



# TEST DATA OF LDA15F-3

Regulated DC Power Supply  
Sep.9. 2004

Approved by :

  
Kenji Shiho

Design Manager

Prepared by :

  
Saori Ueda

Design Engineer

**COSEL CO.,LTD.**

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Model	LDA15F-3																																																					
Item	Input Current (by Load Current)																																																					
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1.Graph	<p>Input Current [A]</p> <p>Load Current [A]</p> <p>—△— Input Volt. 100V ---□--- Input Volt. 200V -·○-· Input Volt. 230V</p>																																																					
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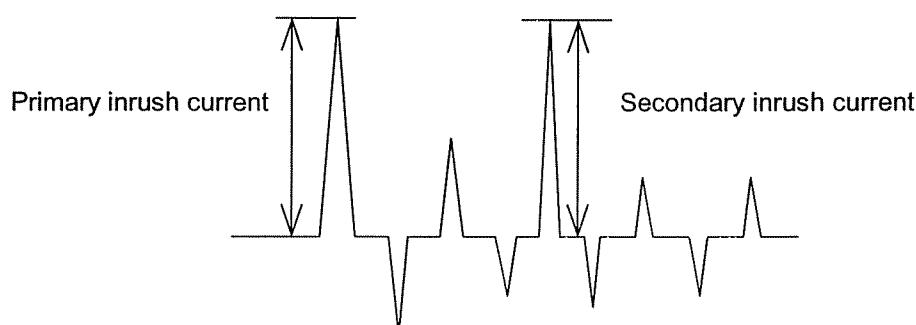
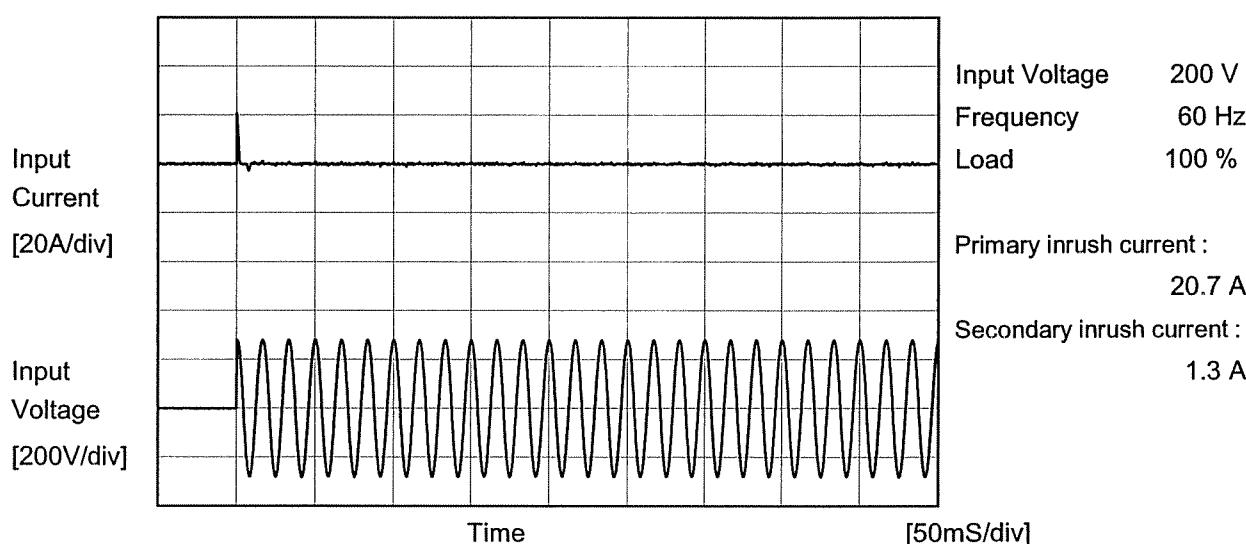
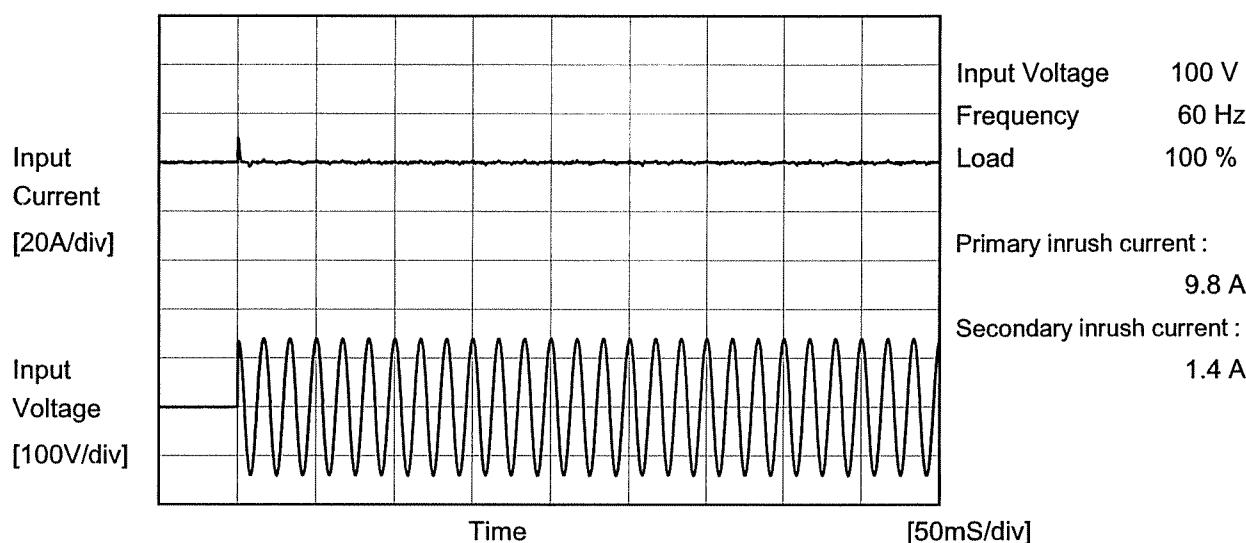
