

Test Data

Model Number: mUZPT-120-24-J0L

Model Name: DC POWER SUPPLY

INPUT: 85V – 264V AC, 50 / 60 Hz

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

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

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

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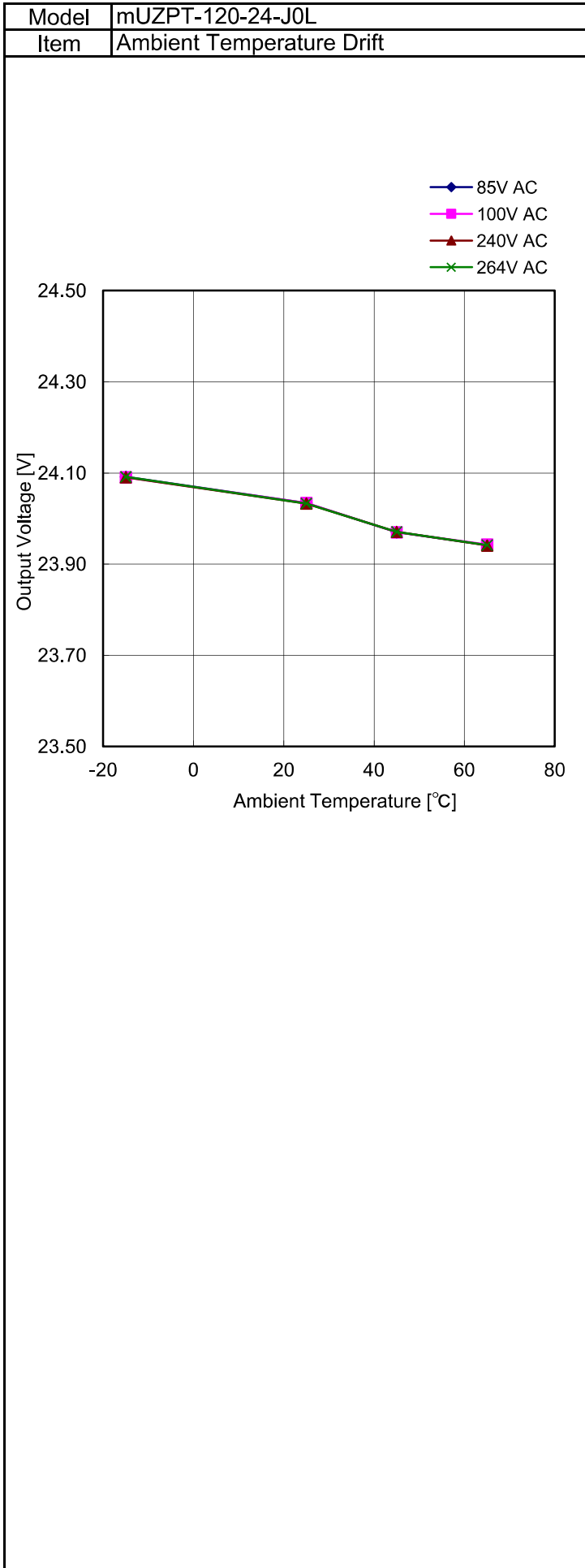
Model	mUZPT-120-24-J0L	Temperature: 25°C																																		
Item	Input Current (by Load Power)																																			
<p>Legend:</p> <ul style="list-style-type: none"> 85V AC (Blue diamonds) 100V AC (Magenta squares) 240V AC (Red triangles) 264V AC (Green crosses) 		<table 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>0.06</td> <td>0.06</td> <td>0.07</td> <td>0.09</td> </tr> <tr> <td>30.0</td> <td>0.44</td> <td>0.38</td> <td>0.25</td> <td>0.22</td> </tr> <tr> <td>60.0</td> <td>0.82</td> <td>0.69</td> <td>0.40</td> <td>0.35</td> </tr> <tr> <td>90.0</td> <td>1.23</td> <td>1.02</td> <td>0.55</td> <td>0.47</td> </tr> <tr> <td>120.0</td> <td>1.64</td> <td>1.37</td> <td>0.71</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	0.06	0.06	0.07	0.09	30.0	0.44	0.38	0.25	0.22	60.0	0.82	0.69	0.40	0.35	90.0	1.23	1.02	0.55	0.47	120.0	1.64	1.37	0.71	0.59
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<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 a mean value of approximately 24.03V.</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>24.034</td> </tr> <tr> <td>100</td> <td>24.034</td> </tr> <tr> <td>132</td> <td>24.032</td> </tr> <tr> <td>176</td> <td>24.033</td> </tr> <tr> <td>200</td> <td>24.033</td> </tr> <tr> <td>220</td> <td>24.033</td> </tr> <tr> <td>240</td> <td>24.033</td> </tr> <tr> <td>264</td> <td>24.033</td> </tr> </tbody> </table>	AC Input Voltage [V]	Output Voltage [V]	85	24.034	100	24.034	132	24.032	176	24.033	200	24.033	220	24.033	240	24.033	264	24.033
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Ambient Temp. (°C)	Output Voltage [V]			
	Input Voltage 85V AC	Input Voltage 100V AC	Input Voltage 240V AC	Input Voltage 264V AC
-15	24.092	24.091	24.091	24.092
25	24.034	24.034	24.033	24.033
45	23.970	23.970	23.971	23.971
65	23.942	23.943	23.941	23.942

