Nipron

Date of issue: Jul. 22, 2016

Test Data

Model Number: UZP-120-12-JB0

Model Name: DC POWER SUPPLY

INPUT: 85V – 264V AC, 50 / 60 Hz

OUTPUT: 12 V 8.4A (16.7 A_{peak})

Minimum load : 0W
Rated load :100.8W
Peak output power: 200.4W

Approved by : T Itsubouchi (QA manager)

Designed by : Kazuhiro Yamada (R&D engineer)

Tested by : Hiroyuki Watanabe (Evaluation test engineer)

Nipron Co., Ltd.

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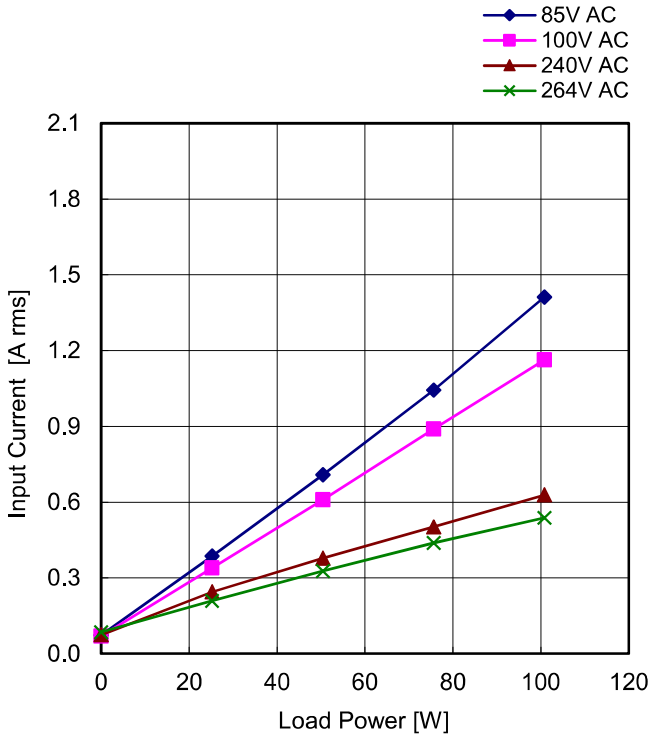
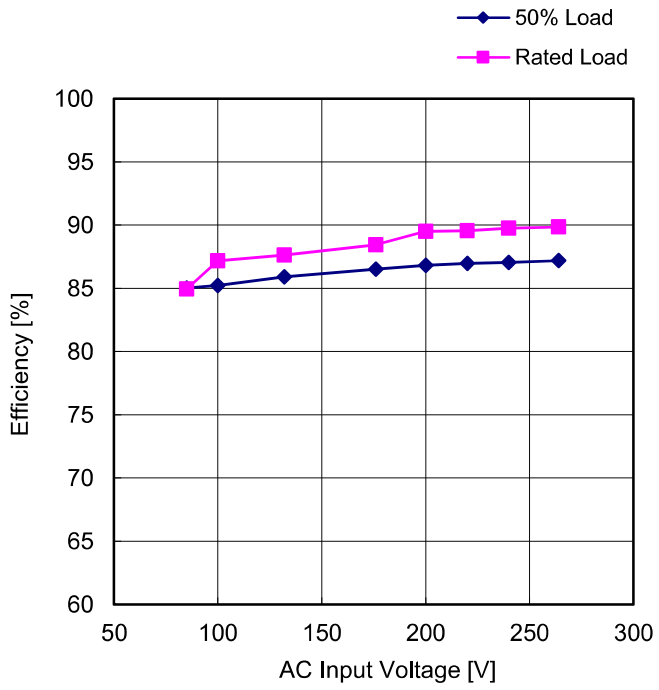
Model	UZP-120-12-JB0	Temperature: 25℃
Item	Input Current（by Load Power）	



Load Power [W]	Input Current [A rms]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
0.0	0.07	0.07	0.08	0.09
25.2	0.39	0.34	0.24	0.21
50.4	0.71	0.61	0.38	0.33
75.6	1.04	0.89	0.50	0.44
100.8	1.41	1.16	0.63	0.54

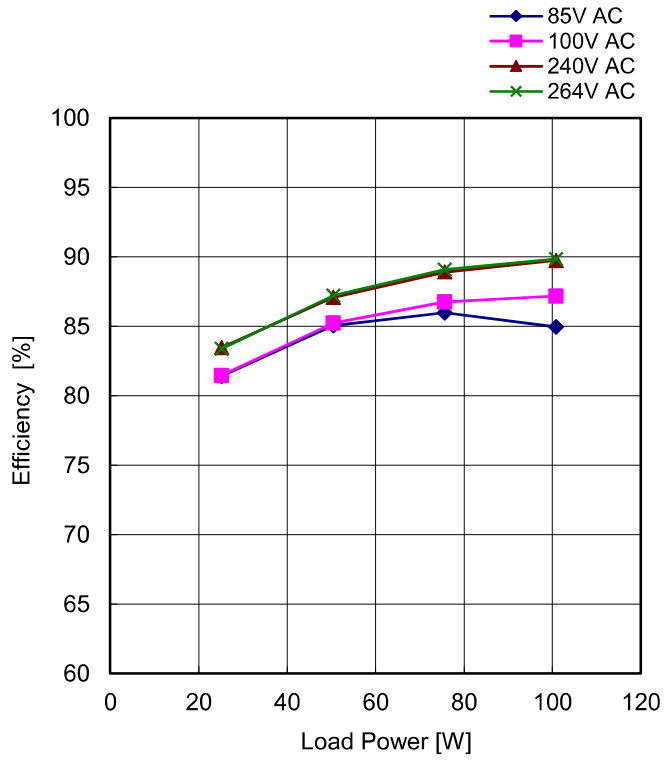
Model	UZP-120-12-JB0	Temperature: 25℃
Item	Efficiency	

■Efficiency(by Input Voltage)



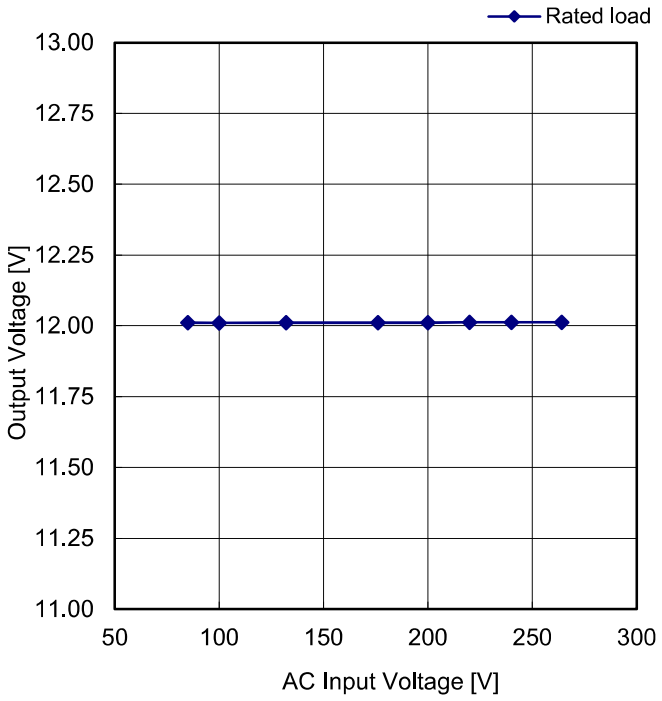
AC Input Voltage [V]	Efficiency [%]	
	50% Load	Rated Load
85	85.04	84.96
100	85.23	87.17
132	85.90	87.64
176	86.51	88.45
200	86.82	89.50
220	86.98	89.56
240	87.06	89.74
264	87.19	89.84