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<p>The graph plots Efficiency [%] on the y-axis (14 to 70) against Input Voltage [V] on the x-axis (50 to 300). Two data series are shown: Load 50% (dashed line with square markers) and Load 100% (solid line with triangle markers). Both series show a general 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>85</td><td>67.2</td><td>65.8</td></tr> <tr><td>100</td><td>67.2</td><td>67.1</td></tr> <tr><td>120</td><td>66.6</td><td>68.0</td></tr> <tr><td>200</td><td>59.4</td><td>66.2</td></tr> <tr><td>230</td><td>55.8</td><td>64.8</td></tr> <tr><td>264</td><td>52.0</td><td>62.9</td></tr> </tbody> </table>			Input Voltage [V]	Efficiency Load 50% [%]	Efficiency Load 100% [%]	85	67.2	65.8	100	67.2	67.1	120	66.6	68.0	200	59.4	66.2	230	55.8	64.8	264	52.0	62.9											
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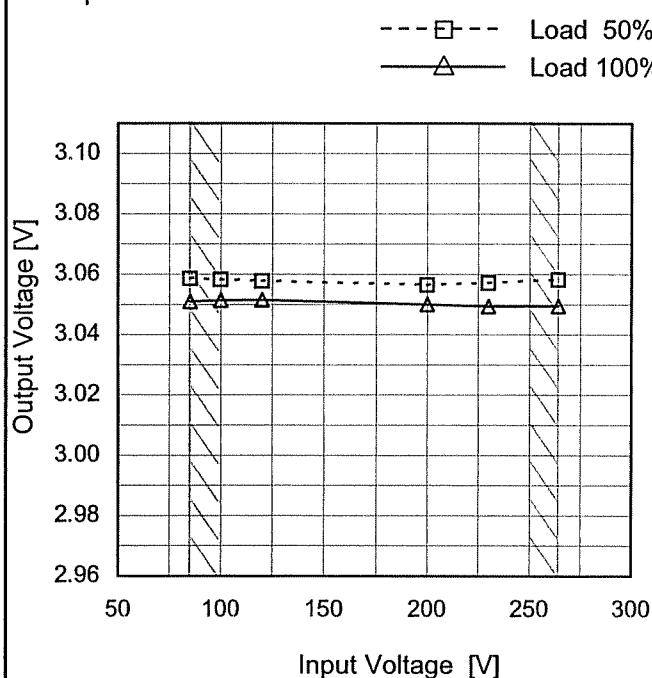
Model	LDA15F-3	Temperature Testing Circuitry Figure A	25°C
Item	Inrush Current		
Object	_____		



