



TEST DATA OF LDA100W-18

(100V INPUT)

Regulated DC Power Supply
Dec.9. 2004

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K.Shiho Design Manager

Prepared by : S. Ueda
S.Ueda Design Engineer

COSEL CO.,LTD.



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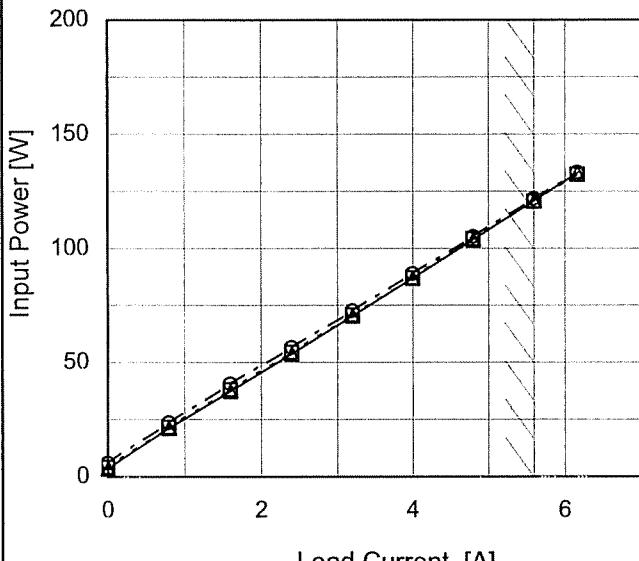
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Model	LDA100W-18																																																					
Item	Input Current (by Load Current)	Temperature Testing Circuitry	25°C Figure A																																																			
Object	_____																																																					
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<p style="text-align: center;"> —△— Input Volt. 85V ---□--- Input Volt. 100V ---○--- Input Volt. 132V </p> <p>The graph shows the relationship between input current and load current for the LDA100W-18 at 25°C. The x-axis represents Load Current [A] from 0 to 6. The y-axis represents Input Current [A] from 0.0 to 5.0. Three sets of data points are plotted for input voltages of 85V, 100V, and 132V. Each set includes triangles for 85V, squares for 100V, and circles for 132V. A slanted line is drawn through the data points, representing the rated load current range.</p>																																																						
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<p>The graph plots Efficiency [%] on the y-axis (60 to 88) against Input Voltage [V] on the x-axis (70 to 150). 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 decrease in efficiency 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>75</td><td>81.3</td><td>82.4</td></tr> <tr><td>80</td><td>82.1</td><td>83.6</td></tr> <tr><td>85</td><td>81.9</td><td>84.0</td></tr> <tr><td>90</td><td>81.7</td><td>84.2</td></tr> <tr><td>100</td><td>81.0</td><td>84.2</td></tr> <tr><td>110</td><td>80.3</td><td>84.1</td></tr> <tr><td>120</td><td>79.4</td><td>83.8</td></tr> <tr><td>132</td><td>78.3</td><td>84.1</td></tr> <tr><td>140</td><td>77.4</td><td>83.7</td></tr> </tbody> </table>		Input Voltage [V]	Efficiency Load 50% [%]	Efficiency Load 100% [%]	75	81.3	82.4	80	82.1	83.6	85	81.9	84.0	90	81.7	84.2	100	81.0	84.2	110	80.3	84.1	120	79.4	83.8	132	78.3	84.1	140	77.4	83.7			
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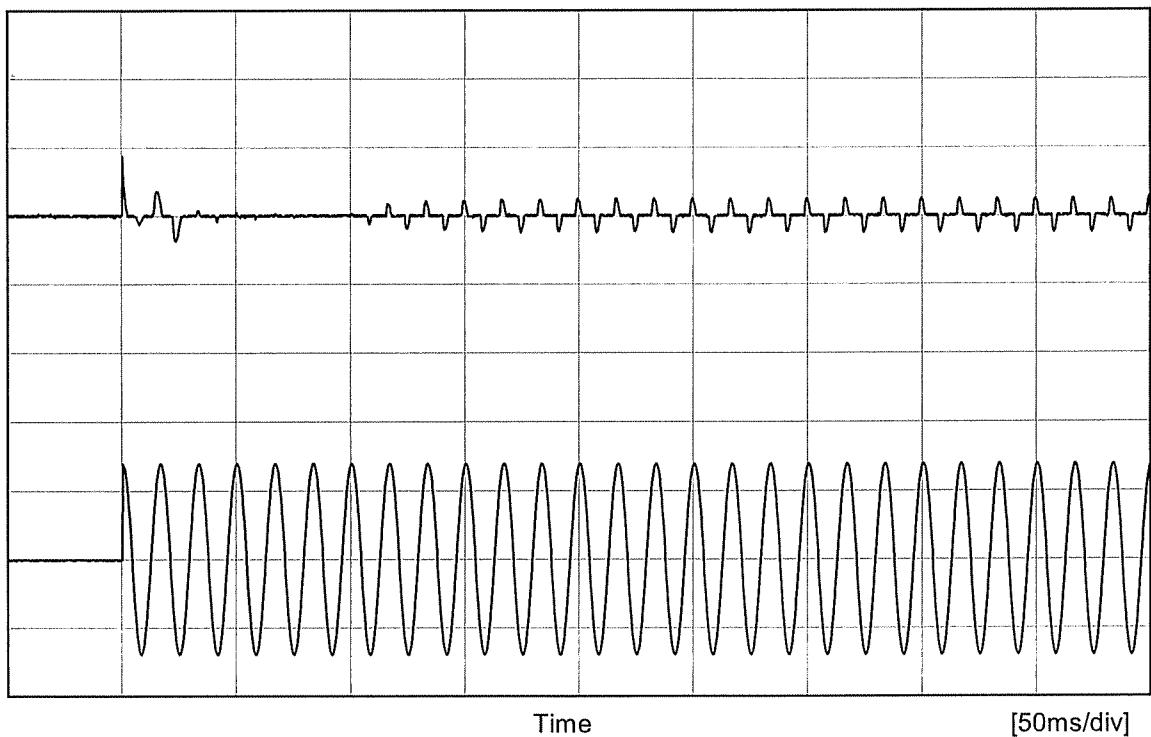
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Model LDA100W-18

