

Test Data


Model Number: mUZPT-120-24-JBH

Model Name: DC POWER SUPPLY

INPUT: 85V – 264V AC, 50 / 60 Hz

OUTPUT: 24V 5A (8.4 A_{peak})

Minimum load : 0W
Rated load :120W
Peak output power: 201.6W

Approved by :  (QA manager)
Designed by : Kazuhiko Ganda (R&D engineer)
Tested by : Hiroyuki Watanabe (Evaluation test engineer)

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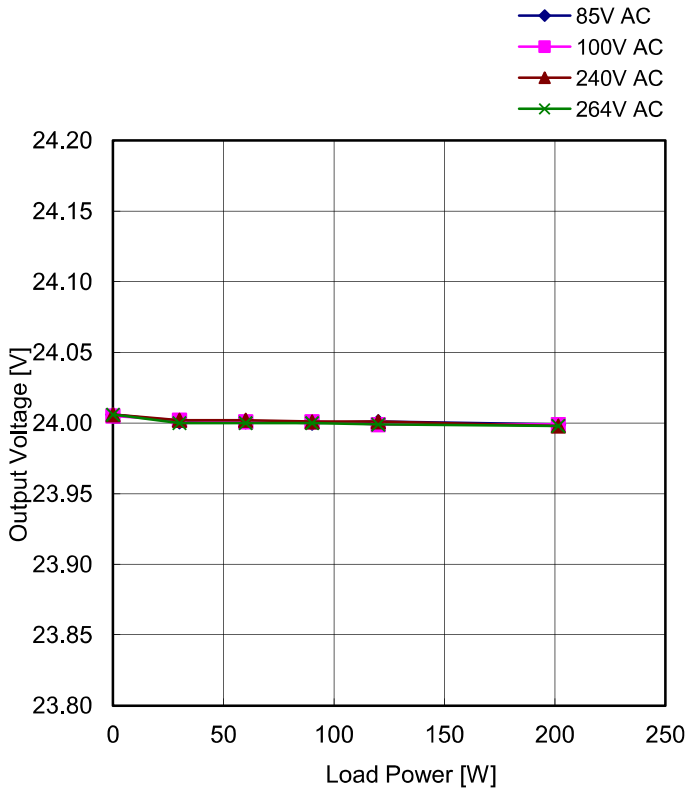
Model	mUZPT-120-24-JBH	Temperature: 25°C																																		
Item	Input Current (by Load Power)																																			
<p>The graph plots Input Current [A rms] on the y-axis (0.0 to 1.8) against Load Power [W] on the x-axis (0 to 150). Four data series are shown: 85V AC (blue diamonds), 100V AC (magenta squares), 240V AC (red triangles), and 264V AC (green crosses). All series show a linear increase in current with power. The 85V AC series has the highest current, while the 264V AC series has the lowest.</p>		<table border="1"> <thead> <tr> <th rowspan="2">Load Power [W]</th> <th colspan="4">Input Current [A rms]</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>0.0</td> <td>0.07</td> <td>0.07</td> <td>0.07</td> <td>0.09</td> </tr> <tr> <td>30.0</td> <td>0.43</td> <td>0.38</td> <td>0.27</td> <td>0.22</td> </tr> <tr> <td>60.0</td> <td>0.79</td> <td>0.67</td> <td>0.40</td> <td>0.34</td> </tr> <tr> <td>90.0</td> <td>1.19</td> <td>0.99</td> <td>0.55</td> <td>0.47</td> </tr> <tr> <td>120.0</td> <td>1.59</td> <td>1.34</td> <td>0.70</td> <td>0.59</td> </tr> </tbody> </table>	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	0.43	0.38	0.27	0.22	60.0	0.79	0.67	0.40	0.34	90.0	1.19	0.99	0.55	0.47	120.0	1.59	1.34	0.70	0.59
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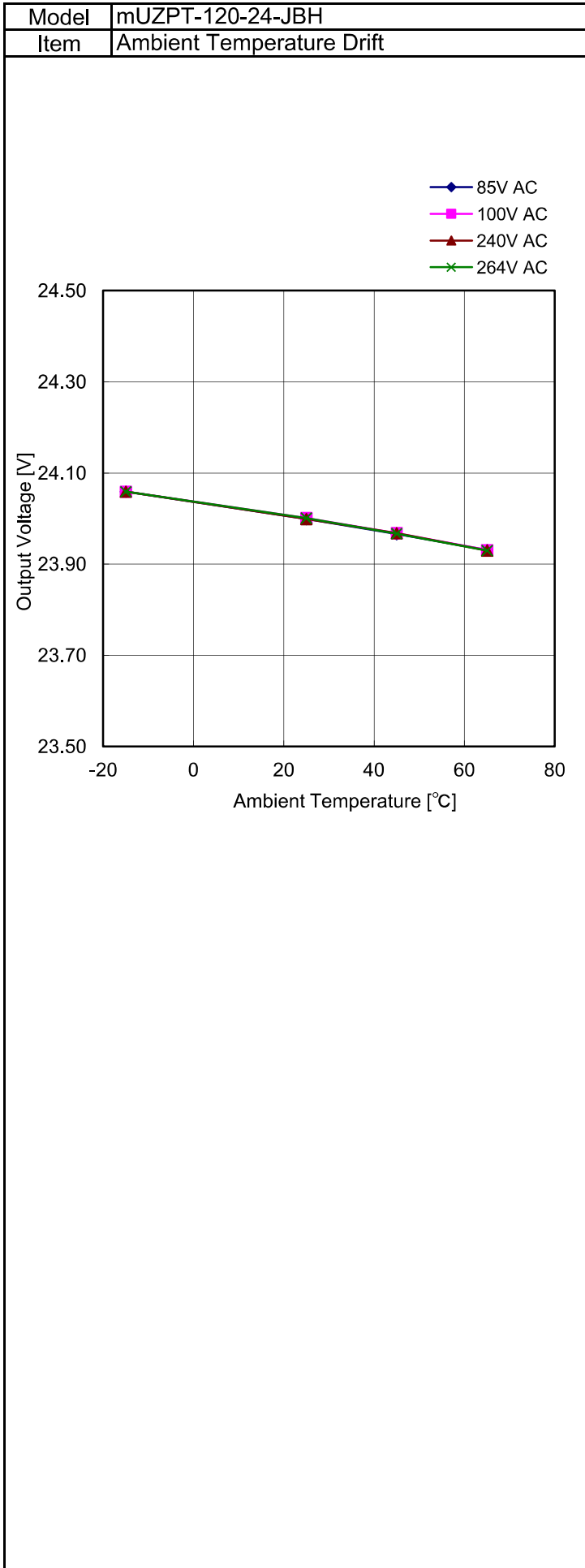
Model	mUZPT-120-24-JBH	Temperature: 25°C																				
Item	Line Regulation																					
<p>The graph plots Output Voltage [V] on the y-axis (ranging from 23.80 to 24.20) against AC Input Voltage [V] on the x-axis (ranging from 50 to 300). A single data series labeled 'Rated load' is shown as a blue line with diamond markers. The output voltage remains very stable, fluctuating only slightly around the 24.00V mark across the entire input range.</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>23.999</td> </tr> <tr> <td>90</td> <td>24.000</td> </tr> <tr> <td>100</td> <td>24.001</td> </tr> <tr> <td>132</td> <td>24.000</td> </tr> <tr> <td>176</td> <td>24.001</td> </tr> <tr> <td>200</td> <td>24.000</td> </tr> <tr> <td>220</td> <td>24.000</td> </tr> <tr> <td>240</td> <td>23.999</td> </tr> <tr> <td>264</td> <td>24.001</td> </tr> </tbody> </table>	AC Input Voltage [V]	Output Voltage [V]	85	23.999	90	24.000	100	24.001	132	24.000	176	24.001	200	24.000	220	24.000	240	23.999	264	24.001
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Model	mUZPT-120-24-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	24.006	24.005	24.006	24.006
30.0	24.001	24.002	24.002	24.000
60.0	24.001	24.001	24.002	24.000
90.0	24.000	24.001	24.001	24.000
120.0	24.001	23.999	24.001	23.999
201.4	23.999	23.999	23.998	23.998

