



TEST DATA OF LDA100W-24-H

(100V INPUT)

Regulated DC Power Supply
Jan.18. 2005

Approved by :

K.Shiho

Design Manager

Prepared by :

S.Ueda

Design Engineer

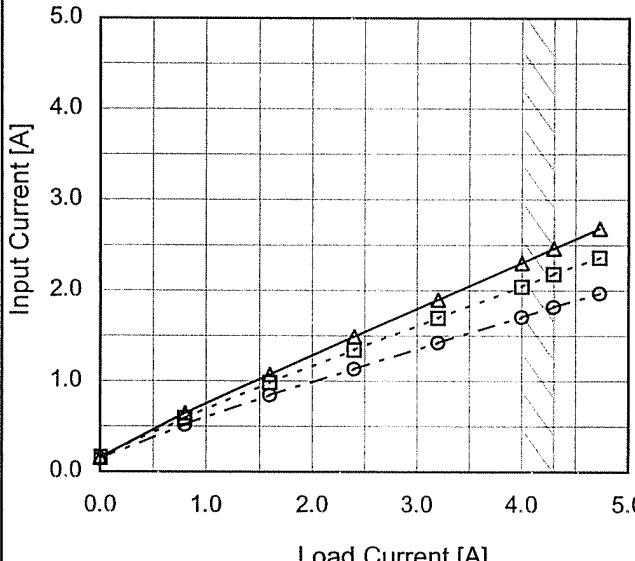
COSEL CO.,LTD.



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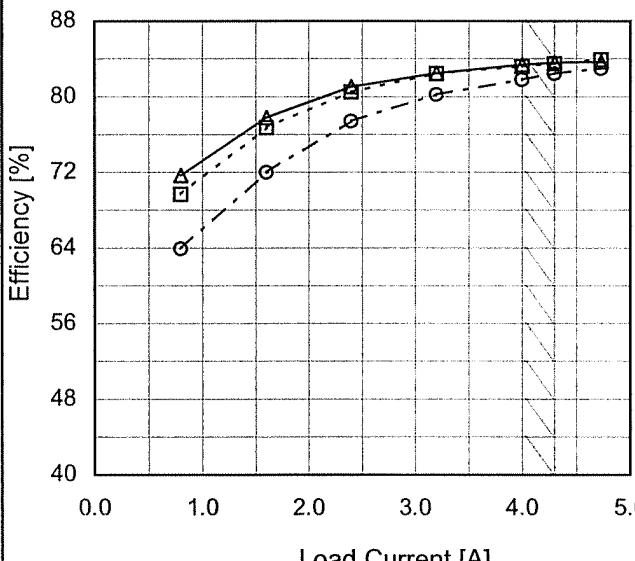


