



TEST DATA OF LDA100W-9

(200V INPUT)

Regulated DC Power Supply
Dec.9. 2004

Approved by : K. Shihō
K.Shihō

Design Manager

Prepared by : S. Ueda
S.Ueda

Design Engineer

COSEL CO.,LTD.



CONTENTS

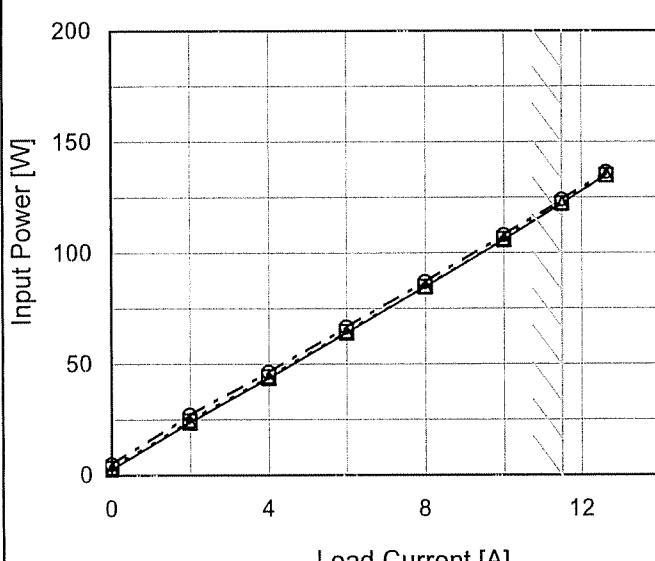
1.Input Current (by Load Current)	1
2.Input Power (by Load Current)	2
3.Efficiency (by Input Voltage)	3
4.Efficiency (by Load Current)	4
5.Inrush Current	5
6.Line Regulation	6
7.Load Regulation	7
8.Dynamic Load Response	8
9.Ripple Voltage (by Load Current)	9
10.Ripple-Noise	10
11.Ripple Voltage (by Ambient Temperature)	11
12.Ambient Temperature Drift	12
13.Output Voltage Accuracy	13
14.Time Lapse Drift	14
15.Rise and Fall Time	15
16.Hold-Up Time	16
17.Instantaneous Interruption Compensation	17
18.Minimum Input Voltage for Regulated Output Voltage	18
19.Overcurrent Protection	19
20.Ovvervoltage Protection	20
21.Figure of Testing Circuitry	21

(Final Page 21)

COSEL

Model	LDA100W-9																																																						
Item	Input Current (by Load Current)	Temperature Testing Circuitry	25°C Figure A																																																				
Object	—	—	—																																																				
1.Graph	—△— Input Volt. 170V ---□--- Input Volt. 200V ---○--- Input Volt. 264V	2.Values																																																					
<p>Note: Slanted line shows the range of the rated load current.</p>			<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Input Current [A]</th> </tr> <tr> <th>Input Volt. 170[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 264[V]</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>0.058</td><td>0.065</td><td>0.079</td></tr> <tr><td>2.00</td><td>0.311</td><td>0.308</td><td>0.275</td></tr> <tr><td>4.00</td><td>0.524</td><td>0.494</td><td>0.422</td></tr> <tr><td>6.00</td><td>0.742</td><td>0.675</td><td>0.566</td></tr> <tr><td>8.00</td><td>0.966</td><td>0.867</td><td>0.717</td></tr> <tr><td>10.00</td><td>1.189</td><td>1.058</td><td>0.874</td></tr> <tr><td>11.50</td><td>1.356</td><td>1.207</td><td>0.997</td></tr> <tr><td>12.65</td><td>1.482</td><td>1.321</td><td>1.094</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>		Load Current [A]	Input Current [A]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	0.00	0.058	0.065	0.079	2.00	0.311	0.308	0.275	4.00	0.524	0.494	0.422	6.00	0.742	0.675	0.566	8.00	0.966	0.867	0.717	10.00	1.189	1.058	0.874	11.50	1.356	1.207	0.997	12.65	1.482	1.321	1.094	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Input Current [A]																																																						
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																				
0.00	0.058	0.065	0.079																																																				
2.00	0.311	0.308	0.275																																																				
4.00	0.524	0.494	0.422																																																				
6.00	0.742	0.675	0.566																																																				
8.00	0.966	0.867	0.717																																																				
10.00	1.189	1.058	0.874																																																				
11.50	1.356	1.207	0.997																																																				
12.65	1.482	1.321	1.094																																																				
--	-	-	-																																																				
--	-	-	-																																																				
--	-	-	-																																																				

COSEL

Model	LDA100W-9																																																					
Item	Input Power (by Load Current)	Temperature 25°C	Testing Circuitry Figure A																																																			
Object	—	—	—																																																			
1.Graph	—△— Input Volt. 170V - -□--- Input Volt. 200V - -○--- Input Volt. 264V																																																					
			2.Values																																																			
<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Input Power [W]</th> </tr> <tr> <th>Input Volt. 170[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 264[V]</th> </tr> </thead> <tbody> <tr> <td>0.00</td><td>2.7</td><td>3.4</td><td>5.1</td></tr> <tr> <td>2.00</td><td>23.7</td><td>24.6</td><td>27.1</td></tr> <tr> <td>4.00</td><td>43.7</td><td>44.4</td><td>46.4</td></tr> <tr> <td>6.00</td><td>64.1</td><td>64.6</td><td>66.7</td></tr> <tr> <td>8.00</td><td>84.7</td><td>84.9</td><td>87.1</td></tr> <tr> <td>10.00</td><td>105.9</td><td>106.3</td><td>108.0</td></tr> <tr> <td>11.50</td><td>122.2</td><td>122.4</td><td>124.0</td></tr> <tr> <td>12.65</td><td>135.0</td><td>134.9</td><td>136.3</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>			Load Current [A]	Input Power [W]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	0.00	2.7	3.4	5.1	2.00	23.7	24.6	27.1	4.00	43.7	44.4	46.4	6.00	64.1	64.6	66.7	8.00	84.7	84.9	87.1	10.00	105.9	106.3	108.0	11.50	122.2	122.4	124.0	12.65	135.0	134.9	136.3	--	-	-	-	--	-	-	-	--	-	-	-	
Load Current [A]	Input Power [W]																																																					
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																			
0.00	2.7	3.4	5.1																																																			
2.00	23.7	24.6	27.1																																																			
4.00	43.7	44.4	46.4																																																			
6.00	64.1	64.6	66.7																																																			
8.00	84.7	84.9	87.1																																																			
10.00	105.9	106.3	108.0																																																			
11.50	122.2	122.4	124.0																																																			
12.65	135.0	134.9	136.3																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
Note: Slanted line shows the range of the rated load current.																																																						