Load Power [W]	Load Condition	
	Load Current [A]	
0.0	0.00	
30.0	1.25	
60.0	2.50	
90.0	3.75	
120.0	5.00	
201.4	8.40	



Ambient Temp. (°C)	Output Voltage [V]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
-15	24.059	24.059	24.059	24.059
25	23.999	24.001	23.999	24.001
45	23.966	23.968	23.968	23.967
65	23.931	23.931	23.930	23.930

Load Condition

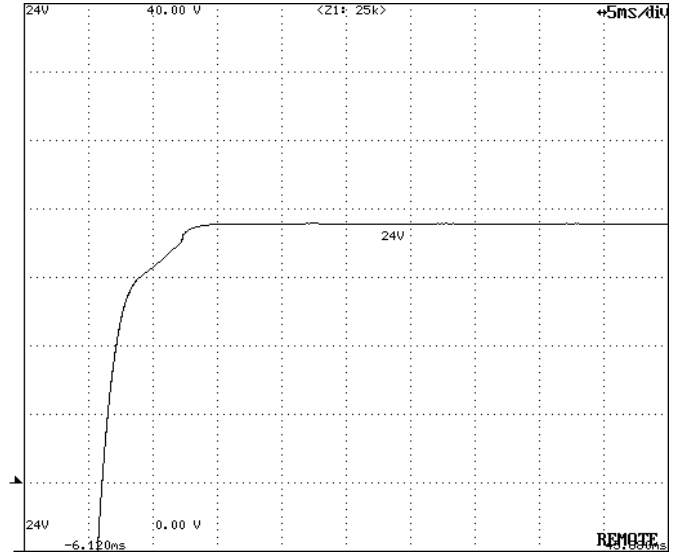
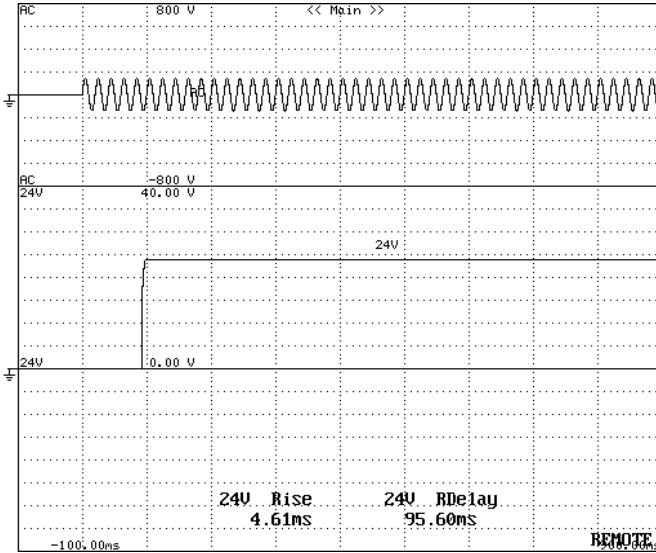
Ambient Temp. (°C)	Load Current [A]
	24V
-15	5.00
25	5.00
45	5.00
65	3.50

Model	mUZPT-120-24-JBH	Temperature: 25°C
Item	Output Rise Characteristics (at AC Power ON)	

Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div

Vertical Sensitivity: 5V/div
Timebase Range: 5ms/div



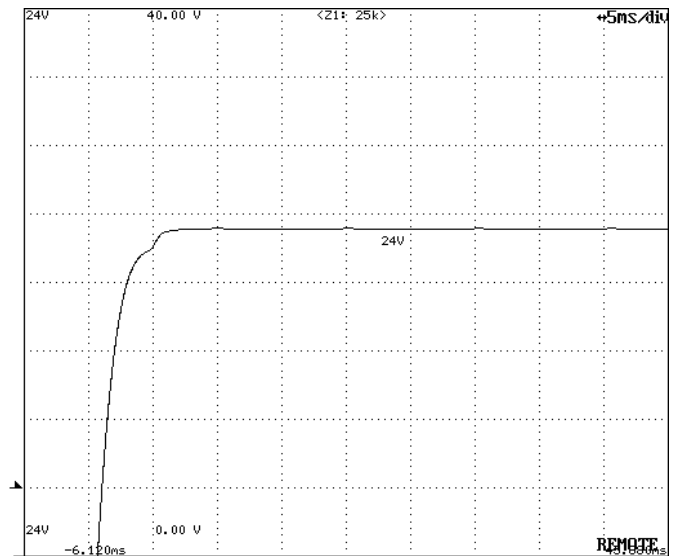
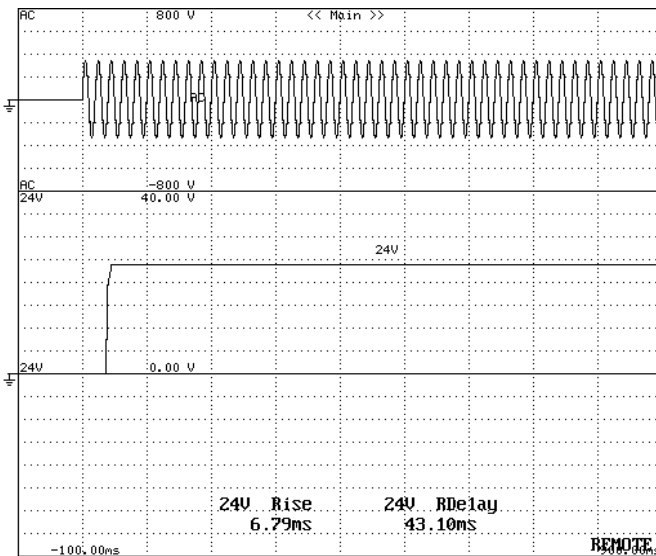
All Output Start-up Sequence