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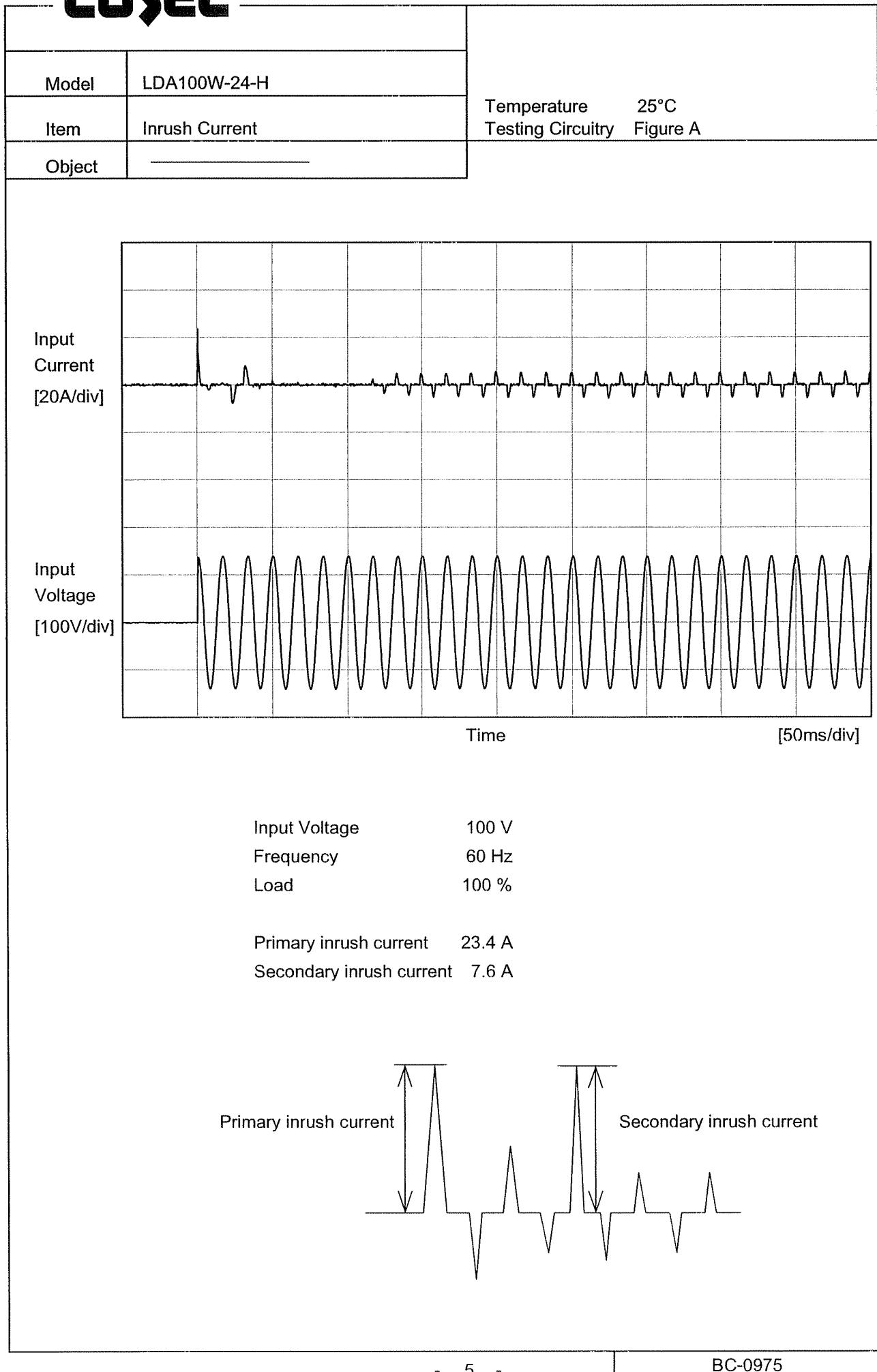


