

TEST DATA OF LDA75F-3

Regulated DC Power Supply

Dec.7. 2004

Approved by :

J.Uchida

Design Manager

Prepared by :

A.Kawai

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.Overvoltage Protection	20
21.Figure of Testing Circuitry	21

(Final Page 21)

COSEL

Model	LDA75F-3	Temperature Testing Circuitry	25°C Figure A																														
Item	Input Current (by Load Current)																																
Object	_____	2.Values																															
1.Graph	<p>—△— Input Volt. 100V - - -□--- Input Volt. 200V - - ○ - - Input Volt. 230V</p> <table border="1"> <caption>Data points estimated from the graph</caption> <thead> <tr> <th>Load Current [A]</th> <th>Input Volt. 100V [A]</th> <th>Input Volt. 200V [A]</th> <th>Input Volt. 230V [A]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>0.056</td><td>0.062</td><td>0.064</td></tr> <tr><td>3.0</td><td>0.269</td><td>0.207</td><td>0.196</td></tr> <tr><td>6.0</td><td>0.464</td><td>0.320</td><td>0.296</td></tr> <tr><td>9.0</td><td>0.671</td><td>0.430</td><td>0.395</td></tr> <tr><td>12.0</td><td>0.890</td><td>0.544</td><td>0.496</td></tr> <tr><td>15.0</td><td>1.119</td><td>0.665</td><td>0.602</td></tr> <tr><td>16.5</td><td>1.241</td><td>0.730</td><td>0.661</td></tr> </tbody> </table>	Load Current [A]	Input Volt. 100V [A]	Input Volt. 200V [A]	Input Volt. 230V [A]	0.0	0.056	0.062	0.064	3.0	0.269	0.207	0.196	6.0	0.464	0.320	0.296	9.0	0.671	0.430	0.395	12.0	0.890	0.544	0.496	15.0	1.119	0.665	0.602	16.5	1.241	0.730	0.661
Load Current [A]	Input Volt. 100V [A]	Input Volt. 200V [A]	Input Volt. 230V [A]																														
0.0	0.056	0.062	0.064																														
3.0	0.269	0.207	0.196																														
6.0	0.464	0.320	0.296																														
9.0	0.671	0.430	0.395																														
12.0	0.890	0.544	0.496																														
15.0	1.119	0.665	0.602																														
16.5	1.241	0.730	0.661																														

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

COSEL

Model	LDA75F-3	Temperature Testing Circuitry	25°C Figure A																															
Item	Input Power (by Load Current)																																	
Object	<hr/>																																	
1.Graph	<p>—△— Input Volt. 100V - -□--- Input Volt. 200V - -○--- Input Volt. 230V</p> <table border="1"> <caption>Data points estimated from the graph</caption> <thead> <tr> <th>Load Current [A]</th> <th>Input Power [W] (100V)</th> <th>Input Power [W] (200V)</th> <th>Input Power [W] (230V)</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>2.01</td><td>3.70</td><td>4.40</td></tr> <tr><td>3.0</td><td>13.14</td><td>16.00</td><td>17.10</td></tr> <tr><td>6.0</td><td>24.70</td><td>27.10</td><td>28.30</td></tr> <tr><td>9.0</td><td>36.70</td><td>38.90</td><td>39.70</td></tr> <tr><td>12.0</td><td>49.30</td><td>50.90</td><td>51.90</td></tr> <tr><td>15.0</td><td>62.20</td><td>63.30</td><td>64.20</td></tr> <tr><td>16.5</td><td>68.80</td><td>69.80</td><td>70.60</td></tr> </tbody> </table>		Load Current [A]	Input Power [W] (100V)	Input Power [W] (200V)	Input Power [W] (230V)	0.0	2.01	3.70	4.40	3.0	13.14	16.00	17.10	6.0	24.70	27.10	28.30	9.0	36.70	38.90	39.70	12.0	49.30	50.90	51.90	15.0	62.20	63.30	64.20	16.5	68.80	69.80	70.60
Load Current [A]	Input Power [W] (100V)	Input Power [W] (200V)	Input Power [W] (230V)																															
0.0	2.01	3.70	4.40																															
3.0	13.14	16.00	17.10																															
6.0	24.70	27.10	28.30																															
9.0	36.70	38.90	39.70																															
12.0	49.30	50.90	51.90																															
15.0	62.20	63.30	64.20																															
16.5	68.80	69.80	70.60																															

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

COSEL

Model	LDA75F-3	Temperature Testing Circuitry	25°C Figure A																																
Item	Efficiency (by Input Voltage)																																		
Object																																			
1.Graph																																			
<p>The graph plots Efficiency [%] on the y-axis (30 to 86) 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>74.9</td><td>72.4</td></tr> <tr><td>100</td><td>74.9</td><td>73.2</td></tr> <tr><td>120</td><td>74.4</td><td>73.7</td></tr> <tr><td>200</td><td>69.8</td><td>72.2</td></tr> <tr><td>230</td><td>67.6</td><td>71.2</td></tr> <tr><td>264</td><td>64.3</td><td>69.7</td></tr> </tbody> </table>				Input Voltage [V]	Efficiency Load 50% [%]	Efficiency Load 100% [%]	85	74.9	72.4	100	74.9	73.2	120	74.4	73.7	200	69.8	72.2	230	67.6	71.2	264	64.3	69.7											
Input Voltage [V]	Efficiency Load 50% [%]	Efficiency Load 100% [%]																																	
85	74.9	72.4																																	
100	74.9	73.2																																	
120	74.4	73.7																																	
200	69.8	72.2																																	
230	67.6	71.2																																	
264	64.3	69.7																																	
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>85</td><td>74.9</td><td>72.4</td></tr> <tr><td>100</td><td>74.9</td><td>73.2</td></tr> <tr><td>120</td><td>74.4</td><td>73.7</td></tr> <tr><td>200</td><td>69.8</td><td>72.2</td></tr> <tr><td>230</td><td>67.6</td><td>71.2</td></tr> <tr><td>264</td><td>64.3</td><td>69.7</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>				Input Voltage [V]	Efficiency [%]		Load 50%	Load 100%	85	74.9	72.4	100	74.9	73.2	120	74.4	73.7	200	69.8	72.2	230	67.6	71.2	264	64.3	69.7	--	-	-	--	-	-	--	-	-
Input Voltage [V]	Efficiency [%]																																		
	Load 50%	Load 100%																																	
85	74.9	72.4																																	
100	74.9	73.2																																	
120	74.4	73.7																																	
200	69.8	72.2																																	
230	67.6	71.2																																	
264	64.3	69.7																																	
--	-	-																																	
--	-	-																																	
--	-	-																																	
Note: Slanted line shows the range of the rated input voltage.																																			