24V DC Output Rise Characteristics

Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div

Vertical Sensitivity: 5V/div
Timebase Range: 5ms/div



All Output Start-up Sequence

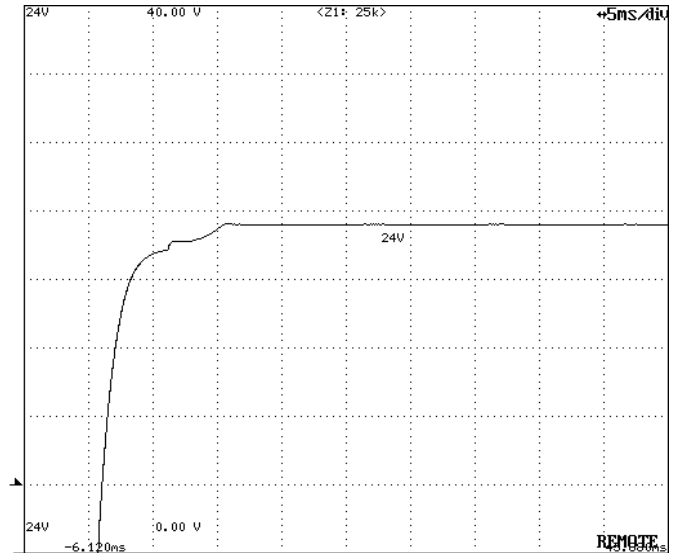
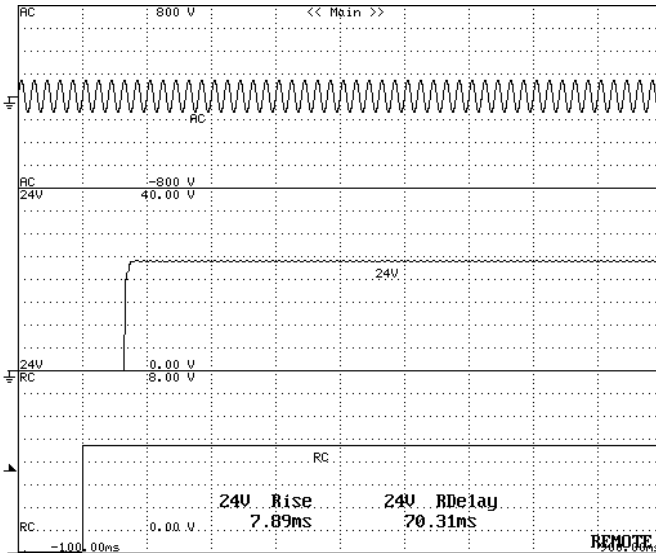
24V DC Output Rise Characteristics

Model	mUZPT-120-24-JBH	Temperature: 25°C
Item	Output Rise Characteristics (at Remote ON)	

Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div

Vertical Sensitivity: 5V/div
Timebase Range: 5ms/div



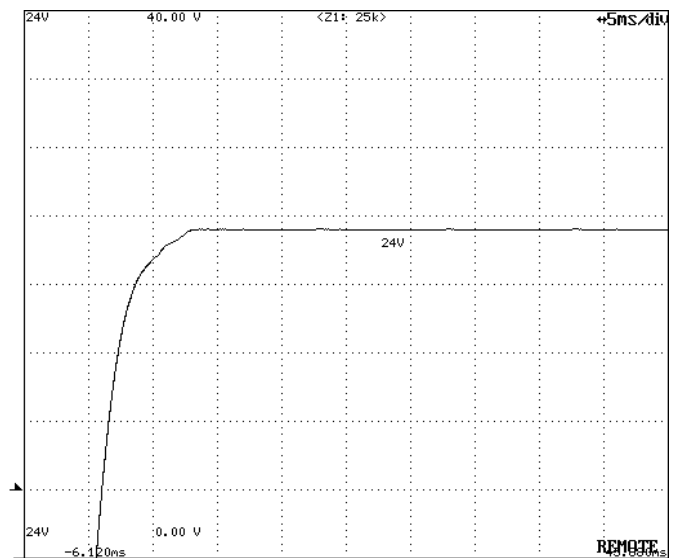
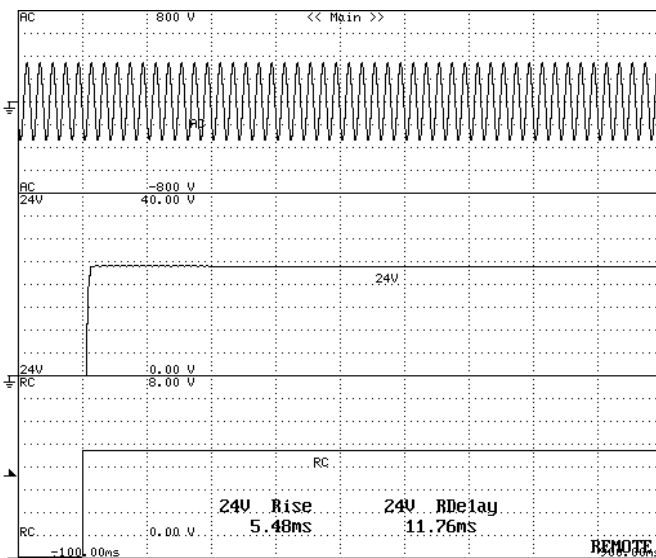
All Output Start-up Sequence