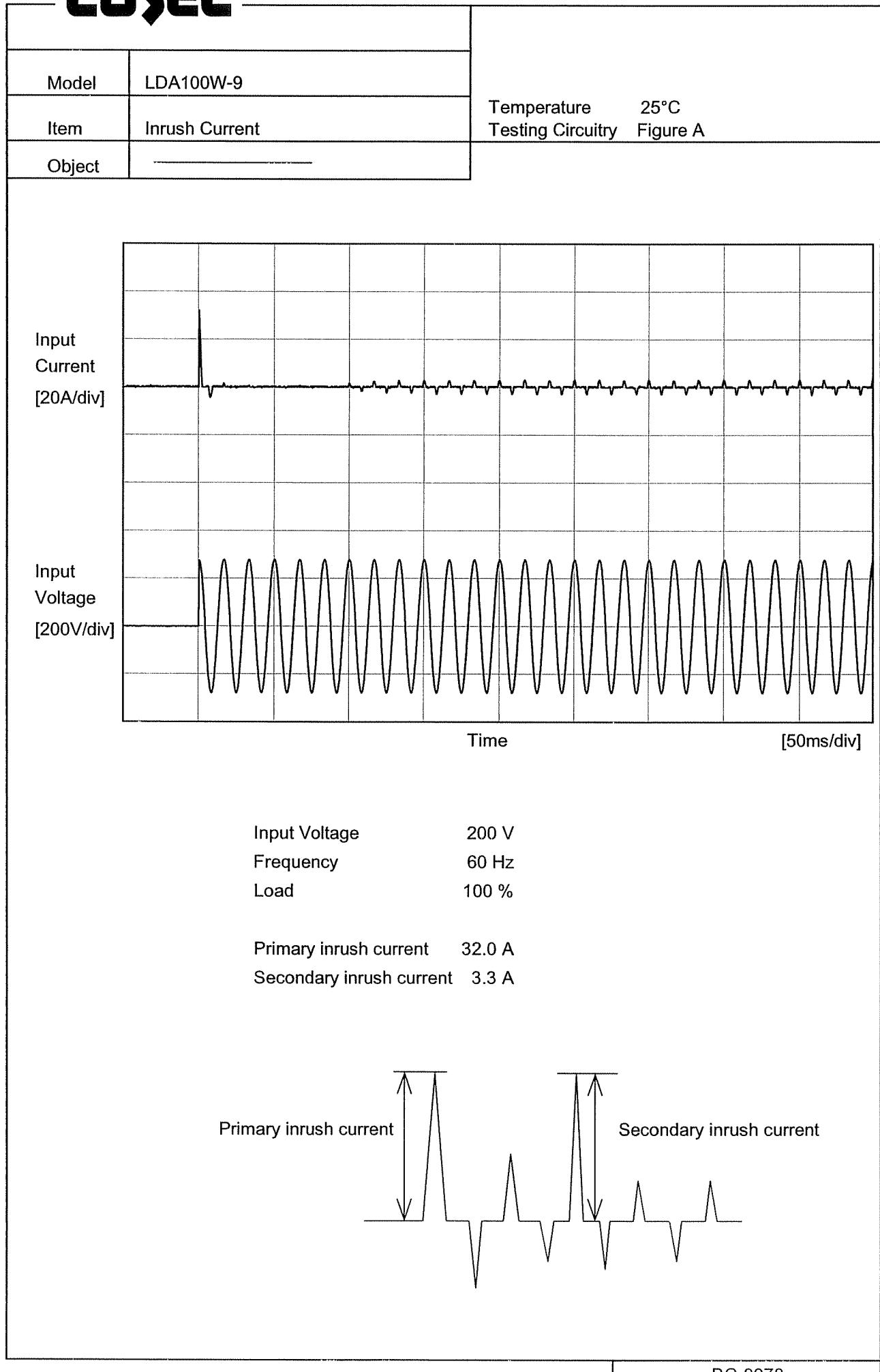
COSEL

Model	LDA100W-9																																	
Item	Efficiency (by Input Voltage)	Temperature Testing Circuitry 25°C Figure A																																
Object	_____	_____																																
1.Graph																																		
<p>The graph plots Efficiency [%] on the y-axis (60 to 88) against Input Voltage [V] on the x-axis (140 to 300). Two data series are shown: Load 50% (dashed line with square markers) and Load 100% (solid line with triangle markers). Both series show a slight downward trend as input voltage increases. A slanted line on the graph indicates the rated input voltage range.</p> <table border="1"> <thead> <tr> <th>Input Voltage [V]</th> <th>Efficiency Load 50% [%]</th> <th>Efficiency Load 100% [%]</th> </tr> </thead> <tbody> <tr><td>150</td><td>84.0</td><td>83.5</td></tr> <tr><td>160</td><td>83.8</td><td>83.5</td></tr> <tr><td>170</td><td>83.5</td><td>83.3</td></tr> <tr><td>180</td><td>83.2</td><td>83.0</td></tr> <tr><td>220</td><td>81.5</td><td>82.5</td></tr> <tr><td>260</td><td>79.5</td><td>81.0</td></tr> <tr><td>280</td><td>78.5</td><td>80.5</td></tr> </tbody> </table>			Input Voltage [V]	Efficiency Load 50% [%]	Efficiency Load 100% [%]	150	84.0	83.5	160	83.8	83.5	170	83.5	83.3	180	83.2	83.0	220	81.5	82.5	260	79.5	81.0	280	78.5	80.5								
Input Voltage [V]	Efficiency Load 50% [%]	Efficiency Load 100% [%]																																
150	84.0	83.5																																
160	83.8	83.5																																
170	83.5	83.3																																
180	83.2	83.0																																
220	81.5	82.5																																
260	79.5	81.0																																
280	78.5	80.5																																
2.Values																																		
<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Efficiency [%]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr><td>150</td><td>83.9</td><td>83.1</td></tr> <tr><td>160</td><td>83.9</td><td>83.7</td></tr> <tr><td>170</td><td>83.6</td><td>83.7</td></tr> <tr><td>180</td><td>83.3</td><td>83.7</td></tr> <tr><td>200</td><td>82.7</td><td>83.6</td></tr> <tr><td>220</td><td>81.9</td><td>83.3</td></tr> <tr><td>240</td><td>81.0</td><td>83.1</td></tr> <tr><td>264</td><td>79.7</td><td>82.6</td></tr> <tr><td>280</td><td>79.0</td><td>82.1</td></tr> </tbody> </table>			Input Voltage [V]	Efficiency [%]		Load 50%	Load 100%	150	83.9	83.1	160	83.9	83.7	170	83.6	83.7	180	83.3	83.7	200	82.7	83.6	220	81.9	83.3	240	81.0	83.1	264	79.7	82.6	280	79.0	82.1
Input Voltage [V]	Efficiency [%]																																	
	Load 50%	Load 100%																																
150	83.9	83.1																																
160	83.9	83.7																																
170	83.6	83.7																																
180	83.3	83.7																																
200	82.7	83.6																																
220	81.9	83.3																																
240	81.0	83.1																																
264	79.7	82.6																																
280	79.0	82.1																																
<p>Note: Slanted line shows the range of the rated input voltage.</p>																																		