Item Inrush Current

Object _____

Temperature 25°C
Testing Circuitry Figure AInput
Current
[20A/div]

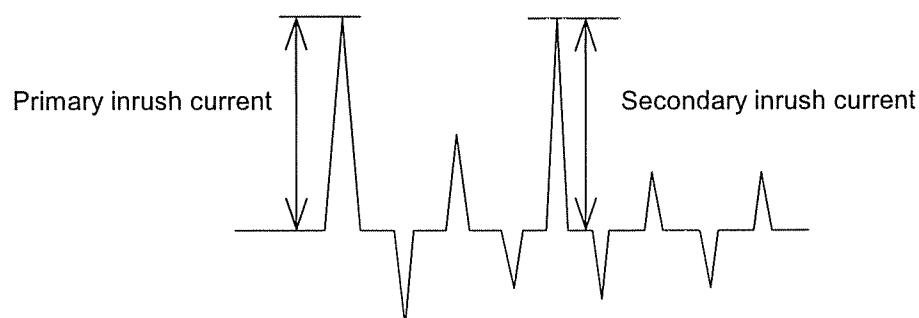
Input Voltage 100 V

Frequency 60 Hz

Load 100 %

Primary inrush current 17.5 A

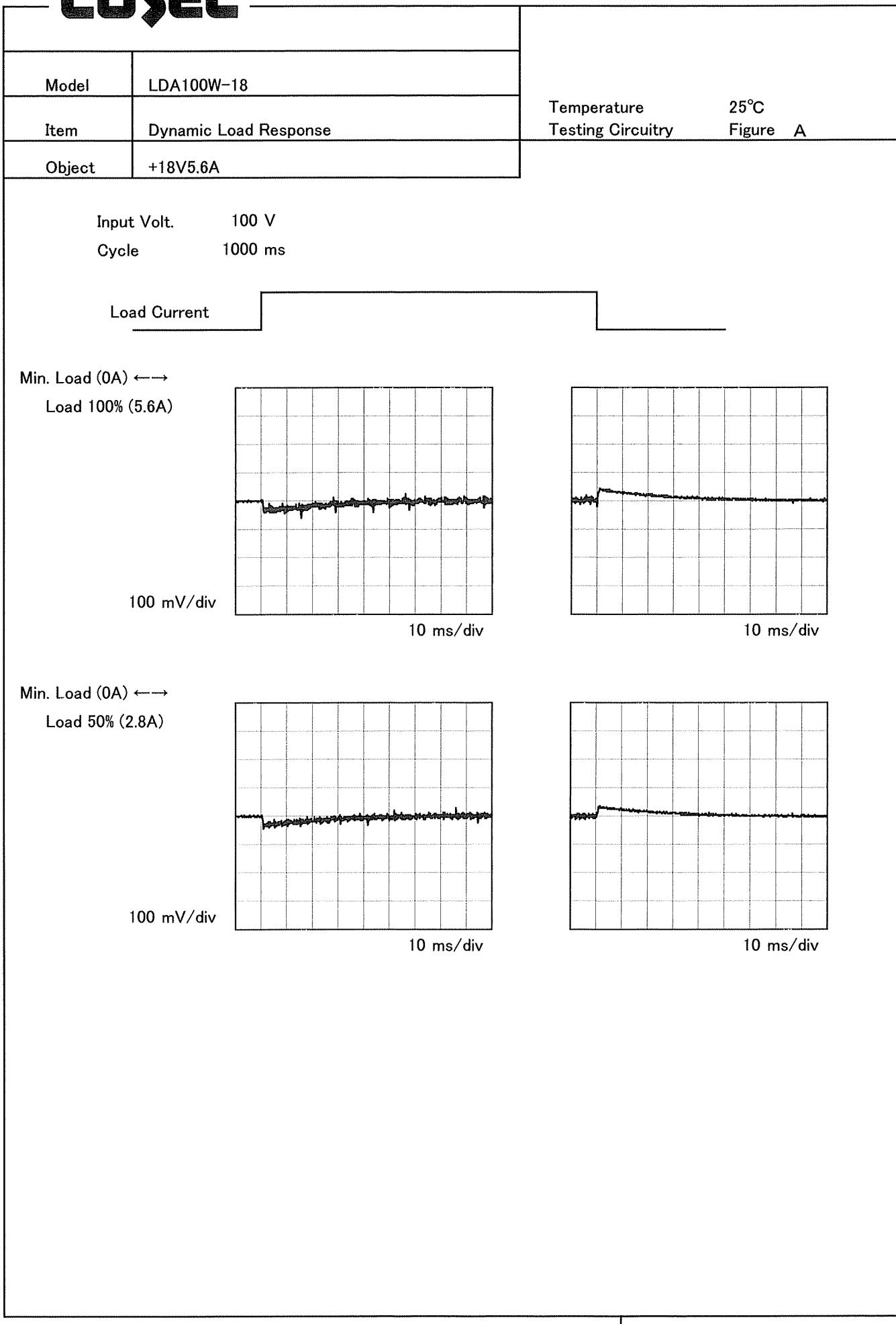
Secondary inrush current 5.5 A



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Item	Load Regulation					
Object	+18V5.6A					
1.Graph						
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Temperature 25°C Testing Circuitry Figure A						
2.Values						
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0.80	18.110	18.110	18.110			