24V DC Output Rise Characteristics

Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div

Vertical Sensitivity: 5V/div
Timebase Range: 5ms/div



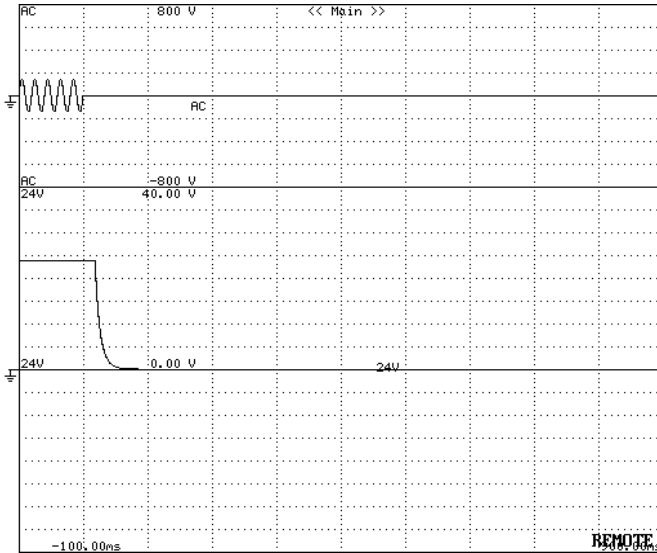
All Output Start-up Sequence

24V DC Output Rise Characteristics

Model	mUZPT-120-24-JBH	Temperature: 25°C
Item	Output Fall Characteristics (at AC Power OFF)	

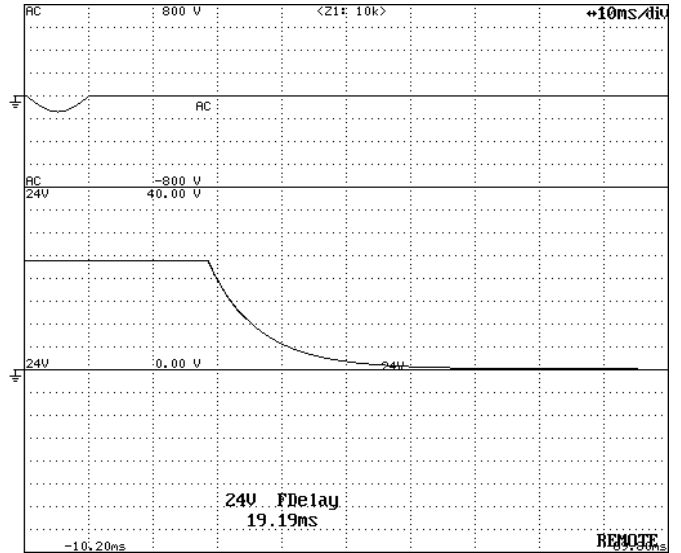
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

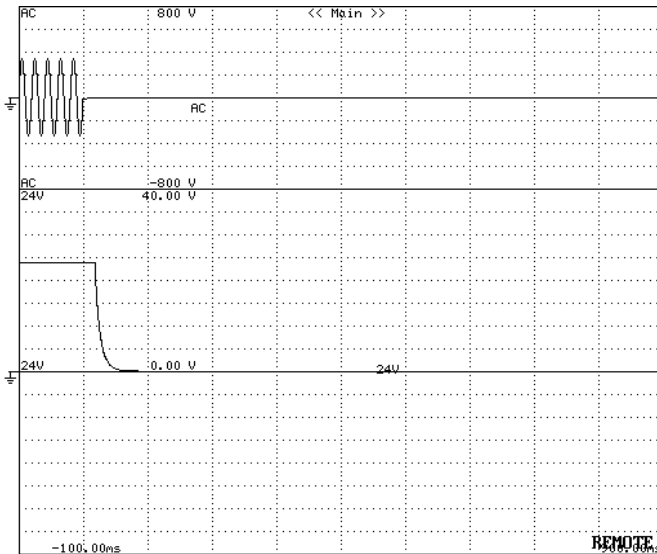
Timebase Range: 10ms/div



Output Fall Characteristics (magnification)

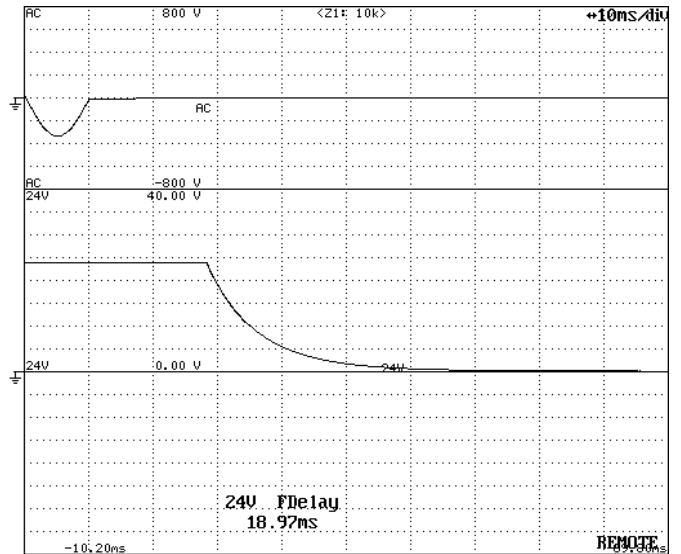
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

Timebase Range: 10ms/div

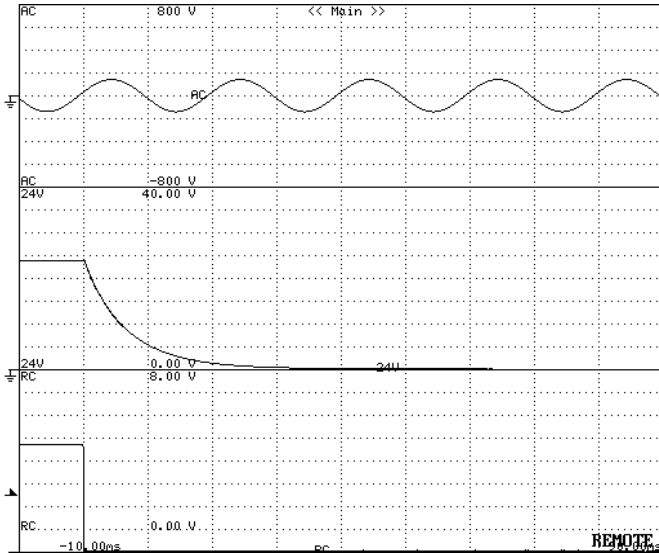


Output Fall Characteristics (magnification)