COSEL

Model	LDA100W-9																																																					
Item	Efficiency (by Load Current)	Temperature 25°C	Testing Circuitry Figure A																																																			
Object																																																						
1.Graph	<p>Efficiency [%]</p> <p>Load Current [A]</p>																																																					
2.Values	<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Efficiency [%]</th> </tr> <tr> <th>Input Volt. 170[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 264[V]</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>2.00</td><td>75.0</td><td>72.3</td><td>65.6</td></tr> <tr><td>4.00</td><td>81.4</td><td>80.1</td><td>76.7</td></tr> <tr><td>6.00</td><td>83.2</td><td>82.6</td><td>80.0</td></tr> <tr><td>8.00</td><td>84.0</td><td>83.8</td><td>81.7</td></tr> <tr><td>10.00</td><td>84.0</td><td>83.6</td><td>82.3</td></tr> <tr><td>11.50</td><td>83.7</td><td>83.5</td><td>82.5</td></tr> <tr><td>12.65</td><td>83.3</td><td>83.4</td><td>82.5</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>			Load Current [A]	Efficiency [%]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	0.00	-	-	-	2.00	75.0	72.3	65.6	4.00	81.4	80.1	76.7	6.00	83.2	82.6	80.0	8.00	84.0	83.8	81.7	10.00	84.0	83.6	82.3	11.50	83.7	83.5	82.5	12.65	83.3	83.4	82.5	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Efficiency [%]																																																					
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																			
0.00	-	-	-																																																			
2.00	75.0	72.3	65.6																																																			
4.00	81.4	80.1	76.7																																																			
6.00	83.2	82.6	80.0																																																			
8.00	84.0	83.8	81.7																																																			
10.00	84.0	83.6	82.3																																																			
11.50	83.7	83.5	82.5																																																			
12.65	83.3	83.4	82.5																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
Note:	Slanted line shows the range of the rated load current.																																																					

COSEL



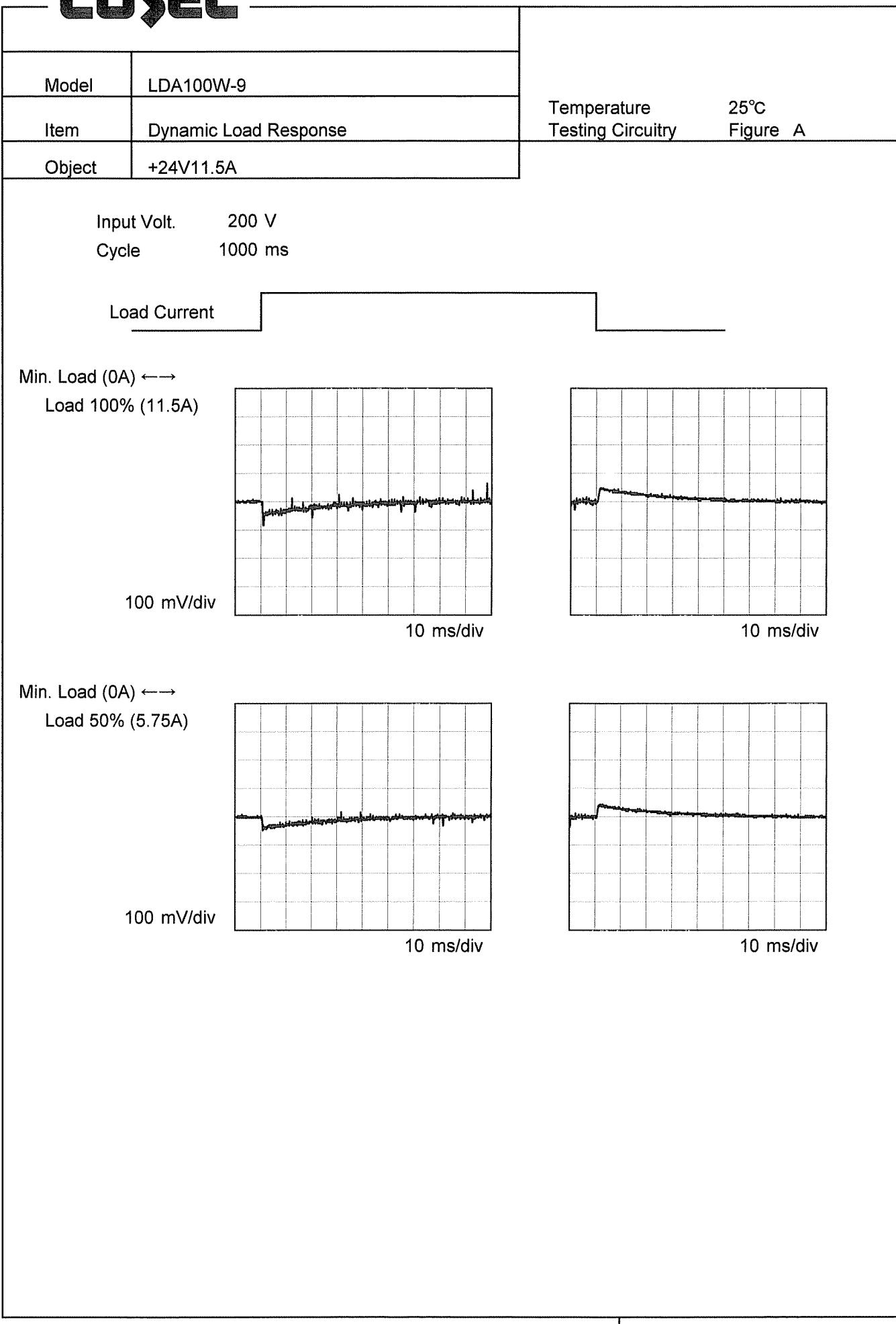
COSEL

Model	LDA100W-9																																	
Item	Line Regulation	Temperature 25°C Testing Circuitry Figure A																																
Object	+9V11.5A																																	
1.Graph																																		
<p style="text-align: center;">---□--- Load 50% —△— Load 100%</p>																																		
2.Values																																		
<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Output Voltage [V]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr> <td>150</td><td>8.923</td><td>8.917</td></tr> <tr> <td>160</td><td>8.923</td><td>8.917</td></tr> <tr> <td>170</td><td>8.923</td><td>8.917</td></tr> <tr> <td>180</td><td>8.923</td><td>8.917</td></tr> <tr> <td>200</td><td>8.923</td><td>8.917</td></tr> <tr> <td>220</td><td>8.923</td><td>8.917</td></tr> <tr> <td>240</td><td>8.923</td><td>8.917</td></tr> <tr> <td>264</td><td>8.923</td><td>8.917</td></tr> <tr> <td>280</td><td>8.923</td><td>8.917</td></tr> </tbody> </table>			Input Voltage [V]	Output Voltage [V]		Load 50%	Load 100%	150	8.923	8.917	160	8.923	8.917	170	8.923	8.917	180	8.923	8.917	200	8.923	8.917	220	8.923	8.917	240	8.923	8.917	264	8.923	8.917	280	8.923	8.917
Input Voltage [V]	Output Voltage [V]																																	
	Load 50%	Load 100%																																
150	8.923	8.917																																
160	8.923	8.917																																
170	8.923	8.917																																
180	8.923	8.917																																
200	8.923	8.917																																
220	8.923	8.917																																
240	8.923	8.917																																
264	8.923	8.917																																
280	8.923	8.917																																
<p>Note: Slanted line shows the range of the rated input voltage.</p>																																		

