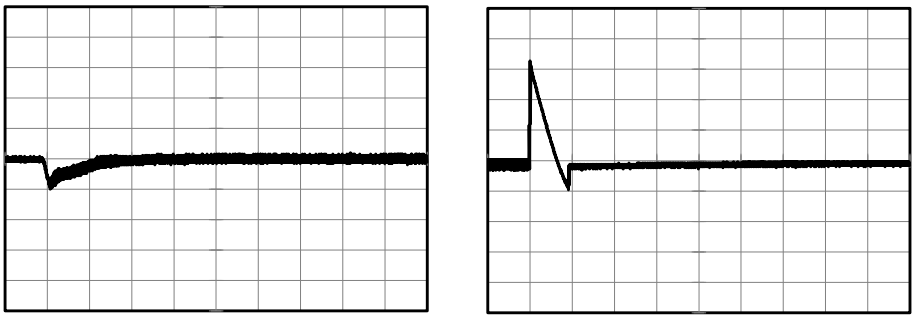
Model	WBA350B-36		
Item	Dynamic Load Response	Temperature	25°C
		Testing Circuitry	Figure A
Object	+36V9.7A		

Input Volt. 277 V
Cycle 2000 ms



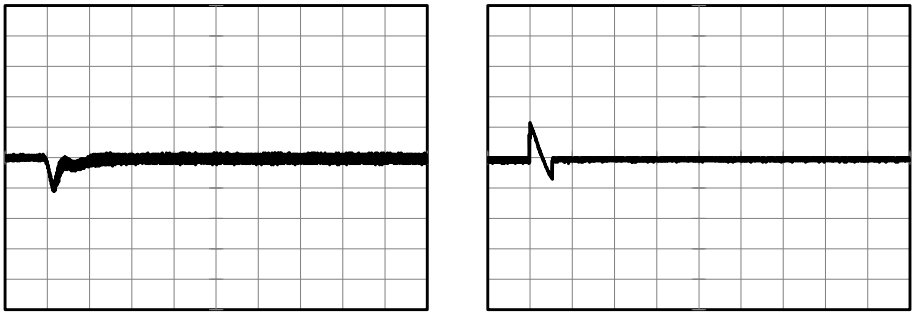
Min.Load (0A)←→
Load 100% (9.7A)



500 mV/div

400 us/div 40 ms/div

Min.Load (0A)←→
Load 50% (4.85A)



