

Test Data

Model Number: UZP-120-12-JBH

Model Name: DC POWER SUPPLY

INPUT: 85V – 264V AC, 50 / 60 Hz

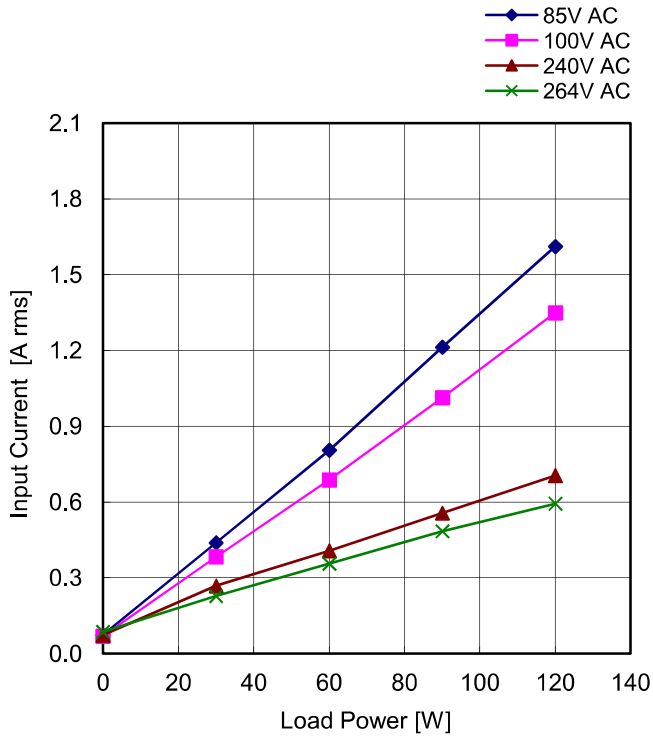
OUTPUT: 12V 10A (16.7 A_{peak})Minimum load : 0W
Rated load : 120W
Peak output power: 200.4W

Approved by : *T. Tsubouchi* (QA manager)
Designed by : *Kazuhiko Yamada* (R&D engineer)
Tested by : *Hiroyuki Watanabe* (Evaluation test engineer)

CONTENTS

1. Input Current (by Load Power)	1
入力電流(負荷特性)	
2. Efficiency	2
効率	
3. Power Factor	3
力率	
4. Line Regulation	4
静的入力変動	
5. Load Regulation	5
静的負荷変動	
6. Ambient Temperature Drift	6
周囲温度変動	
7. Output Rise Characteristics (at AC Power ON)	7
立ち上がり特性(AC 入力電圧投入時)	
8. Output Rise Characteristics (at Remote ON)	8
立ち上がり特性(リモートオン時)	
9. Output Fall Characteristics (at AC Power OFF)	9
立ち下がり特性(AC 入力電圧停止時)	
10. Output Fall Characteristics (at Remote OFF)	10
立ち下がり特性(リモートオフ時)	
11. Instantaneous Interruption Compensation (by Load Power)	11
瞬時停電保護	
12. Start-Up Voltage	12
起動電圧	
13. Input Voltage Sweep Up/Down	13
入力電圧緩動試験	
14. Dynamic Load Response	14
動的負荷変動	
15. Ripple / Noise Voltage	15-16
リップル電圧/ リップルノイズ	
16. Over-Current Protection	17
過電流保護	
17. Over-Voltage Protection	18
過電圧保護	
18. Inrush Current	19
突入電流	
19. Leakage Current	20
漏洩電流	

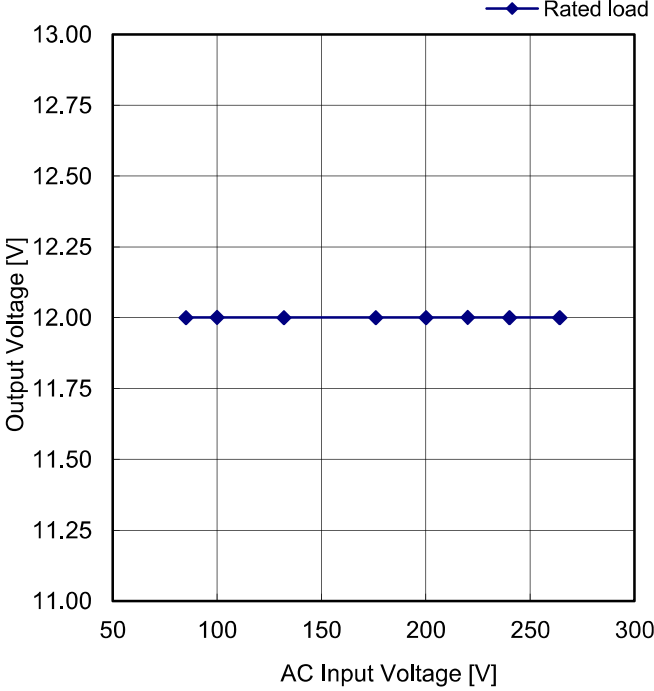
Model	UZP-120-12-JBH	Temperature: 25°C
Item	Input Current (by Load Power)	



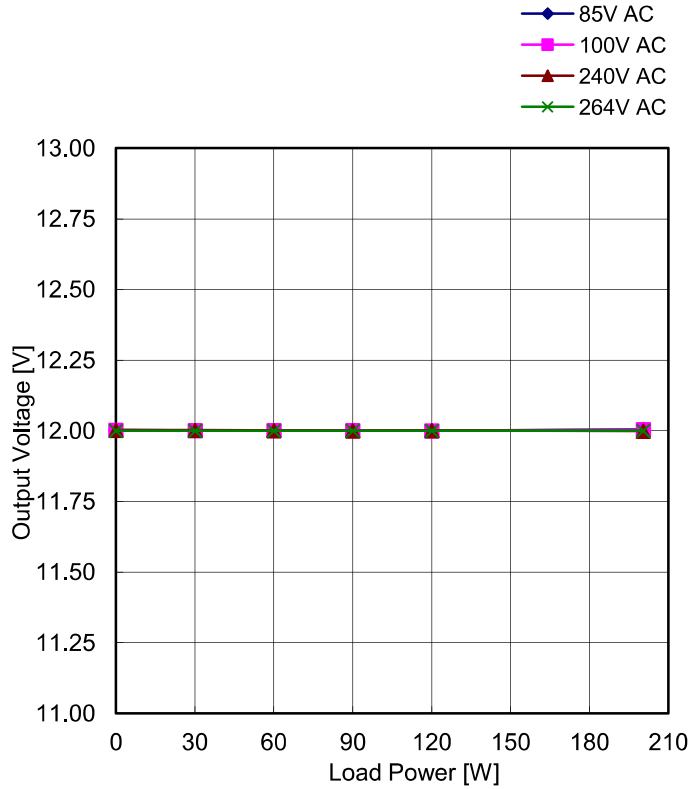
Load Power [W]	Input Current [A rms]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
0.0	0.07	0.07	0.07	0.09
30.0	0.44	0.38	0.27	0.23
60.0	0.81	0.69	0.41	0.36
90.0	1.21	1.01	0.56	0.48
120.0	1.61	1.35	0.71	0.59

