

Test Data

Model Number: UZP-120-12-J0L

Model Name: DC POWER SUPPLY

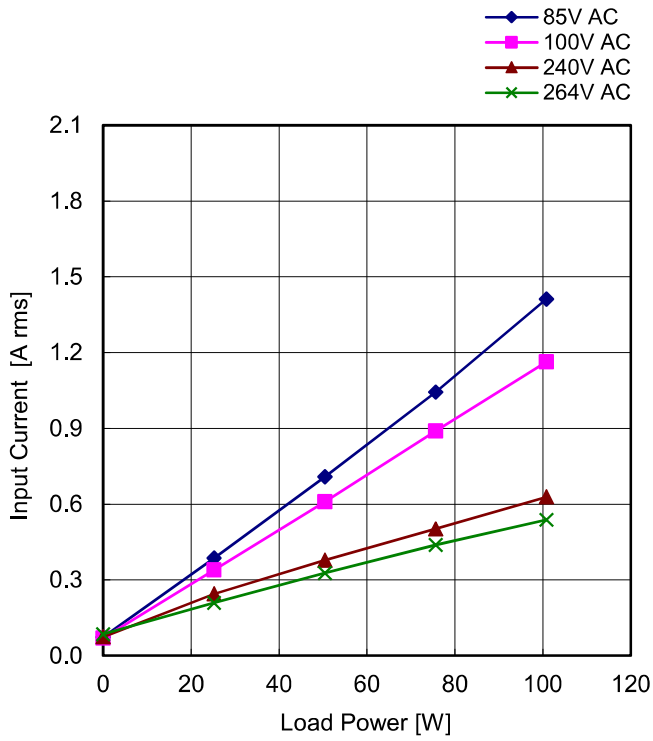
INPUT: 85V – 264V AC, 50 / 60 Hz

OUTPUT: 12 V 8.4A (16.7 A_{peak})Minimum load : 0W
Rated load :100.8W
Peak output power: 200.4WApproved by : *T. Takemoto* (QA manager)Designed by : *Kaoruhiro Yamada* (R&D engineer)Tested by : *Hiroyuki Watanabe* (Evaluation test engineer)

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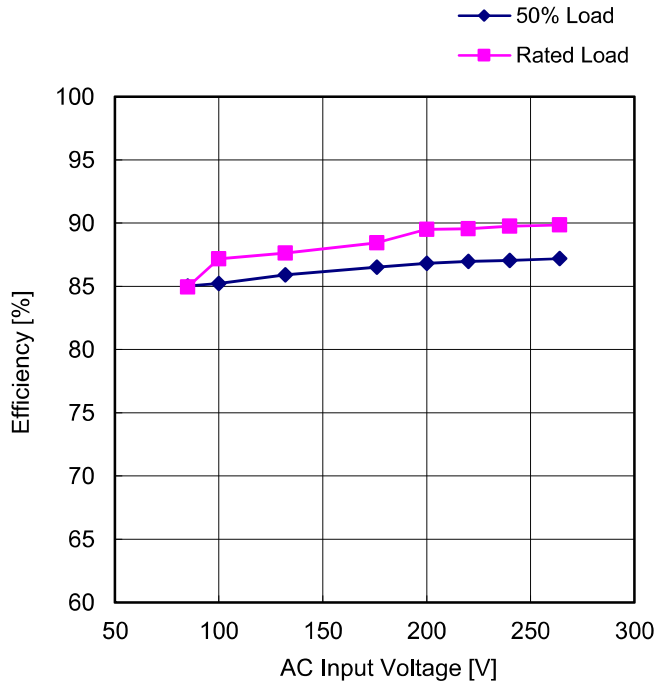
Model	UZP-120-12-J0L	Temperature: 25°C
Item	Input Current (by Load Power)	



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	0.08	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

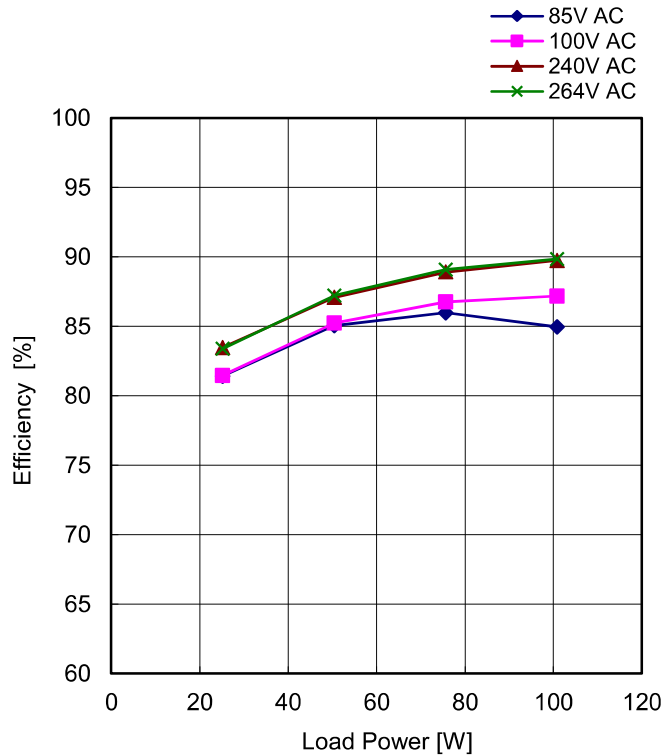
Model	UZP-120-12-J0L	Temperature: 25°C
Item	Efficiency	