COSEL

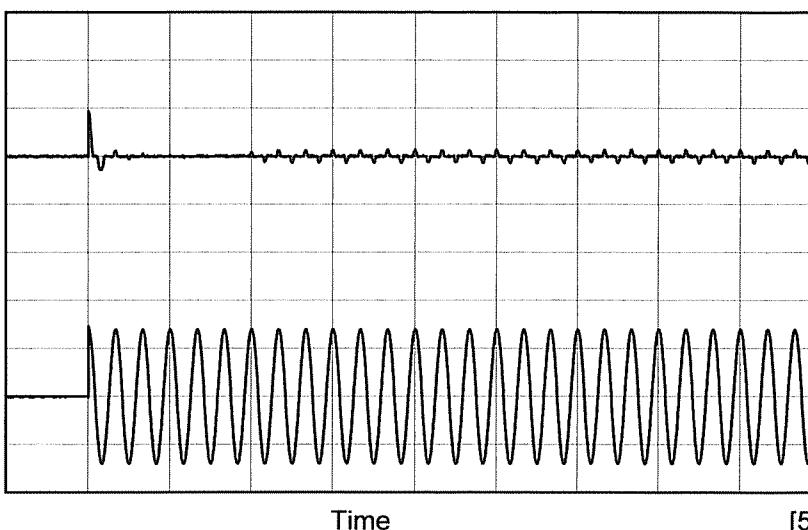
Model	LDA75F-3	Temperature Testing Circuitry 25°C Figure A																																																			
Item	Efficiency (by Load Current)																																																				
Object	_____																																																				
1.Graph																																																					
<p>The graph shows efficiency increasing with load current for all input voltages. The 100V curve is the highest, followed by 200V, and then 230V. A slanted line from approximately (3.5A, 65%) to (14A, 75%) indicates the rated load current range.</p> <table border="1"> <thead> <tr> <th>Load Current [A]</th> <th>Efficiency [100V] (%)</th> <th>Efficiency [200V] (%)</th> <th>Efficiency [230V] (%)</th> </tr> </thead> <tbody> <tr><td>3.5</td><td>65</td><td>-</td><td>-</td></tr> <tr><td>5</td><td>72</td><td>65</td><td>60</td></tr> <tr><td>7.5</td><td>74</td><td>70</td><td>65</td></tr> <tr><td>12</td><td>73</td><td>70</td><td>68</td></tr> <tr><td>14</td><td>72</td><td>70</td><td>70</td></tr> </tbody> </table>	Load Current [A]		Efficiency [100V] (%)	Efficiency [200V] (%)	Efficiency [230V] (%)	3.5	65	-	-	5	72	65	60	7.5	74	70	65	12	73	70	68	14	72	70	70																												
Load Current [A]	Efficiency [100V] (%)	Efficiency [200V] (%)	Efficiency [230V] (%)																																																		
3.5	65	-	-																																																		
5	72	65	60																																																		
7.5	74	70	65																																																		
12	73	70	68																																																		
14	72	70	70																																																		
2.Values																																																					
<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Efficiency [%]</th> </tr> <tr> <th>Input Volt. 100[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 230[V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>3.0</td><td>69.6</td><td>57.2</td><td>53.5</td></tr> <tr><td>6.0</td><td>74.0</td><td>67.4</td><td>64.6</td></tr> <tr><td>9.0</td><td>74.6</td><td>70.4</td><td>69.0</td></tr> <tr><td>12.0</td><td>74.0</td><td>71.7</td><td>70.3</td></tr> <tr><td>15.0</td><td>73.2</td><td>72.0</td><td>71.0</td></tr> <tr><td>16.5</td><td>72.8</td><td>71.8</td><td>70.9</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> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>	Load Current [A]	Efficiency [%]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	0.0	-	-	-	3.0	69.6	57.2	53.5	6.0	74.0	67.4	64.6	9.0	74.6	70.4	69.0	12.0	74.0	71.7	70.3	15.0	73.2	72.0	71.0	16.5	72.8	71.8	70.9	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-		
Load Current [A]		Efficiency [%]																																																			
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]																																																		
0.0	-	-	-																																																		
3.0	69.6	57.2	53.5																																																		
6.0	74.0	67.4	64.6																																																		
9.0	74.6	70.4	69.0																																																		
12.0	74.0	71.7	70.3																																																		
15.0	73.2	72.0	71.0																																																		
16.5	72.8	71.8	70.9																																																		
--	-	-	-																																																		
--	-	-	-																																																		
--	-	-	-																																																		
--	-	-	-																																																		
Note: Slanted line shows the range of the rated load current.																																																					