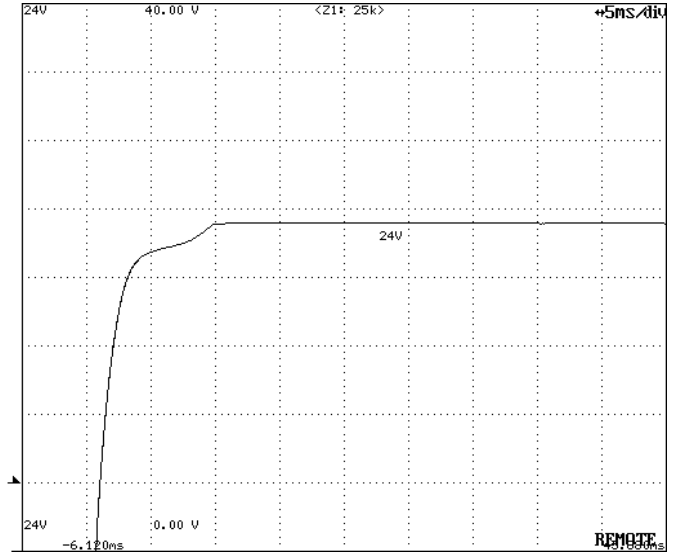
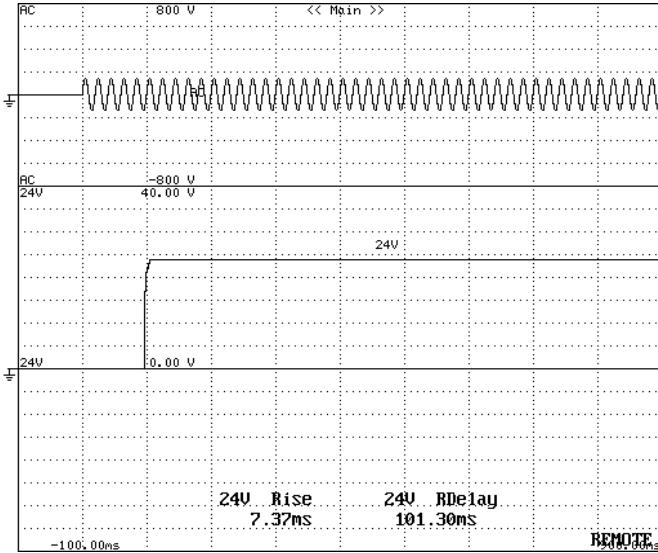
Ambient Temp. (°C)	Load Current [A]
	24V
-15	5.00
25	5.00
45	5.00
65	3.33