500 mV/div

400 us/div 40 ms/div

-

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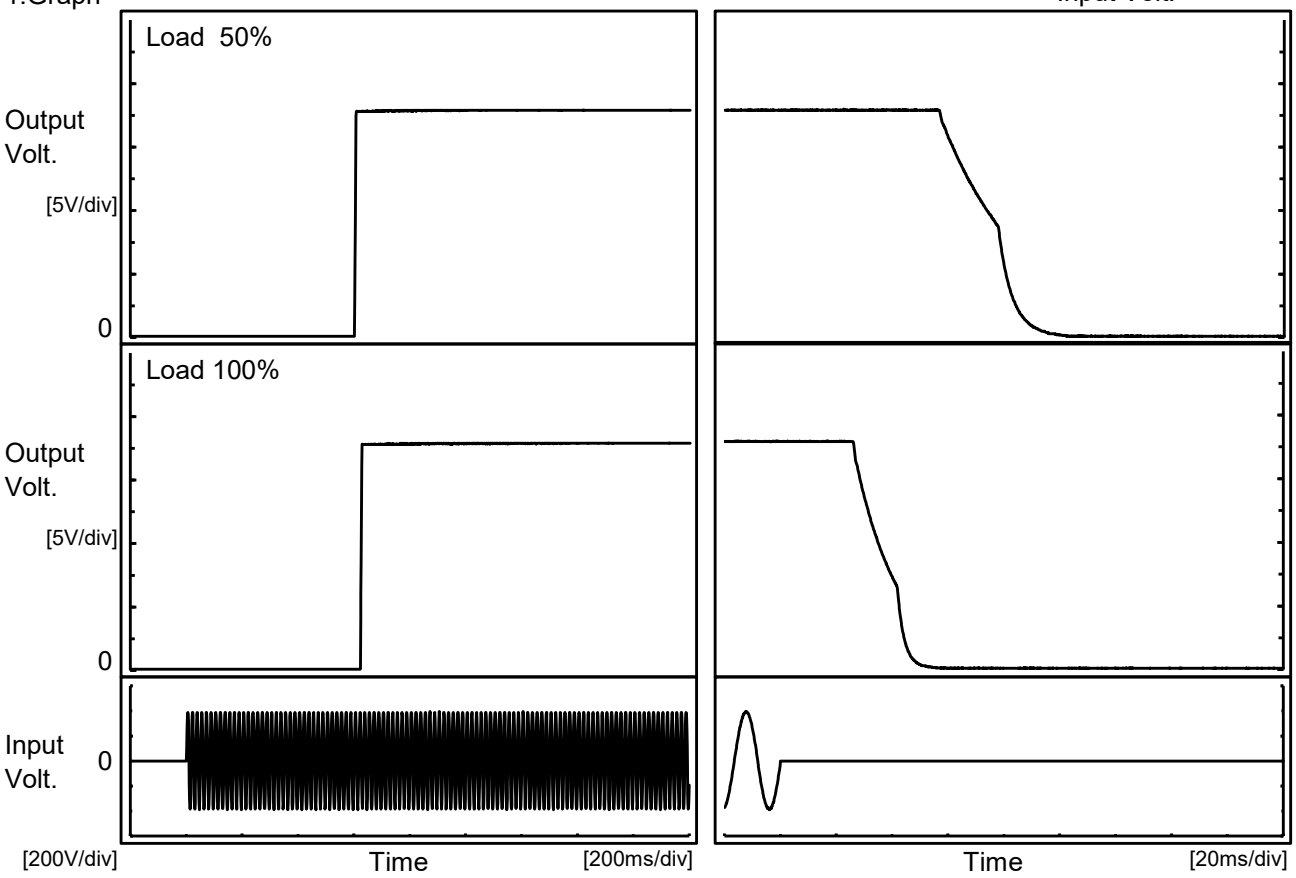
Model	WBA350B-36	
Item	Rise and Fall Time	Temperature 25°C Testing Circuitry Figure A
Object	+36V9.7A	

1.Graph

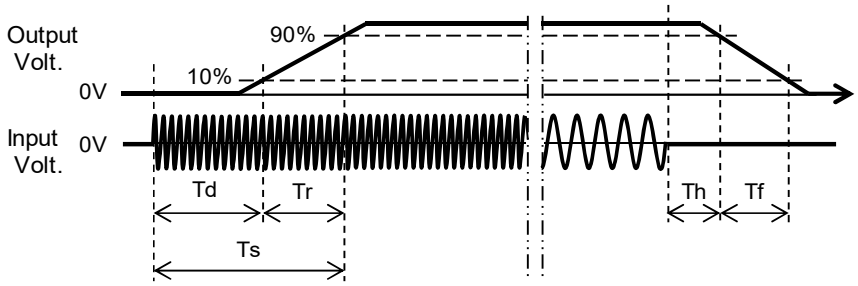
Input Volt. 277 V



2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	602.0	4.0	606.0	59.1	26.5
100 %	623.0	5.0	628.0	27.1	17.8