COSEL

Model LDA75F-3

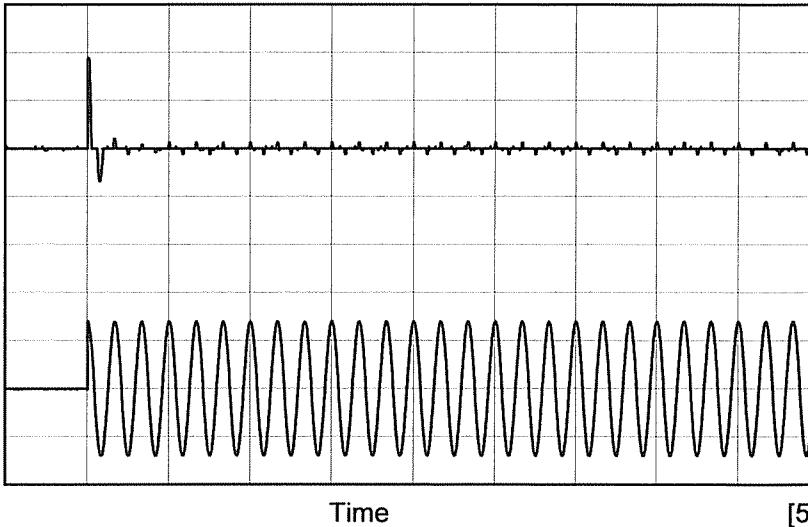
Item Inrush Current

Object _____

Temperature 25°C
Testing Circuitry Figure AInput
Current
[20A/div]Input
Voltage
[100V/div]

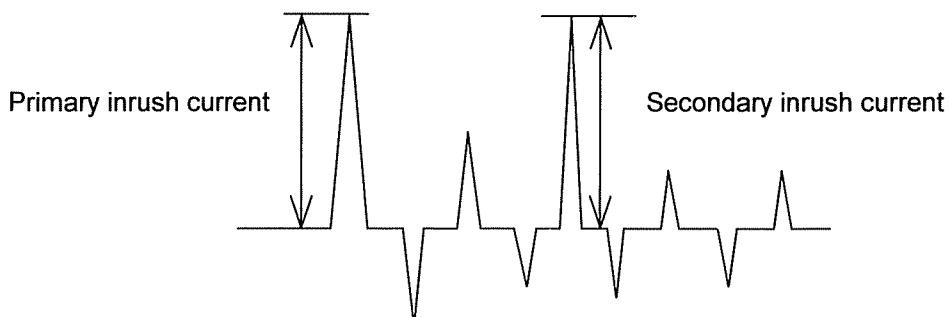
Input Voltage 100 V
Frequency 60 Hz
Load 100 %

Primary inrush current : 18.7 A
Secondary inrush current : 2.9 A

Input
Current
[20A/div]Input
Voltage
[200V/div]