■Efficiency(by Load Power)



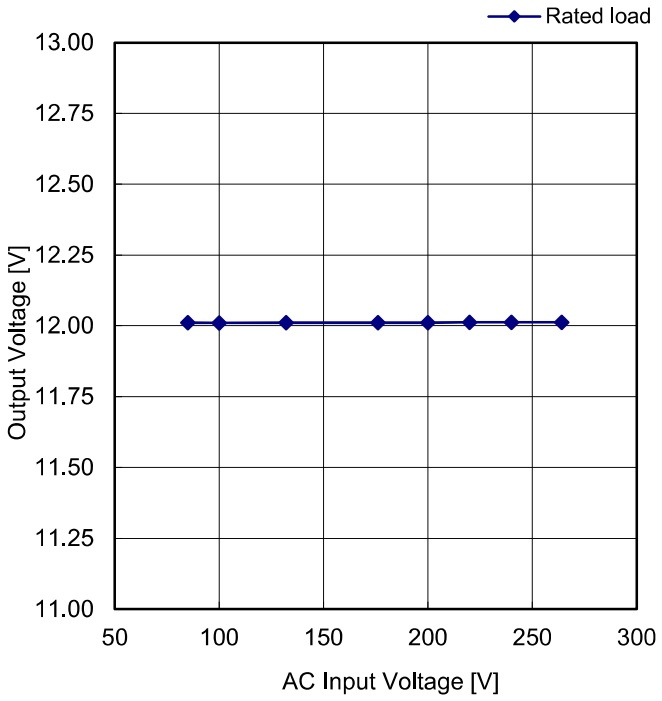
Load Power [W]	Efficiency [%]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
25.2	81.42	81.46	83.47	83.38
50.4	85.04	85.23	87.06	87.19
75.6	85.97	86.74	88.90	89.08
100.8	84.96	87.17	89.74	89.84

Model	UZP-120-12-JB0	Temperature: 25℃
Item	Line Regulation	



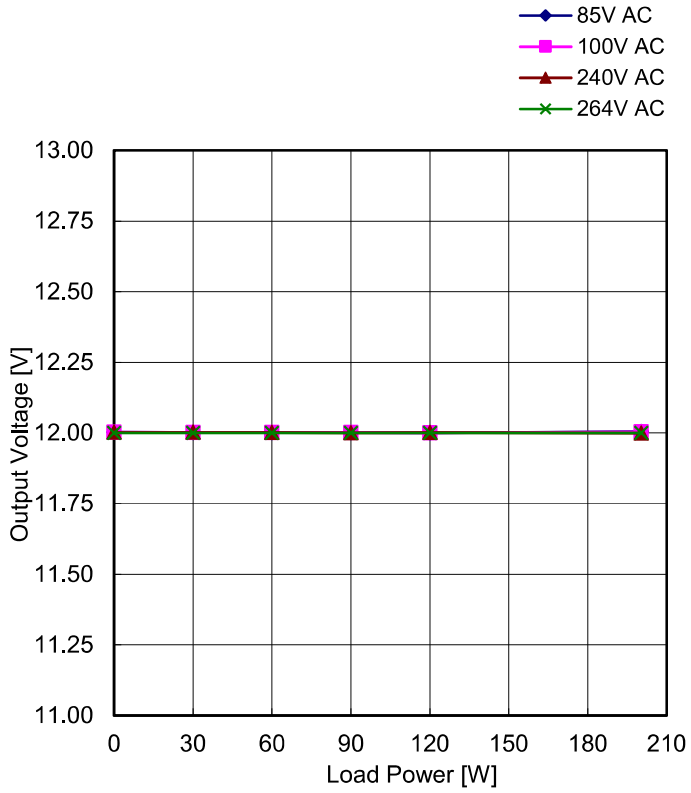
AC Input Voltage [V]	Output Voltage [V]
85	12.011
100	12.010
132	12.011
176	12.011
200	12.011
220	12.012
240	12.012
264	12.012

Model	UZP-120-12-JB0	Temperature: 25℃
Item	Line Regulation	



AC Input Voltage [V]	Output Voltage [V]
85	12.011
100	12.010
132	12.011
176	12.011
200	12.011
220	12.012
240	12.012
264	12.012

Model	UZP-120-12-JBH	Temperature: 25℃
Item	Load Regulation	

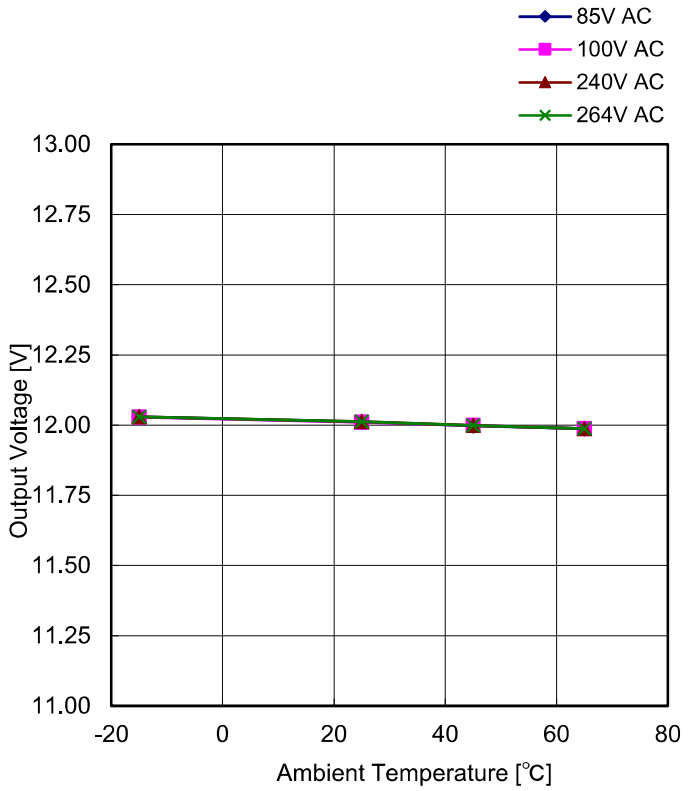


Load Power [W]	Output Voltage [V]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
0.0	12.002	12.002	12.002	12.000
30.0	12.001	12.001	12.002	12.000
60.0	12.001	12.001	12.001	12.000
90.0	12.001	12.001	12.000	12.000
120.0	12.000	12.000	12.001	12.000
200.4	12.005	12.004	11.999	12.000

Load Condition

Load Power [W]	Load Current [A]
	12V
0.0	0.00
30.0	2.50
60.0	5.00
90.0	7.50
120.0	10.00
200.4	16.70

Model	UZP-120-12-JB0
Item	Ambient Temperature Drift



Ambient Temp. (℃)	Output Voltage [V]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
-15	12.029	12.028	12.029	12.029
25	12.011	12.010	12.012	12.012
45	11.997	11.998	11.999	11.999
65	11.987	11.987	11.987	11.987