COSEL

Model	LDA100W-9																																																					
Item	Load Regulation	Temperature Testing Circuitry	25°C Figure A																																																			
Object	+9V11.5A																																																					
1.Graph	—△— Input Volt. 170V ---□--- Input Volt. 200V ---○--- Input Volt. 264V	2.Values																																																				
<p>The graph plots Output Voltage [V] on the Y-axis (8.84 to 8.98) against Load Current [A] on the X-axis (0 to 12). Three data series are shown for different input voltages: 170V (triangles), 200V (squares), and 264V (circles). All series show a slight downward trend as load current increases. A diagonal line is drawn across the graph, starting from approximately (0, 8.93) and ending at approximately (12, 8.91), representing the rated load current range.</p>																																																						
<p>Note: Slanted line shows the range of the rated load current.</p>																																																						
<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Output Voltage [V]</th> </tr> <tr> <th>Input Volt. 170[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 264[V]</th> </tr> </thead> <tbody> <tr> <td>0.00</td> <td>8.930</td> <td>8.929</td> <td>8.929</td> </tr> <tr> <td>2.00</td> <td>8.927</td> <td>8.927</td> <td>8.927</td> </tr> <tr> <td>4.00</td> <td>8.925</td> <td>8.925</td> <td>8.925</td> </tr> <tr> <td>6.00</td> <td>8.923</td> <td>8.923</td> <td>8.923</td> </tr> <tr> <td>8.00</td> <td>8.921</td> <td>8.921</td> <td>8.921</td> </tr> <tr> <td>10.00</td> <td>8.919</td> <td>8.919</td> <td>8.919</td> </tr> <tr> <td>11.50</td> <td>8.918</td> <td>8.918</td> <td>8.918</td> </tr> <tr> <td>12.65</td> <td>8.916</td> <td>8.916</td> <td>8.916</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>				Load Current [A]	Output Voltage [V]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	0.00	8.930	8.929	8.929	2.00	8.927	8.927	8.927	4.00	8.925	8.925	8.925	6.00	8.923	8.923	8.923	8.00	8.921	8.921	8.921	10.00	8.919	8.919	8.919	11.50	8.918	8.918	8.918	12.65	8.916	8.916	8.916	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Output Voltage [V]																																																					
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																			
0.00	8.930	8.929	8.929																																																			
2.00	8.927	8.927	8.927																																																			
4.00	8.925	8.925	8.925																																																			
6.00	8.923	8.923	8.923																																																			
8.00	8.921	8.921	8.921																																																			
10.00	8.919	8.919	8.919																																																			
11.50	8.918	8.918	8.918																																																			
12.65	8.916	8.916	8.916																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			

COSEL



COSEL

Model	LDA100W-9																																							
Item	Ripple Voltage (by Load Current)	Temperature 25°C Testing Circuitry Figure A																																						
Object	+9V11.5A																																							
1. Graph																																								
2. Values																																								
<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Input Volt. 170 [V]</th> <th>Input Volt. 264 [V]</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>15</td><td>15</td></tr> <tr><td>2.00</td><td>20</td><td>20</td></tr> <tr><td>4.00</td><td>20</td><td>25</td></tr> <tr><td>6.00</td><td>20</td><td>25</td></tr> <tr><td>8.00</td><td>25</td><td>25</td></tr> <tr><td>10.00</td><td>25</td><td>25</td></tr> <tr><td>11.50</td><td>30</td><td>30</td></tr> <tr><td>12.65</td><td>30</td><td>30</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>			Load Current [A]	Ripple Voltage [mV]		Input Volt. 170 [V]	Input Volt. 264 [V]	0.00	15	15	2.00	20	20	4.00	20	25	6.00	20	25	8.00	25	25	10.00	25	25	11.50	30	30	12.65	30	30	--	-	-	--	-	-	--	-	-
Load Current [A]	Ripple Voltage [mV]																																							
	Input Volt. 170 [V]	Input Volt. 264 [V]																																						
0.00	15	15																																						
2.00	20	20																																						
4.00	20	25																																						
6.00	20	25																																						
8.00	25	25																																						
10.00	25	25																																						
11.50	30	30																																						
12.65	30	30																																						
--	-	-																																						
--	-	-																																						
--	-	-																																						
<p>Measured by 20 MHz Oscilloscope. Ripple Voltage is shown as p-p in the figure below. Note: Slanted line shows the range of the rated load current.</p>																																								
<p>T1: Due to AC Input Line T2: Due to Switching</p>																																								
Fig. Complex Ripple Wave Form																																								

Model	LDA100W-9																																							
Item	Ripple-Noise	Temperature 25°C Testing Circuitry Figure A																																						
Object	+9V11.5A																																							
1. Graph																																								
<p>Graph showing Ripple-Noise [mV] vs Load Current [A]. The Y-axis ranges from 0 to 200 mV, and the X-axis ranges from 0 to 12 A. Two curves are shown: one for Input Volt. 170V (solid line with triangle markers) and one for Input Volt. 264V (dashed line with circle markers). Both curves show an increase in noise with increasing load current, with the 264V curve generally higher than the 170V curve. A slanted line indicates the range of the rated load current.</p> <table border="1"> <caption>Data points estimated from the graph</caption> <thead> <tr> <th>Load Current [A]</th> <th>Ripple-Noise [mV] (170V)</th> <th>Ripple-Noise [mV] (264V)</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>25</td><td>25</td></tr> <tr><td>2.00</td><td>30</td><td>35</td></tr> <tr><td>4.00</td><td>35</td><td>40</td></tr> <tr><td>6.00</td><td>40</td><td>40</td></tr> <tr><td>8.00</td><td>45</td><td>45</td></tr> <tr><td>10.00</td><td>50</td><td>50</td></tr> <tr><td>11.50</td><td>50</td><td>55</td></tr> <tr><td>12.65</td><td>55</td><td>55</td></tr> </tbody> </table>			Load Current [A]	Ripple-Noise [mV] (170V)	Ripple-Noise [mV] (264V)	0.00	25	25	2.00	30	35	4.00	35	40	6.00	40	40	8.00	45	45	10.00	50	50	11.50	50	55	12.65	55	55											
Load Current [A]	Ripple-Noise [mV] (170V)	Ripple-Noise [mV] (264V)																																						
0.00	25	25																																						
2.00	30	35																																						
4.00	35	40																																						
6.00	40	40																																						
8.00	45	45																																						
10.00	50	50																																						
11.50	50	55																																						
12.65	55	55																																						
2. Values																																								
<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="2">Ripple-Noise [mV]</th> </tr> <tr> <th>Input Volt. 170 [V]</th> <th>Input Volt. 264 [V]</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>25</td><td>25</td></tr> <tr><td>2.00</td><td>30</td><td>35</td></tr> <tr><td>4.00</td><td>35</td><td>40</td></tr> <tr><td>6.00</td><td>40</td><td>40</td></tr> <tr><td>8.00</td><td>45</td><td>45</td></tr> <tr><td>10.00</td><td>50</td><td>50</td></tr> <tr><td>11.50</td><td>50</td><td>55</td></tr> <tr><td>12.65</td><td>55</td><td>55</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>			Load Current [A]	Ripple-Noise [mV]		Input Volt. 170 [V]	Input Volt. 264 [V]	0.00	25	25	2.00	30	35	4.00	35	40	6.00	40	40	8.00	45	45	10.00	50	50	11.50	50	55	12.65	55	55	--	-	-	--	-	-	--	-	-
Load Current [A]	Ripple-Noise [mV]																																							
	Input Volt. 170 [V]	Input Volt. 264 [V]																																						
0.00	25	25																																						
2.00	30	35																																						
4.00	35	40																																						
6.00	40	40																																						
8.00	45	45																																						
10.00	50	50																																						
11.50	50	55																																						
12.65	55	55																																						
--	-	-																																						
--	-	-																																						
--	-	-																																						
<p>Measured by 20 MHz Oscilloscope. Ripple-Noise is shown as p-p in the figure below. Note: Slanted line shows the range of the rated load current.</p> <p>T1: Due to AC Input Line T2: Due to Switching</p> <p>Ripple-Noise [mVp-p]</p> <p>T1</p> <p>T2</p>																																								
Fig. Complex Ripple Wave Form																																								