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Item	Efficiency (by Input Voltage)	Temperature 25°C Testing Circuitry Figure A																																
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<p>The graph plots Efficiency [%] on the y-axis (60 to 88) against Input Voltage [V] 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 general downward trend as input voltage increases. A slanted line 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>80.0</td><td>82.5</td></tr> <tr><td>80</td><td>80.5</td><td>83.0</td></tr> <tr><td>85</td><td>80.0</td><td>83.5</td></tr> <tr><td>90</td><td>80.5</td><td>84.0</td></tr> <tr><td>100</td><td>79.5</td><td>83.5</td></tr> <tr><td>110</td><td>77.5</td><td>83.0</td></tr> <tr><td>120</td><td>76.5</td><td>82.5</td></tr> <tr><td>130</td><td>76.0</td><td>82.0</td></tr> <tr><td>140</td><td>75.5</td><td>81.5</td></tr> </tbody> </table>			Input Voltage [V]	Efficiency Load 50% [%]	Efficiency Load 100% [%]	75	80.0	82.5	80	80.5	83.0	85	80.0	83.5	90	80.5	84.0	100	79.5	83.5	110	77.5	83.0	120	76.5	82.5	130	76.0	82.0	140	75.5	81.5		
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Temperature 25°C Testing Circuitry Figure A						
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Load Current [A]	Efficiency [%]					
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]			
0.00	-	-	-			
0.80	71.7	69.7	63.9			
1.60	77.8	76.7	72.0			
2.40	81.1	80.5	77.4			
3.20	82.5	82.4	80.2			
4.00	83.4	83.2	81.8			
4.30	83.6	83.5	82.4			
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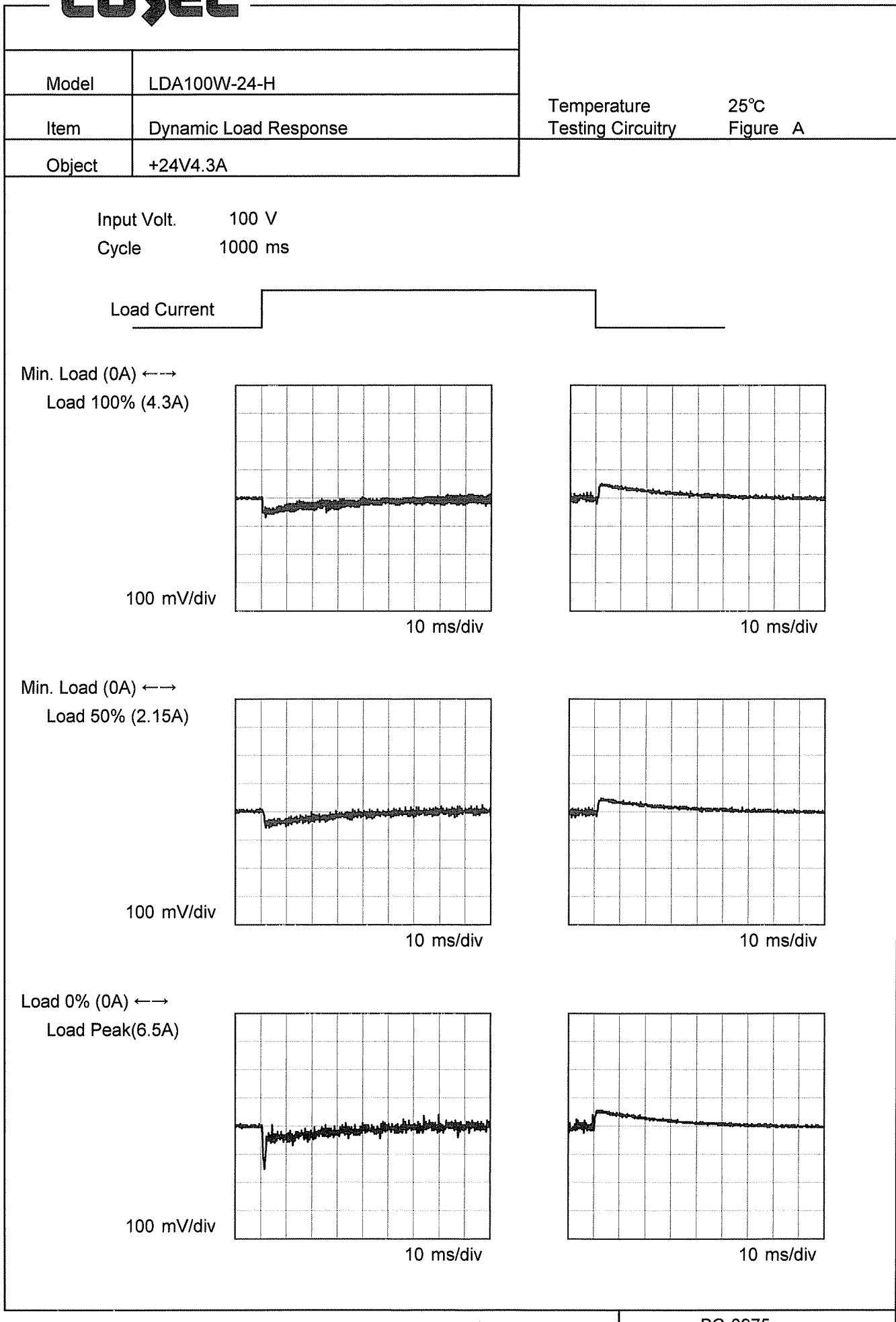
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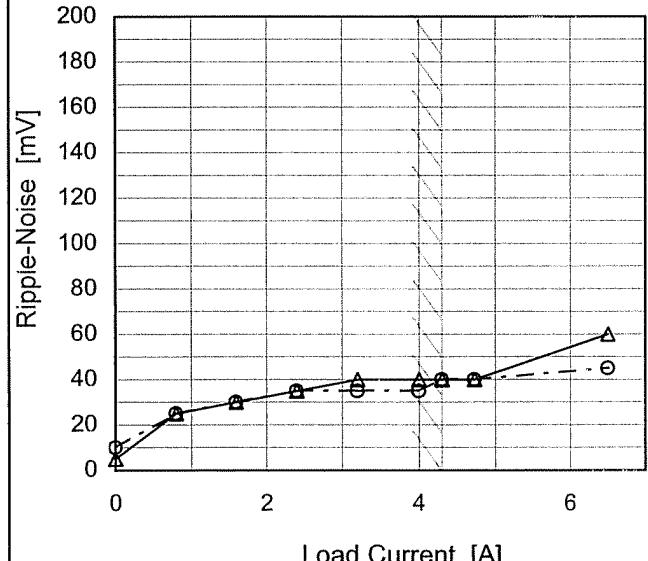
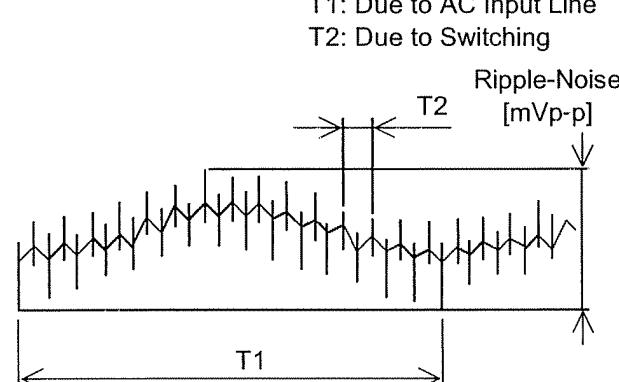
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<p>Graph showing Ripple Voltage [mV] vs Load Current [A]. The graph shows two sets of data points: Input Volt. 85V (solid line with triangle markers) and Input Volt. 132V (dashed line with circle markers). The x-axis represents Load Current [A] from 0 to 6. The y-axis represents Ripple Voltage [mV] from 0 to 200. A slanted line indicates the range of the rated load current.</p> <table border="1"> <thead> <tr> <th>Load Current [A]</th> <th>Ripple Voltage [mV] (Input Volt. 85V)</th> <th>Ripple Voltage [mV] (Input Volt. 132V)</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>5</td><td>10</td></tr> <tr><td>0.80</td><td>25</td><td>25</td></tr> <tr><td>1.60</td><td>30</td><td>30</td></tr> <tr><td>2.40</td><td>35</td><td>35</td></tr> <tr><td>3.20</td><td>40</td><td>35</td></tr> <tr><td>4.00</td><td>40</td><td>35</td></tr> <tr><td>4.30</td><td>40</td><td>40</td></tr> <tr><td>4.73</td><td>40</td><td>40</td></tr> <tr><td>6.50</td><td>60</td><td>45</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. 85V)	Ripple Voltage [mV] (Input Volt. 132V)	0.00	5	10	0.80	25	25	1.60	30	30	2.40	35	35	3.20	40	35	4.00	40	35	4.30	40	40	4.73	40	40	6.50	60	45	--	-	-	--	-	-			
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<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> <p>Ripple [mVp-p]</p> <p>Fig. Complex Ripple Wave Form</p>																																								