Model	LDA15F-3
Item	Line Regulation
Object	+3V3A

Temperature 25°C  
Testing Circuitry Figure A

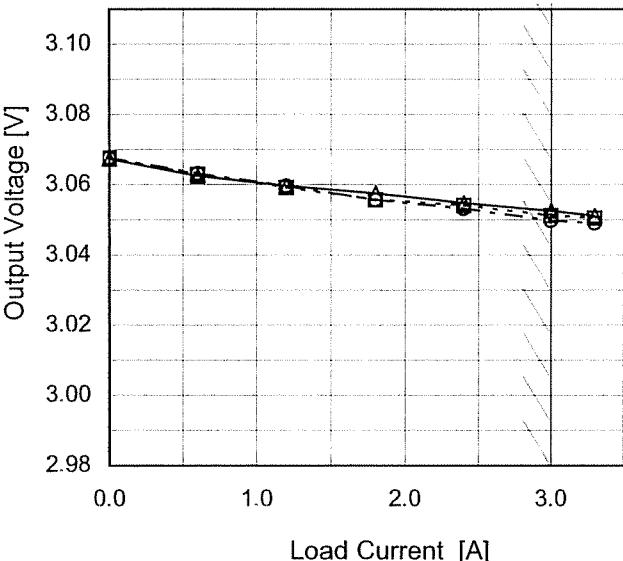
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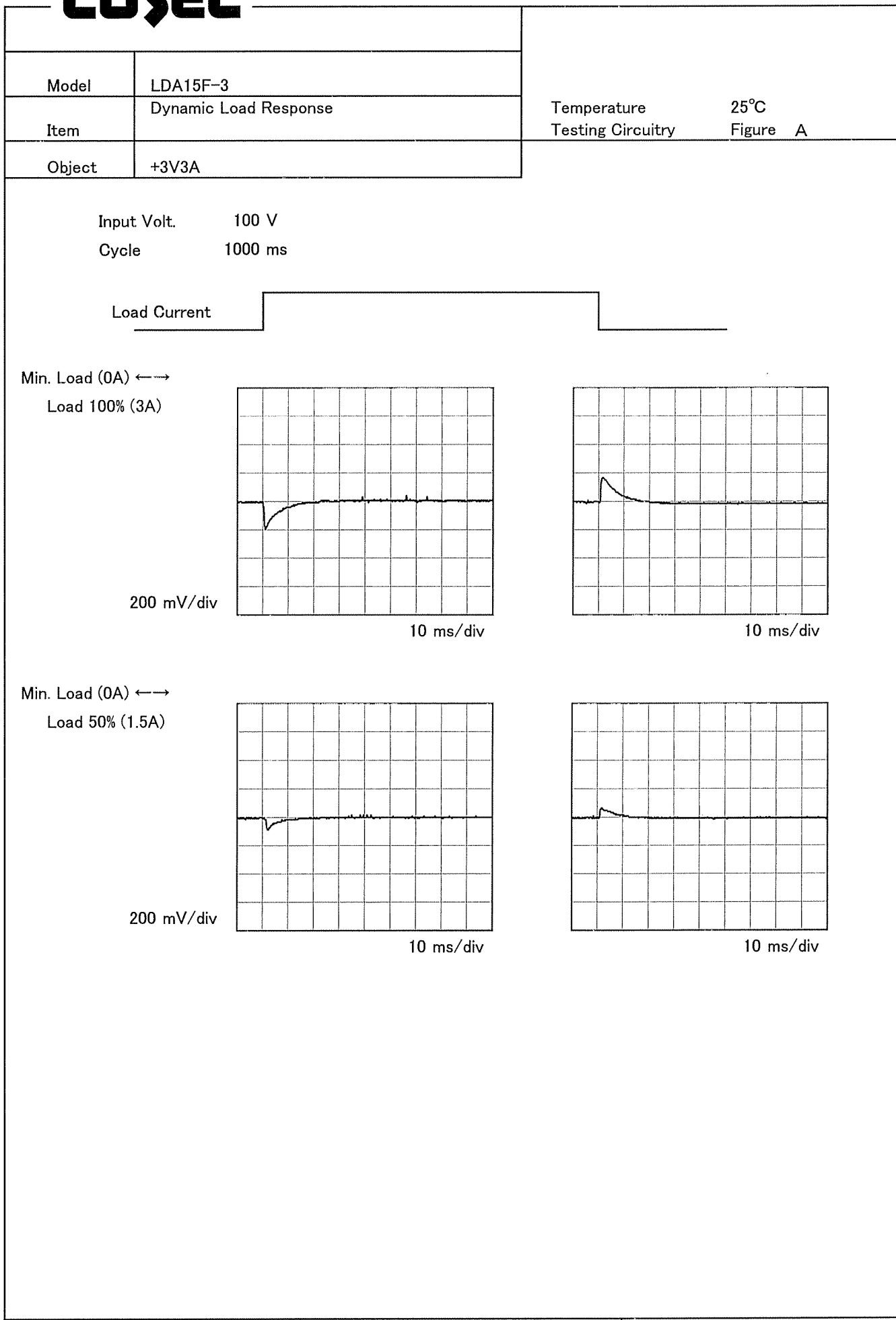