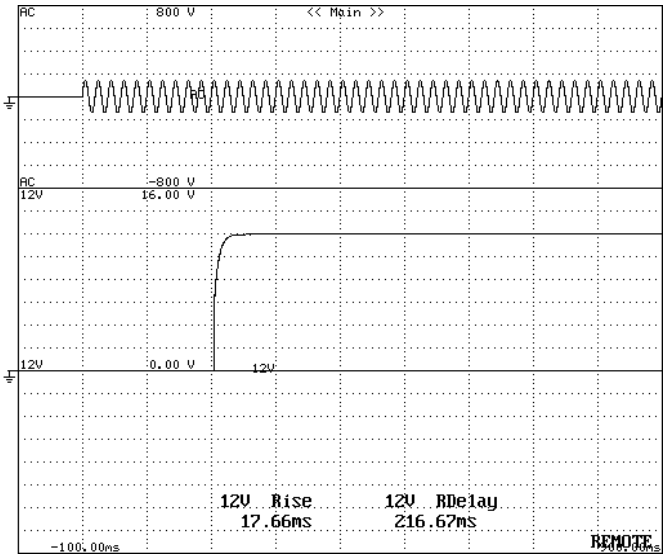
Load Condition

Ambient Temp. (℃)	Load Current [A]
	12V
-15	8.40
25	8.40
45	8.40
65	5.83

Model	UZP-120-12-JB0	Temperature: 25℃
Item	Output Rise Characteristics (at AC Power ON)	

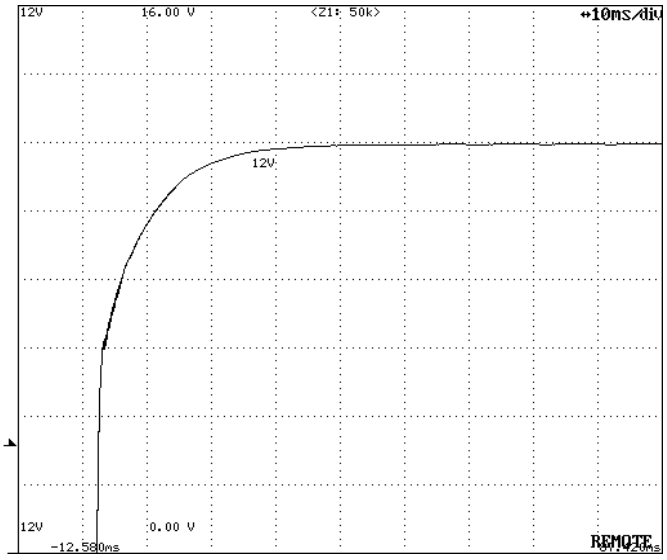
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div



All Output Start-up Sequence

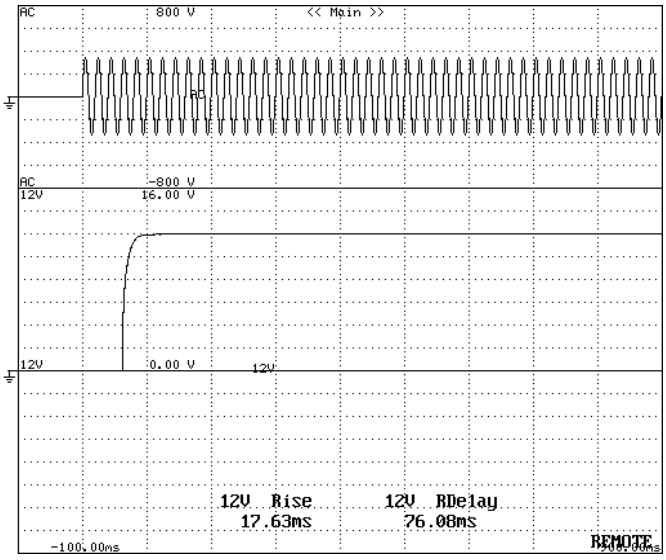
Vertical Sensitivity: 2V/div
Timebase Range: 10ms/div



12V DC Output Rise Characteristics

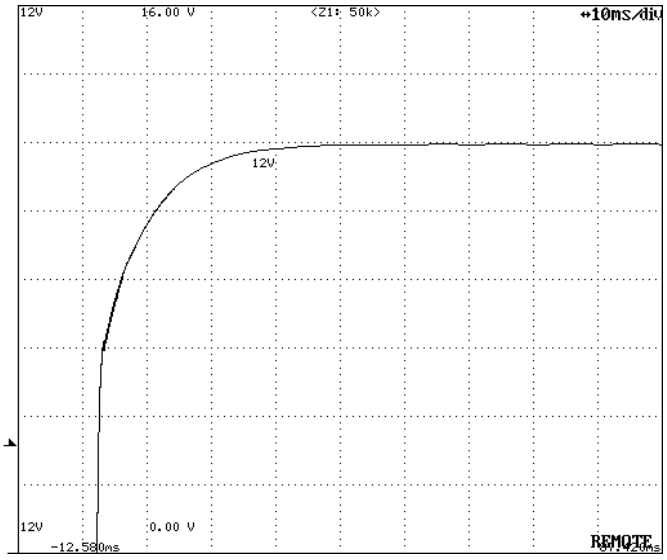
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div



All Output Start-up Sequence

Vertical Sensitivity: 2V/div
Timebase Range: 10ms/div

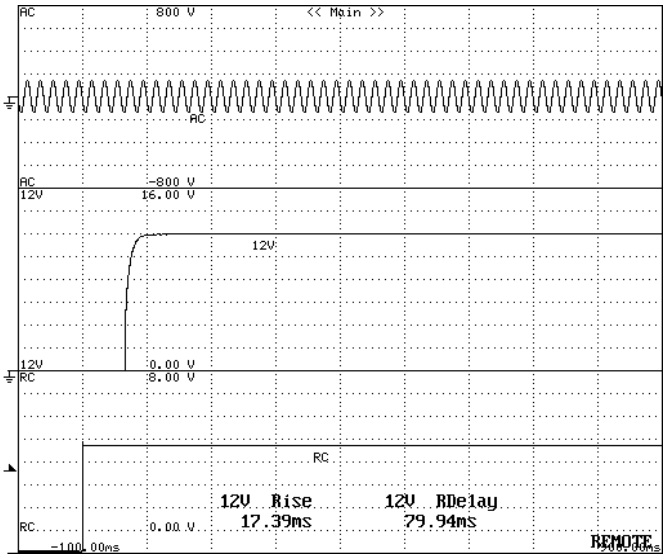


12V DC Output Rise Characteristics

Model	UZP-120-12-JB0	Temperature: 25℃
Item	Output Rise Characteristics (at Remote ON)	

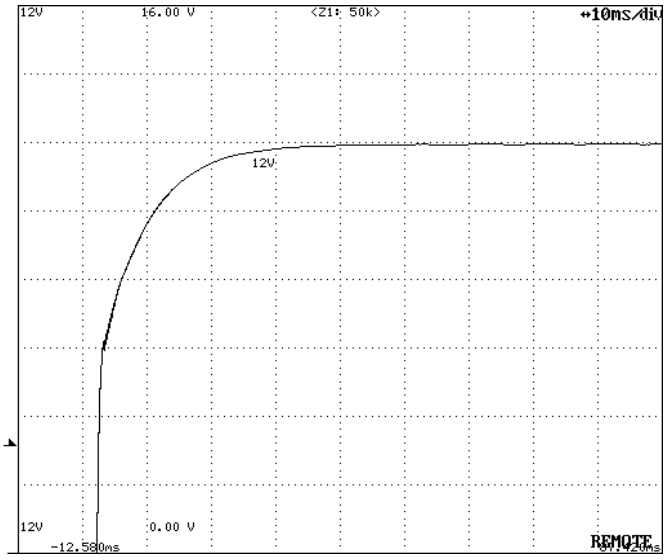
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div