COSSEL

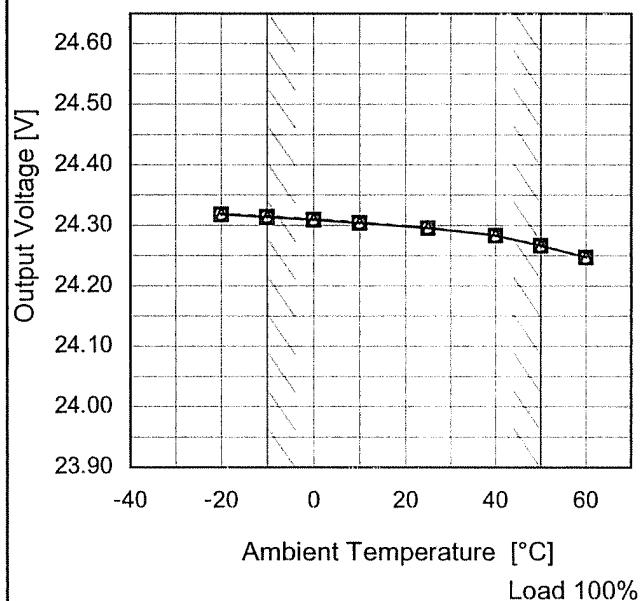
Model	LDA100W-24-H																																						
Item	Ripple-Noise	Temperature 25°C Testing Circuitry Figure A																																					
Object	+24V4.3A																																						
1.Graph																																							
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COSEL