Model	UZP-120-12-JBH	Temperature: 25°C																														
Item	Efficiency																															
<p>■ Efficiency(by Input Voltage)</p> <table border="1"> <thead> <tr> <th>AC Input Voltage [V]</th> <th>50% Load</th> <th>Rated Load</th> </tr> </thead> <tbody> <tr><td>85</td><td>88.83</td><td>88.19</td></tr> <tr><td>100</td><td>89.15</td><td>89.89</td></tr> <tr><td>132</td><td>90.02</td><td>91.32</td></tr> <tr><td>176</td><td>91.15</td><td>92.35</td></tr> <tr><td>200</td><td>91.42</td><td>92.71</td></tr> <tr><td>220</td><td>91.70</td><td>92.91</td></tr> <tr><td>240</td><td>91.72</td><td>93.06</td></tr> <tr><td>264</td><td>91.95</td><td>93.07</td></tr> </tbody> </table>				AC Input Voltage [V]	50% Load	Rated Load	85	88.83	88.19	100	89.15	89.89	132	90.02	91.32	176	91.15	92.35	200	91.42	92.71	220	91.70	92.91	240	91.72	93.06	264	91.95	93.07		
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Model	UZP-120-12-JBH	Temperature: 25°C																		
Item	Line Regulation																			
 <p>The graph displays the line regulation performance of the UZP-120-12-JBH power supply. The x-axis represents the AC Input Voltage in Volts (V), ranging from 50V to 300V. The y-axis represents the Output Voltage in Volts (V), ranging from 11.00V to 13.00V. A single data series, labeled 'Rated load', shows that the output voltage remains constant at 12.00V across the entire input voltage range from 85V to 264V.</p>		<table border="1"> <thead> <tr> <th>AC Input Voltage [V]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr> <td>85</td> <td>12.000</td> </tr> <tr> <td>100</td> <td>12.001</td> </tr> <tr> <td>132</td> <td>12.000</td> </tr> <tr> <td>176</td> <td>12.000</td> </tr> <tr> <td>200</td> <td>12.000</td> </tr> <tr> <td>220</td> <td>12.001</td> </tr> <tr> <td>240</td> <td>12.000</td> </tr> <tr> <td>264</td> <td>12.000</td> </tr> </tbody> </table>	AC Input Voltage [V]	Output Voltage [V]	85	12.000	100	12.001	132	12.000	176	12.000	200	12.000	220	12.001	240	12.000	264	12.000
AC Input Voltage [V]	Output Voltage [V]																			
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264	12.000																			

Model	UZP-120-12-JBH	Temperature: 25°C
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 Power [W]	Load Condition	
	Load Current [A]	
0.0	12V	
30.0	0.00	
60.0	2.50	
90.0	5.00	
120.0	7.50	
200.4	10.00	
	16.70	

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

The graph plots Output Voltage [V] on the y-axis (ranging from 11.00 to 13.00) against Ambient Temperature [°C] on the x-axis (ranging from -20 to 80). Four data series are shown, all maintaining a nearly constant output voltage of approximately 12.00V. The 85V AC series (blue diamonds) shows a slight increase from 12.00V at -15°C to 12.01V at 65°C. The 100V AC series (magenta squares) shows a slight decrease from 12.00V at -15°C to 11.99V at 45°C. The 240V AC series (red triangles) shows a slight decrease from 12.00V at -15°C to 11.99V at 45°C. The 264V AC series (green crosses) shows a slight increase from 12.00V at -15°C to 12.01V at 65°C.

Ambient Temp. (°C)	Output Voltage [V]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
-15	12.010	12.012	12.012	12.012
25	12.000	12.001	12.000	12.000
45	11.985	11.985	11.985	11.987
65	12.014	12.017	12.016	12.017

Load Condition

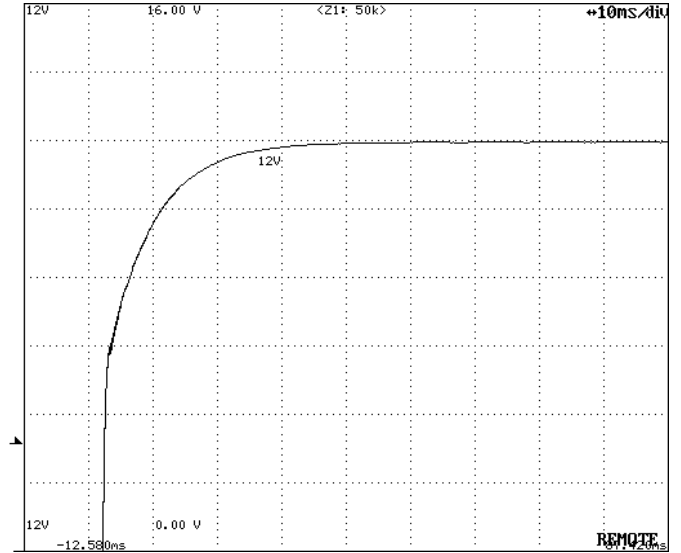
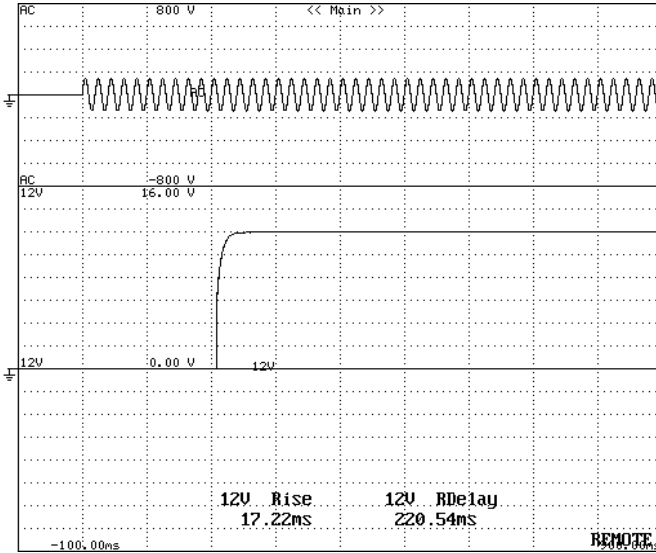
Ambient Temp. (°C)	Load Current [A]
	12V
-15	10.00
25	10.00
45	10.00
65	6.67