■ 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)

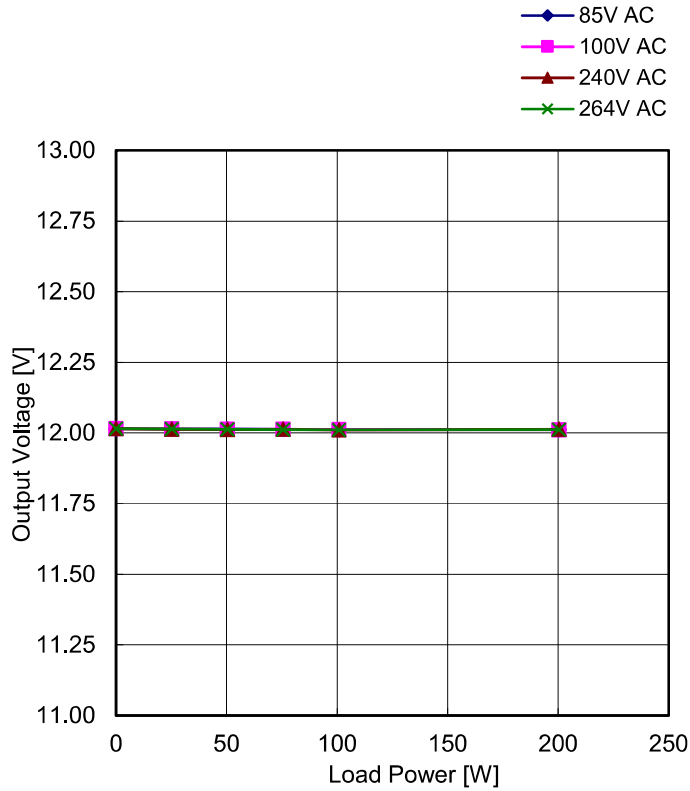


Load Power [W]	Efficiency [%]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
25.2	81.42	81.46	83.47	83.38
50.4	85.04	85.23	87.06	87.19
75.6	85.97	86.74	88.90	89.08
100.8	84.96	87.17	89.74	89.84

Model	UZP-120-12-J0L	Temperature: 25°C																														
Item	Power Factor																															
<p>■ Power Factor (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>98.1</td><td>98.6</td></tr> <tr><td>100</td><td>96.8</td><td>99.2</td></tr> <tr><td>132</td><td>92.0</td><td>97.0</td></tr> <tr><td>176</td><td>82.4</td><td>93.1</td></tr> <tr><td>200</td><td>76.9</td><td>89.5</td></tr> <tr><td>220</td><td>72.1</td><td>86.7</td></tr> <tr><td>240</td><td>68.9</td><td>83.0</td></tr> <tr><td>264</td><td>67.1</td><td>78.9</td></tr> </tbody> </table>				AC Input Voltage [V]	50% Load	Rated Load	85	98.1	98.6	100	96.8	99.2	132	92.0	97.0	176	82.4	93.1	200	76.9	89.5	220	72.1	86.7	240	68.9	83.0	264	67.1	78.9		
AC Input Voltage [V]	50% Load	Rated Load																														
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<p>■ Power Factor (by Load Power)</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Power Factor [%]</th> </tr> <tr> <th>Input Voltage 85V AC</th> <th>Input Voltage 100V AC</th> <th>Input Voltage 240V AC</th> <th>Input Voltage 264V AC</th> </tr> </thead> <tbody> <tr><td>30.0</td><td>94.2</td><td>91.0</td><td>62.1</td><td>54.8</td></tr> <tr><td>60.0</td><td>98.1</td><td>96.8</td><td>76.9</td><td>67.1</td></tr> <tr><td>75.6</td><td>98.9</td><td>97.9</td><td>85.0</td><td>73.3</td></tr> <tr><td>100.8</td><td>98.6</td><td>99.2</td><td>89.5</td><td>78.9</td></tr> </tbody> </table>				Load Power [W]	Power Factor [%]				Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC	30.0	94.2	91.0	62.1	54.8	60.0	98.1	96.8	76.9	67.1	75.6	98.9	97.9	85.0	73.3	100.8	98.6	99.2	89.5	78.9
Load Power [W]	Power Factor [%]																															
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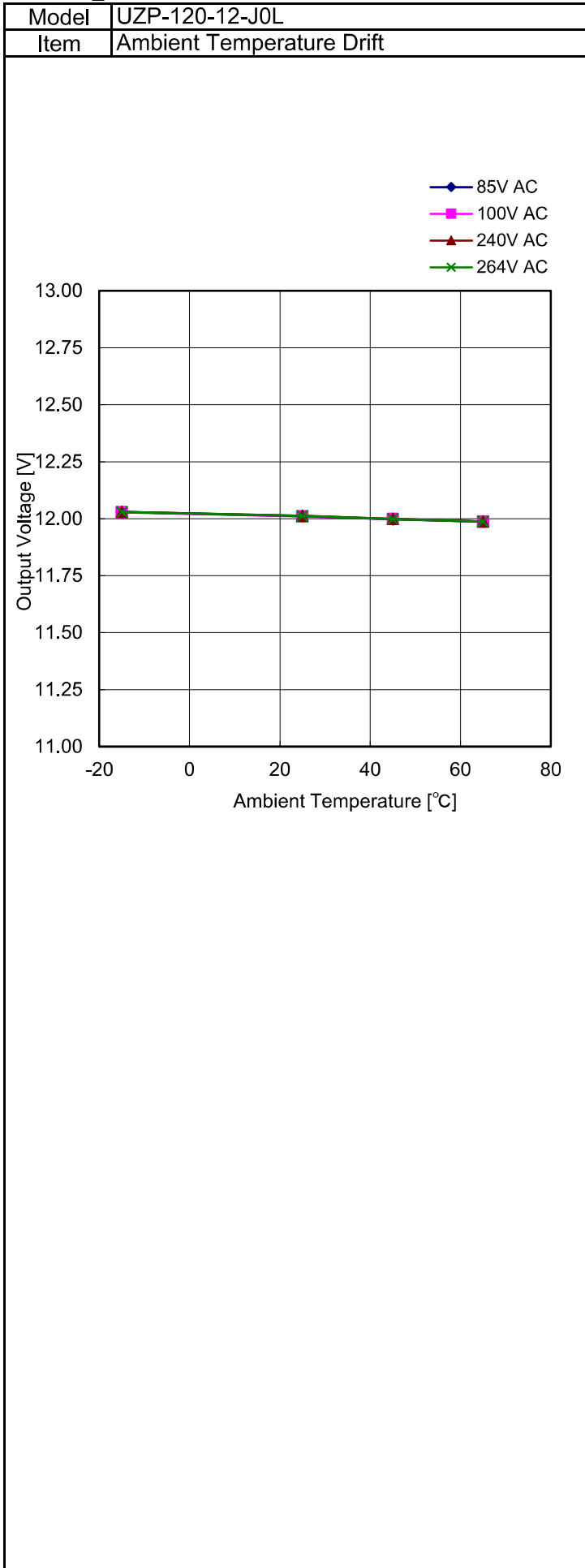
Model	UZP-120-12-J0L	Temperature: 25°C																		
Item	Line Regulation																			
<p>The graph plots Output Voltage [V] on the y-axis (ranging from 11.00 to 13.00) against AC Input Voltage [V] on the x-axis (ranging from 50 to 300). A single data series labeled 'Rated load' is shown as a horizontal line with diamond markers at approximately 12.0V. The data points correspond to the table on the right.</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>12.011</td> </tr> <tr> <td>100</td> <td>12.010</td> </tr> <tr> <td>132</td> <td>12.011</td> </tr> <tr> <td>176</td> <td>12.011</td> </tr> <tr> <td>200</td> <td>12.011</td> </tr> <tr> <td>220</td> <td>12.012</td> </tr> <tr> <td>240</td> <td>12.012</td> </tr> <tr> <td>264</td> <td>12.012</td> </tr> </tbody> </table>	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
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-J0L	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	12.014	12.015	12.015	12.015
25.2	12.014	12.014	12.013	12.014
50.4	12.014	12.013	12.012	12.013
75.6	12.013	12.013	12.013	12.012
100.8	12.012	12.012	12.010	12.011
200.4	12.012	12.011	12.013	12.012