Model	LDA100W-24-H																																							
Item	Ripple Voltage (by Ambient Temp.)																																							
Object	+24V4.3A																																							
1.Graph																																								
<p>Graph showing Ripple Voltage [mV] vs Ambient Temperature [°C] for LDA100W-24-H at Input Volt. 100V. The graph shows two sets of data points: Load 50% (represented by squares) and Load 100% (represented by triangles). Both series show a decrease in ripple voltage as ambient temperature increases from -20°C to 60°C. A slanted line indicates the rated ambient temperature range.</p>																																								
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Ambient Temperature [°C]	Ripple Voltage [mV]																																							
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<p>Model LDA100W-24-H</p> <p>Item Ambient Temperature Drift</p> <p>Object +24V4.3A</p>	Testing Circuitry Figure A		
	2.Values		
Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 85V	Input Volt. 100V	Input Volt. 132V
-20	24.318	24.319	24.319
-10	24.314	24.314	24.315
0	24.309	24.310	24.310
10	24.304	24.304	24.304
25	24.296	24.296	24.296
40	24.284	24.284	24.283
50	24.267	24.267	24.267
60	24.247	24.248	24.247
--	-	-	-
--	-	-	-
--	-	-	-



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



Model	LDA100W-24-H	Testing Circuitry Figure A
Item	Output Voltage Accuracy	
Object	+24V4.3A	

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 - 4.3A

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

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

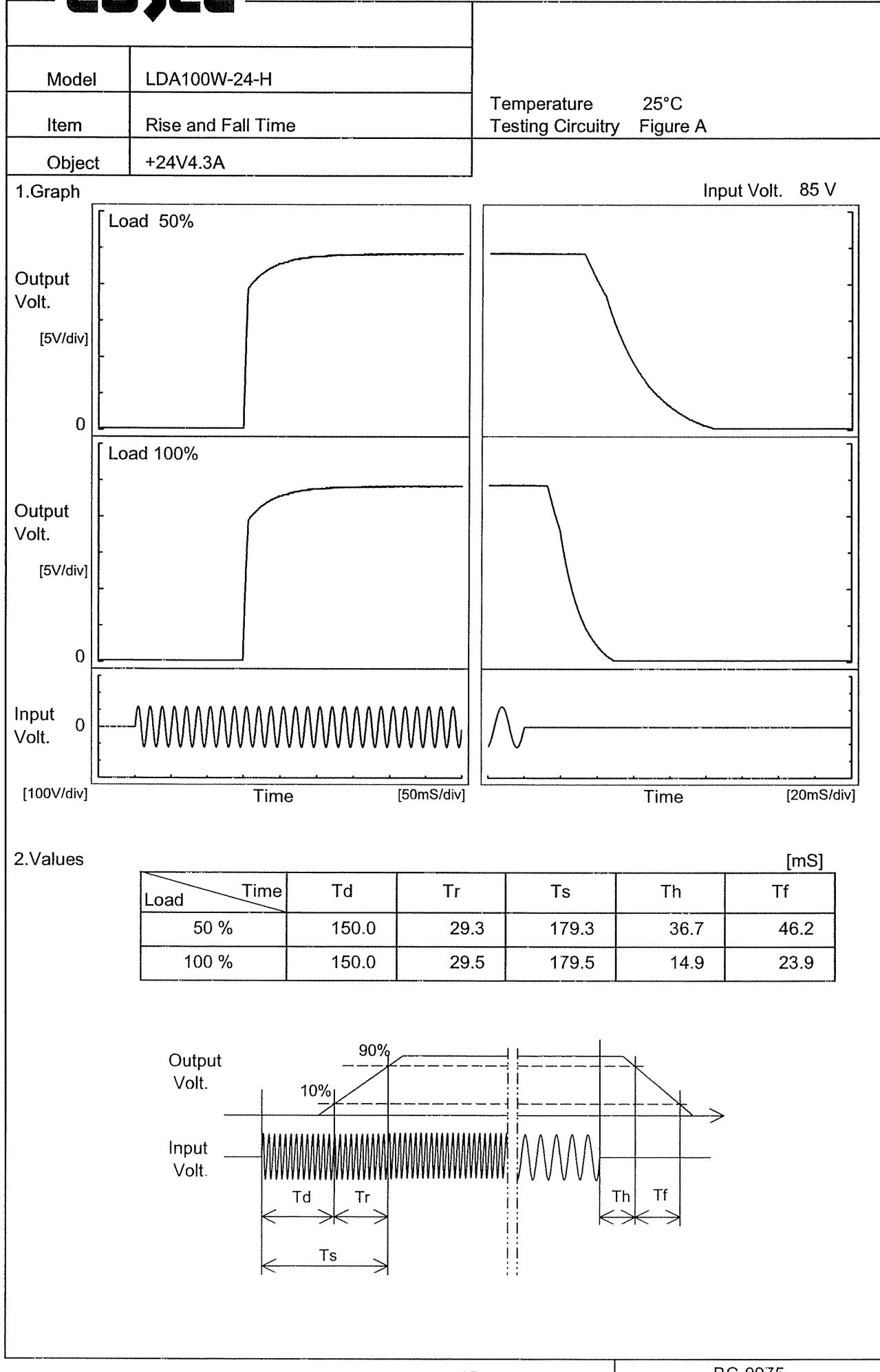
2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-10	100	0	24.315	± 27	± 0.1
Minimum Voltage	50	85	4.3	24.261		