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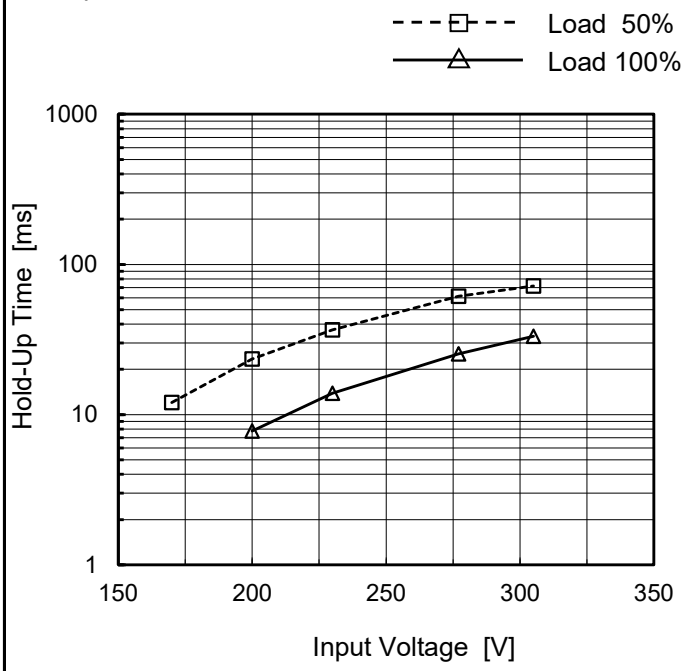
Model	WBA350B-36
Item	Hold-Up Time
Object	+36V9.7A

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.

2.Values

Input Voltage [V]	Hold-Up Time [ms]	
	Load 50%	Load 100%
170	12	-
200	23	8
230	37	14
277	61	25
305	72	33
--	-	-
--	-	-
--	-	-
--	-	-

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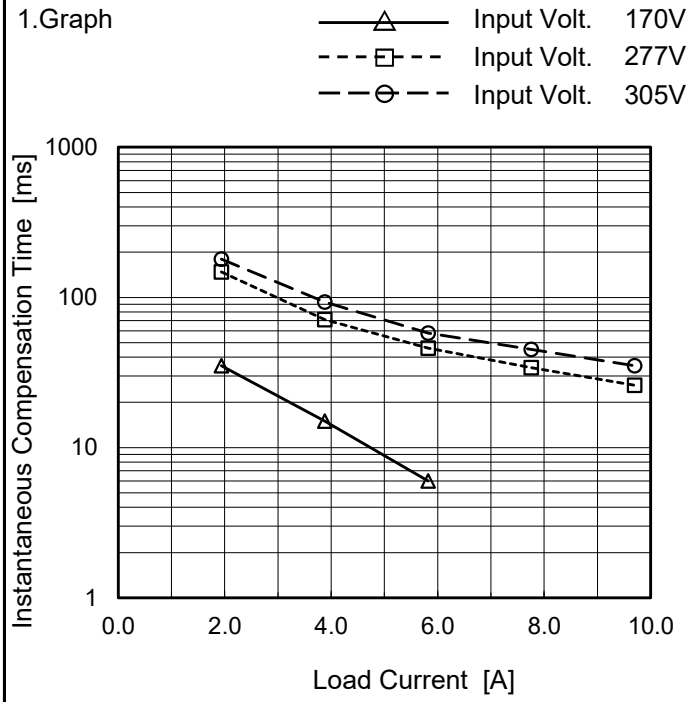
Model	WBA350B-36
Item	Instantaneous Interruption Compensation
Object	+36V9.7A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