1.60	18.108	18.108	18.109			
2.40	18.107	18.107	18.107			
3.20	18.105	18.105	18.106			
4.00	18.104	18.104	18.104			
4.80	18.102	18.103	18.103			
5.60	18.101	18.101	18.101			
6.16	18.100	18.100	18.100			
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Model	LDA100W-18	Testing Circuitry Figure A
Item	Output Voltage Accuracy	
Object	+18V5.6A	

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 : 85 - 132V

Load Current : 0 - 5.6A

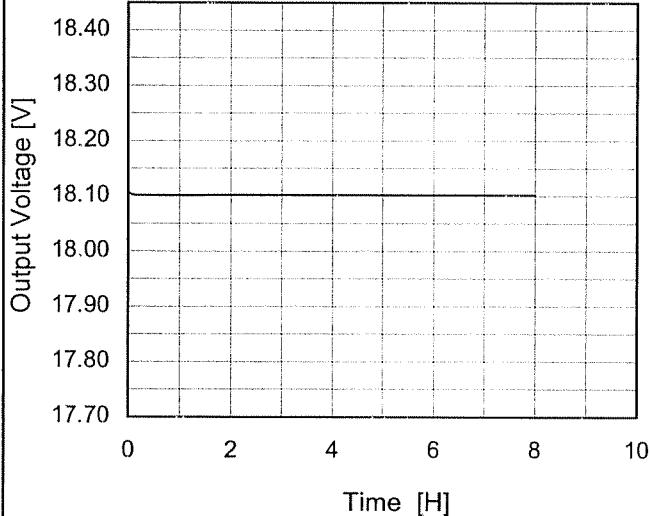
* Output Voltage Accuracy = $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