COSEL

Model	LDA100W-24-H	Temperature 25°C Testing Circuitry Figure A																						
Item	Time Lapse Drift																							
Object	+24V4.3A																							
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>24.292</td></tr> <tr><td>0.5</td><td>24.283</td></tr> <tr><td>1.0</td><td>24.283</td></tr> <tr><td>2.0</td><td>24.283</td></tr> <tr><td>3.0</td><td>24.284</td></tr> <tr><td>4.0</td><td>24.284</td></tr> <tr><td>5.0</td><td>24.285</td></tr> <tr><td>6.0</td><td>24.284</td></tr> <tr><td>7.0</td><td>24.285</td></tr> <tr><td>8.0</td><td>24.285</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	24.292	0.5	24.283	1.0	24.283	2.0	24.283	3.0	24.284	4.0	24.284	5.0	24.285	6.0	24.284	7.0	24.285	8.0	24.285
Time since start [H]	Output Voltage [V]																							
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COSEL



Model	LDA100W-24-H																																	
Item	Hold-Up Time	Temperature 25°C Testing Circuitry Figure A																																
Object	+24V4.3A																																	
1. Graph																																		
<p>Graph showing Hold-Up Time [ms] vs Input Voltage [V] for LDA100W-24-H 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. A slanted line indicates the rated input voltage range.</p>																																		
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Input Voltage [V]	Hold-Up Time [ms]																																	
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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. Note: Slanted line shows the range of the rated input voltage.</p>																																		

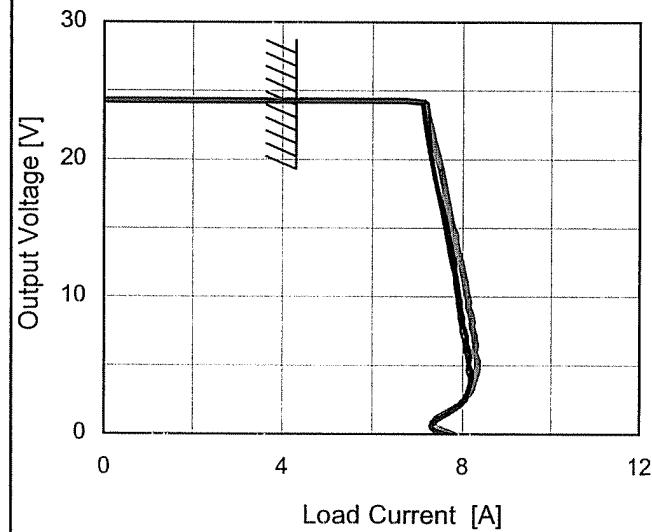
COSEL

Model	LDA100W-24-H	Temperature 25°C Testing Circuitry Figure A																																																					
Item	Instantaneous Interruption Compensation																																																						
Object	+24V4.3A																																																						
1.Graph	<p>Legend: Input Volt. 85V (solid line with triangles), Input Volt. 100V (dashed line with squares), Input Volt. 132V (dash-dot line with circles). The slanted line shows the range of the rated load current.</p>																																																						
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Note: Slanted line shows the range of the rated load current.