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## 2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
85	3.059	3.051
100	3.058	3.051
120	3.058	3.052
200	3.057	3.050
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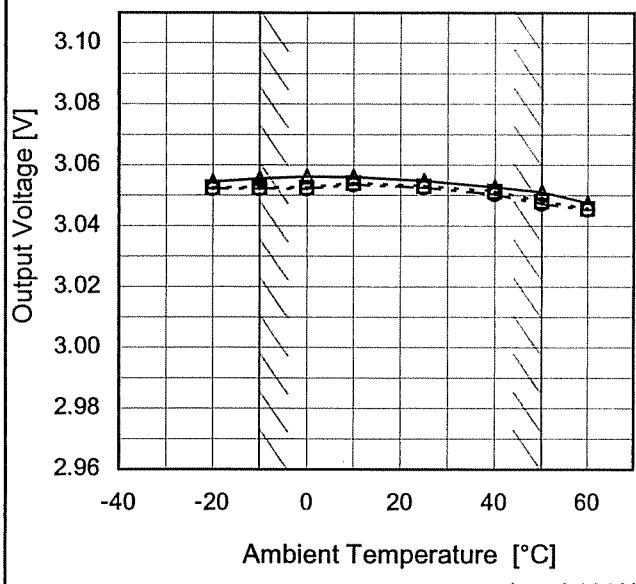
COSEL

Model	LDA15F-3															
Item	Ripple-Noise	Temperature 25°C Testing Circuitry Figure A														
Object	+3V3A															
1. Graph																
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2. Values																
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0.0	15	15														
0.6	15	15														
1.2	20	20														
1.8	25	25														
2.4	30	25														
3.0	40	30														
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---	-	-														
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<p>1.Graph</p> <p>--- □--- Input Volt. 100V —▲— Input Volt. 200V</p> <p>Ripple Voltage [mV]</p> <p>Ambient Temperature [°C]</p> <p>Load 100 %</p>																																							

Measured by 20 MHz Oscilloscope.

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

<p>Model      LDA15F-3</p> <p>Item      Ambient Temperature Drift</p> <p>Object    +3V3A</p>	Testing Circuitry   Figure A																																																					
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Model	LDA15F-3	Testing Circuitry Figure A
Item	Output Voltage Accuracy	
Object	+3V3A	

### 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 - 264V

Load Current : 0 - 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	200	0	3.070	$\pm 12$	$\pm 0.4$
Minimum Voltage	50	264	3	3.047		