Load Power [W]	Load Condition	
	Load Current [A]	
0.0	12V	
25.2	0.00	
50.4	2.10	
75.6	4.20	
100.8	6.30	
200.4	8.40	
	16.70	



Ambient Temp. (°C)	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

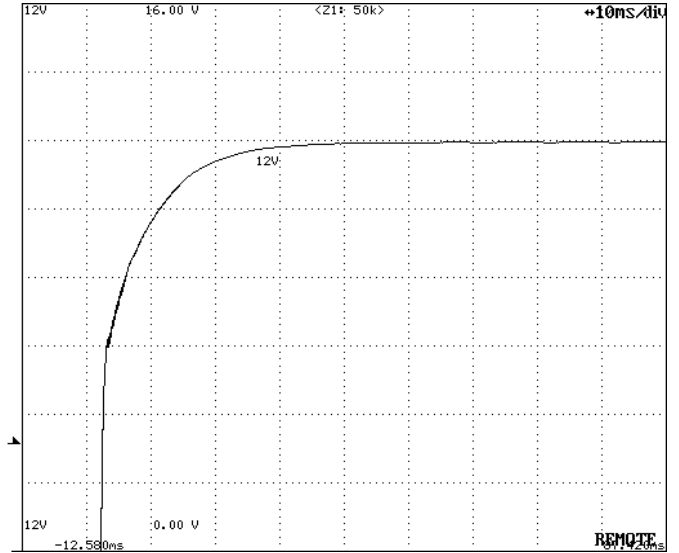
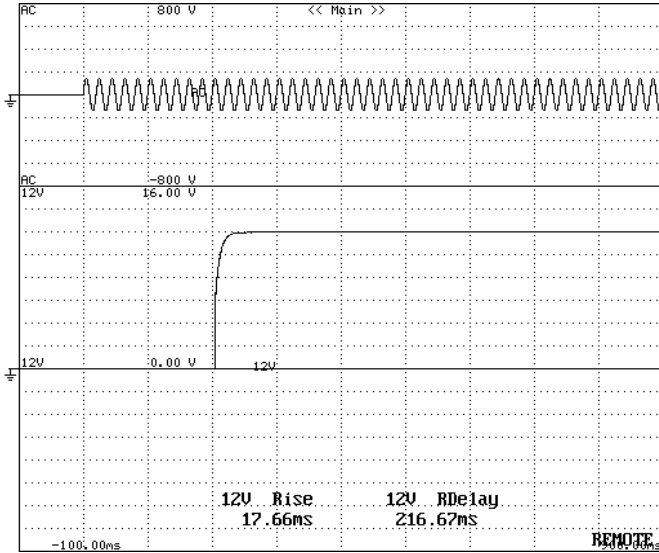
Ambient Temp. (°C)	Load Current [A]
	12V
-15	8.40
25	8.40
45	8.40
65	5.83