Model	mUZPT-120-24-JBH	Temperature: 25°C
Item	Output Fall Characteristics (at Remote OFF)	

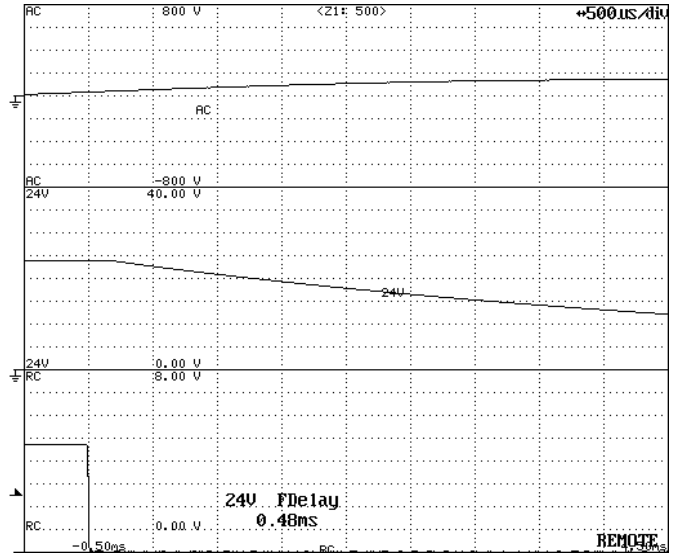
Input: 100V AC
Load: Rated Load

Timebase Range: 10ms/div



Output Fall Characteristics

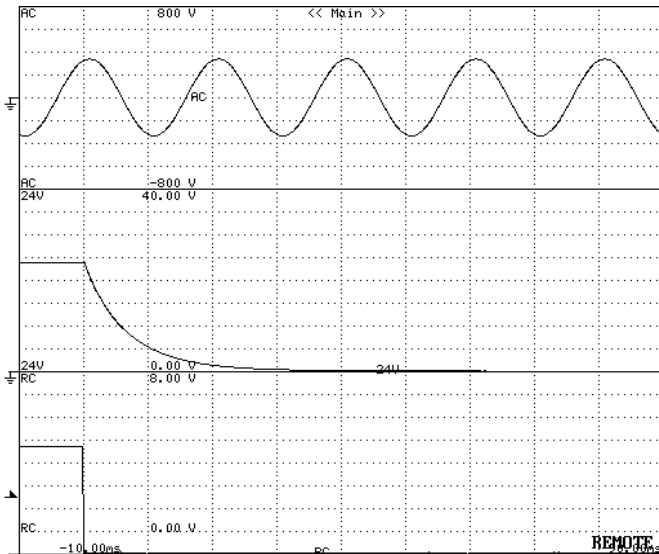
Timebase Range: 500µs/div



Output Fall Characteristics (magnification)

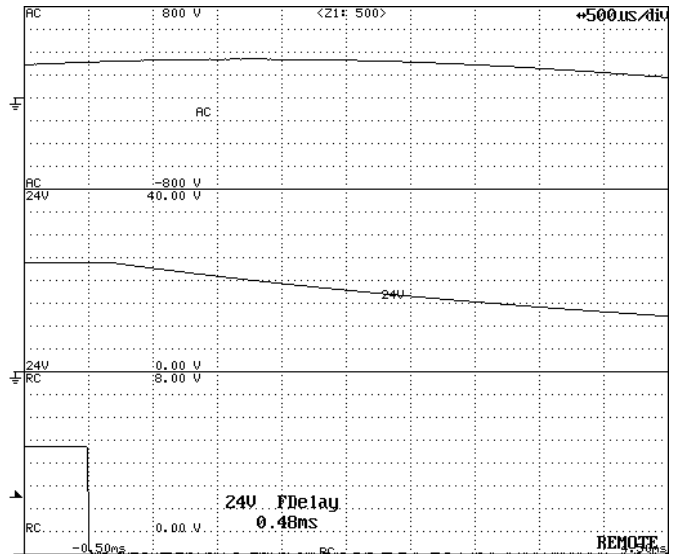
Input: 240V AC
Load: Rated Load

Timebase Range: 10ms/div



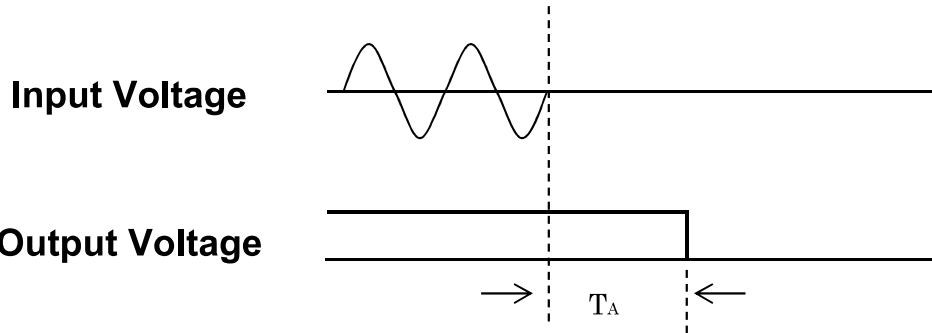
Output Fall Characteristics

Timebase Range: 500µs/div

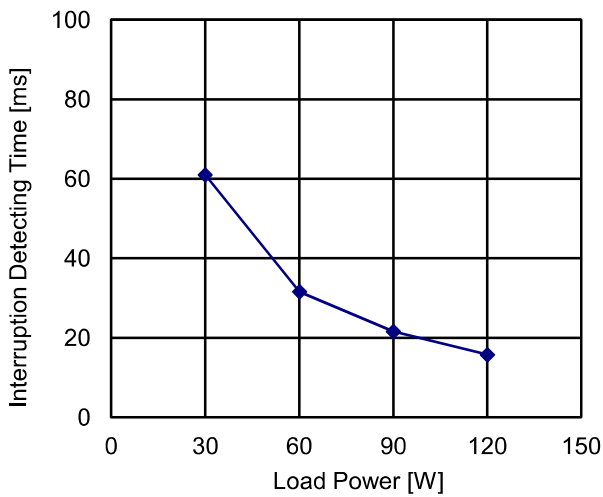


Output Fall Characteristics (magnification)