Input Voltage 200 V
Frequency 60 Hz
Load 100 %

Primary inrush current : 37.4 A
Secondary inrush current : 2.4 A

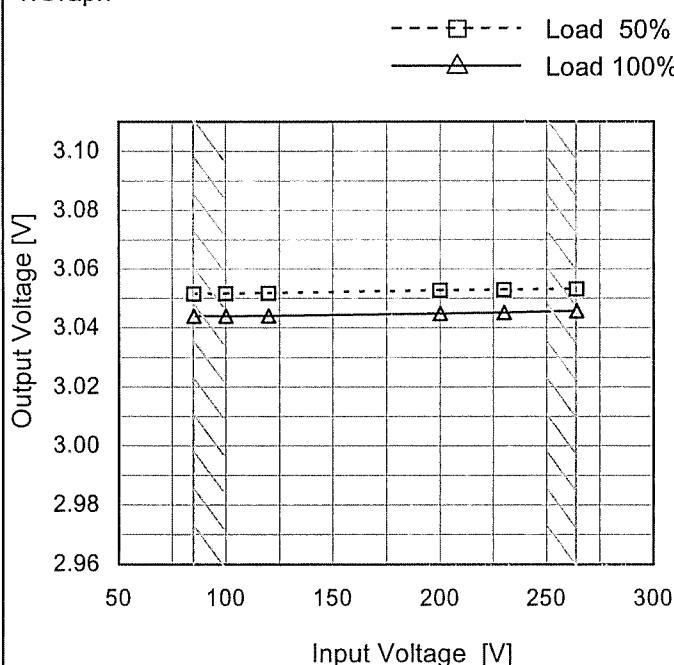


COSSEL

Model	LDA75F-3
Item	Line Regulation
Object	+3V15A

Temperature 25°C
Testing Circuitry Figure A

1.Graph

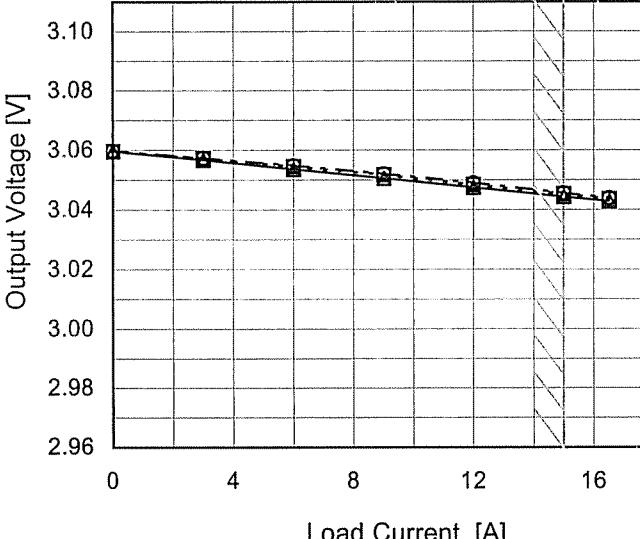


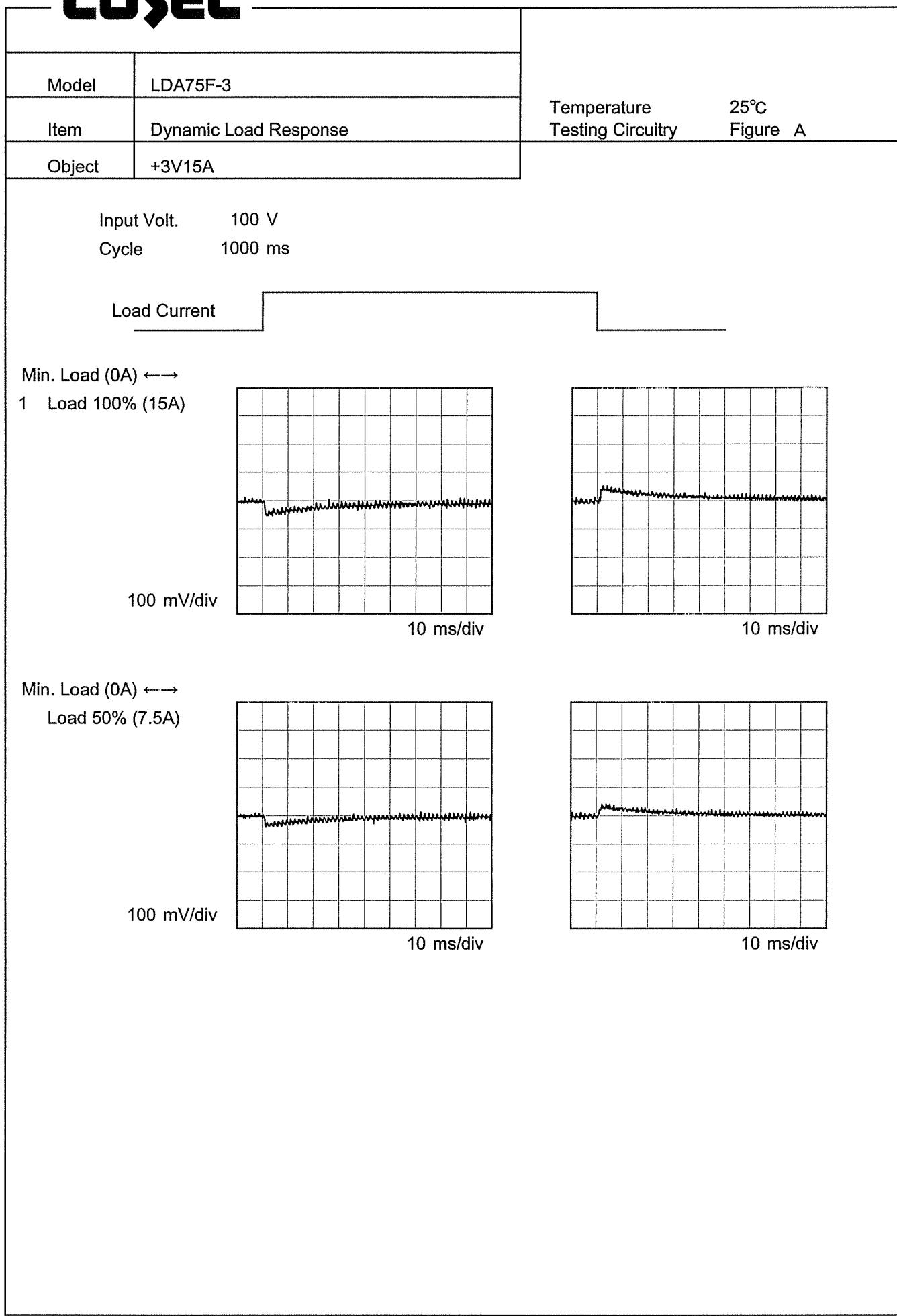
Note: Slanted line shows the range of the rated input voltage.

2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
85	3.052	3.044
100	3.052	3.044
120	3.052	3.044
200	3.053	3.045
230	3.053	3.045
264	3.053	3.046
--	-	-
--	-	-
--	-	-

COSSEL

Model	LDA75F-3																																																				
Item	Load Regulation	Temperature Testing Circuitry	25°C Figure A																																																		
Object	+3V15A																																																				
1.Graph	<p style="text-align: center;"> —△— Input Volt. 100V - - -□- Input Volt. 200V —○— Input Volt. 230V </p>  <p>Note: Slanted line shows the range of the rated load current.</p>	2.Values																																																			
		<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Output Voltage [V]</th> </tr> <tr> <th>Input Volt. 100[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 230[V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>3.060</td><td>3.060</td><td>3.060</td></tr> <tr><td>3.0</td><td>3.057</td><td>3.057</td><td>3.057</td></tr> <tr><td>6.0</td><td>3.054</td><td>3.055</td><td>3.055</td></tr> <tr><td>9.0</td><td>3.051</td><td>3.052</td><td>3.052</td></tr> <tr><td>12.0</td><td>3.048</td><td>3.048</td><td>3.049</td></tr> <tr><td>15.0</td><td>3.044</td><td>3.045</td><td>3.046</td></tr> <tr><td>16.5</td><td>3.043</td><td>3.044</td><td>3.044</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> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>	Load Current [A]	Output Voltage [V]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	0.0	3.060	3.060	3.060	3.0	3.057	3.057	3.057	6.0	3.054	3.055	3.055	9.0	3.051	3.052	3.052	12.0	3.048	3.048	3.049	15.0	3.044	3.045	3.046	16.5	3.043	3.044	3.044	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Output Voltage [V]																																																				
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]																																																		
0.0	3.060	3.060	3.060																																																		
3.0	3.057	3.057	3.057																																																		
6.0	3.054	3.055	3.055																																																		
9.0	3.051	3.052	3.052																																																		
12.0	3.048	3.048	3.049																																																		
15.0	3.044	3.045	3.046																																																		
16.5	3.043	3.044	3.044																																																		
--	-	-	-																																																		
--	-	-	-																																																		
--	-	-	-																																																		
--	-	-	-																																																		