Model	UZP-120-12-J0L	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



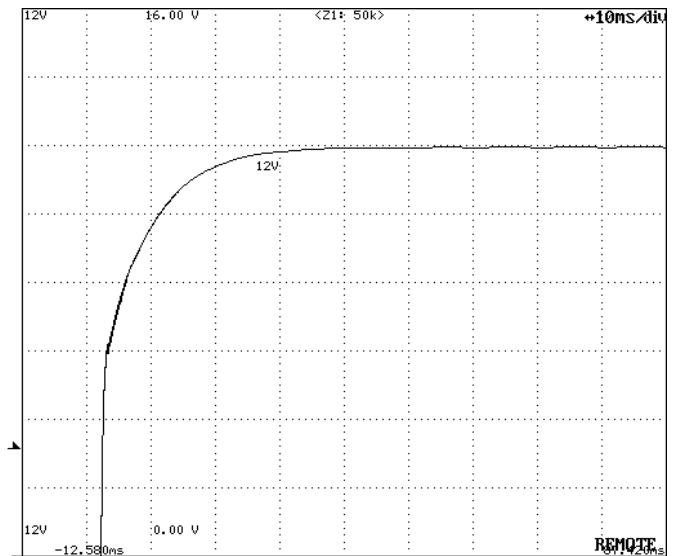
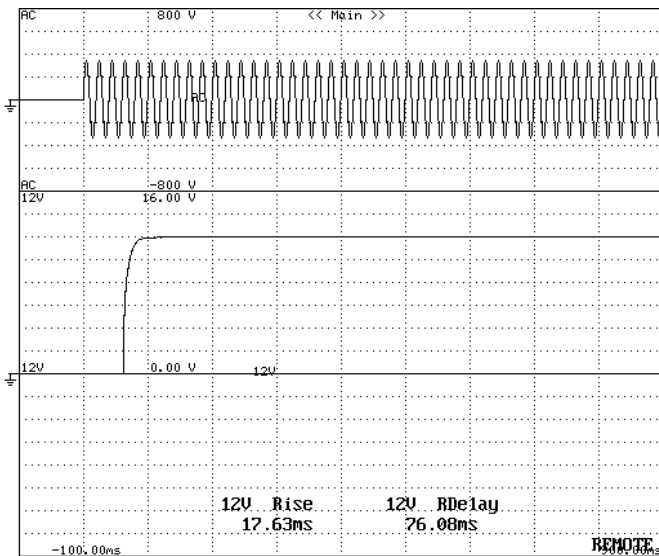
All Output Start-up Sequence

12V DC Output Rise Characteristics

Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div

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



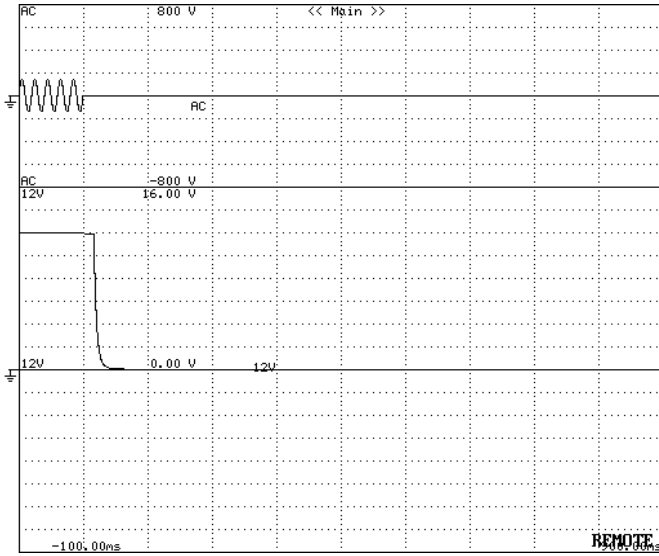
All Output Start-up Sequence

12V DC Output Rise Characteristics

Model	UZP-120-12-J0L	Temperature: 25°C
Item	Output Fall Characteristics (at AC Power OFF)	

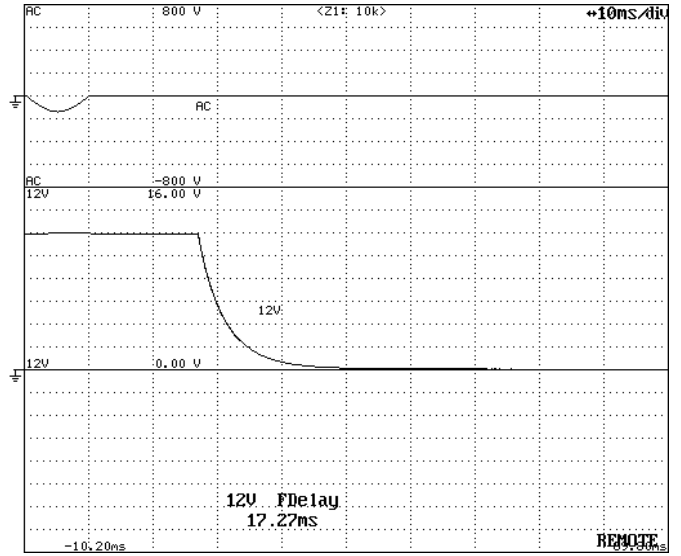
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