2.Values

Load Current [A]	Time [ms]		
	Input Volt. 170[V]	Input Volt. 277[V]	Input Volt. 305[V]
0.00	-	-	-
1.94	35	148	180
3.88	15	71	93
5.82	6	46	58
7.76	-	34	45
9.70	-	26	35
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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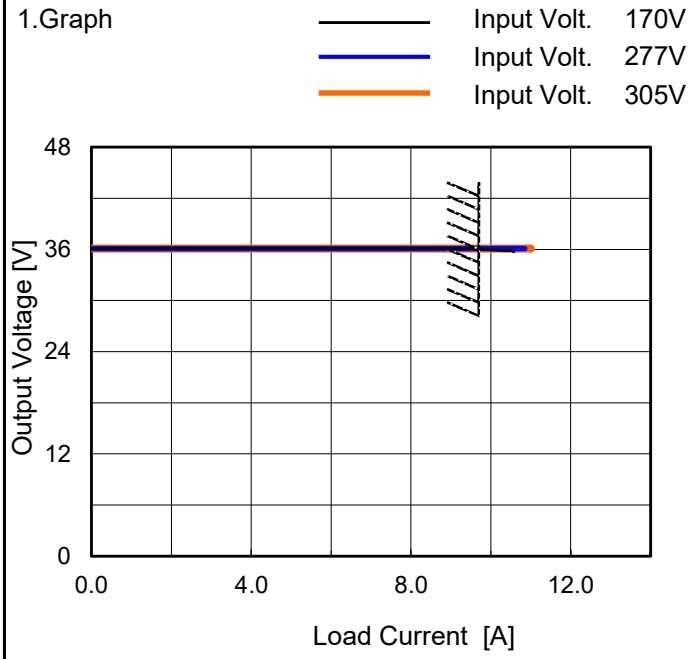
Model	WBA350B-36
Item	Overcurrent Protection
Object	+36V9.7A

Temperature 25°C
Testing Circuitry 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. 170[V]	Input Volt. 277[V]	Input Volt. 305[V]
36	10.57	10.85	11.00
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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COSEL

Model	WBA350B-36
Item	Ambient Temperature Drift
Object	+36V9.7A

Testing Circuitry Figure A

1.Values

Load 100%

Ambient Temperature[℃]	Output Voltage [V]		
	Input Volt. 170V	Input Volt. 277V	Input Volt. 305V
-20	35.874	35.961	36.013
25	36.094	36.100	36.134
50	36.147	36.148	36.151

Item	Minimum Input Voltage for Regulated Output Voltage
Object	+36V9.7A

Testing Circuitry Figure A

1.Values

Ambient Temperature[℃]	Input Voltage [V]	
	Load 50%	Load 100%
-20	131	153
25	130	152
50	129	152

Item	Overvoltage Protection
Object	+36V9.7A

Testing Circuitry Figure A

1.Values

Load 0%

Ambient Temperature[℃]	Operating Point [V]	
	Input Volt. 170V	Input Volt. 305V
-20	44.73	44.93
25	46.45	46.46
50	47.28	47.36