Model	UZP-120-12-JBH	Temperature: 25°C
Item	Output Rise Characteristics (at AC Power ON)	

Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div

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



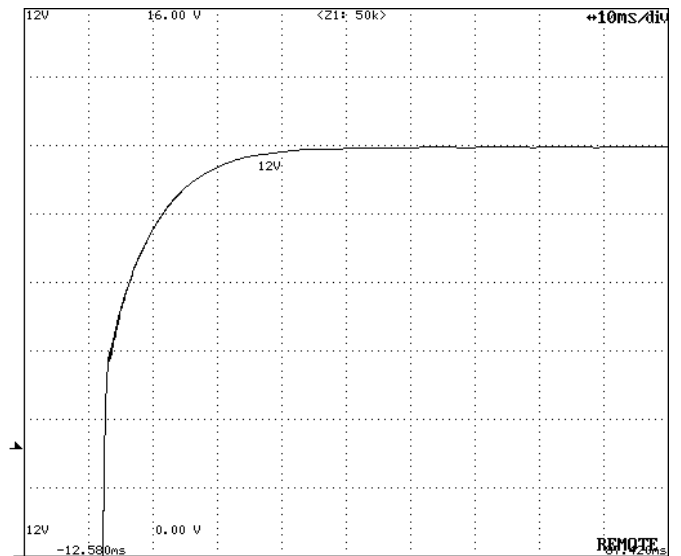
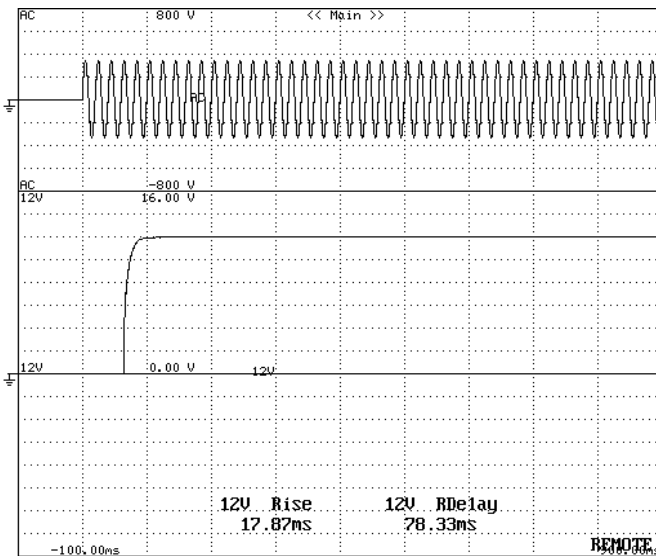
All Output Start-up Sequence

12V DC Output Rise Characteristics

Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div

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



All Output Start-up Sequence

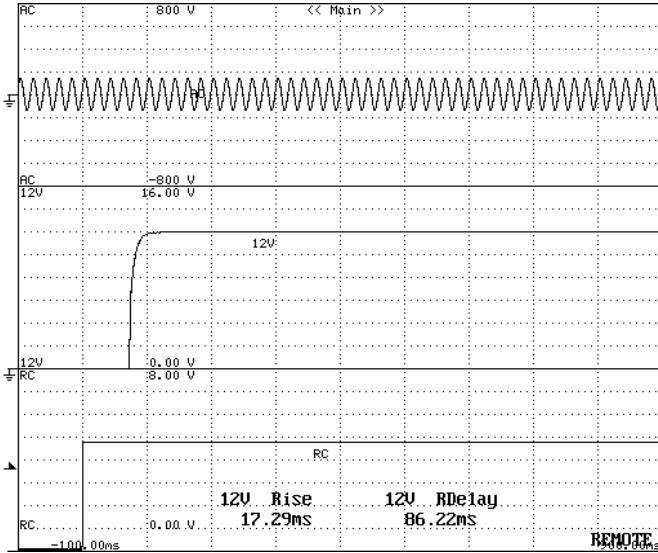
12V DC Output Rise Characteristics

Model	UZP-120-12-JBH	Temperature: 25°C
Item	Output Rise Characteristics (at Remote ON)	

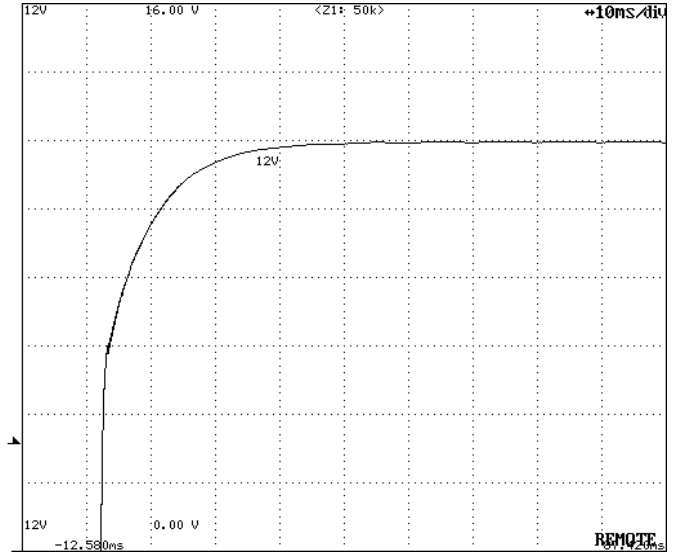
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div