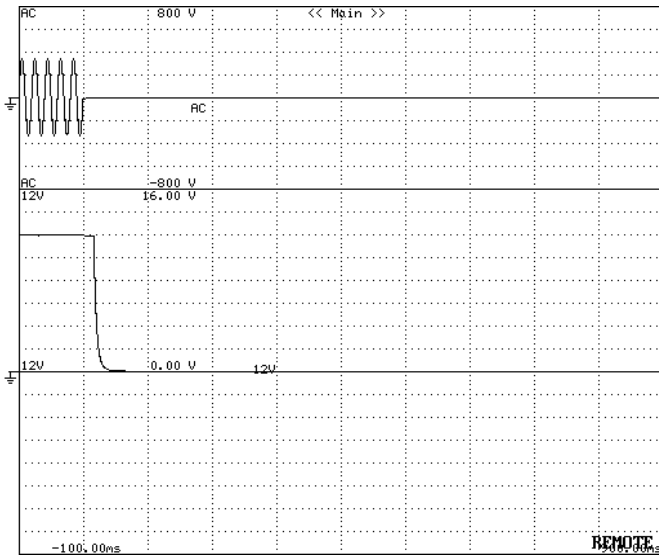
Timebase Range: 10ms/div



Output Fall Characteristics (magnification)

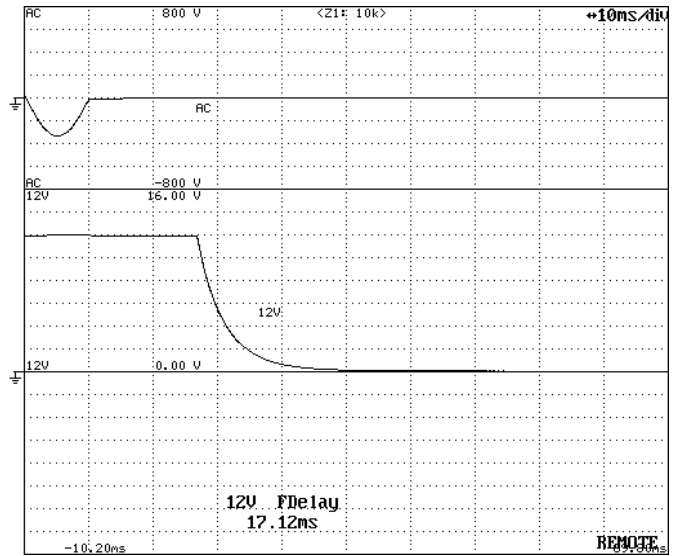
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

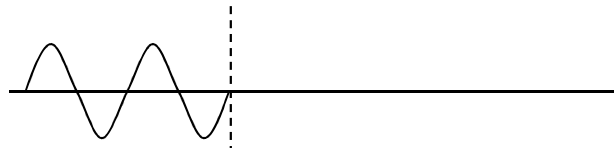
Timebase Range: 10ms/div



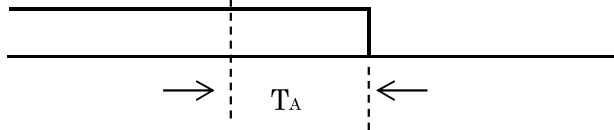
Output Fall Characteristics (magnification)

Model	UZP-120-12-J0L	Temperature: 25°C
Item	Instantaneous Interruption Compensation (by Load Power)	

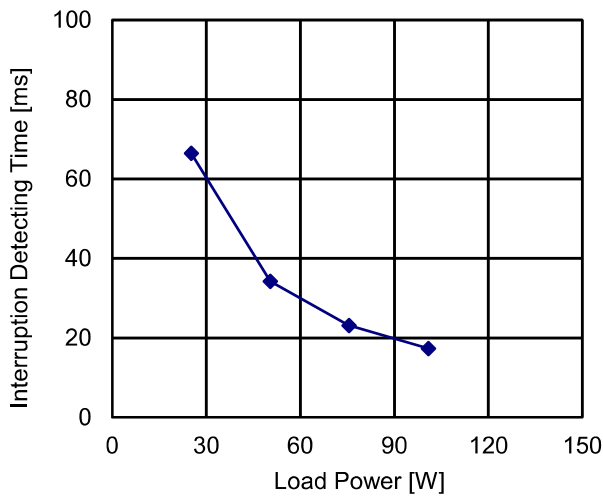
Input Voltage



Output Voltage

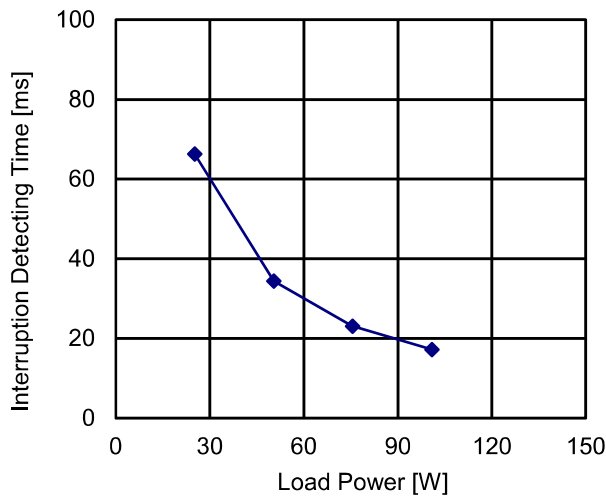


Input Voltage:100V AC



Load Power [W]	Interruption Detecting Time [ms]
	Output Voltage
	T _A
25.2	66.5
50.4	34.3
75.6	23.2
100.8	17.4