COSEL

Model	LDA100W-9																																							
Item	Ripple Voltage (by Ambient Temp.)																																							
Object	+9V11.5A																																							
1.Graph																																								
<p>Graph showing Ripple Voltage [mV] vs Ambient Temperature [°C] for LDA100W-9 at Input Volt. 200V. The graph shows two data series: Load 50% (represented by squares) and Load 100% (represented by triangles). Both series show a slight decrease in ripple voltage as ambient temperature increases from -20°C to 60°C. A slanted line indicates the range of rated ambient temperature.</p>																																								
2.Values																																								
<table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr> <td>-20</td><td>40</td><td>45</td> </tr> <tr> <td>-10</td><td>30</td><td>35</td> </tr> <tr> <td>0</td><td>25</td><td>30</td> </tr> <tr> <td>10</td><td>20</td><td>25</td> </tr> <tr> <td>25</td><td>20</td><td>25</td> </tr> <tr> <td>40</td><td>20</td><td>25</td> </tr> <tr> <td>50</td><td>15</td><td>20</td> </tr> <tr> <td>60</td><td>15</td><td>20</td> </tr> <tr> <td>--</td><td>-</td><td>-</td> </tr> <tr> <td>--</td><td>-</td><td>-</td> </tr> <tr> <td>--</td><td>-</td><td>-</td> </tr> </tbody> </table>			Ambient Temperature [°C]	Ripple Voltage [mV]		Load 50%	Load 100%	-20	40	45	-10	30	35	0	25	30	10	20	25	25	20	25	40	20	25	50	15	20	60	15	20	--	-	-	--	-	-	--	-	-
Ambient Temperature [°C]	Ripple Voltage [mV]																																							
	Load 50%	Load 100%																																						
-20	40	45																																						
-10	30	35																																						
0	25	30																																						
10	20	25																																						
25	20	25																																						
40	20	25																																						
50	15	20																																						
60	15	20																																						
--	-	-																																						
--	-	-																																						
--	-	-																																						

Measured by 20 MHz Oscilloscope.

Note: Slanted line shows the range of the rated ambient temperature.

COSEL

Model	LDA100W-9																																																					
Item	Ambient Temperature Drift																																																					
Object	+9V11.5A																																																					
1.Graph	<p>Output Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 100%</p> <p>Legend:</p> <ul style="list-style-type: none"> Input Volt. 170V Input Volt. 200V Input Volt. 264V 																																																					
Testing Circuitry	Figure A																																																					
2.Values	<table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="3">Output Voltage [V]</th> </tr> <tr> <th>Input Volt. 170[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 264[V]</th> </tr> </thead> <tbody> <tr> <td>-20</td><td>8.929</td><td>8.929</td><td>8.929</td></tr> <tr> <td>-10</td><td>8.927</td><td>8.927</td><td>8.927</td></tr> <tr> <td>0</td><td>8.925</td><td>8.925</td><td>8.925</td></tr> <tr> <td>10</td><td>8.923</td><td>8.923</td><td>8.923</td></tr> <tr> <td>25</td><td>8.920</td><td>8.920</td><td>8.920</td></tr> <tr> <td>40</td><td>8.916</td><td>8.916</td><td>8.916</td></tr> <tr> <td>50</td><td>8.911</td><td>8.911</td><td>8.911</td></tr> <tr> <td>60</td><td>8.905</td><td>8.905</td><td>8.905</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>			Ambient Temperature [°C]	Output Voltage [V]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	-20	8.929	8.929	8.929	-10	8.927	8.927	8.927	0	8.925	8.925	8.925	10	8.923	8.923	8.923	25	8.920	8.920	8.920	40	8.916	8.916	8.916	50	8.911	8.911	8.911	60	8.905	8.905	8.905	--	-	-	-	--	-	-	-	--	-	-	-
Ambient Temperature [°C]	Output Voltage [V]																																																					
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																			
-20	8.929	8.929	8.929																																																			
-10	8.927	8.927	8.927																																																			
0	8.925	8.925	8.925																																																			
10	8.923	8.923	8.923																																																			
25	8.920	8.920	8.920																																																			
40	8.916	8.916	8.916																																																			
50	8.911	8.911	8.911																																																			
60	8.905	8.905	8.905																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
Note:	Slanted line shows the range of the rated ambient temperature.																																																					



Model	LDA100W-9	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+9V11.5A	

1. Output Voltage Accuracy

This is defined as the value of the output voltage, regulation load, ambient temperature and input voltage varied at random in the range as specified below.

Temperature : -10 ~ 50°C

Input Voltage : 170 ~ 264V

Load Current : 0 ~ 11.5A

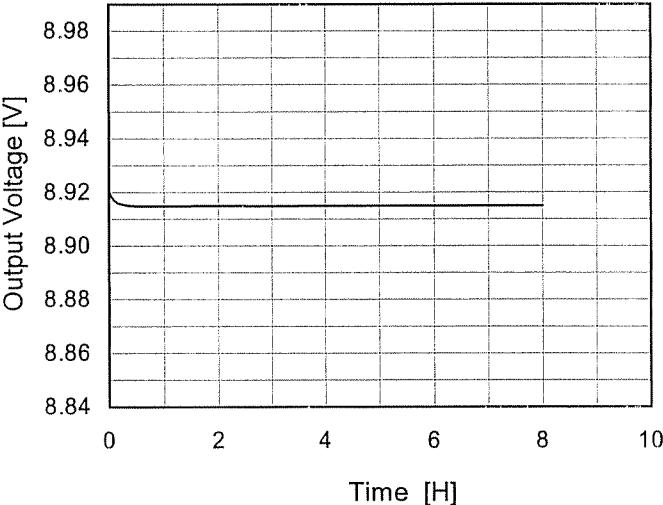
* Output Voltage Accuracy = $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

$$\text{* Output Voltage Accuracy (Ration)} = \frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$$

2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-10	264	0	8.938	± 15	± 0.2
Minimum Voltage	50	170	11.5	8.909		