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



All Output Start-up Sequence

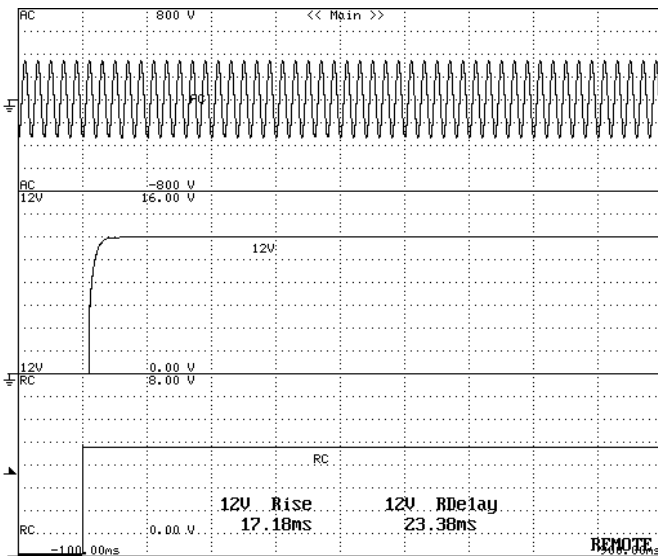


12V DC Output Rise Characteristics

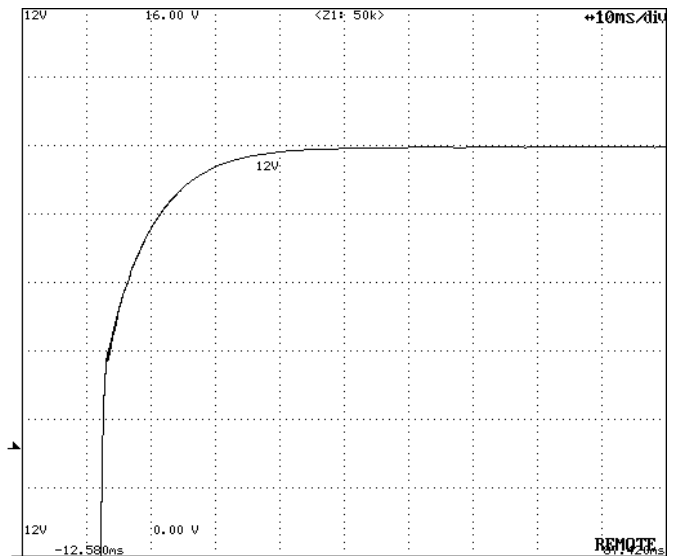
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div

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



All Output Start-up Sequence

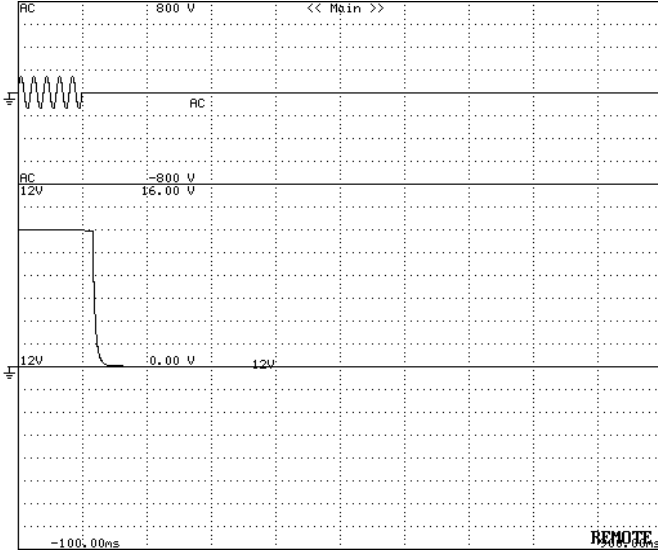


12V DC Output Rise Characteristics

Model	UZP-120-12-JBH	Temperature: 25°C
Item	Output Fall Characteristics (at AC Power OFF)	

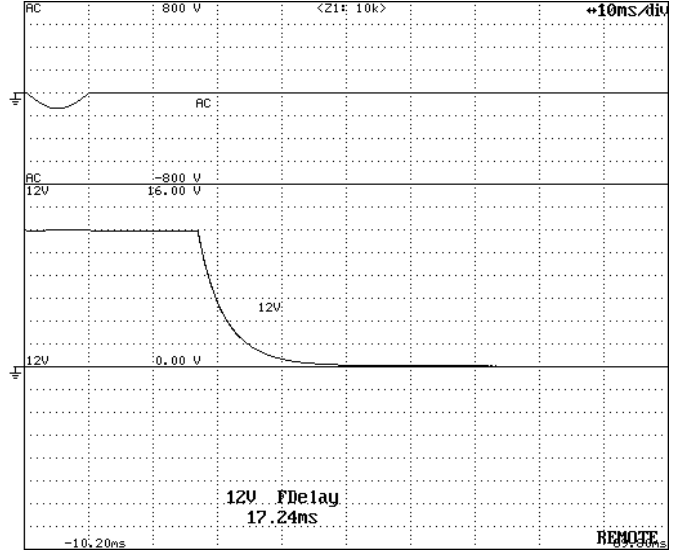
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

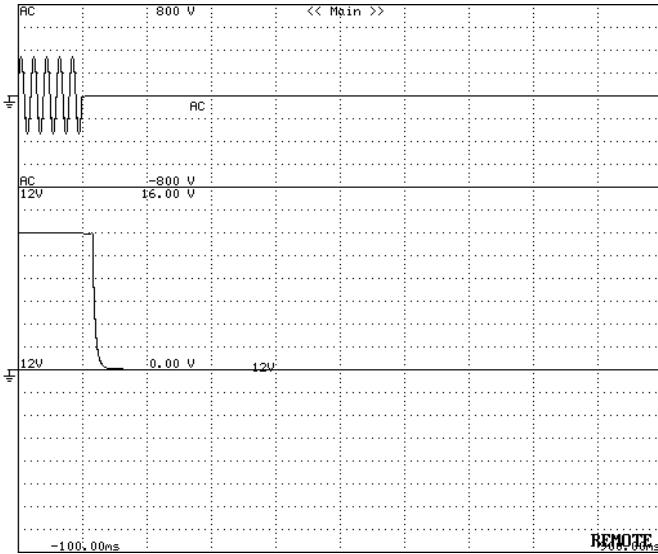
Timebase Range: 10ms/div



Output Fall Characteristics (magnification)

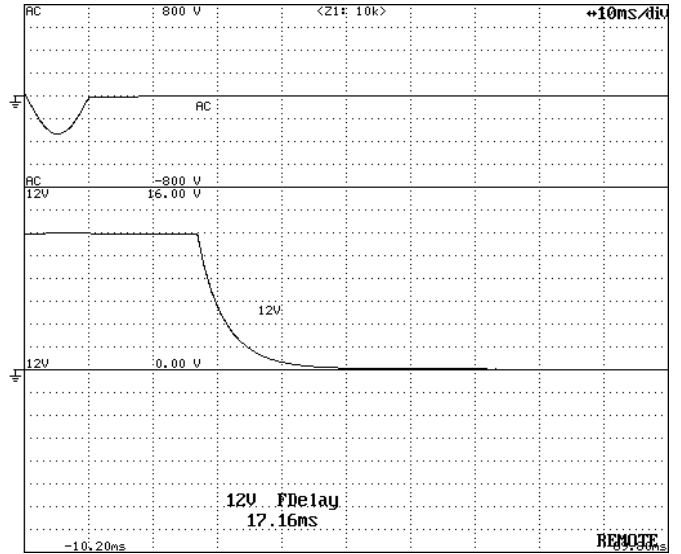
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