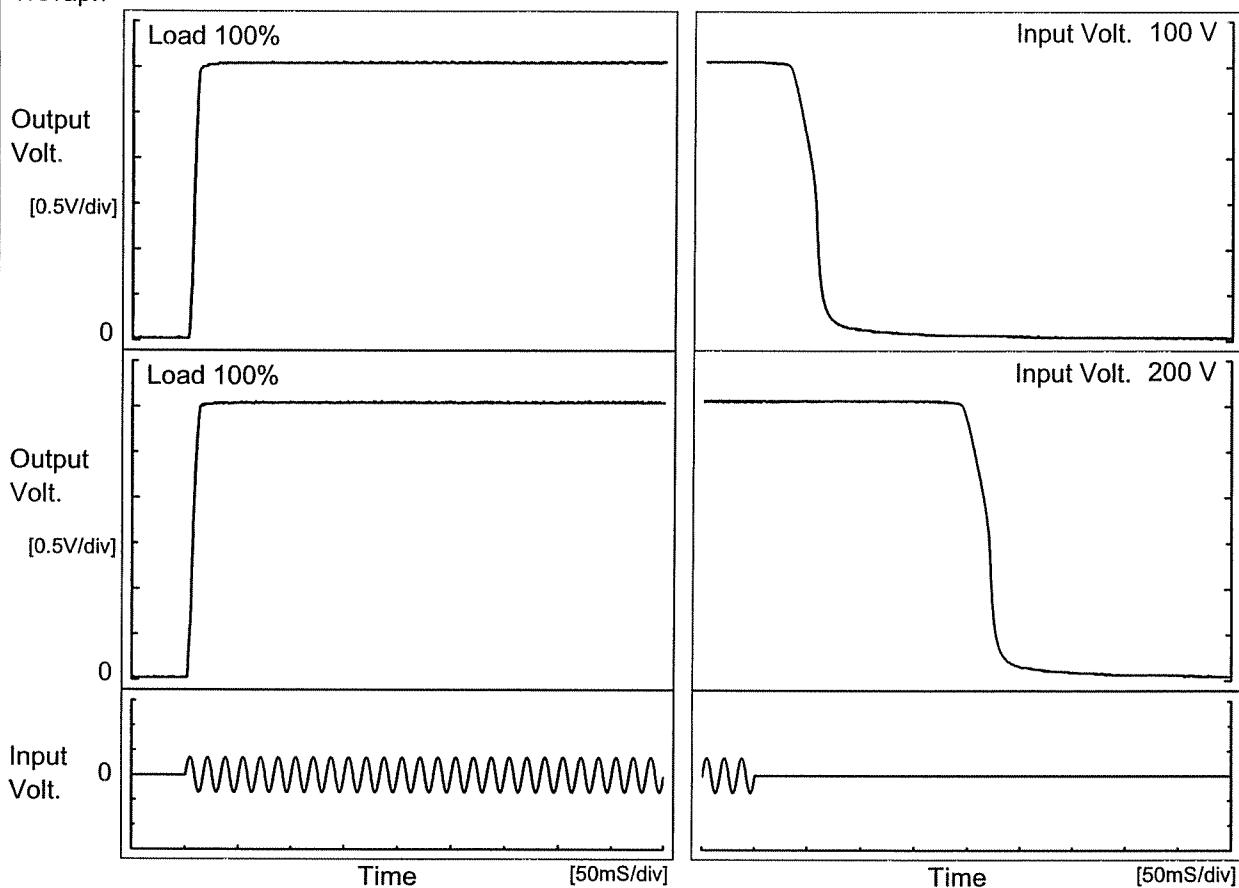
**COSEL**

Model	LDA15F-3	Temperature Testing Circuitry 25°C Figure A																						
Item	Time Lapse Drift																							
Object	+3V3A																							
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>3.051</td></tr> <tr><td>0.5</td><td>3.051</td></tr> <tr><td>1.0</td><td>3.050</td></tr> <tr><td>2.0</td><td>3.050</td></tr> <tr><td>3.0</td><td>3.050</td></tr> <tr><td>4.0</td><td>3.050</td></tr> <tr><td>5.0</td><td>3.051</td></tr> <tr><td>6.0</td><td>3.051</td></tr> <tr><td>7.0</td><td>3.051</td></tr> <tr><td>8.0</td><td>3.051</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	3.051	0.5	3.051	1.0	3.050	2.0	3.050	3.0	3.050	4.0	3.050	5.0	3.051	6.0	3.051	7.0	3.051	8.0	3.051
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* The characteristic of AC200V is equal.																								