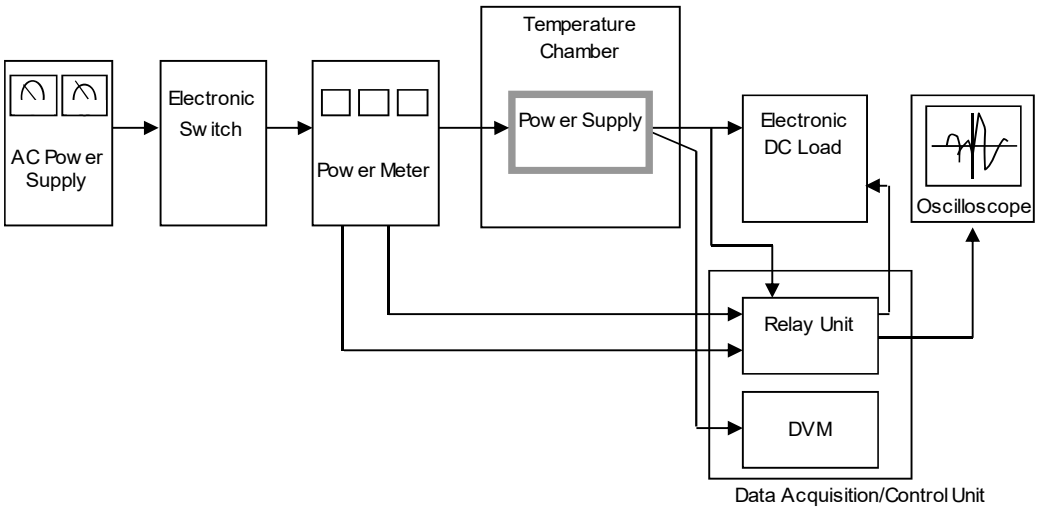

Figure A

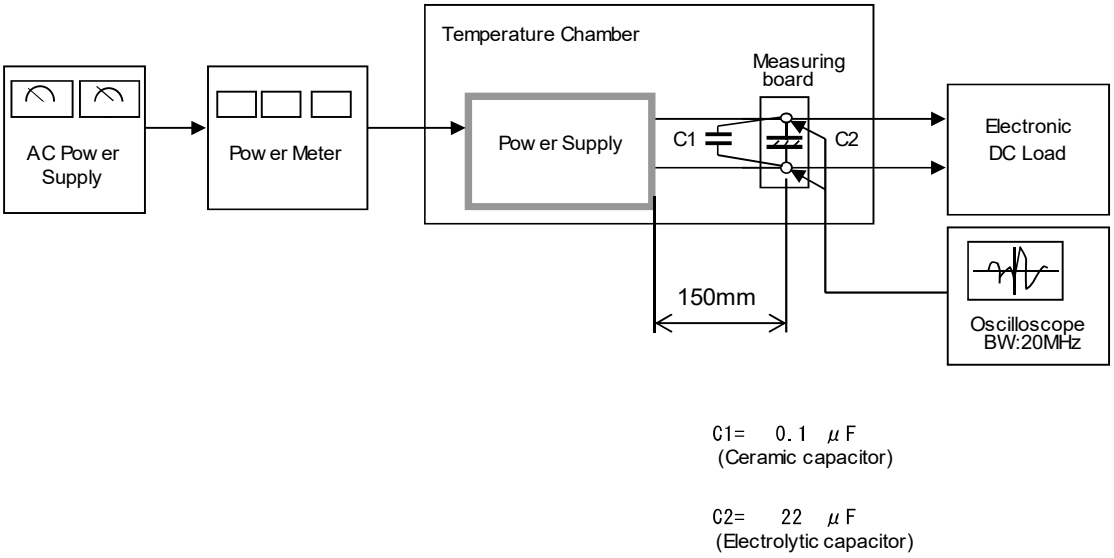

Figure B

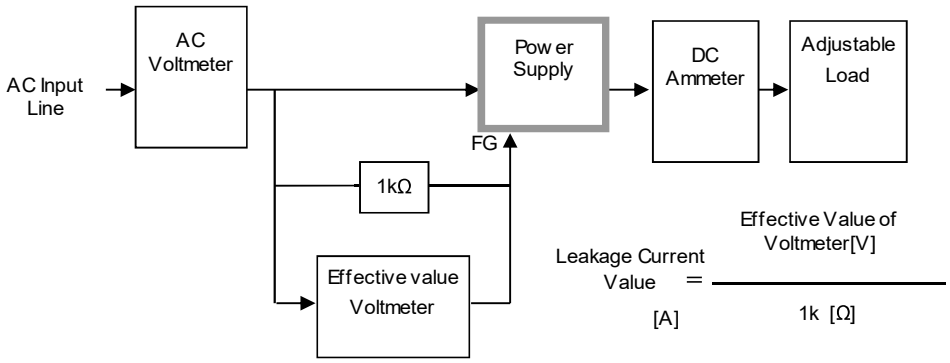

Figure C-1 (DEN-AN)