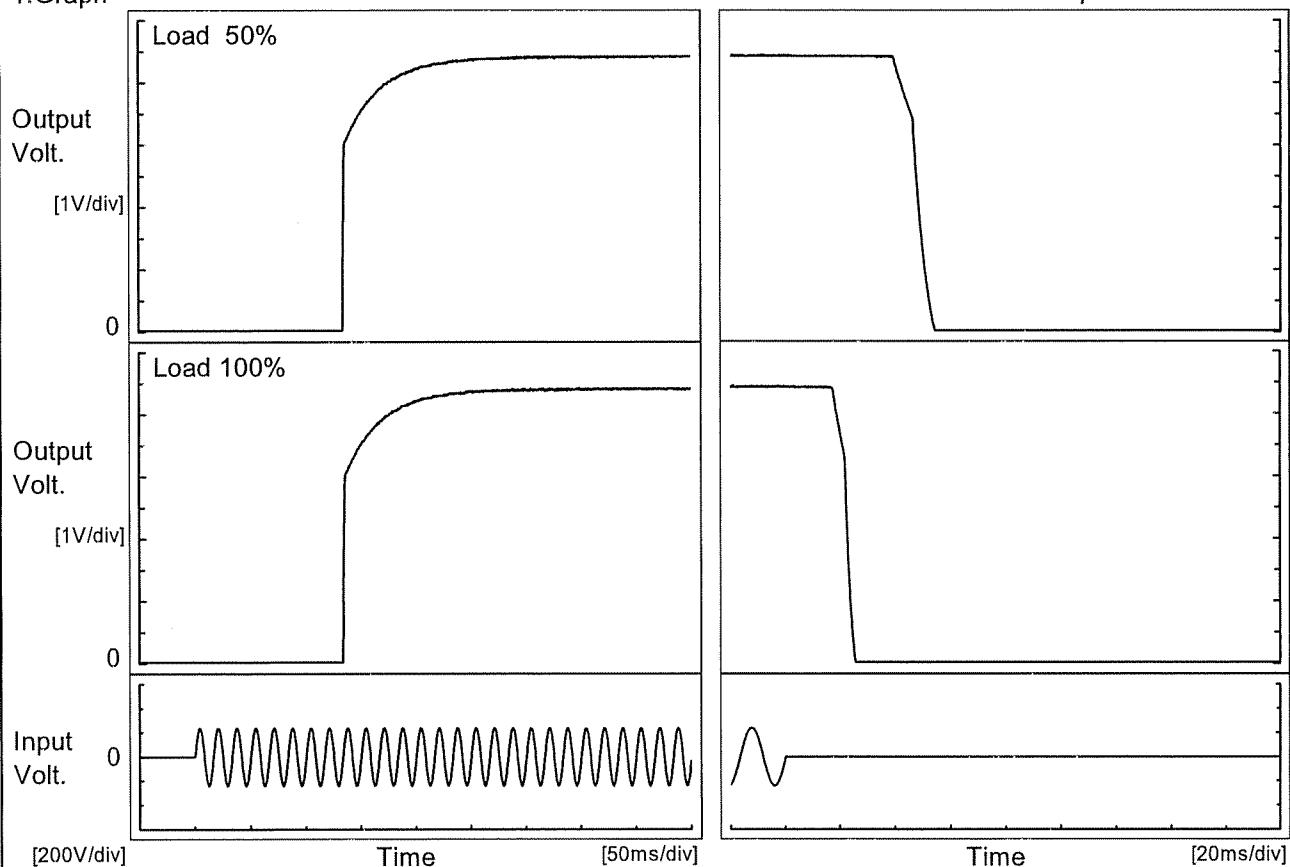
COSEL

Model	LDA100W-9	Temperature Testing Circuitry	25°C Figure A																						
Item	Time Lapse Drift																								
Object	+9V11.5A																								
1.Graph			2.Values																						
 <p>Output Voltage [V]</p> <p>Time [H]</p> <p>Input Volt. 200V Load 100%</p>			<table border="1"> <thead> <tr> <th>Time since start [H]</th> <th>Output Voltage [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>8.920</td></tr> <tr><td>0.5</td><td>8.915</td></tr> <tr><td>1.0</td><td>8.915</td></tr> <tr><td>2.0</td><td>8.915</td></tr> <tr><td>3.0</td><td>8.915</td></tr> <tr><td>4.0</td><td>8.915</td></tr> <tr><td>5.0</td><td>8.915</td></tr> <tr><td>6.0</td><td>8.915</td></tr> <tr><td>7.0</td><td>8.915</td></tr> <tr><td>8.0</td><td>8.915</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	8.920	0.5	8.915	1.0	8.915	2.0	8.915	3.0	8.915	4.0	8.915	5.0	8.915	6.0	8.915	7.0	8.915	8.0	8.915
Time since start [H]	Output Voltage [V]																								
0.0	8.920																								
0.5	8.915																								
1.0	8.915																								
2.0	8.915																								
3.0	8.915																								
4.0	8.915																								
5.0	8.915																								
6.0	8.915																								
7.0	8.915																								
8.0	8.915																								

COSEL

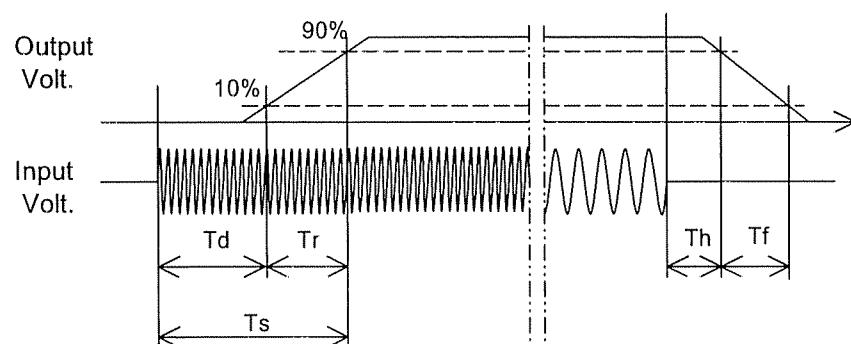
Model	LDA100W-9	Temperature Testing Circuitry Figure A
Item	Rise and Fall Time	
Object	+9V11.5A	

1. Graph



2. Values

Load	Time	Td	Tr	Ts	Th	Tf	[ms]
50 %		134.3	48.8	183.1	41.4	11.0	
100 %		134.0	49.3	183.3	18.6	6.3	



COSEL

Model	LDA100W-9																																	
Item	Hold-Up Time	Temperature 25°C Testing Circuitry Figure A																																
Object	+9V11.5A																																	
1. Graph																																		
2. Values																																		
<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Hold-Up Time [ms]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr> <td>150</td> <td>27</td> <td>11</td> </tr> <tr> <td>160</td> <td>34</td> <td>15</td> </tr> <tr> <td>170</td> <td>41</td> <td>18</td> </tr> <tr> <td>180</td> <td>48</td> <td>22</td> </tr> <tr> <td>200</td> <td>64</td> <td>30</td> </tr> <tr> <td>220</td> <td>82</td> <td>39</td> </tr> <tr> <td>240</td> <td>101</td> <td>48</td> </tr> <tr> <td>264</td> <td>126</td> <td>61</td> </tr> <tr> <td>280</td> <td>144</td> <td>70</td> </tr> </tbody> </table>			Input Voltage [V]	Hold-Up Time [ms]		Load 50%	Load 100%	150	27	11	160	34	15	170	41	18	180	48	22	200	64	30	220	82	39	240	101	48	264	126	61	280	144	70
Input Voltage [V]	Hold-Up Time [ms]																																	
	Load 50%	Load 100%																																
150	27	11																																
160	34	15																																
170	41	18																																
180	48	22																																
200	64	30																																
220	82	39																																
240	101	48																																
264	126	61																																
280	144	70																																
<p>This duration covers from Shut-off of input voltage to the moment when output voltage descends to the rated range of voltage accuracy. Note: Slanted line shows the range of the rated input voltage.</p>																																		