Model	LDA100W-24-H																																							
Item	Minimum Input Voltage for Regulated Output Voltage																																							
Object	+24V4.3A																																							
1. Graph																																								
<p>The graph plots Input Voltage [V] on the y-axis (0 to 100) against Ambient Temperature [°C] on the x-axis (-40 to 60). Two horizontal lines represent the minimum input voltage for different load conditions. A dashed line with squares represents Load 50%, and a solid line with triangles represents Load 100%. Both lines are nearly horizontal at approximately 55V and 65V respectively. Slanted lines indicate the range of ambient temperatures where the input voltage remains constant.</p>																																								
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Model	LDA100W-24-H					
Item	Overcurrent Protection					
Object	+24V4.3A					
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 (top), 100V (middle), and 132V (bottom). All curves show a constant output voltage until a certain load current is reached, after which the output voltage drops sharply. A slanted line is drawn across the graph, starting from approximately (4, 24) and ending at (8, 0), indicating the range of the rated load current.</p>						
Note: Slanted line shows the range of the rated load current.						
Temperature 25°C Testing Circuitry Figure A						
2.Values						
Output Voltage [V]	Load Current [A]					
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]			
24.0	7.23	7.11	7.15			
22.8	7.26	7.16	7.25			
21.6	7.28	7.22	7.34			
19.2	7.36	7.35	7.52			
16.8	7.48	7.52	7.67			
14.4	7.63	7.69	7.84			
12.0	7.76	7.83	7.99			
9.6	7.88	7.95	8.13			
7.2	7.99	8.09	8.27			
4.8	8.11	8.17	8.34			
2.4	8.01	7.98	8.02			
0.0	7.76	7.74	7.86			

Model	LDA100W-24-H																																						
Item	Overvoltage Protection																																						
Object	+24V4.3A																																						
1.Graph																																							
	<p>The graph plots Operating Point [V] on the Y-axis (26.3 to 33.3) against Ambient Temperature [°C] on the X-axis (-40 to 60). Three data series are shown for Input Volt. 85V (triangles), Input Volt. 100V (squares), and Input Volt. 132V (circles). All series show a positive linear correlation. 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>85[V]</th> <th>100[V]</th> <th>132[V]</th> </tr> </thead> <tbody> <tr><td>-20</td><td>29.65</td><td>29.53</td><td>29.59</td></tr> <tr><td>-10</td><td>29.88</td><td>29.82</td><td>29.82</td></tr> <tr><td>0</td><td>30.06</td><td>30.06</td><td>30.00</td></tr> <tr><td>10</td><td>30.29</td><td>30.23</td><td>30.23</td></tr> <tr><td>25</td><td>30.64</td><td>30.58</td><td>30.58</td></tr> <tr><td>40</td><td>30.93</td><td>30.81</td><td>30.81</td></tr> <tr><td>50</td><td>31.17</td><td>31.11</td><td>31.11</td></tr> <tr><td>60</td><td>31.28</td><td>31.28</td><td>31.28</td></tr> </tbody> </table>			Ambient Temperature [°C]	85[V]	100[V]	132[V]	-20	29.65	29.53	29.59	-10	29.88	29.82	29.82	0	30.06	30.06	30.00	10	30.29	30.23	30.23	25	30.64	30.58	30.58	40	30.93	30.81	30.81	50	31.17	31.11	31.11	60	31.28	31.28	31.28
Ambient Temperature [°C]	85[V]	100[V]	132[V]																																				
-20	29.65	29.53	29.59																																				
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0	30.06	30.06	30.00																																				
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60	31.28	31.28	31.28																																				
	2.Values																																						
Ambient Temperature [°C]	Operating Point [V]																																						
	Input Volt. 85[V]	Input Volt. 100[V]	Input Volt. 132[V]																																				
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Note: Slanted line shows the range of the rated ambient temperature.