Model	mUZPT-120-24-JBH	Temperature: 25°C
Item	Instantaneous Interruption Compensation (by Load Power)	

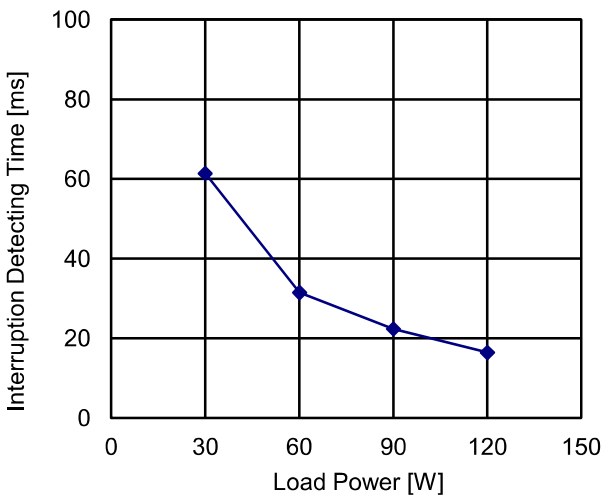


Input Voltage:100V AC



Load Power [W]	Interruption Detecting Time [ms]
	Output Voltage
	T_A
30.0	61.0
60.0	31.6
90.0	21.6
120.0	15.8

Input Voltage:240V AC

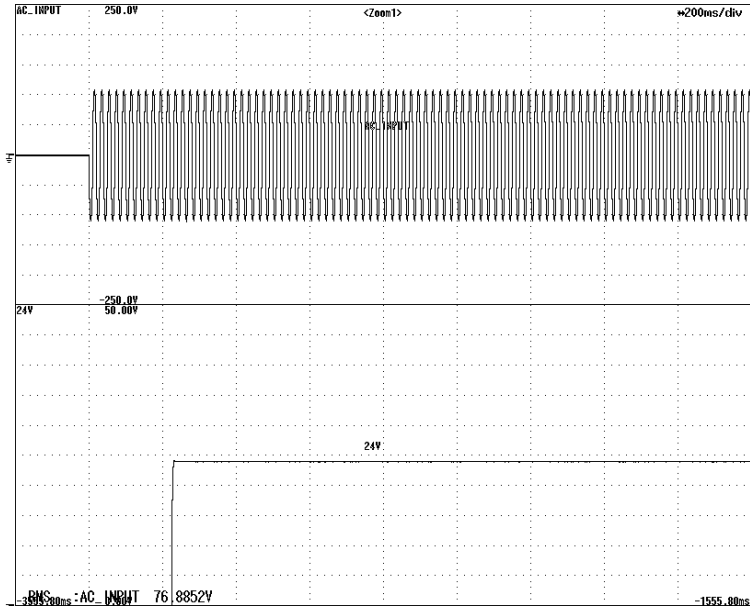


Load Power [W]	Interruption Detecting Time [ms]
	Output Voltage
	T_A
30.0	61.4
60.0	31.5
90.0	22.4
120.0	16.5