COSEL

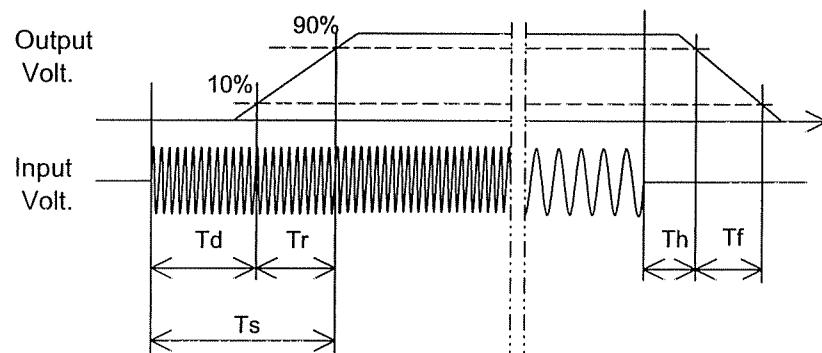
Model	LDA15F-3	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+3V3A		

## 1. Graph



## 2. Values

Input Volt.	Time	Td	Tr	Ts	Th	Tf	[mS]
100 V		3.8	7.0	10.8	37.8	28.5	
200 V		2.8	8.3	11.1	201.8	29.8	



Model	LDA15F-3																																	
Item	Hold-Up Time	Temperature 25°C Testing Circuitry Figure A																																
Object	+3V3A																																	
1.Graph																																		
<p>Hold-Up Time [ms]</p> <p>Input Voltage [V]</p> <p>Legend: Load 50% (dashed line with squares), Load 100% (solid line with triangles)</p>																																		
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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>																																		

Model	LDA15F-3																																																					
Item	Instantaneous Interruption Compensation																																																					
Object	+3V3A																																																					
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	Model	LDA15F-3	Testing Circuitry Figure A																																						
	Item	Minimum Input Voltage for Regulated Output Voltage																																							
	Object	+3V3A																																							
1.Graph	2.Values																																								
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Note: Slanted line shows the range of the rated ambient temperature.

**COSEL**

Model	LDA15F-3	Temperature Testing Circuitry 25°C Figure A
Item	Overcurrent Protection	
Object	+3V3A	

1.Graph

Output Voltage [V]

Load Current [A]

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

## 2.Values

Output Voltage [V]	Load Current [A]	
	Input Volt. 100[V]	Input Volt. 200[V]
3.00	3.25	3.38
2.85	3.74	3.47
2.70	3.73	3.46
2.40	3.69	3.40
2.10	3.63	3.33
1.80	3.55	3.26
1.50	3.45	3.16
1.20	3.29	3.02
0.90	3.11	2.88
0.60	2.86	2.70
0.30	2.59	2.46
0.00	2.41	2.30