Model	mUZPT-120-24-J0L	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



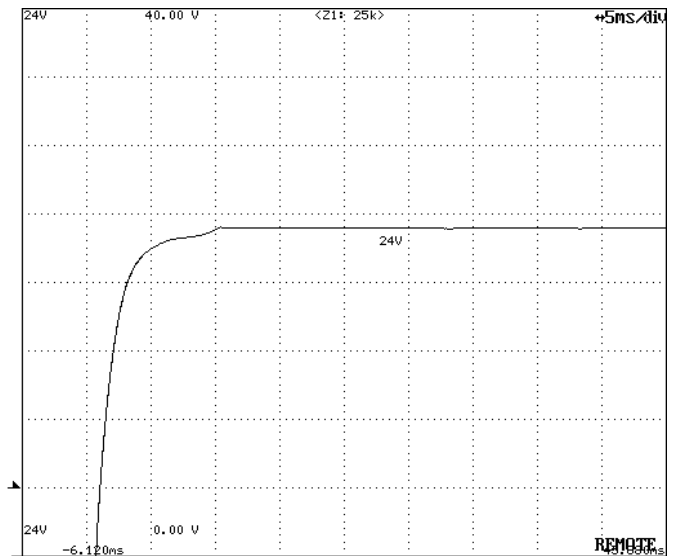
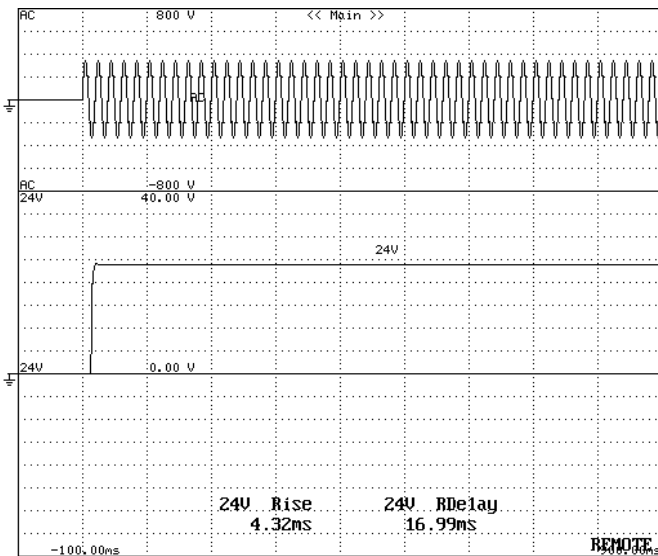
All Output Start-up Sequence

24V DC Output Rise Characteristics

Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div

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



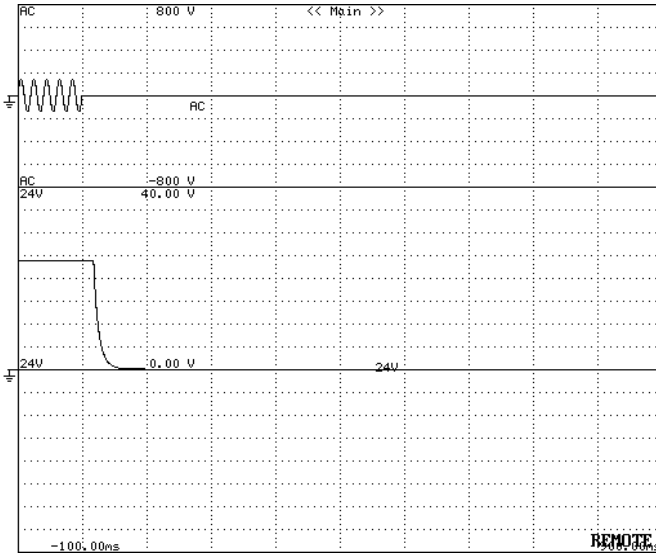
All Output Start-up Sequence

24V DC Output Rise Characteristics

Model	mUZPT-120-24-J0L	Temperature: 25°C
Item	Output Fall Characteristics (at AC Power OFF)	