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

2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-10	85	0	18.138	± 24	± 0.1
Minimum Voltage	50	132	5.6	18.091		

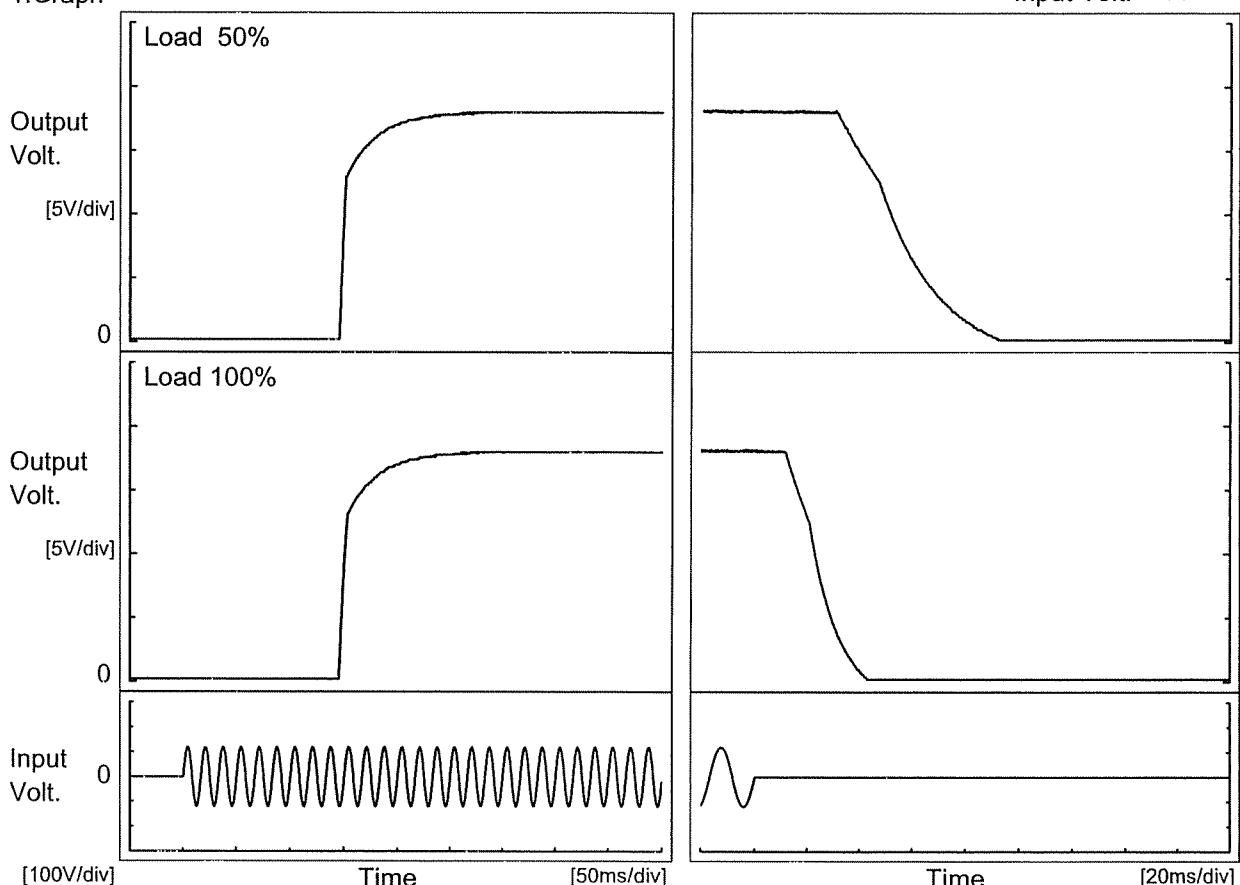
COSEL

Model	LDA100W-18	Temperature	25°C																						
Item	Time Lapse Drift	Testing Circuitry	Figure A																						
Object	+18V5.6A																								
1.Graph			2.Values																						
 <p>Output Voltage [V]</p> <p>Time [H]</p> <p>Input Volt. 100V 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>18.110</td></tr> <tr><td>0.5</td><td>18.101</td></tr> <tr><td>1.0</td><td>18.102</td></tr> <tr><td>2.0</td><td>18.102</td></tr> <tr><td>3.0</td><td>18.102</td></tr> <tr><td>4.0</td><td>18.102</td></tr> <tr><td>5.0</td><td>18.102</td></tr> <tr><td>6.0</td><td>18.102</td></tr> <tr><td>7.0</td><td>18.102</td></tr> <tr><td>8.0</td><td>18.102</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	18.110	0.5	18.101	1.0	18.102	2.0	18.102	3.0	18.102	4.0	18.102	5.0	18.102	6.0	18.102	7.0	18.102	8.0	18.102
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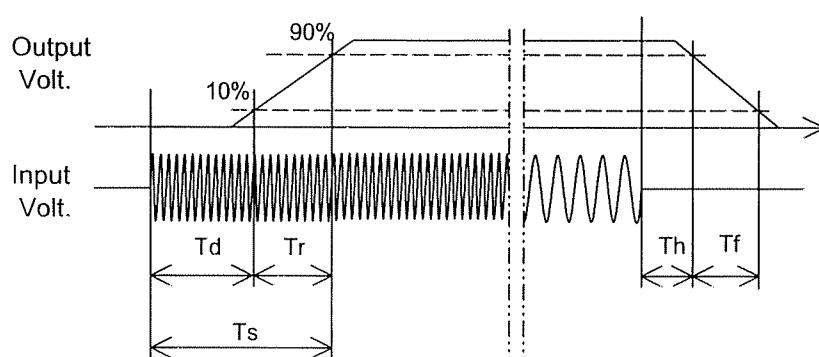
Model	LDA100W-18	Temperature Testing Circuitry Figure A	25°C
Item	Rise and Fall Time		
Object	+18V5.6A		

1. Graph



2. Values

Load	Time	Td	Tr	Ts	Th	Tf	[ms]
50 %		146.0	40.5	186.5	35.3	42.8	
100 %		146.0	40.8	186.8	13.9	22.2	



Model	LDA100W-18	Temperature Testing Circuitry	25°C Figure A																																