All Output Start-up Sequence

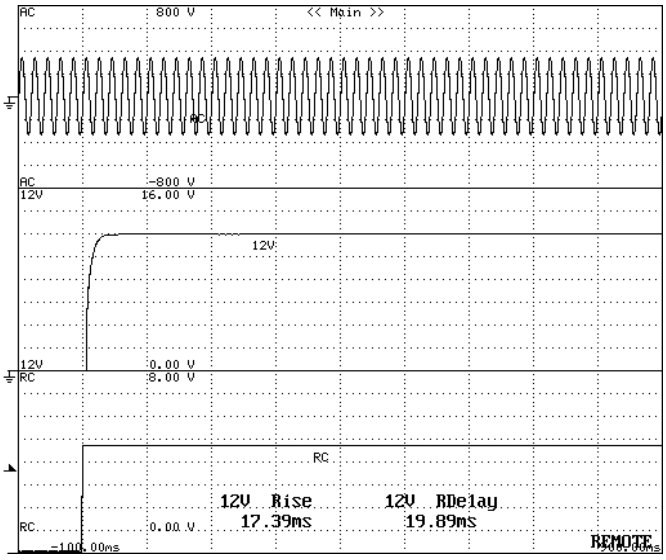
Vertical Sensitivity: 2V/div
Timebase Range: 10ms/div



12V DC Output Rise Characteristics

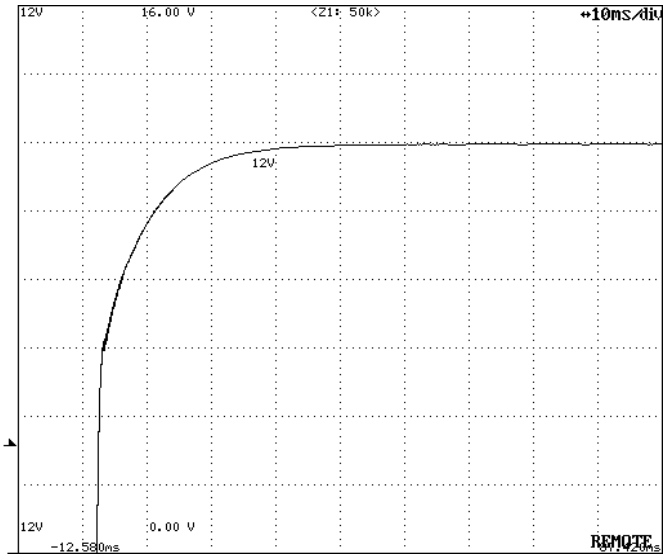
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div



All Output Start-up Sequence

Vertical Sensitivity: 2V/div
Timebase Range: 10ms/div

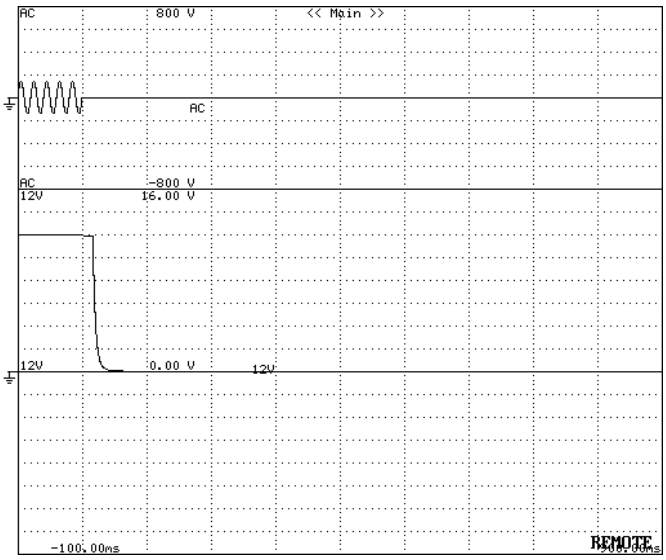


12V DC Output Rise Characteristics

Model	UZP-120-12-JB0	Temperature: 25℃
Item	Output Fall Characteristics (at AC Power OFF)	

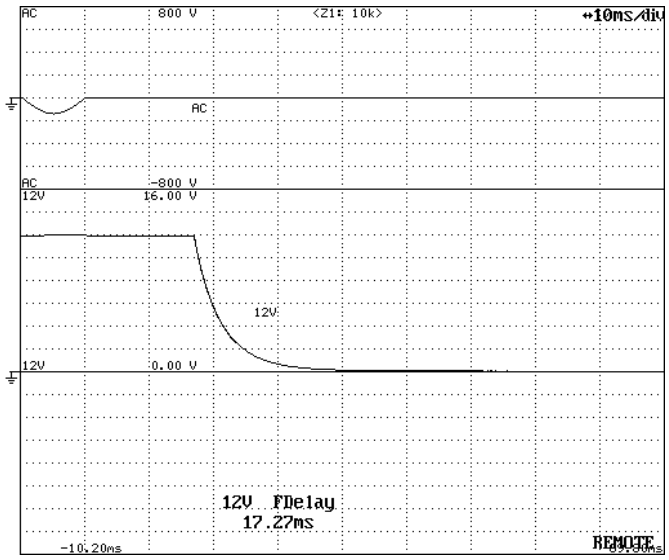
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

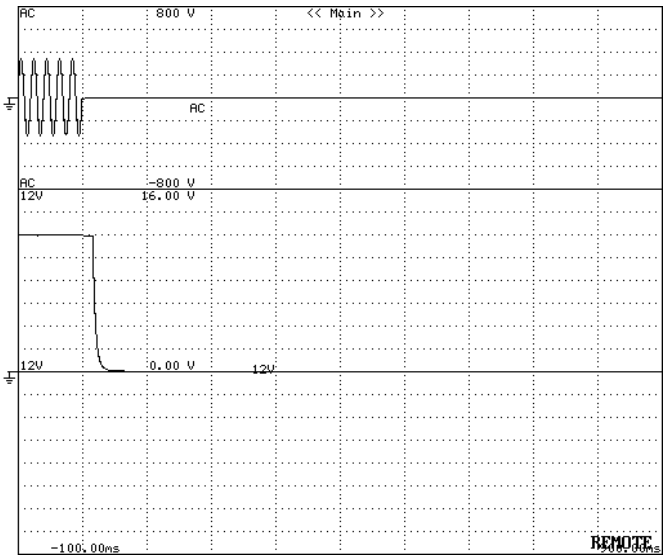
Timebase Range: 10ms/div



Output Fall Characteristics (magnification)

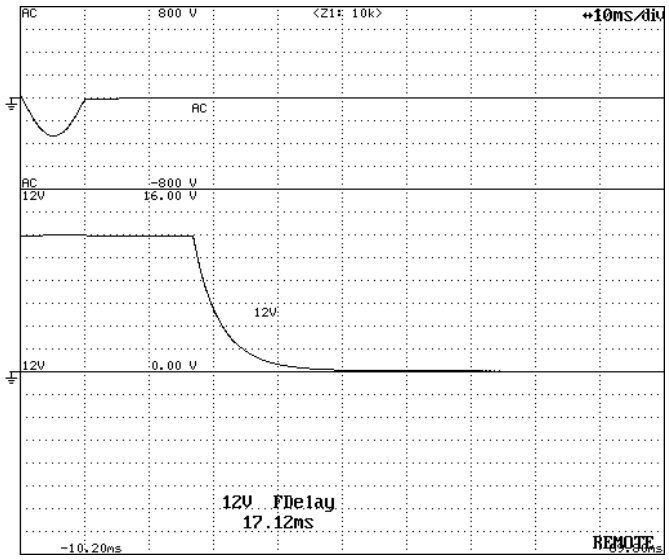
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