Input Voltage:240V AC

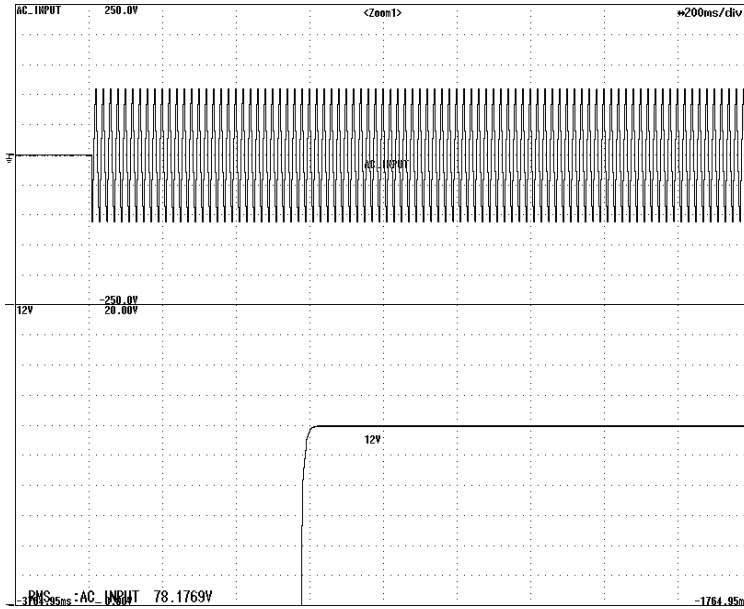


Load Power [W]	Interruption Detecting Time [ms]
	Output Voltage
	T _A
25.2	66.3
50.4	34.4
75.6	23.1
100.8	17.3