Model	mUZPT-120-24-JBH	Temperature: 25°C
Item	Start-Up Voltage	

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

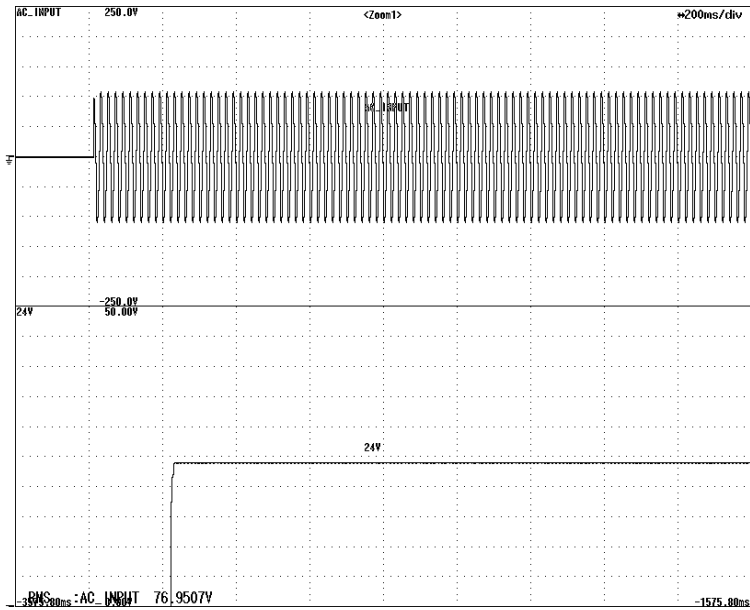
AC Input



Start-up Voltage: 76.9V AC

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

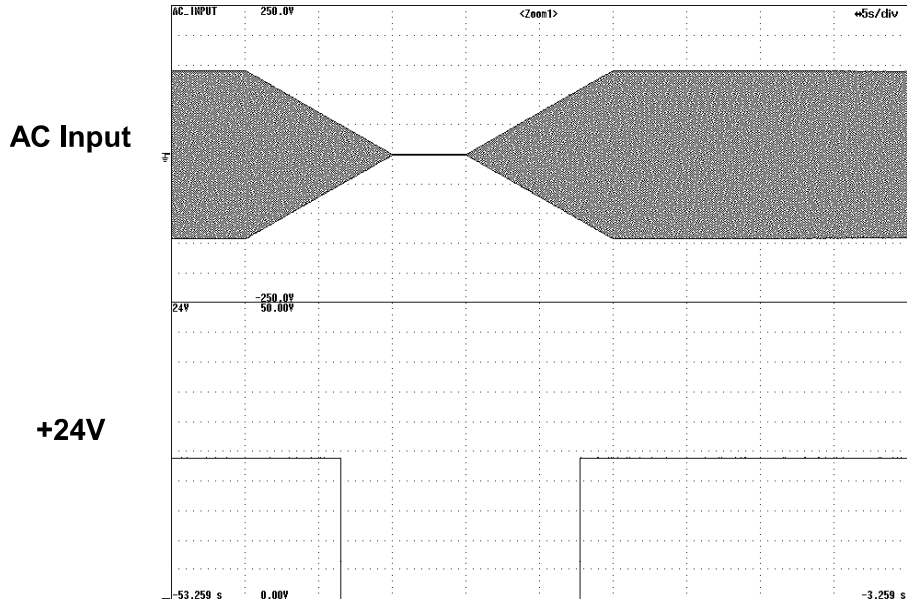
AC Input



Start-up Voltage: 77.0V AC

Model	mUZPT-120-24-JBH	Temperature: 25°C
Item	Input Voltage Sweep Up/Down	

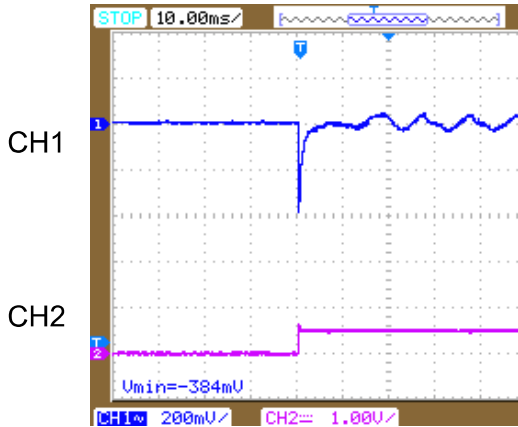
**Timebase Range: 5s/div
Load: Rated Load**



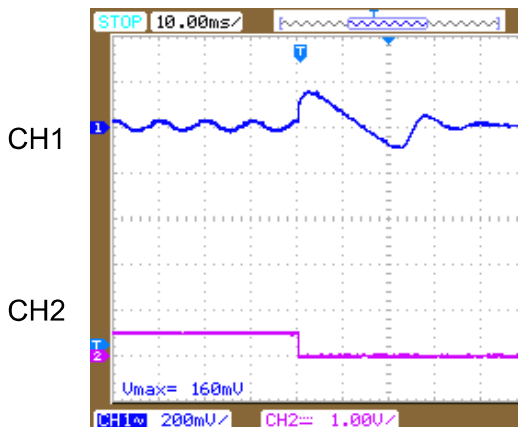
Sweep Rate: 10Vave/sec

Model	mUZPT-120-24-JBH	Temperature: 25°C
Item	Dynamic Load Response	

+24V DC Output Transient Response Waveforms

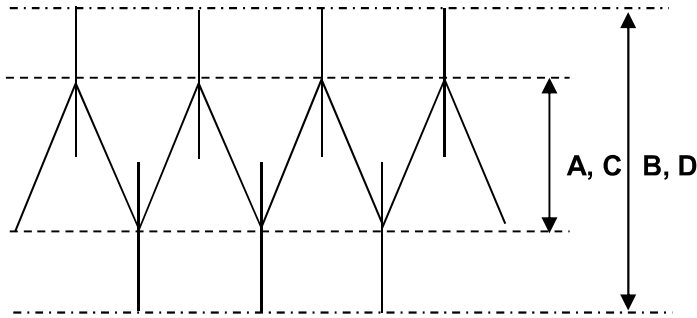


Waveform 1	
CH1	Measuring Point: DC Output Voltage
	Vertical Sensitivity: 200mV/div
CH2	Measuring Point: DC Output Current
	Vertical Sensitivity: 10A/div
Timebase Range	10ms/div
Condition	Input: 100V AC
Note: Minimum load(0A) → Rated Load(5A)	



Waveform 2	
CH1	Measuring Point: DC Output Voltage
	Vertical Sensitivity: 200mV/div
CH2	Measuring Point: DC Output Current
	Vertical Sensitivity: 10A/div
Timebase Range	10ms/div
Condition	Input: 100V AC
Note: Rated Load(5A) → Minimum load(0A)	

Model	mUZPT-120-24-JBH	Load: Rated Load
Item	Ripple / Noise Voltage	

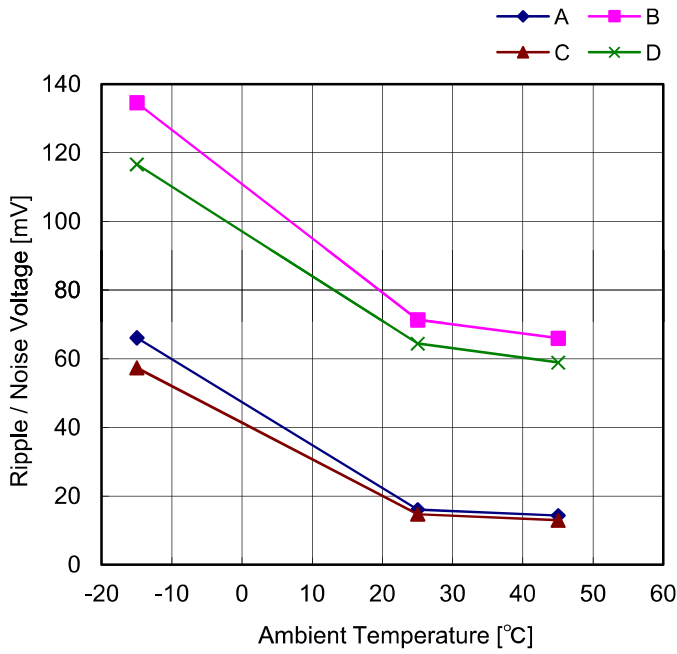


at 100V AC

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

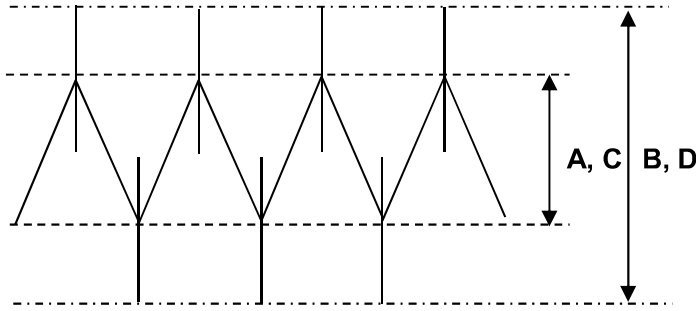
at 240V AC

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



Ambient Temp. [°C]	Ripple / Noise Voltage [mV]			
	A	B	C	D
-15	66.1	134.6	57.4	116.6
25	16.1	71.3	14.7	64.4
45	14.3	66.0	12.9	58.9