Timebase Range: 10ms/div

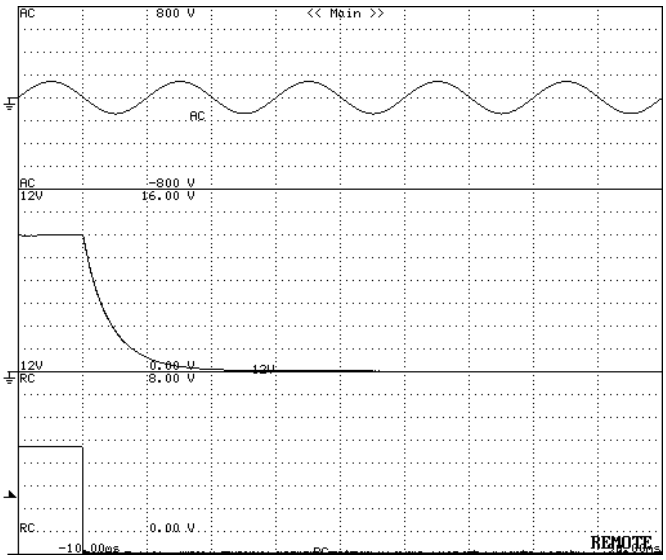


Output Fall Characteristics (magnification)

Model	UZP-120-12-JB0	Temperature: 25℃
Item	Output Fall Characteristics (at Remote OFF)	

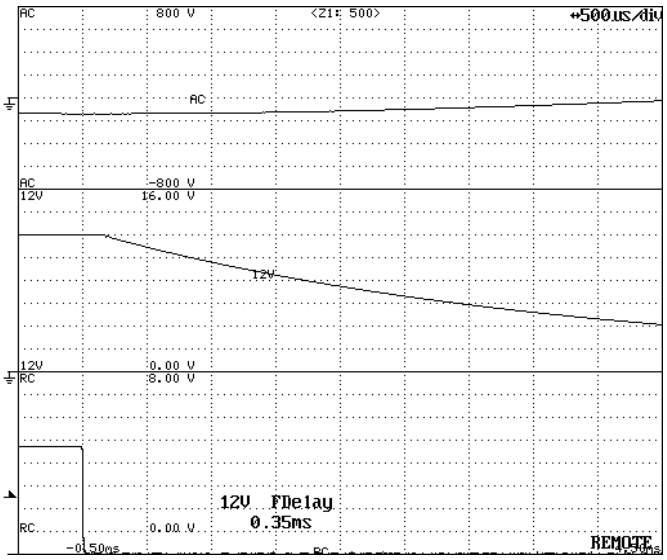
Input: 100V AC
Load: Rated Load

Timebase Range: 10ms/div



Output Fall Characteristics

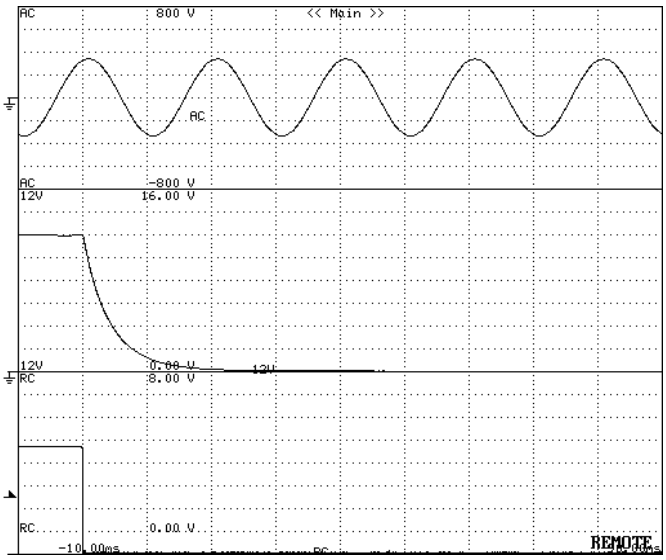
Timebase Range: 500 μs/div



Output Fall Characteristics (magnification)

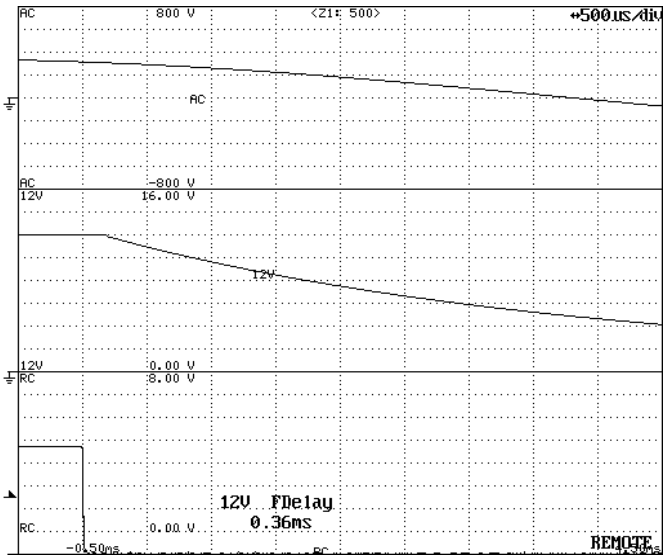
Input: 240V AC
Load: Rated Load

Timebase Range: 10ms/div



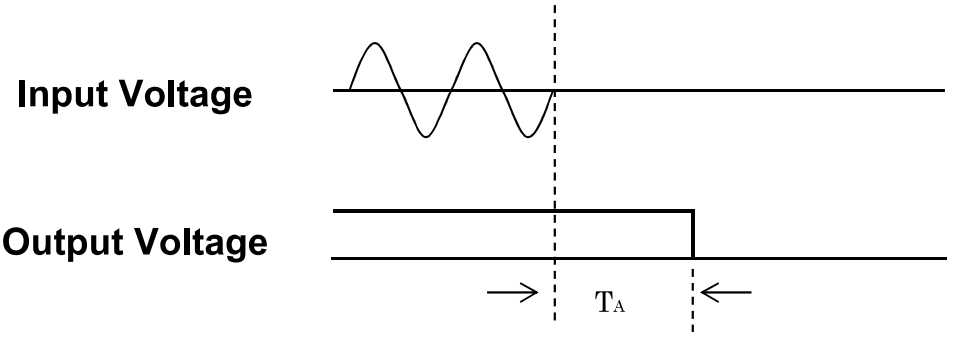
Output Fall Characteristics

Timebase Range: 500 μs/div

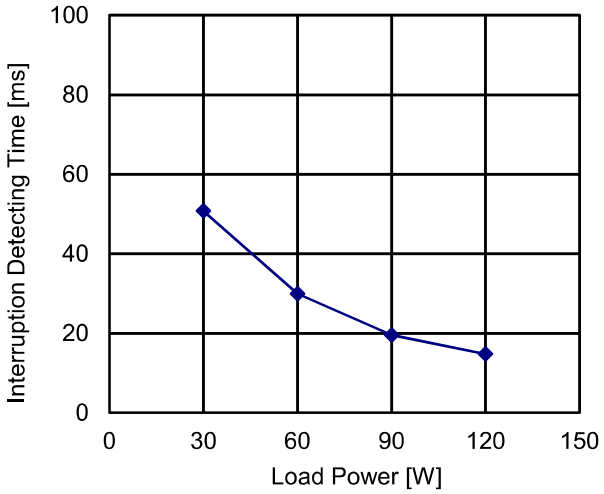


Output Fall Characteristics (magnification)