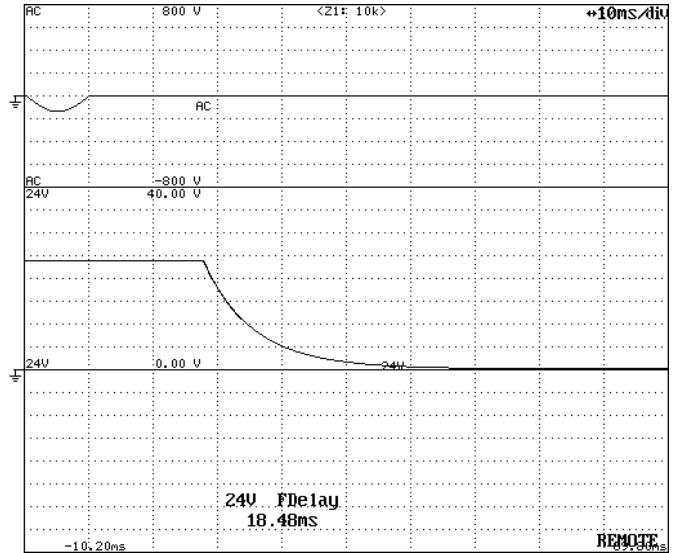
Input: 100V AC
Load: Rated Load

Timebase Range: 100ms/div



Output Fall Characteristics

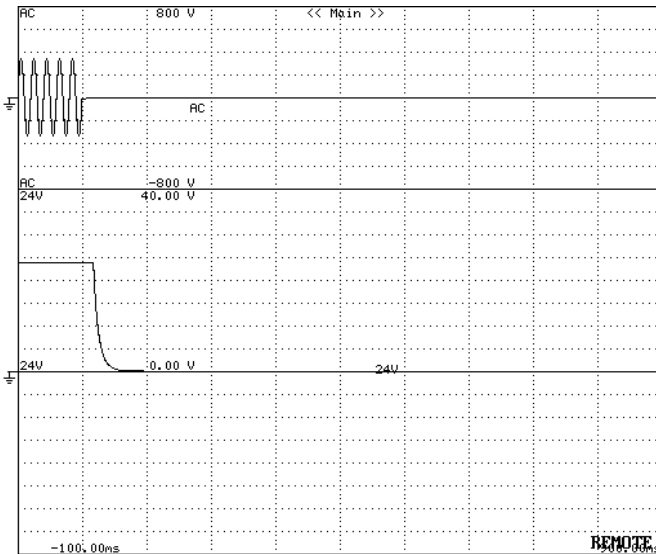
Timebase Range: 10ms/div



Output Fall Characteristics (magnification)

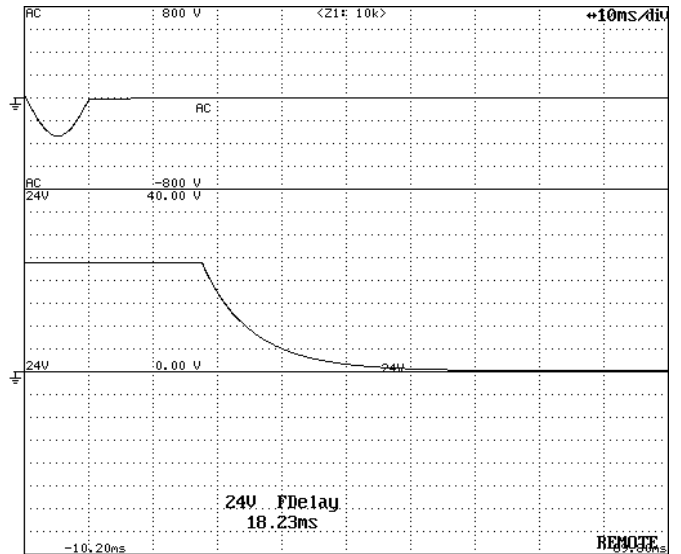
Input: 240V AC
Load: Rated Load

Timebase Range: 100ms/div



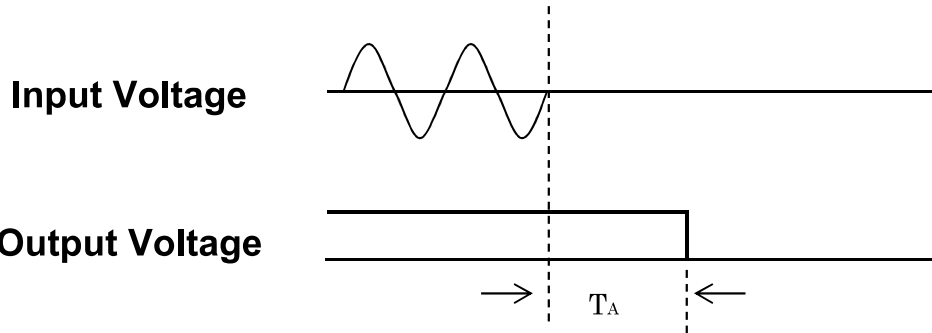
Output Fall Characteristics

Timebase Range: 10ms/div

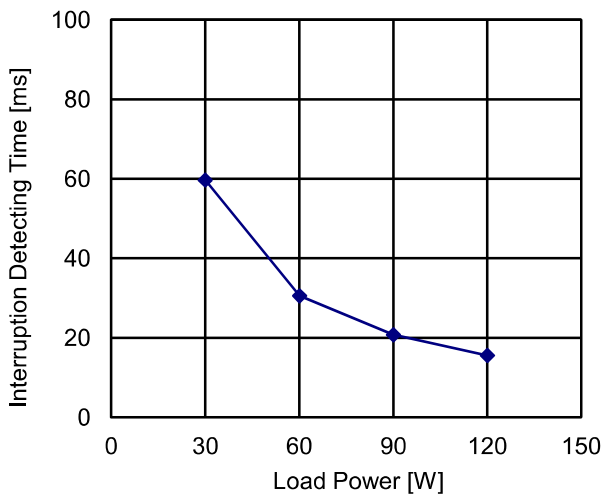


Output Fall Characteristics (magnification)

Model	mUZPT-120-24-J0L	Temperature: 25°C
Item	Instantaneous Interruption Compensation (by Load Power)	