Timebase Range: 10ms/div

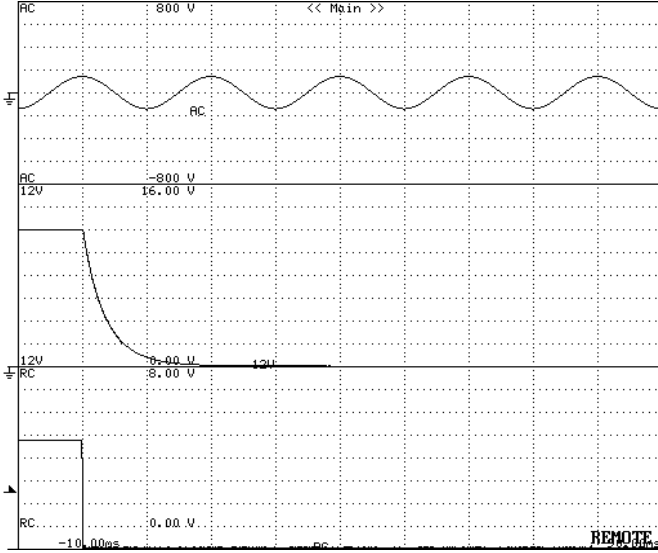


Output Fall Characteristics (magnification)

Model	UZP-120-12-JBH	Temperature: 25°C
Item	Output Fall Characteristics (at Remote OFF)	

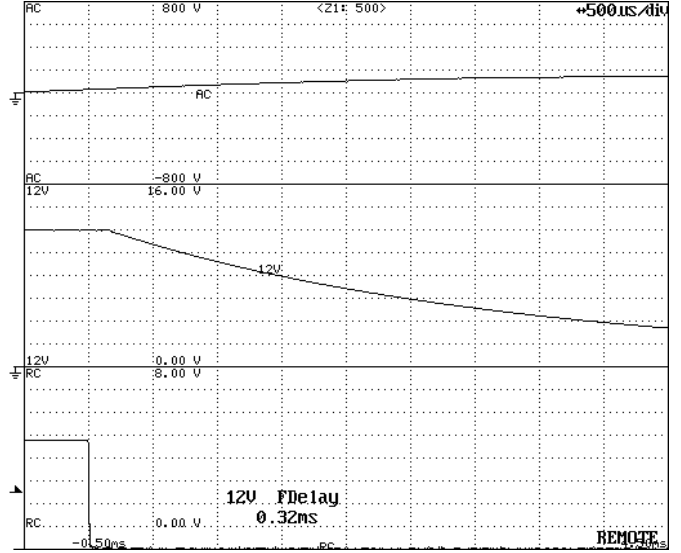
Input: 100V AC
Load: Rated Load

Timebase Range: 10ms/div



Output Fall Characteristics

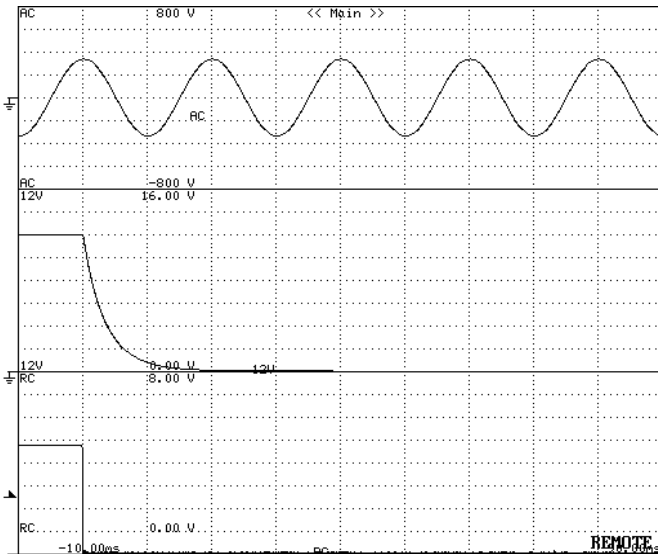
Timebase Range: 500 μs/div



Output Fall Characteristics (magnification)

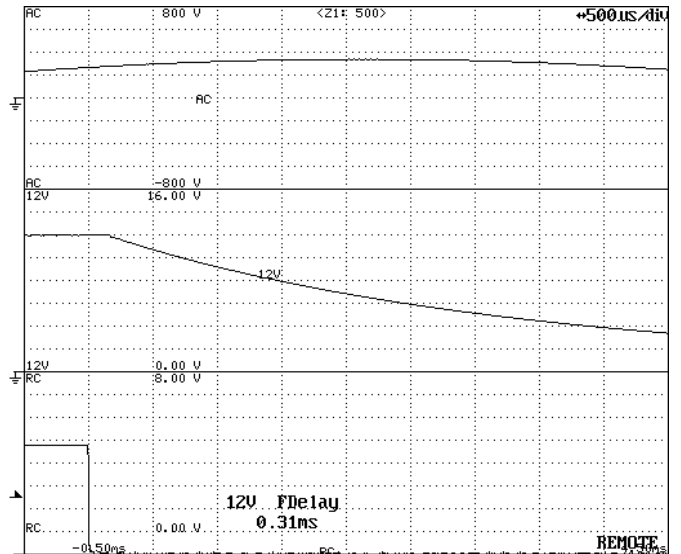
Input: 240V AC
Load: Rated Load

Timebase Range: 10ms/div



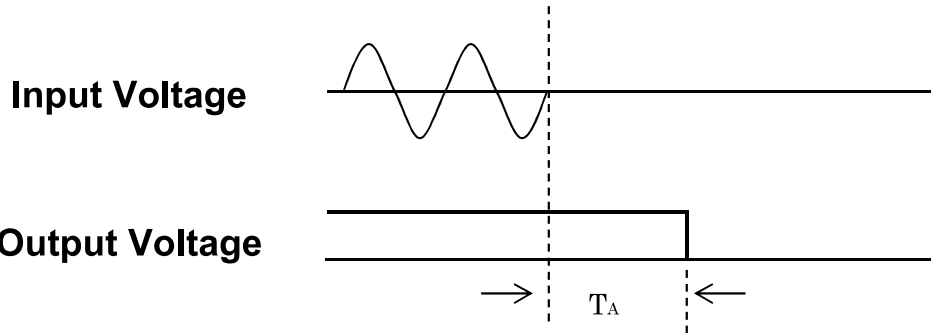
Output Fall Characteristics

Timebase Range: 500 μs/div

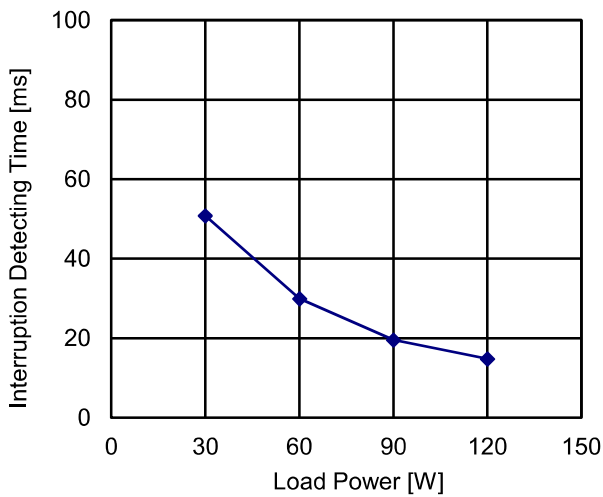


Output Fall Characteristics (magnification)