COSEL

Model	LDA75F-3																																							
Item	Ripple Voltage (by Load Current)																																							
Object	+3V15A																																							
1. Graph																																								
<p>—△— Input Volt. 100V —○— Input Volt. 200V</p>																																								
<p>Ripple Voltage [mV]</p> <p>Load Current [A]</p>																																								
<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>T1</p> <p>T2</p>																																								
<p>Fig. Complex Ripple Wave Form</p>																																								
<p>Temperature 25°C Testing Circuitry Figure A</p>																																								
<p>2. Values</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Input Volt. 100 [V]</th> <th>Input Volt. 200 [V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>20</td><td>20</td></tr> <tr><td>3.0</td><td>20</td><td>20</td></tr> <tr><td>6.0</td><td>25</td><td>25</td></tr> <tr><td>9.0</td><td>25</td><td>25</td></tr> <tr><td>12.0</td><td>25</td><td>25</td></tr> <tr><td>15.0</td><td>25</td><td>25</td></tr> <tr><td>16.5</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> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>			Load Current [A]	Ripple Voltage [mV]		Input Volt. 100 [V]	Input Volt. 200 [V]	0.0	20	20	3.0	20	20	6.0	25	25	9.0	25	25	12.0	25	25	15.0	25	25	16.5	30	30	--	-	-	--	-	-	--	-	-	--	-	-
Load Current [A]	Ripple Voltage [mV]																																							
	Input Volt. 100 [V]	Input Volt. 200 [V]																																						
0.0	20	20																																						
3.0	20	20																																						
6.0	25	25																																						
9.0	25	25																																						
12.0	25	25																																						
15.0	25	25																																						
16.5	30	30																																						
--	-	-																																						
--	-	-																																						
--	-	-																																						
--	-	-																																						

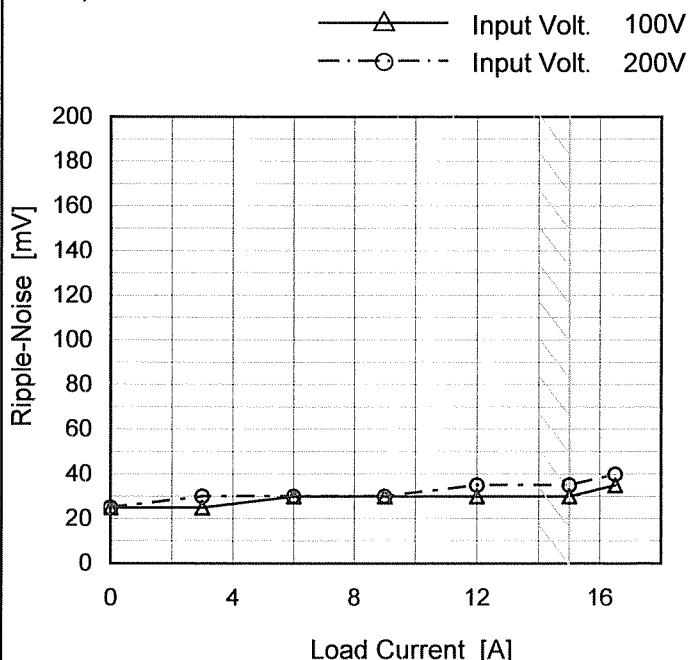
COSEL

Model LDA75F-3

Item Ripple-Noise

Object +3V15A

1. Graph



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.

Temperature 25°C
Testing Circuitry Figure A

2. Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 100 [V]	Input Volt. 200 [V]
0.0	25	25
3.0	25	30
6.0	30	30
9.0	30	30
12.0	30	35
15.0	30	35
16.5	35	40
--	-	-
--	-	-
--	-	-
--	-	-

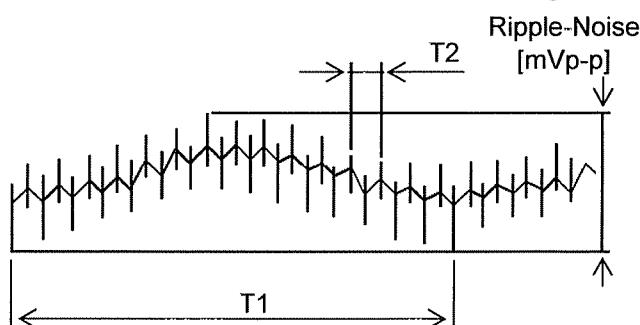
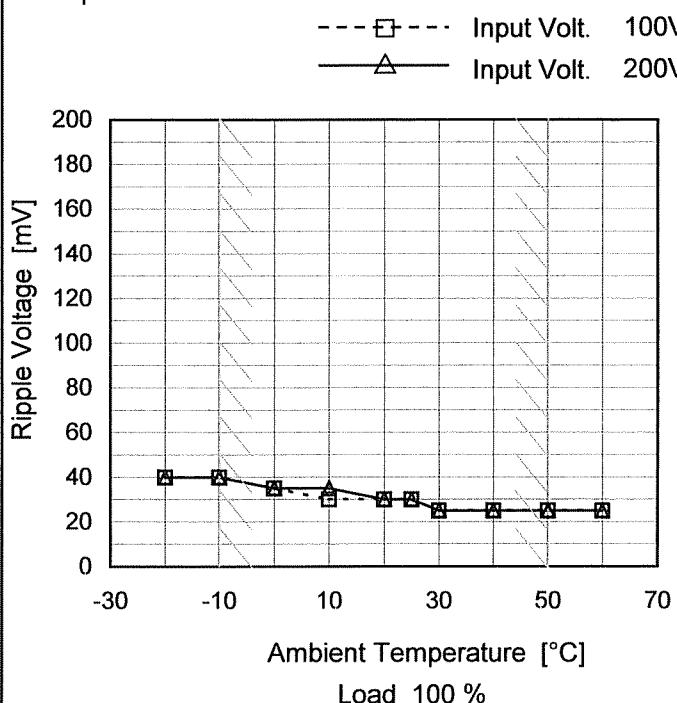
T1: Due to AC Input Line
T2: Due to Switching