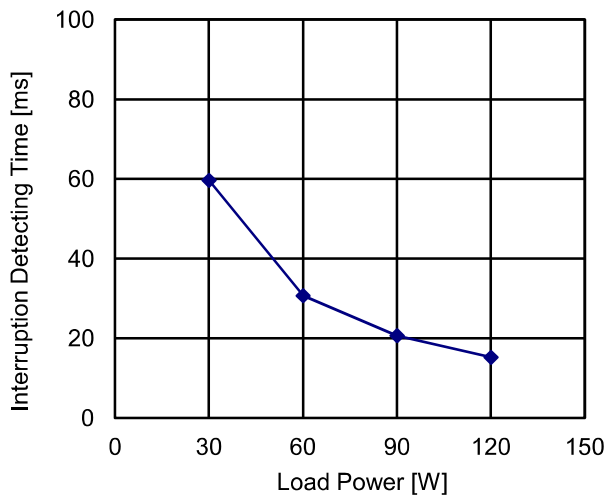


Input Voltage:100V AC



Load Power [W]	Interruption Detecting Time [ms]
	Output Voltage
	T_A
30.0	59.7
60.0	30.6
90.0	20.8
120.0	15.6

Input Voltage:240V AC



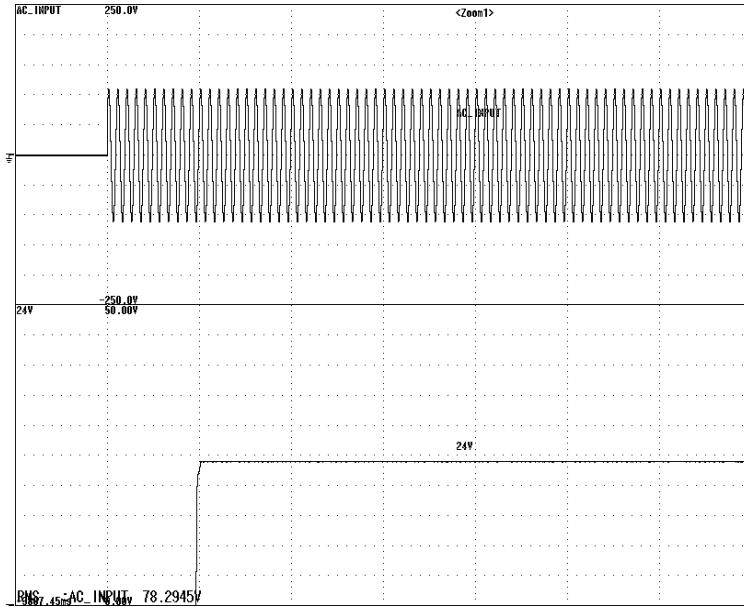
Load Power [W]	Interruption Detecting Time [ms]
	Output Voltage
	T_A
30.0	59.7
60.0	30.7
90.0	20.7
120.0	15.3