Item	Hold-Up Time																																		
Object	+18V5.6A																																		
1.Graph			2.Values																																
<p>Graph showing Hold-Up Time [ms] vs Input Voltage [V] for LDA100W-18 at 25°C. The Y-axis is logarithmic from 1 to 1000 ms. The X-axis ranges from 70 to 150 V. Two curves are shown: Load 50% (dashed line with squares) and Load 100% (solid line with triangles). Both curves show an increase in hold-up time as input voltage decreases below the rated range (indicated by a slanted line between approximately 100-115V).</p>			<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>75</td> <td>18</td> <td>5</td> </tr> <tr> <td>80</td> <td>25</td> <td>8</td> </tr> <tr> <td>85</td> <td>31</td> <td>12</td> </tr> <tr> <td>90</td> <td>38</td> <td>16</td> </tr> <tr> <td>100</td> <td>54</td> <td>24</td> </tr> <tr> <td>110</td> <td>71</td> <td>33</td> </tr> <tr> <td>120</td> <td>90</td> <td>43</td> </tr> <tr> <td>132</td> <td>114</td> <td>56</td> </tr> <tr> <td>140</td> <td>132</td> <td>65</td> </tr> </tbody> </table>	Input Voltage [V]	Hold-Up Time [ms]		Load 50%	Load 100%	75	18	5	80	25	8	85	31	12	90	38	16	100	54	24	110	71	33	120	90	43	132	114	56	140	132	65
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<p>This duration covers from Shut-off of input voltage to the moment when output voltage descends to the rated range of voltage accuracy.</p> <p>Note: Slanted line shows the range of the rated input voltage.</p>																																			