COSEL

Model	LDA100W-9																																																					
Item	Instantaneous Interruption Compensation	Temperature Testing Circuitry	25°C Figure A																																																			
Object	+9V11.5A																																																					
1.Graph	<p>—△— Input Volt. 170V - - □ - - Input Volt. 200V - - ○ - - Input Volt. 264V</p>																																																					
2.Values	<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Time [ms]</th> </tr> <tr> <th>Input Volt. 170[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 264[V]</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>2.00</td><td>115</td><td>180</td><td>331</td></tr> <tr><td>4.00</td><td>62</td><td>96</td><td>181</td></tr> <tr><td>6.00</td><td>45</td><td>62</td><td>127</td></tr> <tr><td>8.00</td><td>30</td><td>48</td><td>95</td></tr> <tr><td>10.00</td><td>22</td><td>37</td><td>74</td></tr> <tr><td>11.50</td><td>20</td><td>30</td><td>63</td></tr> <tr><td>12.65</td><td>16</td><td>30</td><td>56</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>			Load Current [A]	Time [ms]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	0.00	-	-	-	2.00	115	180	331	4.00	62	96	181	6.00	45	62	127	8.00	30	48	95	10.00	22	37	74	11.50	20	30	63	12.65	16	30	56	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Time [ms]																																																					
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																			
0.00	-	-	-																																																			
2.00	115	180	331																																																			
4.00	62	96	181																																																			
6.00	45	62	127																																																			
8.00	30	48	95																																																			
10.00	22	37	74																																																			
11.50	20	30	63																																																			
12.65	16	30	56																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			

Note: Slanted line shows the range of the rated load current.

COSEL

Model	LDA100W-9																																							
Item	Minimum Input Voltage for Regulated Output Voltage																																							
Object	+9V11.5A																																							
1.Graph																																								
<p>---□--- Load 50%</p> <p>—△— Load 100%</p> <p>Input Voltage [V]</p> <p>Ambient Temperature [°C]</p>																																								
<p>Note: Slanted line shows the range of the rated ambient temperature.</p>																																								
Testing Circuitry Figure A																																								
2.Values																																								
<table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="2">Input Voltage [V]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr> <td>-20</td><td>56</td><td>65</td> </tr> <tr> <td>-10</td><td>55</td><td>65</td> </tr> <tr> <td>0</td><td>55</td><td>65</td> </tr> <tr> <td>10</td><td>55</td><td>65</td> </tr> <tr> <td>25</td><td>55</td><td>65</td> </tr> <tr> <td>40</td><td>55</td><td>65</td> </tr> <tr> <td>50</td><td>55</td><td>65</td> </tr> <tr> <td>60</td><td>55</td><td>65</td> </tr> <tr> <td>--</td><td>-</td><td>-</td> </tr> <tr> <td>--</td><td>-</td><td>-</td> </tr> <tr> <td>--</td><td>-</td><td>-</td> </tr> </tbody> </table>			Ambient Temperature [°C]	Input Voltage [V]		Load 50%	Load 100%	-20	56	65	-10	55	65	0	55	65	10	55	65	25	55	65	40	55	65	50	55	65	60	55	65	--	-	-	--	-	-	--	-	-
Ambient Temperature [°C]	Input Voltage [V]																																							
	Load 50%	Load 100%																																						
-20	56	65																																						
-10	55	65																																						
0	55	65																																						
10	55	65																																						
25	55	65																																						
40	55	65																																						
50	55	65																																						
60	55	65																																						
--	-	-																																						
--	-	-																																						
--	-	-																																						

COSEL

Model	LDA100W-9	Temperature Testing Circuitry	25°C Figure A																																																									
Item	Overcurrent Protection																																																											
Object	+9V11.5A																																																											
1.Graph	<p>Input Volt. 170V Input Volt. 200V Input Volt. 264V</p> <p>Output Voltage [V]</p> <p>Load Current [A]</p>	2.Values																																																										
<p>Note: Slanted line shows the range of the rated load current.</p>																																																												
			<table border="1"> <thead> <tr> <th rowspan="2">Output Voltage [V]</th> <th colspan="3">Load Current [A]</th> </tr> <tr> <th>Input Volt. 170[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 264[V]</th> </tr> </thead> <tbody> <tr><td>9.00</td><td>11.77</td><td>11.77</td><td>11.74</td></tr> <tr><td>8.55</td><td>15.33</td><td>15.33</td><td>15.42</td></tr> <tr><td>8.10</td><td>15.38</td><td>15.38</td><td>15.49</td></tr> <tr><td>7.20</td><td>15.49</td><td>15.51</td><td>15.65</td></tr> <tr><td>6.30</td><td>15.63</td><td>15.66</td><td>15.78</td></tr> <tr><td>5.40</td><td>15.80</td><td>15.78</td><td>15.90</td></tr> <tr><td>4.50</td><td>15.95</td><td>16.03</td><td>16.08</td></tr> <tr><td>3.60</td><td>16.07</td><td>16.17</td><td>16.33</td></tr> <tr><td>2.70</td><td>16.21</td><td>16.32</td><td>16.59</td></tr> <tr><td>1.80</td><td>16.34</td><td>16.47</td><td>16.64</td></tr> <tr><td>0.90</td><td>16.51</td><td>16.54</td><td>16.73</td></tr> <tr><td>0.00</td><td>16.45</td><td>16.45</td><td>16.59</td></tr> </tbody> </table>	Output Voltage [V]	Load Current [A]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	9.00	11.77	11.77	11.74	8.55	15.33	15.33	15.42	8.10	15.38	15.38	15.49	7.20	15.49	15.51	15.65	6.30	15.63	15.66	15.78	5.40	15.80	15.78	15.90	4.50	15.95	16.03	16.08	3.60	16.07	16.17	16.33	2.70	16.21	16.32	16.59	1.80	16.34	16.47	16.64	0.90	16.51	16.54	16.73	0.00	16.45	16.45	16.59		
Output Voltage [V]	Load Current [A]																																																											
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																									
9.00	11.77	11.77	11.74																																																									
8.55	15.33	15.33	15.42																																																									
8.10	15.38	15.38	15.49																																																									
7.20	15.49	15.51	15.65																																																									
6.30	15.63	15.66	15.78																																																									
5.40	15.80	15.78	15.90																																																									
4.50	15.95	16.03	16.08																																																									
3.60	16.07	16.17	16.33																																																									
2.70	16.21	16.32	16.59																																																									
1.80	16.34	16.47	16.64																																																									
0.90	16.51	16.54	16.73																																																									
0.00	16.45	16.45	16.59																																																									