Fig. Complex Ripple Wave Form

COSEL

Model	LDA75F-3
Item	Ripple Voltage (by Ambient Temp.)
Object	+3V15A

1. Graph



Measured by 20 MHz Oscilloscope.

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

Testing Circuitry Figure A

2. Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Input Volt. 100 [V]	Input Volt. 200 [V]
-20	40	40
-10	40	40
0	35	35
10	30	35
20	30	30
25	30	30
30	25	25
40	25	25
50	25	25
60	25	25
--	-	-

COSEL

Model	LDA75F-3	Testing Circuitry Figure A			
Item	Ambient Temperature Drift				
Object	+3V15A				
1.Graph	<p>Input Volt. 100V Input Volt. 200V Input Volt. 230V</p> <p>Output Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 100%</p>	2.Values			
		Ambient Temperature [°C]	Output Voltage [V]		
		[°C]	100[V]	200[V]	230[V]
	-20	3.037	3.038	3.039	
	-10	3.039	3.040	3.041	
	0	3.041	3.042	3.042	
	10	3.044	3.044	3.045	
	25	3.046	3.047	3.047	
	40	3.047	3.048	3.048	
	50	3.047	3.048	3.049	
	60	3.047	3.047	3.048	
	--	-	-	-	
	--	-	-	-	
	--	-	-	-	

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



Model	LDA75F-3	Testing Circuitry Figure A
Item	Output Voltage Accuracy	
Object	+3V15A	

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 - 15A

* Output Voltage Accuracy = \pm (Maximum of Output Voltage - 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	50	85	0	3.065	± 13	± 0.4
Minimum Voltage	-10	85	15	3.040		

COSEL

Model	LDA75F-3	Temperature Testing Circuitry 25°C Figure A																						
Item	Time Lapse Drift																							
Object	+3V15A																							
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>3.044</td></tr> <tr><td>0.5</td><td>3.045</td></tr> <tr><td>1.0</td><td>3.046</td></tr> <tr><td>2.0</td><td>3.046</td></tr> <tr><td>3.0</td><td>3.046</td></tr> <tr><td>4.0</td><td>3.046</td></tr> <tr><td>5.0</td><td>3.046</td></tr> <tr><td>6.0</td><td>3.046</td></tr> <tr><td>7.0</td><td>3.046</td></tr> <tr><td>8.0</td><td>3.046</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	3.044	0.5	3.045	1.0	3.046	2.0	3.046	3.0	3.046	4.0	3.046	5.0	3.046	6.0	3.046	7.0	3.046	8.0	3.046
Time since start [H]	Output Voltage [V]																							
0.0	3.044																							
0.5	3.045																							
1.0	3.046																							
2.0	3.046																							
3.0	3.046																							
4.0	3.046																							
5.0	3.046																							
6.0	3.046																							
7.0	3.046																							
8.0	3.046																							

* The characteristic of AC200V is equal.

COSEL

Model	LDA75F-3	Temperature Testing Circuitry	25°C Figure A
Item	Rise and Fall Time		
Object	+3V15A		

1.Graph

Output Volt. [0.5V/div]

Load 100%

Input Volt. 100 V

Output Volt. [0.5V/div]

Load 100%

Input Volt. 200 V

Input Volt.

Time [50mS/div] Time [50mS/div]

2.Values

Input Volt.	Time	Td	Tr	Ts	Th	Tf	[mS]
100 V		90.3	1.5	91.8	40.0	5.5	
200 V		34.3	2.0	36.3	211.5	5.3	

Output Volt.

Input Volt.

90%

10%

Td

Tr

Ts

Th

Tf

COSEL

Model	LDA75F-3	Temperature Testing Circuitry 25°C Figure A																																
Item	Hold-Up Time																																	
Object	+3V15A																																	
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>85</td><td>54</td><td>25</td></tr> <tr><td>100</td><td>86</td><td>41</td></tr> <tr><td>120</td><td>137</td><td>66</td></tr> <tr><td>200</td><td>431</td><td>215</td></tr> <tr><td>230</td><td>576</td><td>290</td></tr> <tr><td>264</td><td>762</td><td>388</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>	Input Voltage [V]	Hold-Up Time [ms]		Load 50%	Load 100%	85	54	25	100	86	41	120	137	66	200	431	215	230	576	290	264	762	388	--	-	-	--	-	-	--	-	-
Input Voltage [V]	Hold-Up Time [ms]																																	
	Load 50%	Load 100%																																
85	54	25																																
100	86	41																																
120	137	66																																
200	431	215																																
230	576	290																																
264	762	388																																
--	-	-																																
--	-	-																																
--	-	-																																
<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>																																		