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

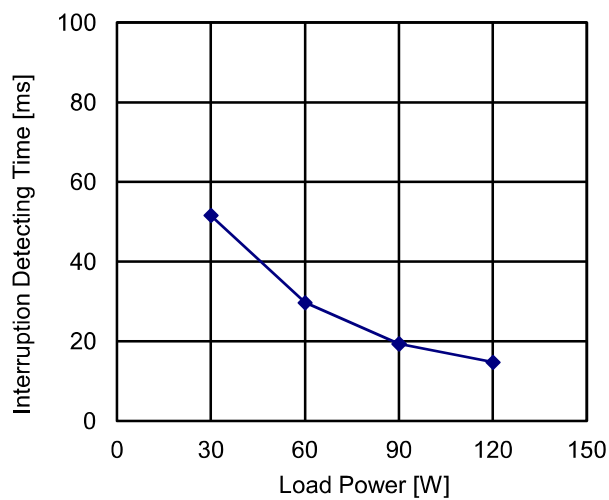


Input Voltage:100V AC



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

Input Voltage:240V AC

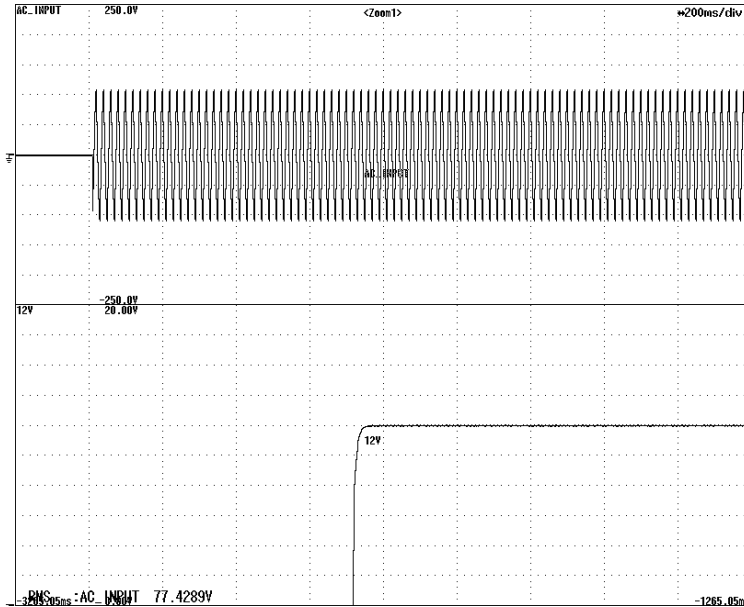


Load Power [W]	Interruption Detecting Time [ms]
	Output Voltage
	T_A
30.0	51.7
60.0	29.7
90.0	19.4
120.0	14.8