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Model	LDA100W-18																																							
Item	Minimum Input Voltage for Regulated Output Voltage																																							
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Item	Overcurrent Protection																																																									
Object	+18V5.6A																																																									
1.Graph	<p>The graph plots Output Voltage [V] on the Y-axis (0 to 30) against Load Current [A] on the X-axis (0 to 12). Three curves represent different input voltages: 85V (solid line), 100V (dashed line), and 132V (dash-dot line). All curves show a constant output voltage until a certain load current is reached, after which the voltage drops sharply. A slanted line is drawn across the graph, starting from approximately (4, 18) and ending at (8, 0), indicating the range of the rated load current.</p>																																																									
Temperature Testing Circuitry	25°C Figure A																																																									
2.Values	<table border="1"> <thead> <tr> <th rowspan="2">Output Voltage [V]</th> <th colspan="3">Load Current [A]</th> </tr> <tr> <th>Input Volt. 85[V]</th> <th>Input Volt. 100[V]</th> <th>Input Volt. 132[V]</th> </tr> </thead> <tbody> <tr><td>18.0</td><td>7.41</td><td>7.30</td><td>7.34</td></tr> <tr><td>17.1</td><td>7.42</td><td>7.34</td><td>7.40</td></tr> <tr><td>16.2</td><td>7.44</td><td>7.38</td><td>7.47</td></tr> <tr><td>14.4</td><td>7.51</td><td>7.50</td><td>7.62</td></tr> <tr><td>12.6</td><td>7.62</td><td>7.63</td><td>7.78</td></tr> <tr><td>10.8</td><td>7.76</td><td>7.77</td><td>7.91</td></tr> <tr><td>9.0</td><td>7.88</td><td>7.92</td><td>8.03</td></tr> <tr><td>7.2</td><td>7.96</td><td>8.01</td><td>8.25</td></tr> <tr><td>5.4</td><td>8.08</td><td>8.10</td><td>8.43</td></tr> <tr><td>3.6</td><td>8.15</td><td>8.27</td><td>8.53</td></tr> <tr><td>1.8</td><td>8.12</td><td>8.18</td><td>8.28</td></tr> <tr><td>0.0</td><td>7.48</td><td>7.40</td><td>7.50</td></tr> </tbody> </table>			Output Voltage [V]	Load Current [A]			Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]	18.0	7.41	7.30	7.34	17.1	7.42	7.34	7.40	16.2	7.44	7.38	7.47	14.4	7.51	7.50	7.62	12.6	7.62	7.63	7.78	10.8	7.76	7.77	7.91	9.0	7.88	7.92	8.03	7.2	7.96	8.01	8.25	5.4	8.08	8.10	8.43	3.6	8.15	8.27	8.53	1.8	8.12	8.18	8.28	0.0	7.48	7.40	7.50
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<p>The graph plots Operating Point [V] on the Y-axis (18.6 to 25.6) against Ambient Temperature [°C] on the X-axis (-40 to 60). Three curves are shown for input voltages of 85V (triangles), 100V (squares), and 132V (circles). All curves show a slight upward trend. A slanted line is drawn through the data points, representing the rated ambient temperature range.</p> <table border="1"> <thead> <tr> <th>Ambient Temperature [°C]</th> <th>Operating Point [V] (85V)</th> <th>Operating Point [V] (100V)</th> <th>Operating Point [V] (132V)</th> </tr> </thead> <tbody> <tr><td>-20</td><td>21.8</td><td>22.0</td><td>22.1</td></tr> <tr><td>0</td><td>22.1</td><td>22.2</td><td>22.3</td></tr> <tr><td>20</td><td>22.4</td><td>22.5</td><td>22.6</td></tr> <tr><td>40</td><td>22.7</td><td>22.8</td><td>22.9</td></tr> <tr><td>60</td><td>23.0</td><td>23.1</td><td>23.2</td></tr> </tbody> </table>	Ambient Temperature [°C]	Operating Point [V] (85V)	Operating Point [V] (100V)	Operating Point [V] (132V)	-20	21.8	22.0	22.1	0	22.1	22.2	22.3	20	22.4	22.5	22.6	40	22.7	22.8	22.9	60	23.0	23.1	23.2		
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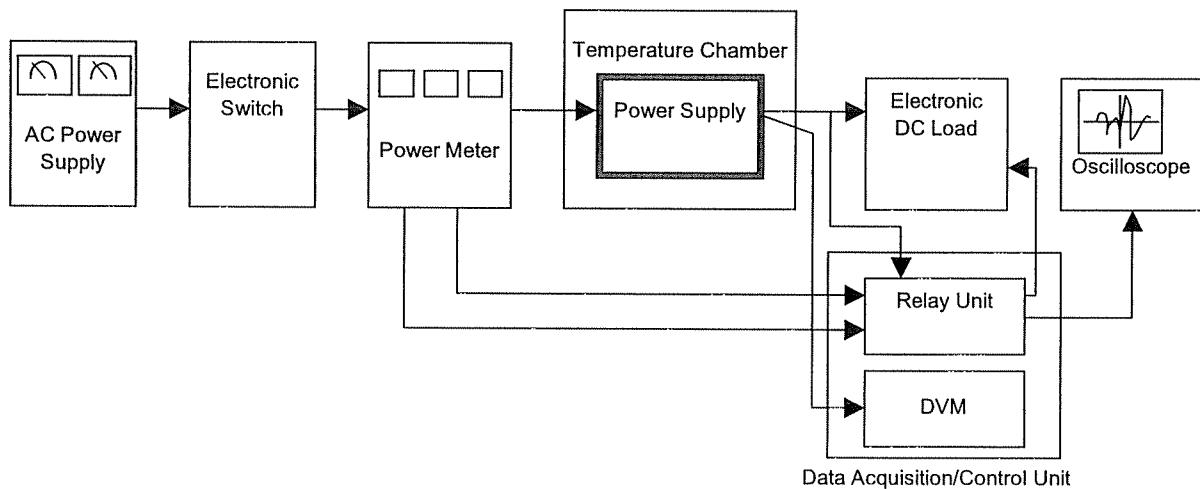