COSEL

Model	LDA100W-9	Testing Circuitry Figure A																																																					
Item	Overvoltage Protection																																																						
Object	+9V11.5A																																																						
1.Graph	<p>—▲— Input Volt. 170V - - - □ - - - Input Volt. 200V - - ○ - - - Input Volt. 264V</p> <p>Operating Point [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 0%</p>																																																						
2.Values	<table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="3">Operating Point [V]</th> </tr> <tr> <th>Input Volt. 170[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 264[V]</th> </tr> </thead> <tbody> <tr> <td>-20</td><td>11.62</td><td>11.62</td><td>11.62</td></tr> <tr> <td>-10</td><td>11.68</td><td>11.68</td><td>11.68</td></tr> <tr> <td>0</td><td>11.73</td><td>11.73</td><td>11.73</td></tr> <tr> <td>10</td><td>11.79</td><td>11.79</td><td>11.79</td></tr> <tr> <td>25</td><td>11.86</td><td>11.86</td><td>11.86</td></tr> <tr> <td>40</td><td>11.97</td><td>11.97</td><td>11.97</td></tr> <tr> <td>50</td><td>12.03</td><td>12.03</td><td>12.03</td></tr> <tr> <td>60</td><td>12.03</td><td>12.03</td><td>12.03</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td></tr> <tr> <td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>				Ambient Temperature [°C]	Operating Point [V]			Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]	-20	11.62	11.62	11.62	-10	11.68	11.68	11.68	0	11.73	11.73	11.73	10	11.79	11.79	11.79	25	11.86	11.86	11.86	40	11.97	11.97	11.97	50	12.03	12.03	12.03	60	12.03	12.03	12.03	--	-	-	-	--	-	-	-	--	-	-	-
Ambient Temperature [°C]	Operating Point [V]																																																						
	Input Volt. 170[V]	Input Volt. 200[V]	Input Volt. 264[V]																																																				
-20	11.62	11.62	11.62																																																				
-10	11.68	11.68	11.68																																																				
0	11.73	11.73	11.73																																																				
10	11.79	11.79	11.79																																																				
25	11.86	11.86	11.86																																																				
40	11.97	11.97	11.97																																																				
50	12.03	12.03	12.03																																																				
60	12.03	12.03	12.03																																																				
--	-	-	-																																																				
--	-	-	-																																																				
--	-	-	-																																																				
Note:	Slanted line shows the range of the rated ambient temperature.																																																						

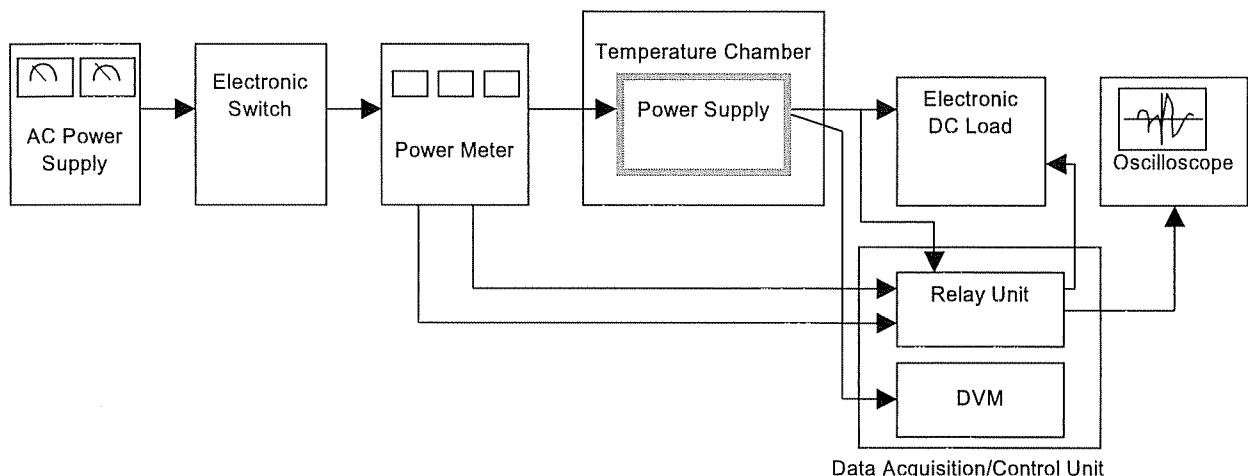


Figure A

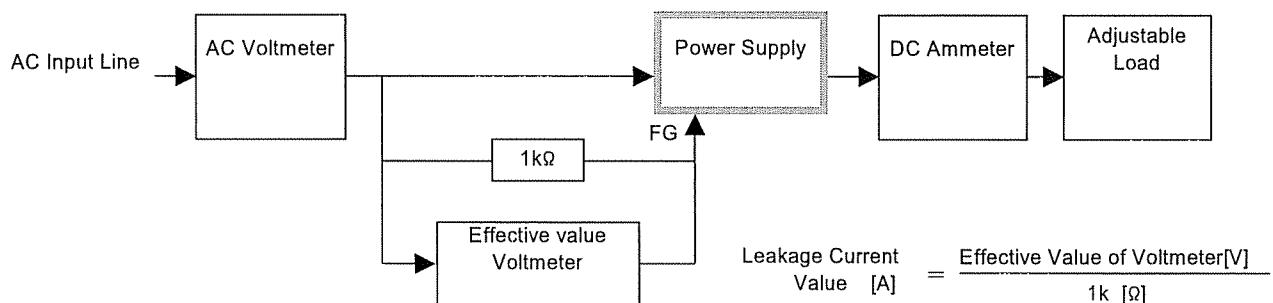


Figure B (DEN-AN)

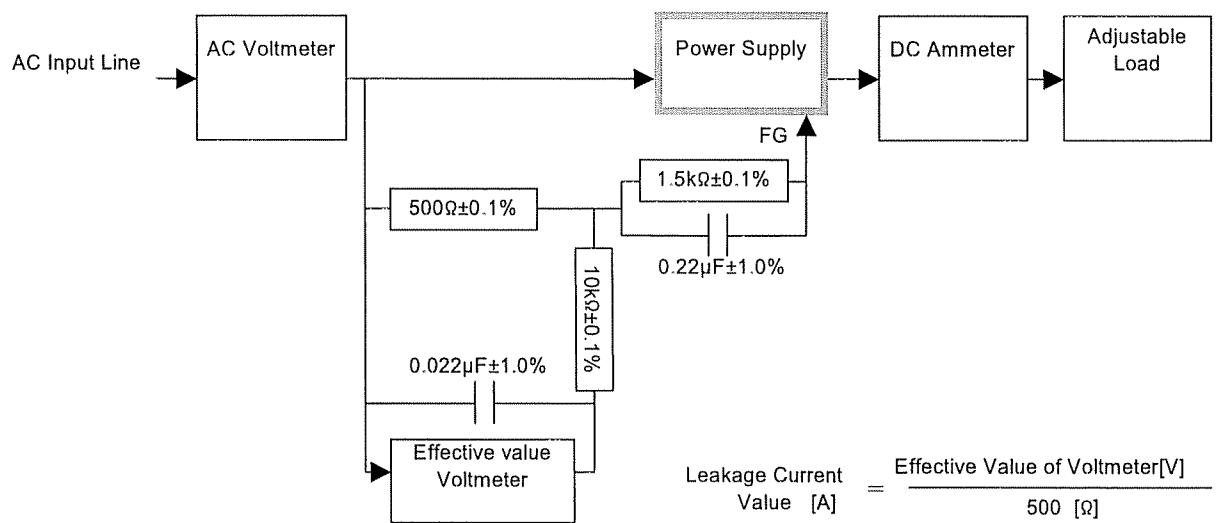


Figure B (IEC60950)