Model	UZP-120-12-JBH	Temperature: 25°C
Item	Start-Up Voltage	

**Timebase Range: 200ms/div
Load: Rated Load**

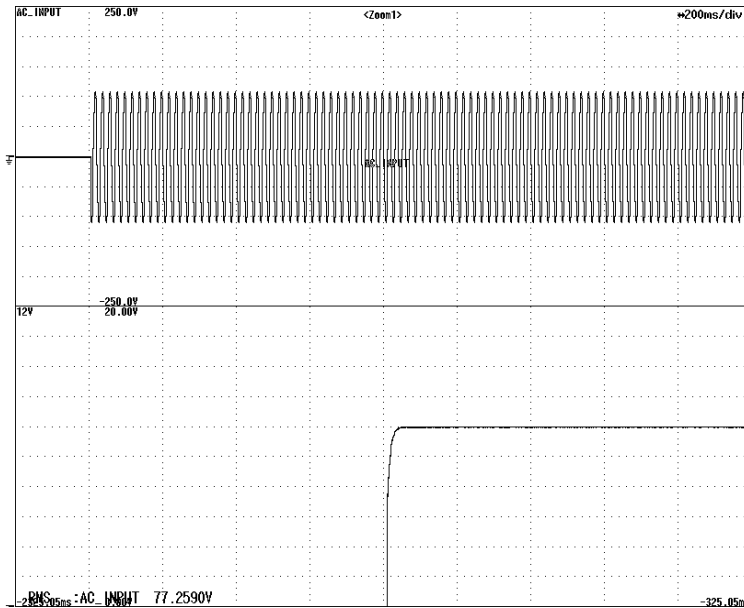
AC Input



Start-up Voltage: 77.4V AC

**Timebase Range: 200ms/div
Load: Minimum Load**

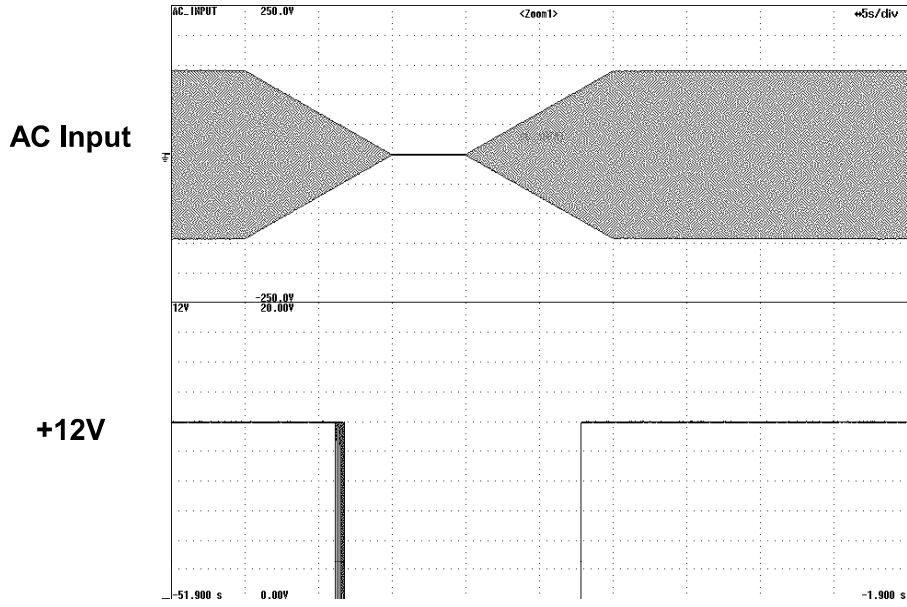
AC Input



Start-up Voltage: 77.3V AC

Model	UZF-120-12-JBH	Temperature: 25°C
Item	Input Voltage Sweep Up/Down	

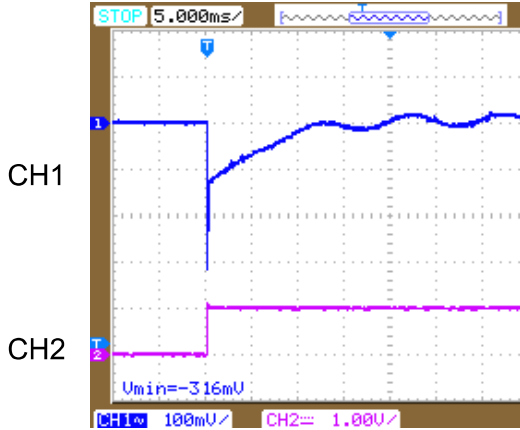
**Timebase Range: 5s/div
Load: Rated Load**



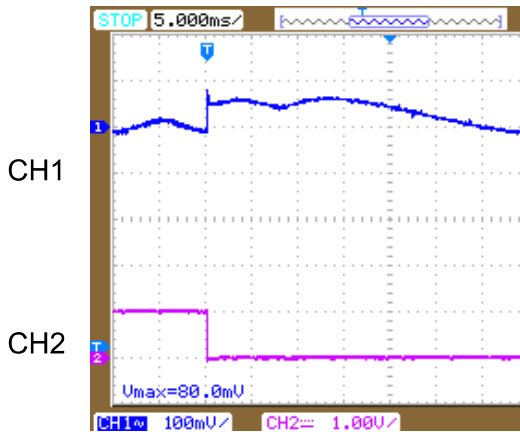
Sweep Rate: 10Vave/sec

Model	UZP-120-12-JBH	Temperature: 25°C
Item	Dynamic Load Response	

+12V DC Output Transient Response Waveforms

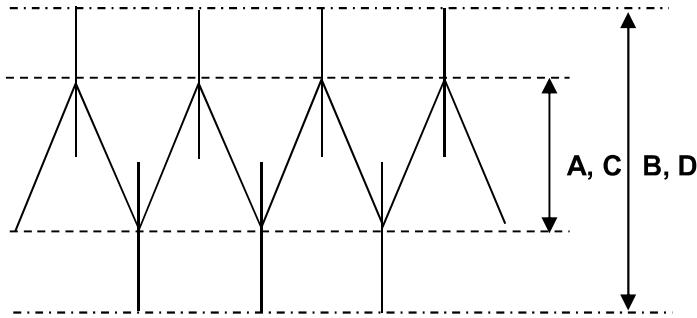


Waveform 1	
CH1	Measuring Point: DC Output Voltage
	Vertical Sensitivity: 100mV/div
CH2	Measuring Point: DC Output Current
	Vertical Sensitivity: 5A/div
Timebase Range	5ms/div
Condition	Input: 100V AC
Note: Minimum load(0A) → Rated Load(10A)	



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(10A) → Minimum load(0A)	

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

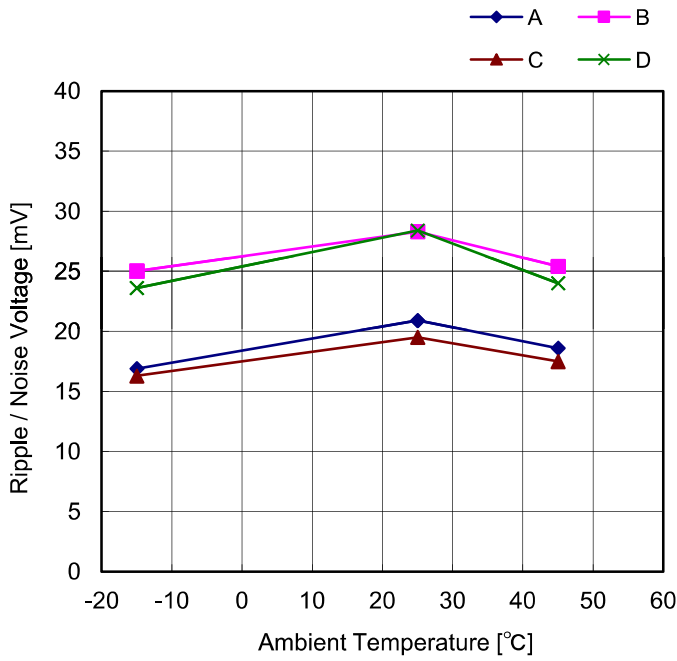


at 100V AC

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

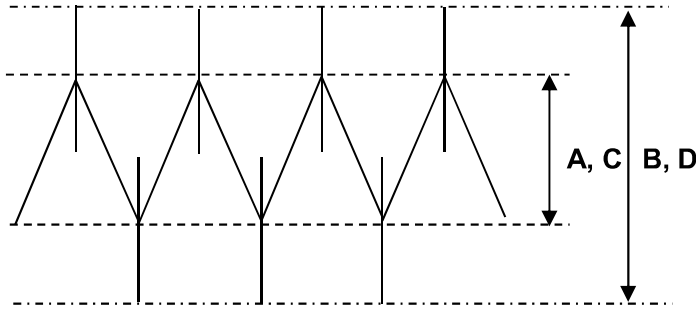
at 240V AC

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



Ambient Temp. [°C]	Ripple / Noise Voltage [mV]			
	A	B	C	D
-15	16.9	25.0	16.3	23.6
25	20.9	28.3	19.5	28.4
45	18.6	25.4	17.5	24.0