Model	mUZPT-120-24-J0L	Temperature: 25°C
Item	Start-Up Voltage	

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

AC Input

+24V

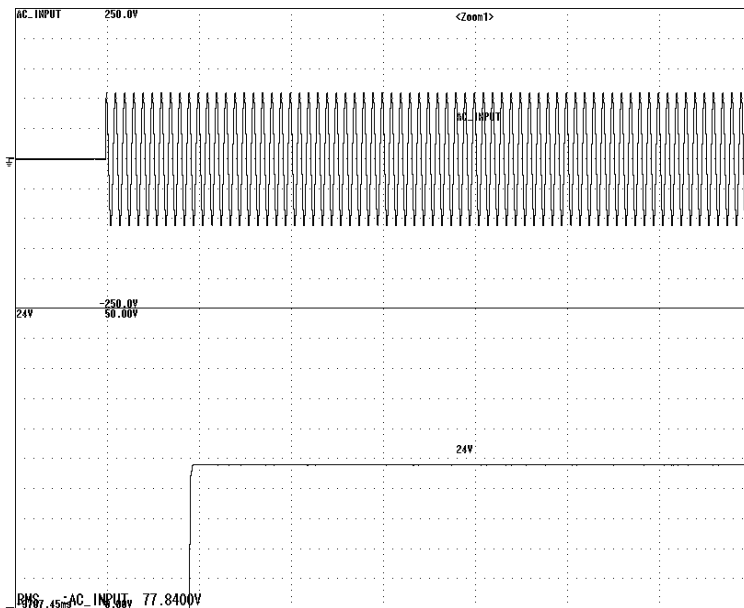


Start-up Voltage: 78.3V AC

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

AC Input

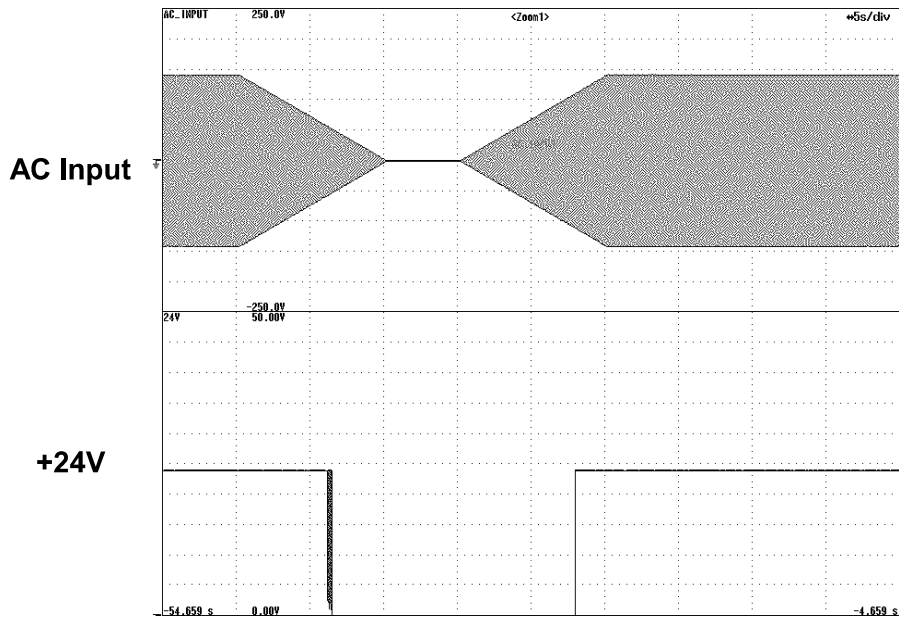
+24V



Start-up Voltage: 77.8V AC

Model	mUZPT-120-24-J0L	Temperature: 25°C
Item	Input Voltage Sweep Up/Down	

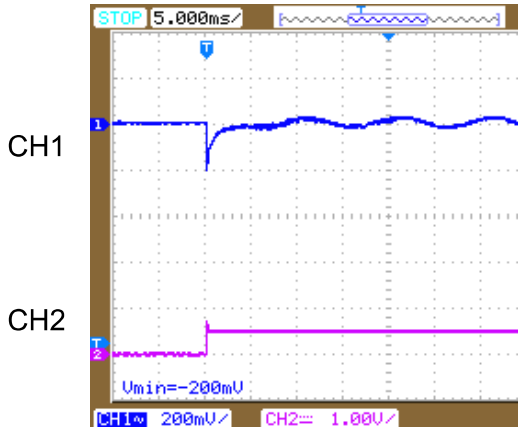
**Timebase Range: 5s/div
Load: Rated Load**



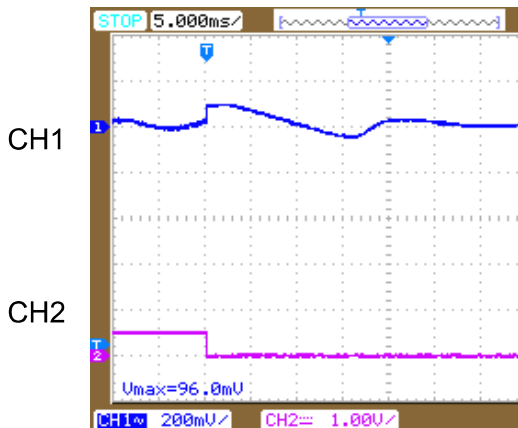
Sweep Rate: 10Vave/sec

Model	mUZPT-120-24-J0L	Temperature: 25°C
Item	Dynamic Load Response	

+24V DC Output Transient Response Waveforms

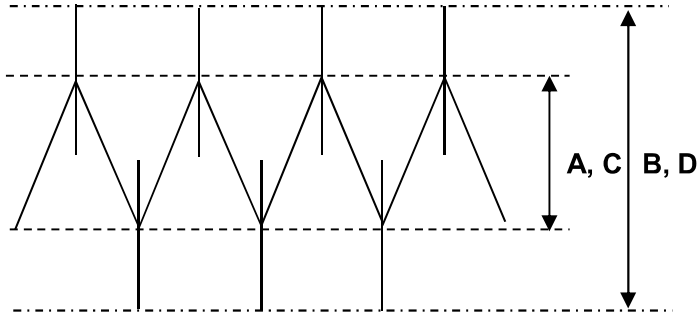


Waveform 1	
CH1	Measuring Point: DC Output Voltage
	Vertical Sensitivity: 200mV/div
CH2	Measuring Point: DC Output Current
	Vertical Sensitivity: 10A/div
Timebase Range	5ms/div
Condition	Input: 100V AC
Note: Minimum load(0A) → Rated Load(5A)	