Model	UZP-120-12-J0L	Temperature: 25°C
Item	Start-Up Voltage	

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

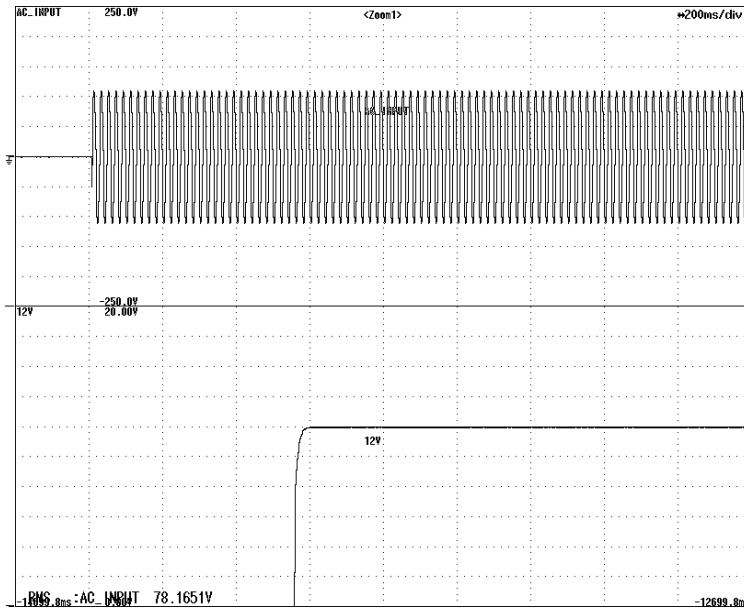
AC Input



Start-up Voltage: 78.2V AC

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

AC Input

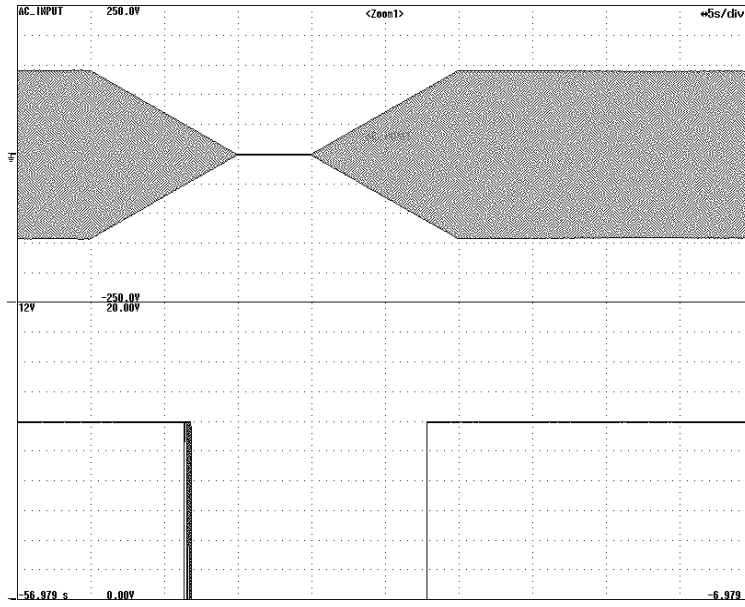


Start-up Voltage: 78.2V AC

Model	UZF-120-12-J0L	Temperature: 25°C
Item	Input Voltage Sweep Up/Down	

Timebase Range: 5s/div
Load: Rated Load

AC Input

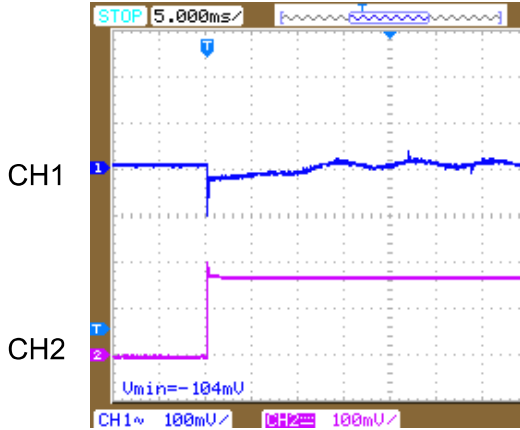


+12V

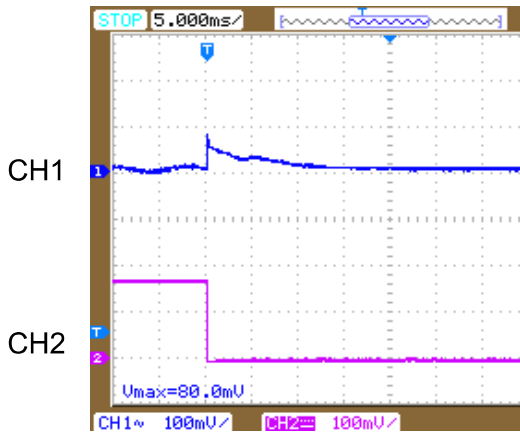
Sweep Rate: 10Vave/sec

Model	UZP-120-12-J0L	Temperature: 25°C
Item	Dynamic Load Response	

+12V DC Output Transient Response Waveforms

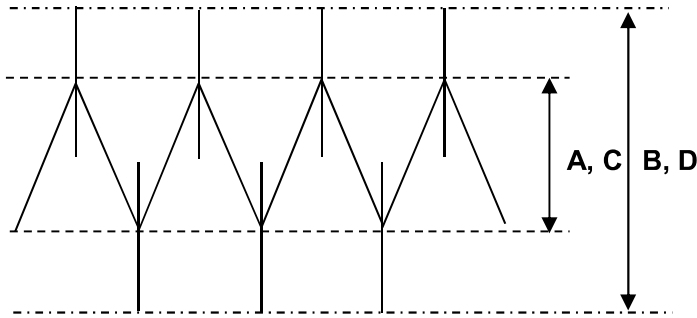


Waveform 1	
CH1	Measuring Point: DC Output Voltage
	Vertical Sensitivity: 100mV/div
CH2	Measuring Point: DC Output Current
	Vertical Sensitivity: 5A/div
Timebase Range	5ms/div
Condition	Input: 100V AC
Note: Minimum load(0A) → Rated Load(8.4A)	



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-J0L	Load: Rated Load
Item	Ripple / Noise Voltage	



at 100V AC

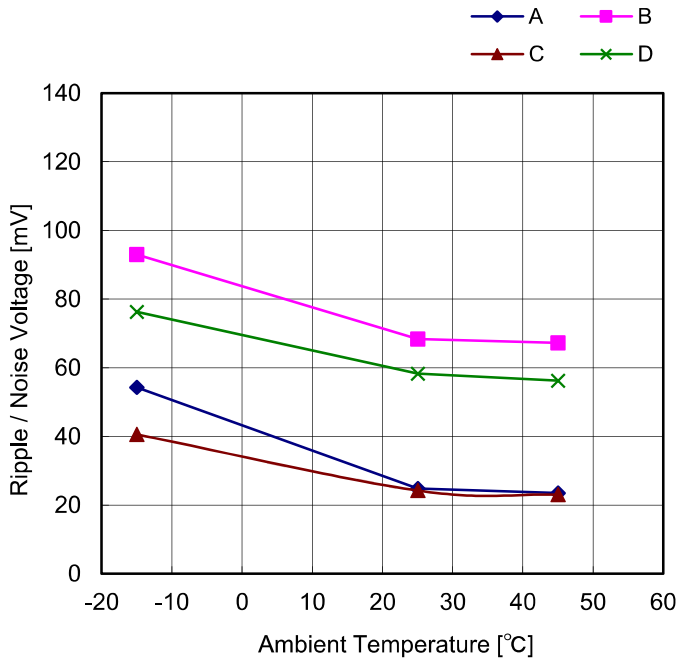
A: Ripple Voltage (mV_{P-P})

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

at 240V AC

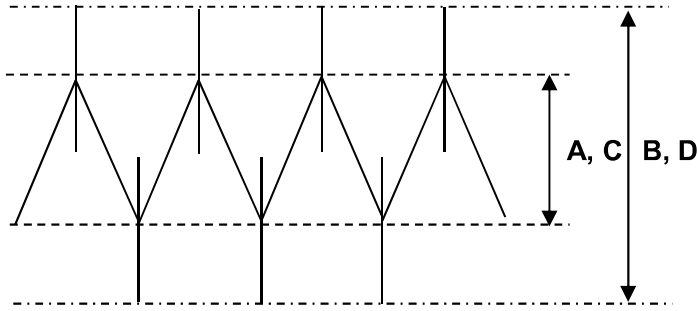
C: Ripple Voltage (mV_{P-P})

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



Ambient Temp. [°C]	Ripple / Noise Voltage [mV]			
	A	B	C	D
-15	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-J0L	Temperature : 25°C
Item	Ripple / Noise Voltage	