Model	UZP-120-12-JBH	Temperature : 25°C
Item	Ambient Temperature Drift	

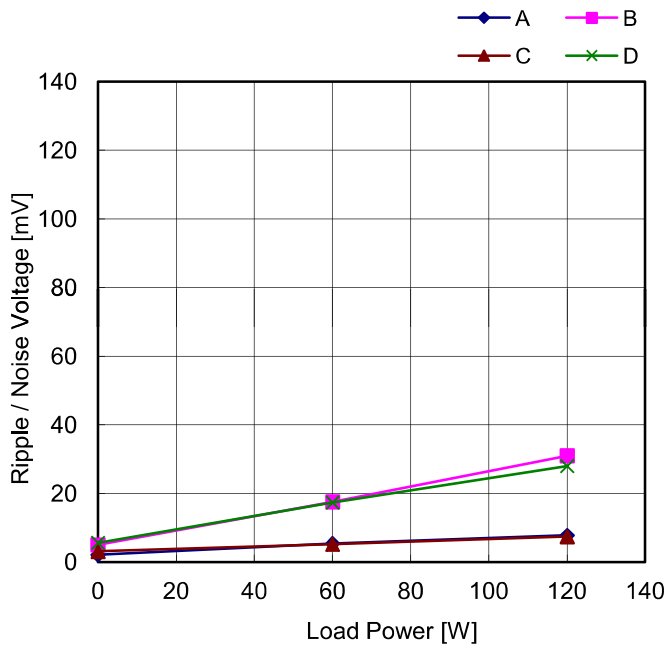


at 100V AC

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

at 240V AC

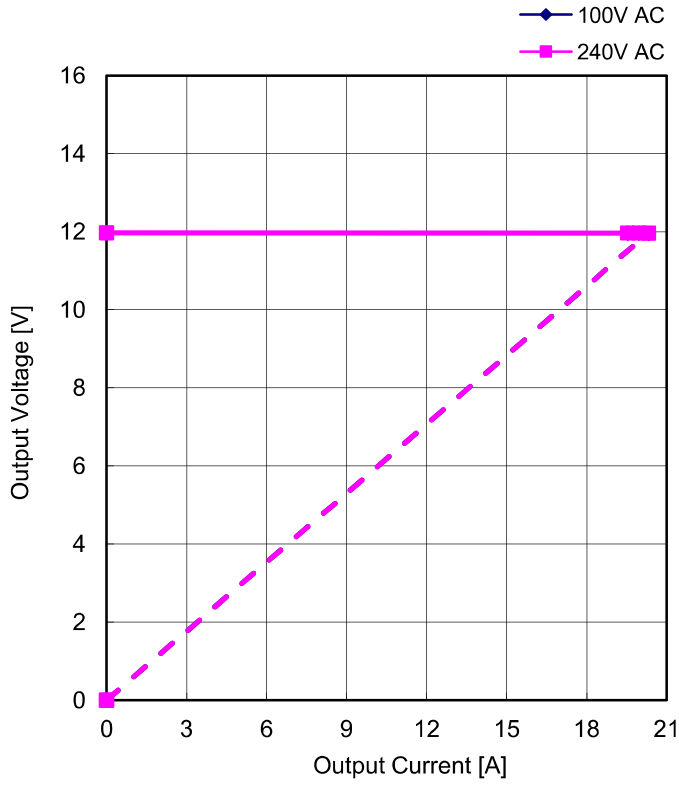
C: Ripple Voltage (mVP-P)
D: Noise Voltage (mVP-P)



Load Power [W]	Ripple / Noise Voltage [mV]			
	A	B	C	D
0	2.1	5.0	3.1	5.6
60.0	5.4	17.6	5.2	17.4
120.0	7.8	31.0	7.4	28.0

Model	UZP-120-12-JBH	Temperature: 25°C
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	11.97	0.00	11.98
19.54	11.97	19.54	11.97
19.96	11.97	19.96	11.97
20.32	11.96	20.32	11.96

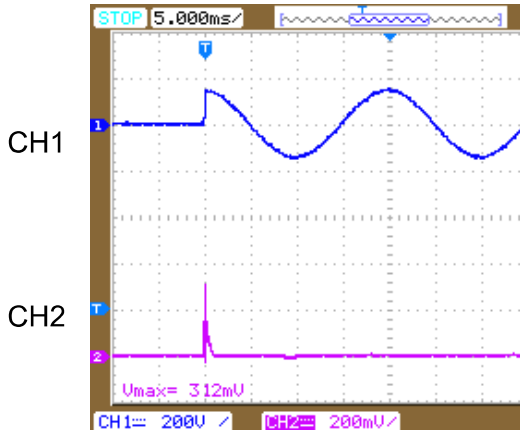
Model	UZP-120-12-JBH	Load: Minimum Load
Item	Over-Voltage Protection	

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

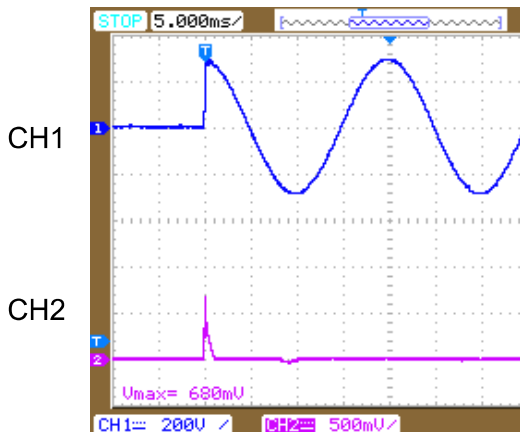
Ambient Temp. [°C]	Output Voltage [V]	
	100V AC	240V AC
-15	14.73	14.73
25	14.74	14.83
45	14.82	14.84
65	14.92	14.89

Model	UZP-120-12-JBH	Temperature: 25°C
Item	Inrush Current	Load: Rated Load

Inrush Current Waveforms



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: 15.6A	



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: 34.0A	

Model	UZP-120-12-JBH	Load: Rated Load																		
Item	Leakage Current																			
<p>The graph plots Leakage Current [mA] on the y-axis (0 to 1) against AC Input Voltage [V] on the x-axis (50 to 300). The data points show a slight upward trend in leakage current as the input voltage increases.</p>		<table border="1"> <thead> <tr> <th>AC Input Voltage [V]</th> <th>Leakage Current [mA]</th> </tr> </thead> <tbody> <tr> <td>85</td> <td>0.02</td> </tr> <tr> <td>100</td> <td>0.03</td> </tr> <tr> <td>132</td> <td>0.04</td> </tr> <tr> <td>176</td> <td>0.05</td> </tr> <tr> <td>200</td> <td>0.05</td> </tr> <tr> <td>220</td> <td>0.06</td> </tr> <tr> <td>240</td> <td>0.07</td> </tr> <tr> <td>264</td> <td>0.08</td> </tr> </tbody> </table>	AC Input Voltage [V]	Leakage Current [mA]	85	0.02	100	0.03	132	0.04	176	0.05	200	0.05	220	0.06	240	0.07	264	0.08
AC Input Voltage [V]	Leakage Current [mA]																			
85	0.02																			
100	0.03																			
132	0.04																			
176	0.05																			
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