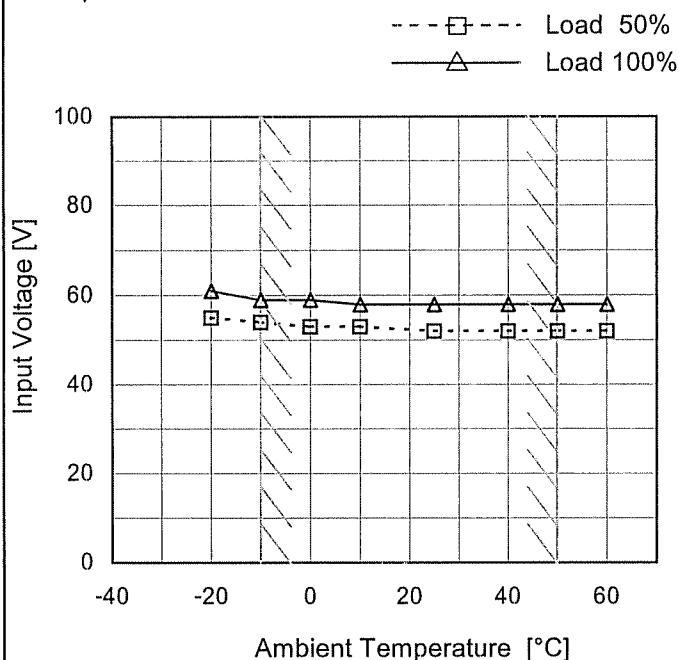
COSEL

Model	LDA75F-3																																																					
Item	Instantaneous Interruption Compensation																																																					
Object	+3V15A																																																					
1.Graph	<p>—△— Input Volt. 100V - - -□- - - Input Volt. 200V - - -○- - - Input Volt. 230V</p> <table border="1"> <caption>Data points estimated from Graph 1</caption> <thead> <tr> <th>Load Current [A]</th> <th>100V [ms]</th> <th>200V [ms]</th> <th>230V [ms]</th> </tr> </thead> <tbody> <tr><td>3.0</td><td>218</td><td>976</td><td>1273</td></tr> <tr><td>6.0</td><td>112</td><td>540</td><td>720</td></tr> <tr><td>9.0</td><td>73</td><td>366</td><td>490</td></tr> <tr><td>12.0</td><td>53</td><td>274</td><td>370</td></tr> <tr><td>15.0</td><td>40</td><td>217</td><td>293</td></tr> <tr><td>16.5</td><td>36</td><td>195</td><td>265</td></tr> </tbody> </table>			Load Current [A]	100V [ms]	200V [ms]	230V [ms]	3.0	218	976	1273	6.0	112	540	720	9.0	73	366	490	12.0	53	274	370	15.0	40	217	293	16.5	36	195	265																							
Load Current [A]	100V [ms]	200V [ms]	230V [ms]																																																			
3.0	218	976	1273																																																			
6.0	112	540	720																																																			
9.0	73	366	490																																																			
12.0	53	274	370																																																			
15.0	40	217	293																																																			
16.5	36	195	265																																																			
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. 100[V]</th> <th>Input Volt. 200[V]</th> <th>Input Volt. 230[V]</th> </tr> </thead> <tbody> <tr><td>0.0</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>3.0</td><td>218</td><td>976</td><td>1273</td></tr> <tr><td>6.0</td><td>112</td><td>540</td><td>720</td></tr> <tr><td>9.0</td><td>73</td><td>366</td><td>490</td></tr> <tr><td>12.0</td><td>53</td><td>274</td><td>370</td></tr> <tr><td>15.0</td><td>40</td><td>217</td><td>293</td></tr> <tr><td>16.5</td><td>36</td><td>195</td><td>265</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> <tr><td>--</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>			Load Current [A]	Time [ms]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	0.0	-	-	-	3.0	218	976	1273	6.0	112	540	720	9.0	73	366	490	12.0	53	274	370	15.0	40	217	293	16.5	36	195	265	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Time [ms]																																																					
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]																																																			
0.0	-	-	-																																																			
3.0	218	976	1273																																																			
6.0	112	540	720																																																			
9.0	73	366	490																																																			
12.0	53	274	370																																																			
15.0	40	217	293																																																			
16.5	36	195	265																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
Note:	Slanted line shows the range of the rated load current.																																																					

COSEL

Model	LDA75F-3
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+3V15A

1.Graph



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

Testing Circuitry Figure A

2.Values

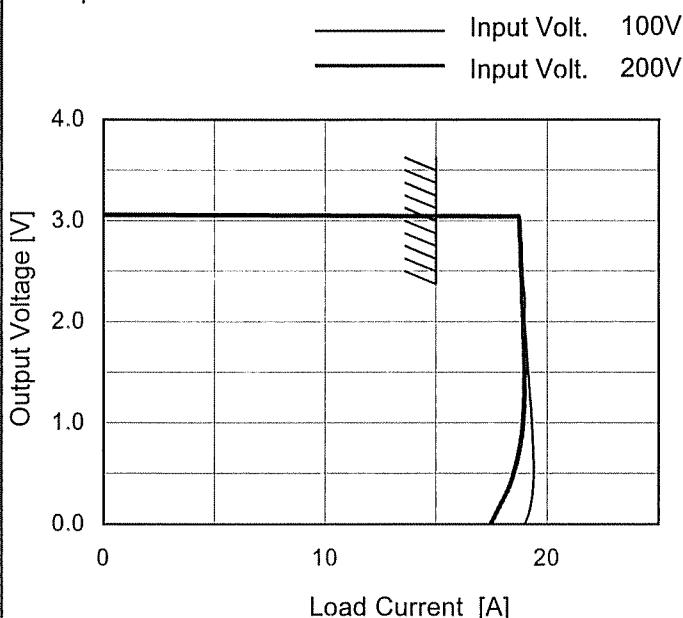
Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-20	55	61
-10	54	59
0	53	59
10	53	58
25	52	58
40	52	58
50	52	58
60	52	58
--	-	-
--	-	-
--	-	-