Model	mUZPT-120-24-JBH	Temperature : 25°C
Item	Ambient Temperature Drift	

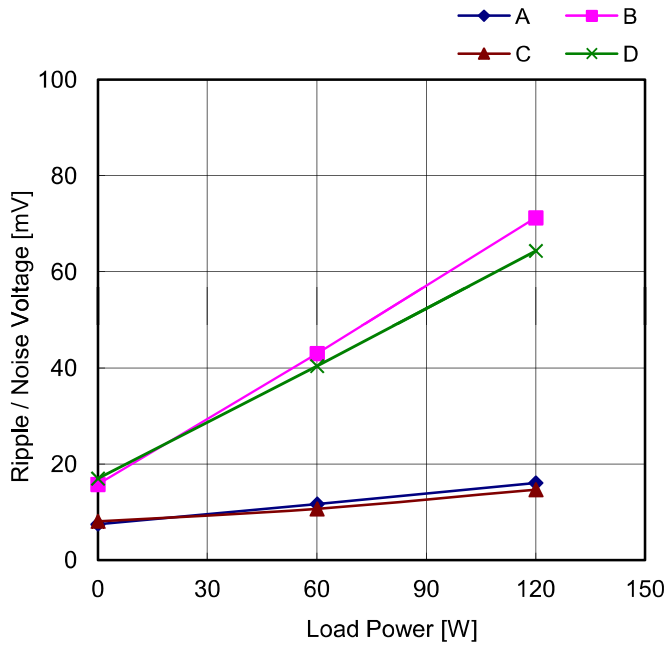


at 100V AC

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

at 240V AC

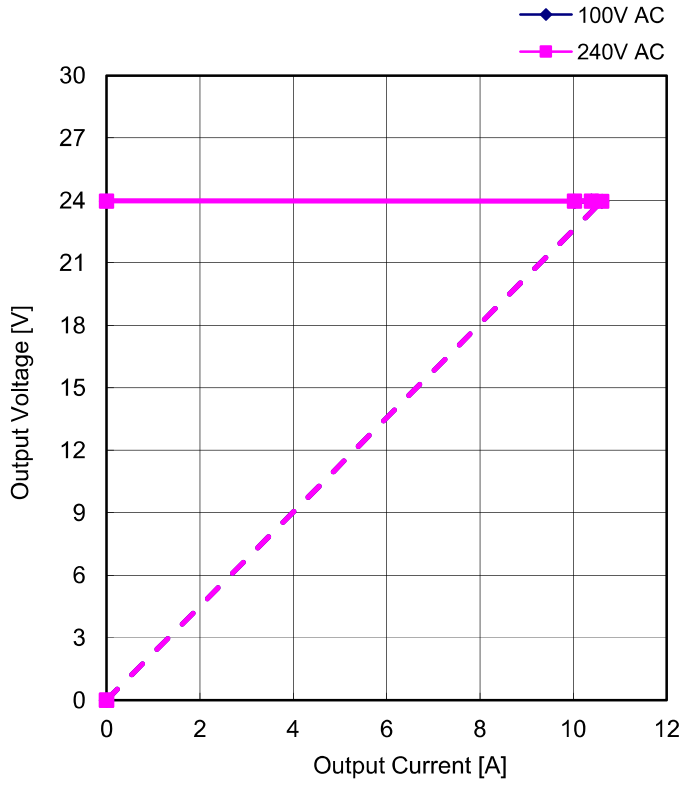
C: Ripple Voltage (mVP-P)
D: Noise Voltage (mVP-P)



Load Power [W]	Ripple / Noise Voltage [mV]			
	A	B	C	D
0	7.5	15.8	8.1	17.0
60.0	11.7	43.0	10.7	40.4
120.0	16.1	71.3	14.7	64.4

Model	mUZPT-120-24-JBH	Temperature: 25°C
Item	Over-Current Protection	

V-I Characteristics of 24V 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	23.98	0.00	23.98
10.02	23.96	10.02	23.96
10.38	23.96	10.38	23.96
10.61	23.96	10.61	23.96

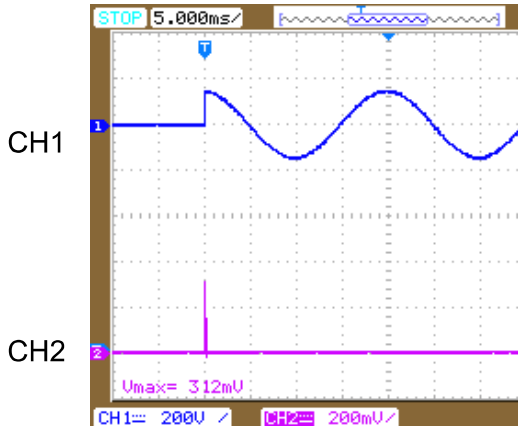
Model	mUZPT-120-24-JBH	Load: Minimum Load
Item	Over-Voltage Protection	

Legend:
◆ 100V AC
■ 240V AC

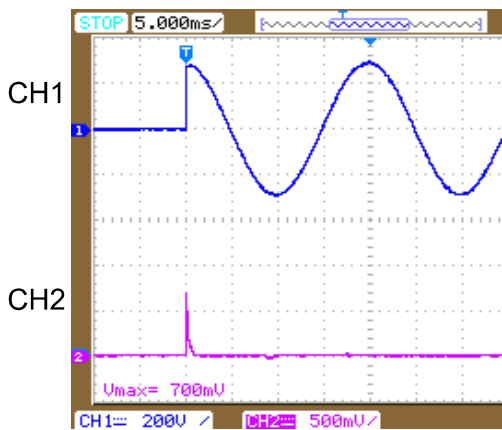
Ambient Temp. [°C]	Output Voltage [V]	
	100V AC	240V AC
-15	31.28	31.25
25	32.15	32.15
45	32.54	32.43
65	32.94	32.94

Model	mUZPT-120-24-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: 35.0A	

Model	mUZPT-120-24-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>0.03</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>0.06</td> </tr> <tr> <td>200</td> <td>0.07</td> </tr> <tr> <td>220</td> <td>0.07</td> </tr> <tr> <td>240</td> <td>0.08</td> </tr> <tr> <td>264</td> <td>0.09</td> </tr> </tbody> </table>	AC Input Voltage [V]	Leakage Current [mA]	85	0.03	100	0.03	132	0.04	176	0.06	200	0.07	220	0.07	240	0.08	264	0.09
AC Input Voltage [V]	Leakage Current [mA]																			
85	0.03																			
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