Figure A

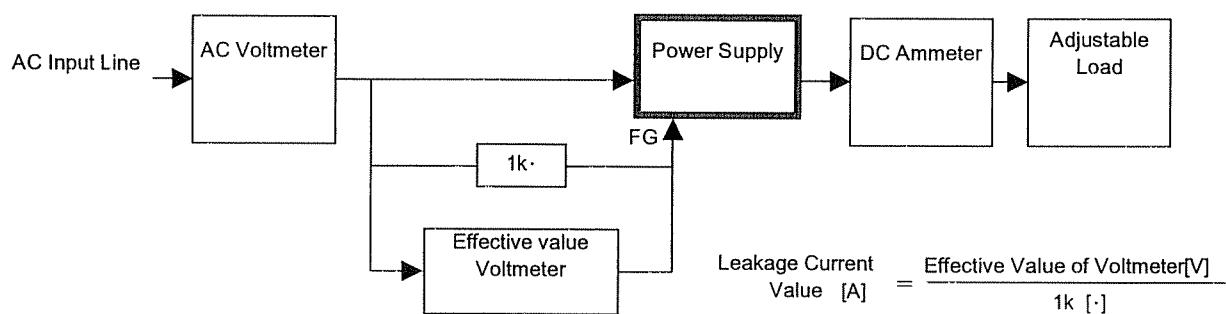


Figure B (DEN-AN)

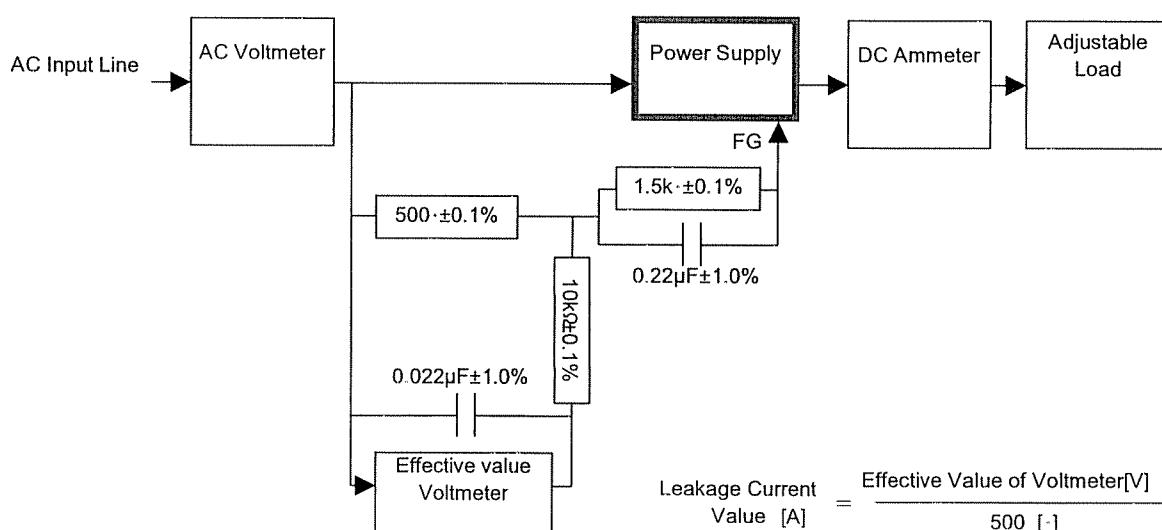


Figure B (IEC60950)