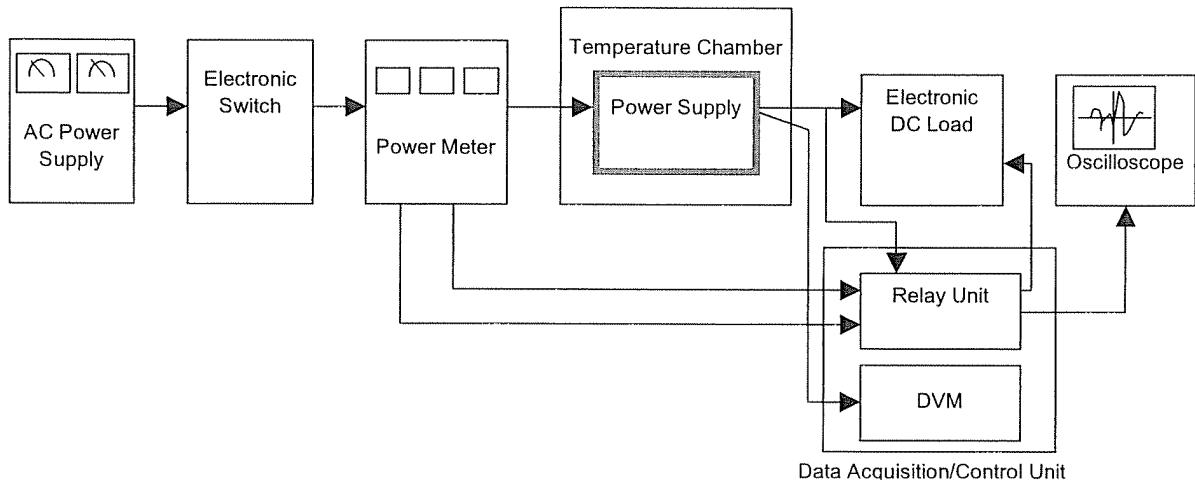


Figure A

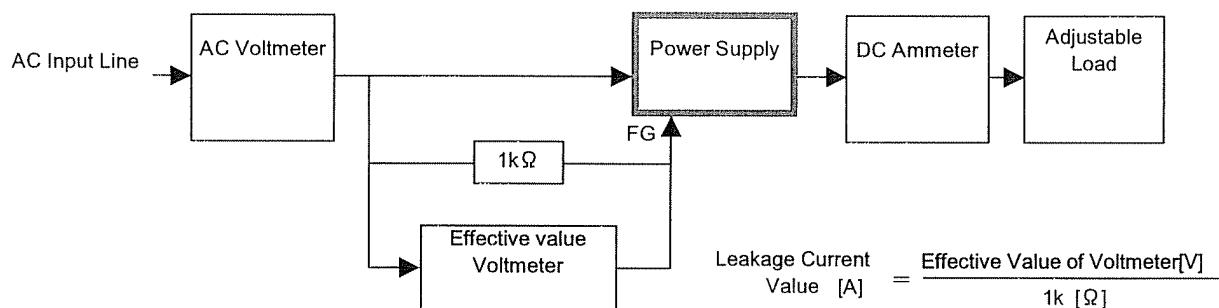


Figure B (DEN-AN)

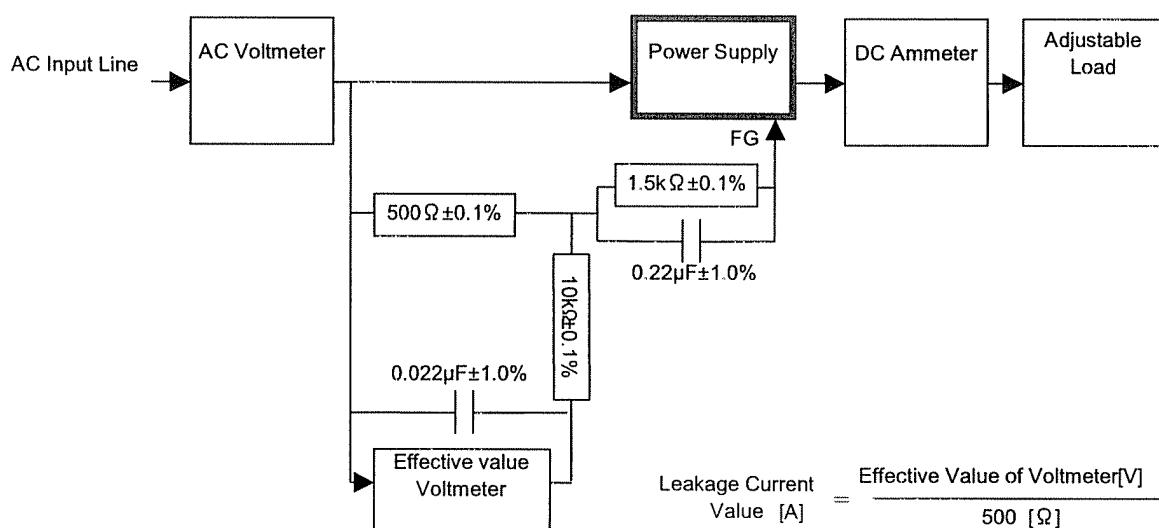


Figure B (IEC60950)