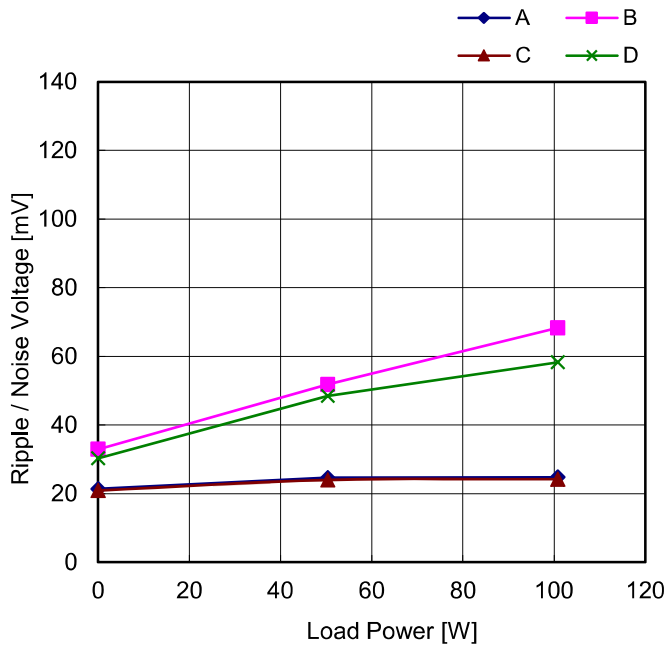


at 100V AC

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

at 240V AC

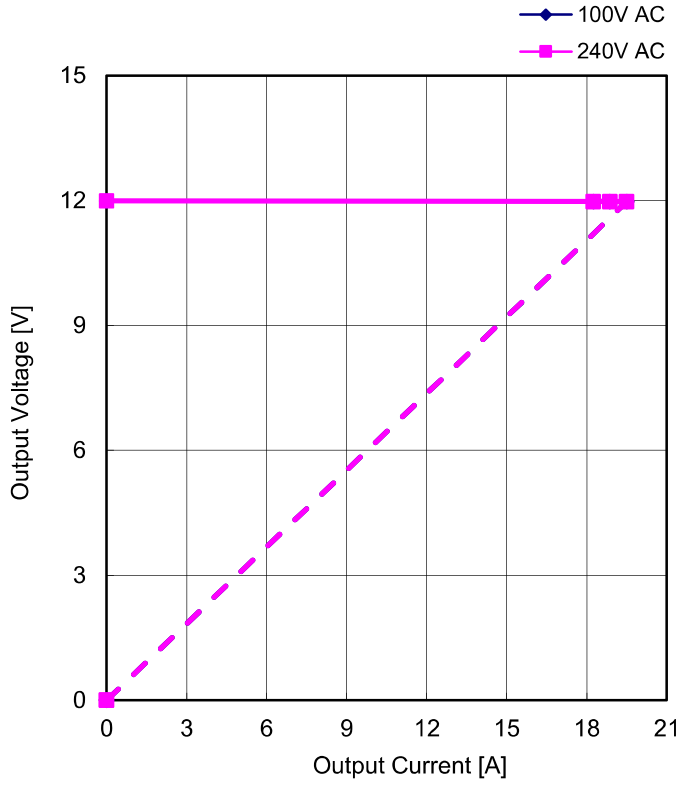
C: Ripple Voltage (mVP-P)
D: Noise Voltage (mVP-P)



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-J0L	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	11.99	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

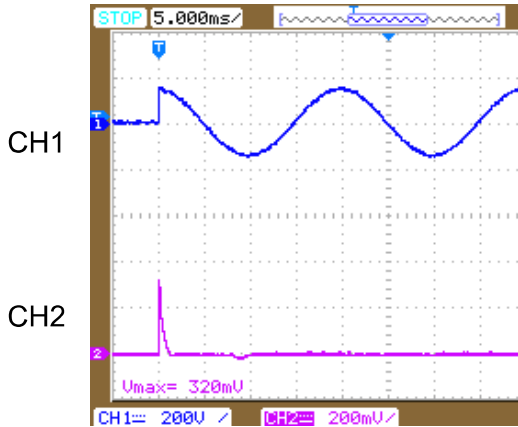
Model	UZP-120-12-J0L	Load: Minimum Load
Item	Over-Voltage Protection	

Legend:
◆ 100V AC
■ 240V AC

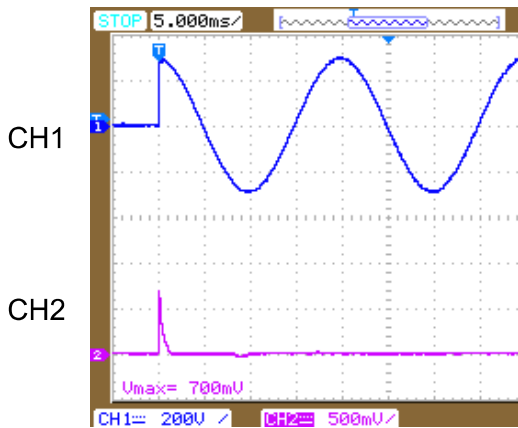
Ambient Temp. [°C]	Output Voltage [V]	
	100V AC	240V AC
-15	14.85	14.86
25	14.94	14.95
45	14.95	14.93
65	15.00	15.06

Model	UZP-120-12-J0L	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: 16.0A	



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-J0L	Load: Rated Load
Item	Leakage Current	

The graph illustrates the relationship between AC input voltage and leakage current. The leakage current remains very low, below 0.1 mA, across the entire tested voltage range from 85V to 264V. There is a slight upward trend in leakage current as the input voltage increases.

AC Input Voltage [V]	Leakage Current [mA]
85	0.02
100	0.02
132	0.04
176	0.05
200	0.06
220	0.06
240	0.07
264	0.08