Model	UZP-120-12-JBH	Temperature: 25℃
Item	Instantaneous Interruption Compensation (by Load Power)	

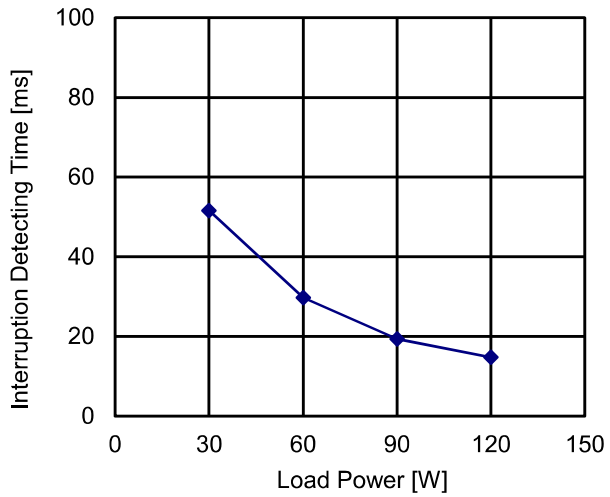


Input Voltage:100V AC



Load Power [W]	Interruption Detecting Time [ms]
	Ouput Voltage
	TA
30.0	50.8
60.0	29.9
90.0	19.6
120.0	14.8

Input Voltage:240V AC



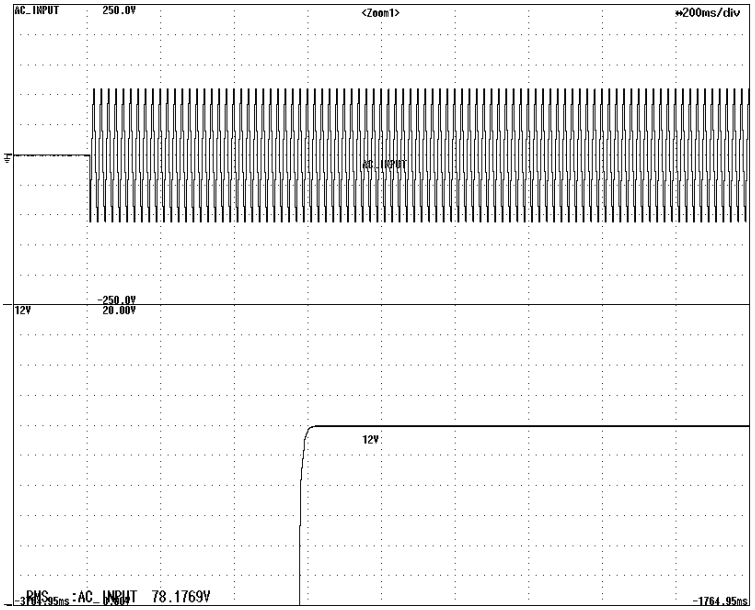
Load Power [W]	Interruption Detecting Time [ms]
	Ouput Voltage
	TA
30.0	51.7
60.0	29.7
90.0	19.4
120.0	14.8

Model	UZP-120-12-JB0	Temperature: 25℃
Item	Start-Up Voltage	

Timebase Range: 200ms/div
Load: Rated Load

AC Input

+12V

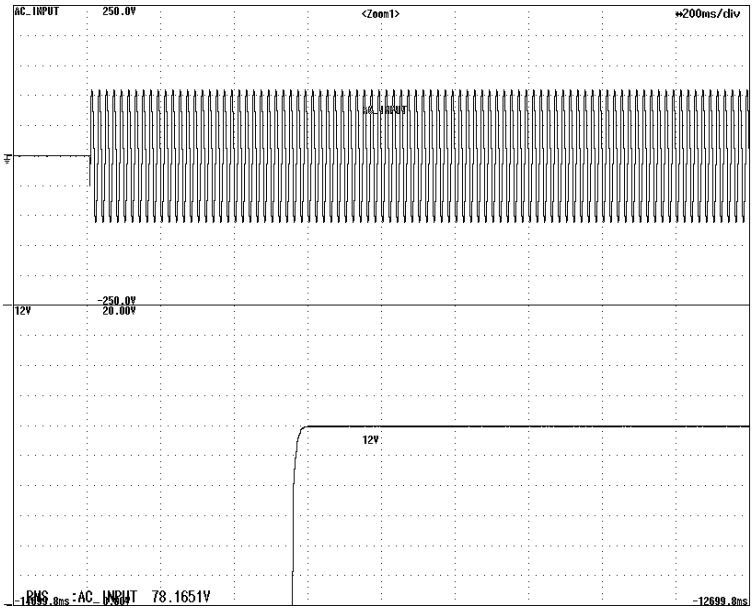


Start-up Voltage: 78.2V AC

Timebase Range: 200ms/div
Load: Minimum Load

AC Input

+12V



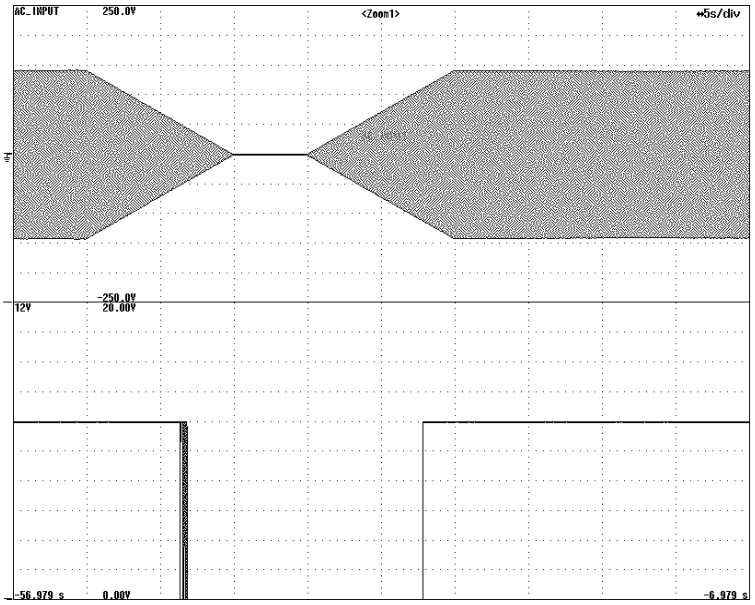
Start-up Voltage: 78.2V AC

Model	UZP-120-12-JB0	Temperature: 25℃
Item	Input Voltage Sweep Up/Down	

Timebase Range: 5s/div
Load: Rated Load

AC Input

+12V



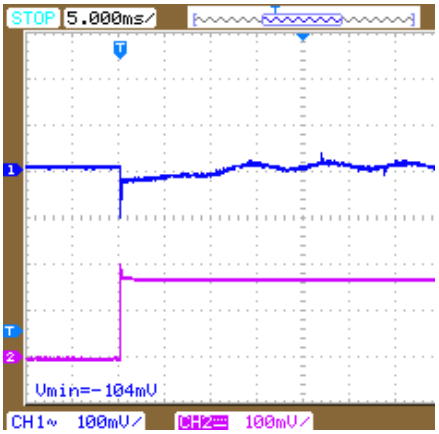
Sweep Rate: 10Vave/sec

Model	UZP-120-12-JB0	Temperature: 25℃
Item	Dynamic Load Response	

+12V DC Output Transient Response Waveforms

CH1

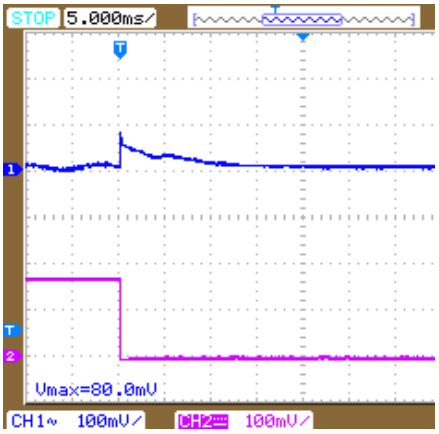
CH2



Waveform 1	
CH1	Measuring Point: DC Output Voltage
	Vertical Sensitivity: 100mV/div
CH2	Measuring Point: DC Output Current
	Vertical Sensitivity: 5A/div
Timebase Range	5ms/div
Condition	Input: 100V AC
Note: Minimum load(0A) → Rated Load(8.4A)	