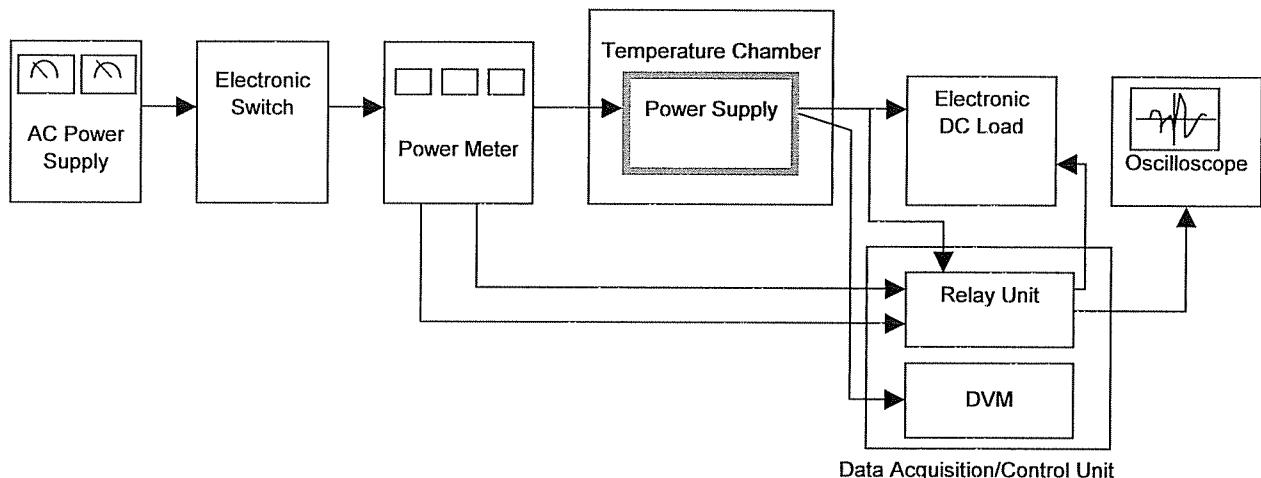


Figure A

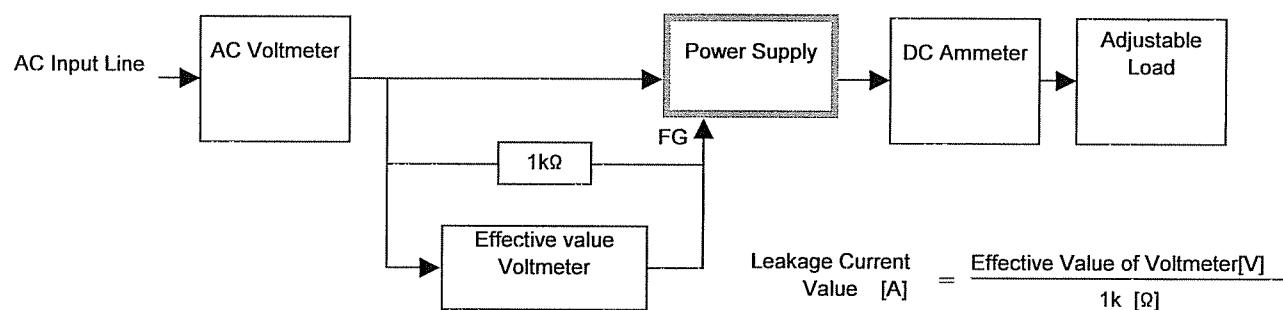


Figure B ( DEN-AN )

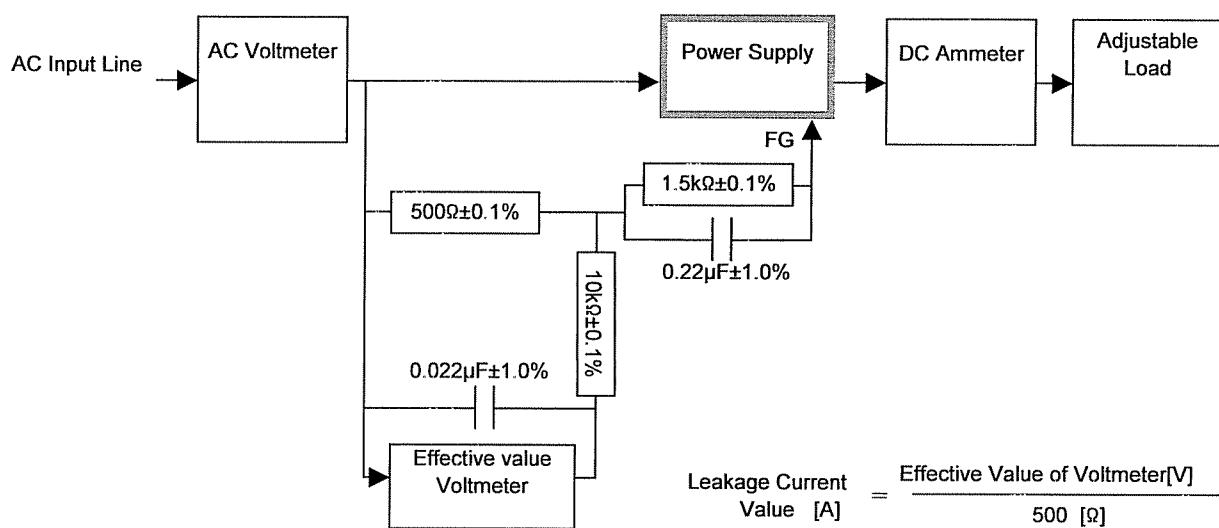


Figure B ( IEC60950 )