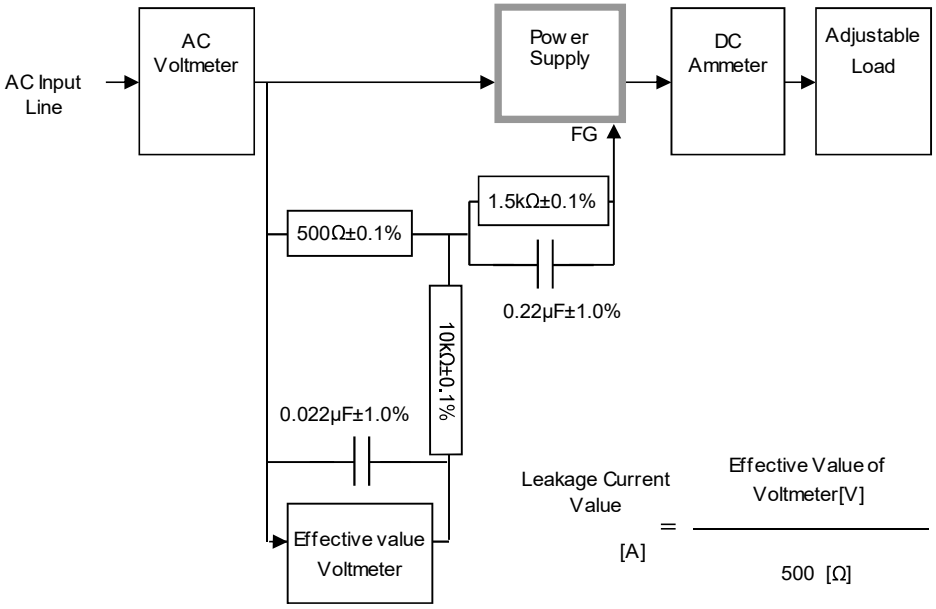

Figure C-2 (IEC62368-1 refer to IEC60990 Fig.4)

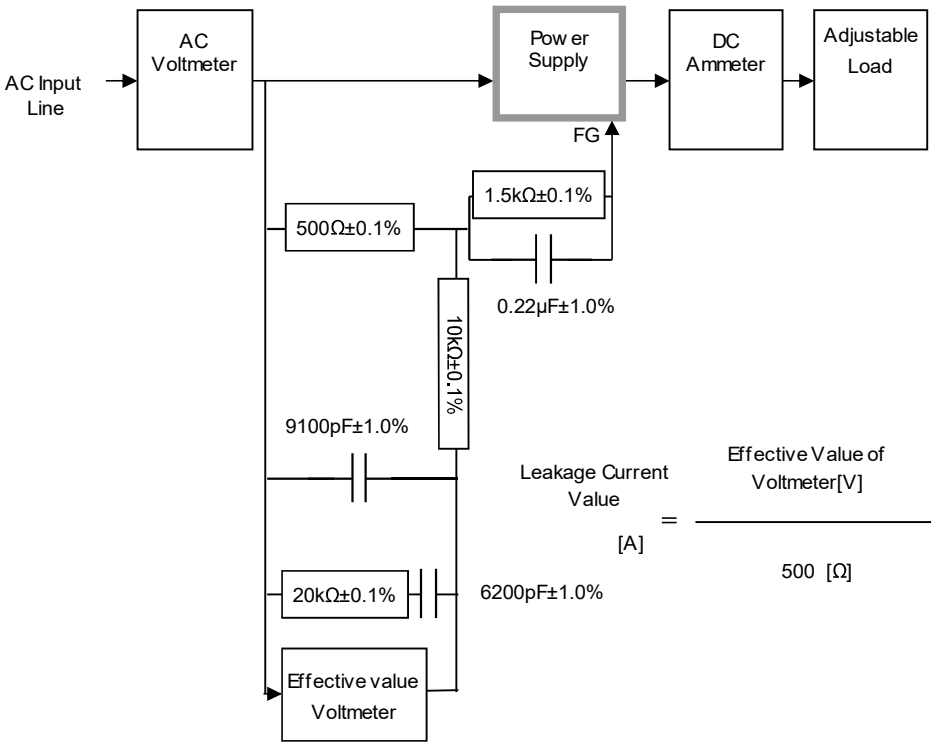

Figure C-3 (IEC62368-1 refer to IEC60990 Fig.5)