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

Model	mUZPT-120-24-J0L	Load: Rated Load
Item	Ripple / Noise Voltage	

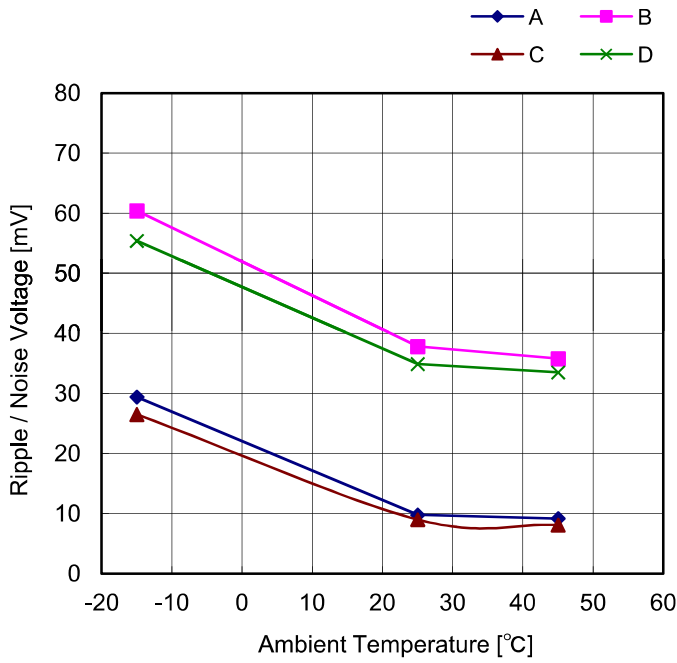


at 100V AC

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

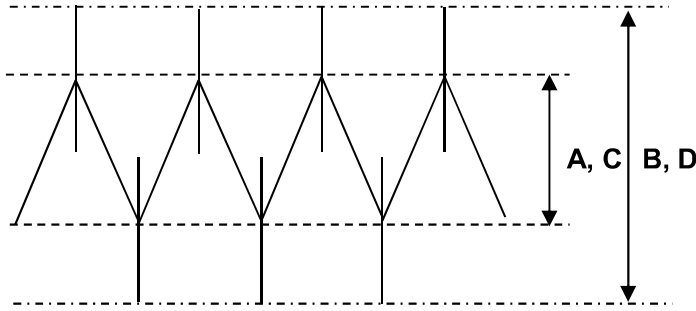
at 240V AC

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



Ambient Temp. [°C]	Ripple / Noise Voltage [mV]			
	A	B	C	D
-15	29.4	60.4	26.5	55.4
25	9.8	37.8	9.0	34.9
45	9.2	35.8	8.1	33.5