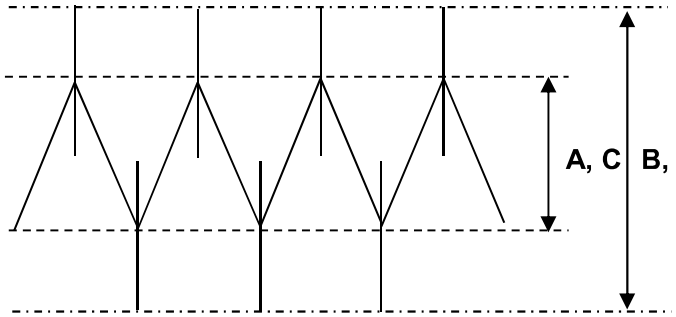
CH1

CH2



Waveform 2	
CH1	Measuring Point: DC Output Voltage
	Vertical Sensitivity: 100mV/div
CH2	Measuring Point: DC Output Current
	Vertical Sensitivity: 5A/div
Timebase Range	5ms/div
Condition	Input: 100V AC
Note: Rated Load(8.4A) → Minimum load(0A)	

Model	UZP-120-12-JB0	Load: Rated Load
Item	Ripple / Noise Voltage	

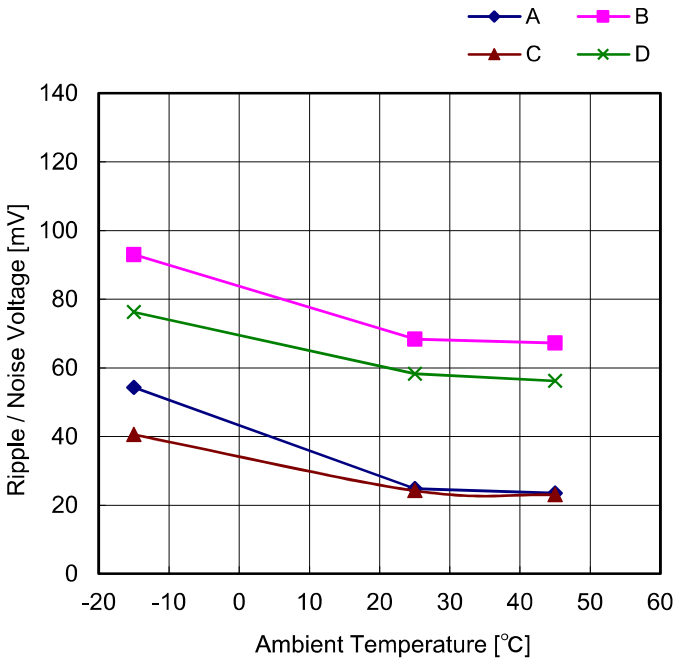


at 100V AC

A: Ripple Voltage (mV_{P-P})
B: Noise Voltage (mV_{P-P})

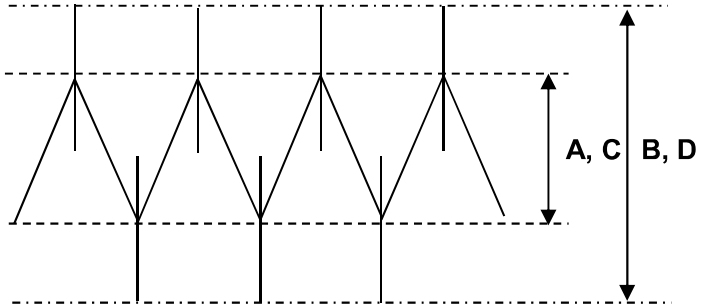
at 240V AC

C: Ripple Voltage (mV_{P-P})
D: Noise Voltage (mV_{P-P})



Ambient Temp. [℃]	Ripple / Noise Voltage [mV]			
	A	B	C	D
-15	54.3	93.0	40.5	76.2
25	24.8	68.3	24.2	58.3
45	23.5	67.2	23.0	56.2

Model	UZP-120-12-JB0	Temperature : 25℃
Item	Ripple / Noise Voltage	

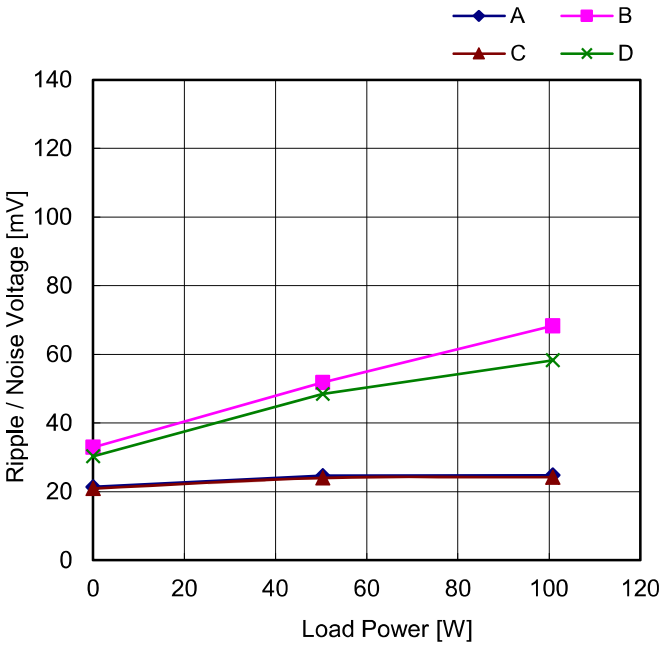


at 100V AC

A: Ripple Voltage (mVP-P)
B: Noise Voltage (mVP-P)

at 240V AC

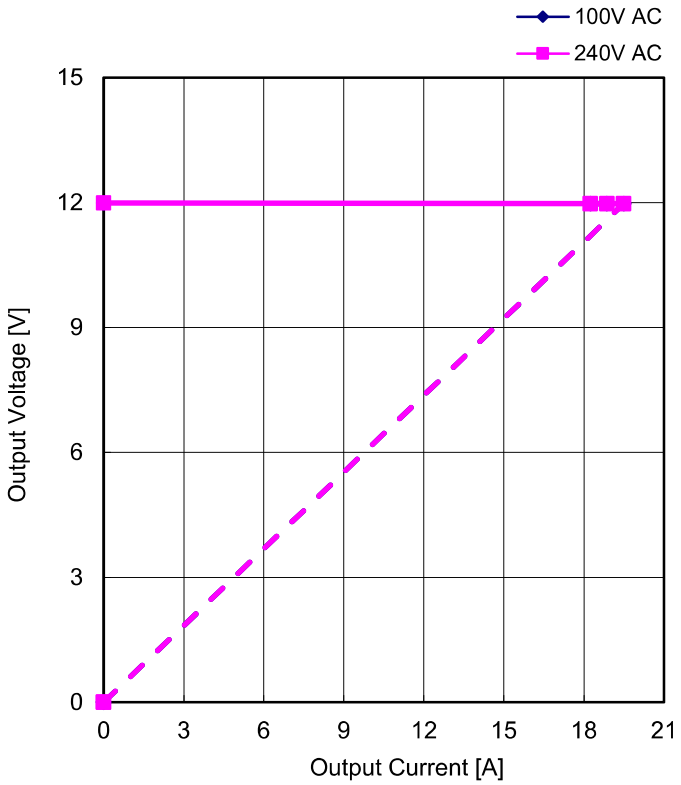
C: Ripple Voltage (mVP-P)
D: Noise Voltage (mVP-P)