Model	mUZPT-120-24-J0L	Temperature : 25°C
Item	Ripple / Noise Voltage	

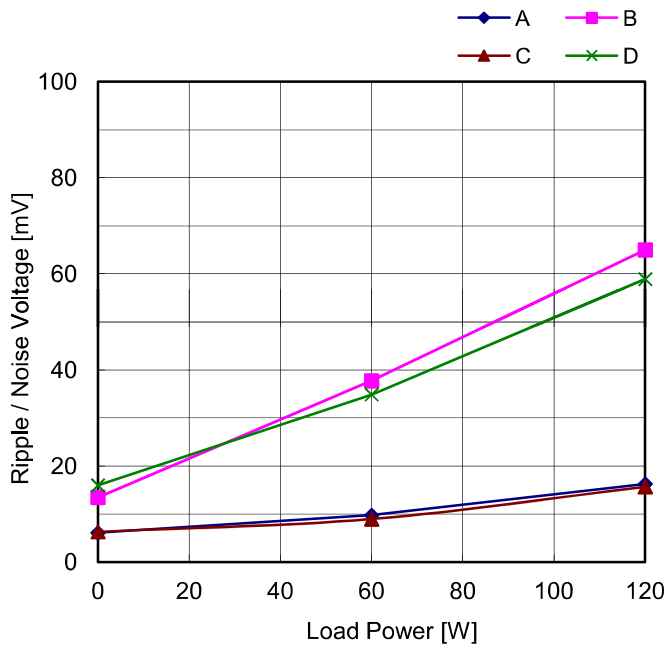


at 100V AC

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

at 240V AC

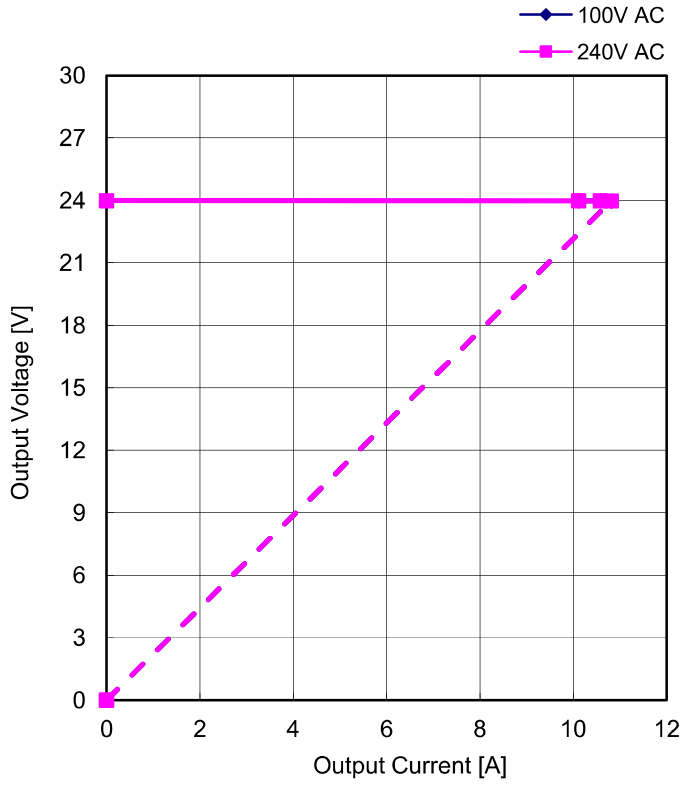
C: Ripple Voltage (mVP-P)
D: Noise Voltage (mVP-P)



Load Power [W]	Ripple / Noise Voltage [mV]			
	A	B	C	D
0	6.1	13.5	6.3	16.0
60.0	9.8	37.8	9.0	34.9
120.0	16.3	65.0	15.7	58.9

Model	mUZPT-120-24-J0L	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	23.99	0.00	23.99
10.11	23.99	10.11	23.98
10.58	23.98	10.58	23.98
10.82	23.98	10.82	23.98

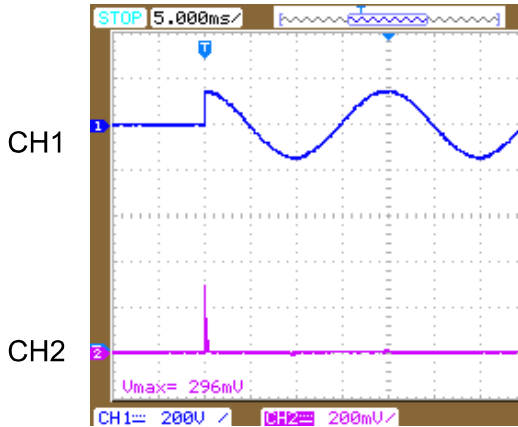
Model	mUZPT-120-24-J0L	Load: Minimum Load
Item	Over-Voltage Protection	

Legend:
◆ 100V AC
■ 240V AC

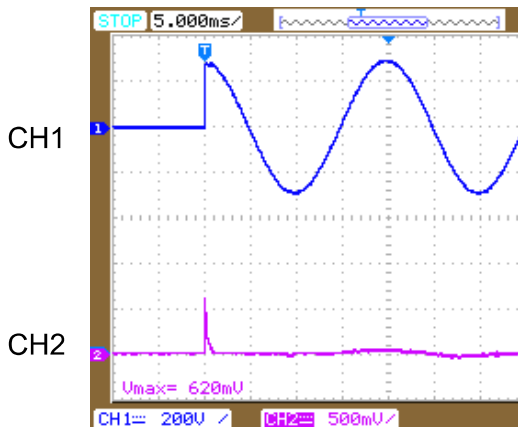
Ambient Temp. [°C]	Output Voltage [V]	
	100V AC	240V AC
-15	31.43	31.40
25	32.08	32.08
45	32.47	32.43
65	32.81	32.85

Model	mUZPT-120-24-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: 14.8A	



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: 31.0A	

Model	mUZPT-120-24-J0L	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 are as follows:</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	<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
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