Load Power [W]	Ripple / Noise Voltage [mV]			
	A	B	C	D
0	21.4	32.9	20.9	30.3
50.4	24.6	51.8	24.0	48.5
100.8	24.8	68.3	24.2	58.3

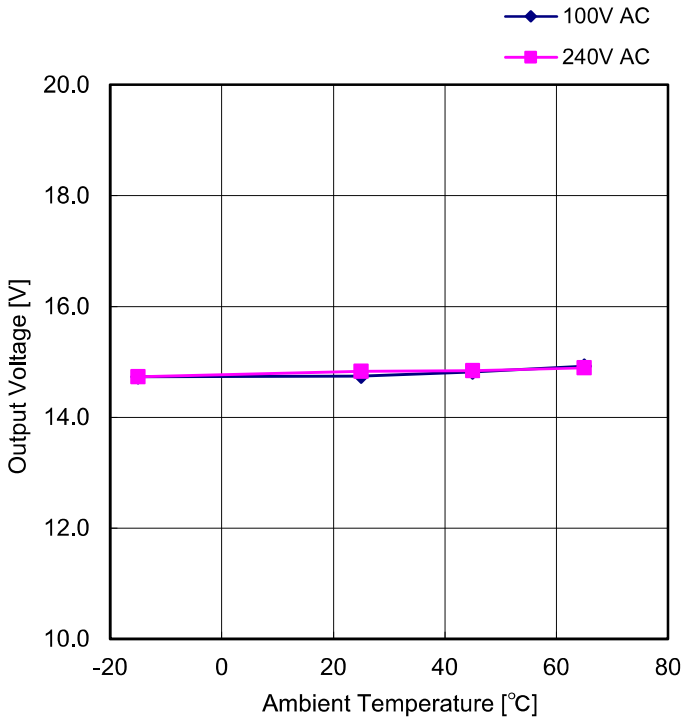
Model	UZP-120-12-JB0	Temperature: 25℃
Item	Over-Current Protection	

V-I Characteristics of 12V O.C.P



Input Voltage: 100V AC		Input Voltage: 240V AC	
Output Current [A]	Output Voltage [V]	Output Current [A]	Output Voltage [V]
0.00	11.99	0.00	11.99
18.24	11.97	18.24	11.97
18.87	11.97	18.87	11.97
19.50	11.97	19.50	11.97

Model	UZP-120-12-JBH	Load: Minimum Load
Item	Over-Voltage Protection	



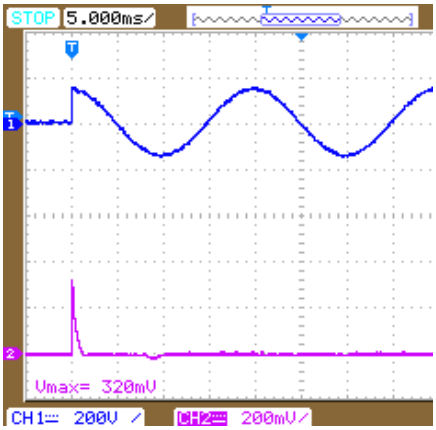
Ambient Temp. [℃]	Output Voltage [V]	
	100V AC	240V AC
-15	14.73	14.73
25	14.74	14.83
45	14.82	14.84
65	14.92	14.89

Model	UZP-120-12-JB0	Temperature: 25℃
Item	Inrush Current	Load: Rated Load

Inrush Current Waveforms

CH1

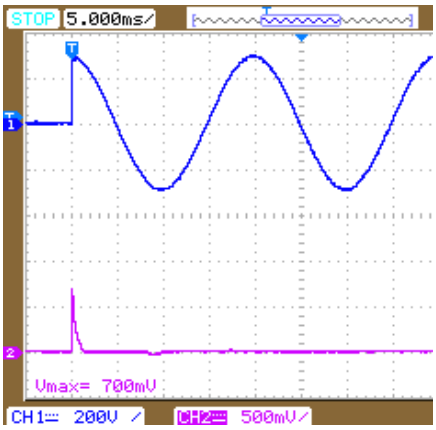
CH2



Waveform 1	
CH1	Measuring Point: AC Input Voltage
	Range: 200V/div
CH2	Measuring Point: AC Input Current
	Range: 10A/div
Timebase Range	5ms/div
Condition	Input: 100V AC
	Load: Rated Load
Note: Inrush Current: 16.0A	

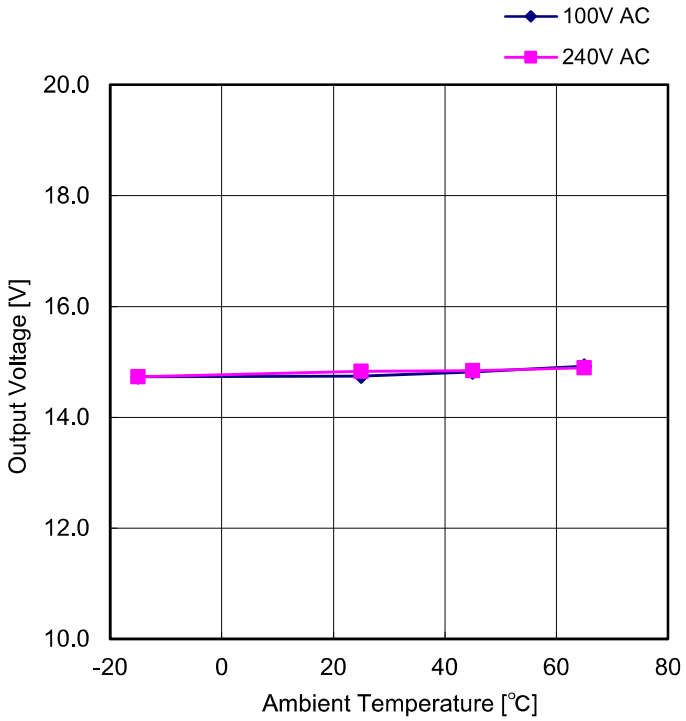
CH1

CH2



Waveform 2	
CH1	Measuring Point: AC Input Voltage
	Range: 200V/div
CH2	Measuring Point: AC Input Current
	Range: 25A/div
Timebase Range	5ms/div
Condition	Input: 200V AC
	Load: Rated Load
Note: Inrush Current: 35.0A	

Model	UZP-120-12-JBH	Load: Minimum Load
Item	Over-Voltage Protection	



Ambient Temp. [℃]	Output Voltage [V]	
	100V AC	240V AC
-15	14.73	14.73
25	14.74	14.83
45	14.82	14.84
65	14.92	14.89