COSEL

Model	LDA75F-3
Item	Overcurrent Protection
Object	+3V15A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



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	16.37	17.65
2.85	18.78	18.77
2.70	18.82	18.79
2.40	18.90	18.85
2.10	18.98	18.90
1.80	19.04	18.95
1.50	19.16	18.97
1.20	19.26	18.97
0.90	19.33	18.87
0.60	19.39	18.61
0.30	19.34	18.10
0.00	18.86	17.36

COSEL

Model LDA75F-3 Item Overvoltage Protection Object +3V15A	Testing Circuitry Figure A																																						
	2.Values																																						
	<table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="2">Operating Point [V]</th> </tr> <tr> <th>Input Volt. 100V</th> <th>Input Volt. 200V</th> </tr> </thead> <tbody> <tr> <td>-20</td><td>4.83</td><td>4.83</td></tr> <tr> <td>-10</td><td>4.78</td><td>4.83</td></tr> <tr> <td>0</td><td>4.72</td><td>4.78</td></tr> <tr> <td>10</td><td>4.72</td><td>4.72</td></tr> <tr> <td>25</td><td>4.66</td><td>4.66</td></tr> <tr> <td>40</td><td>4.60</td><td>4.59</td></tr> <tr> <td>50</td><td>4.48</td><td>4.48</td></tr> <tr> <td>60</td><td>4.48</td><td>4.48</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]	Operating Point [V]		Input Volt. 100V	Input Volt. 200V	-20	4.83	4.83	-10	4.78	4.83	0	4.72	4.78	10	4.72	4.72	25	4.66	4.66	40	4.60	4.59	50	4.48	4.48	60	4.48	4.48	--	-	-	--	-	-	--	-
Ambient Temperature [°C]	Operating Point [V]																																						
	Input Volt. 100V	Input Volt. 200V																																					
-20	4.83	4.83																																					
-10	4.78	4.83																																					
0	4.72	4.78																																					
10	4.72	4.72																																					
25	4.66	4.66																																					
40	4.60	4.59																																					
50	4.48	4.48																																					
60	4.48	4.48																																					
--	-	-																																					
--	-	-																																					
--	-	-																																					
1.Graph <p>Operating Point [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 0%</p> <p>Input Volt. 100V</p> <p>Input Volt. 200V</p> <p>Note: Slanted line shows the range of the rated ambient temperature.</p>																																							

COSEL

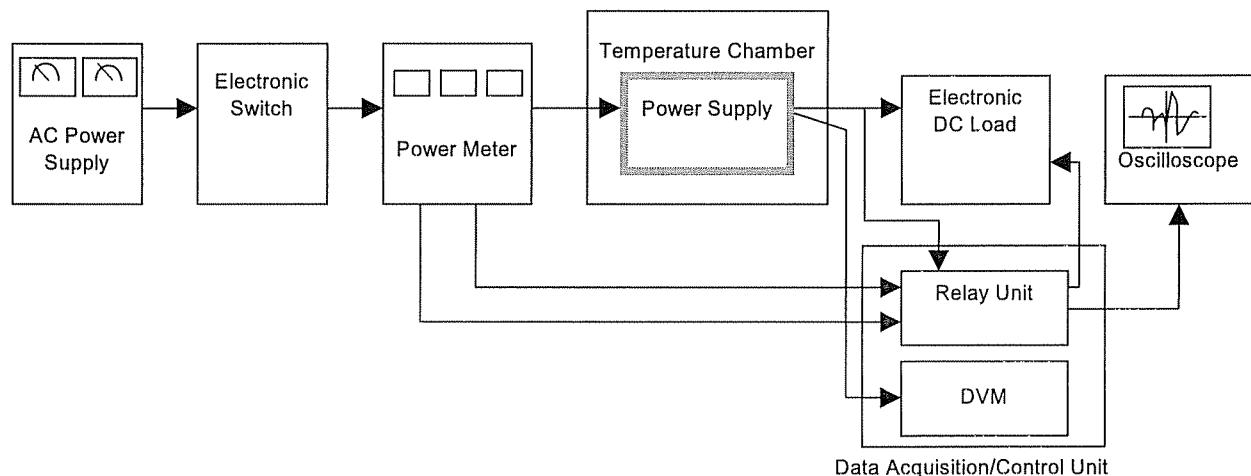


Figure A

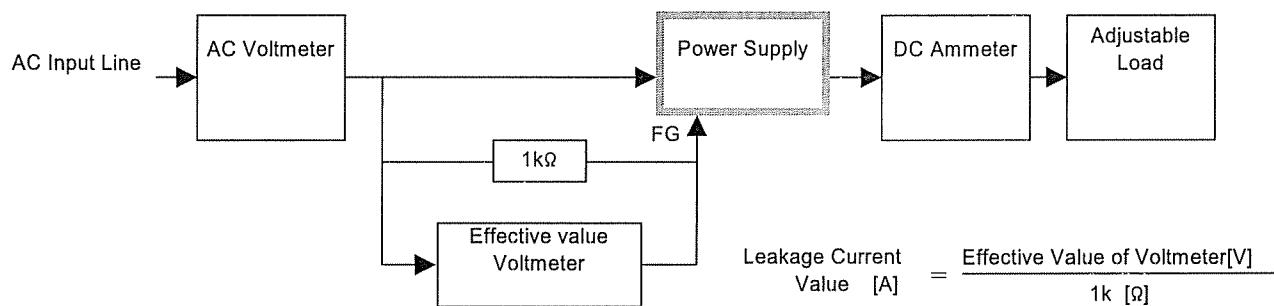


Figure B (DEN-AN)

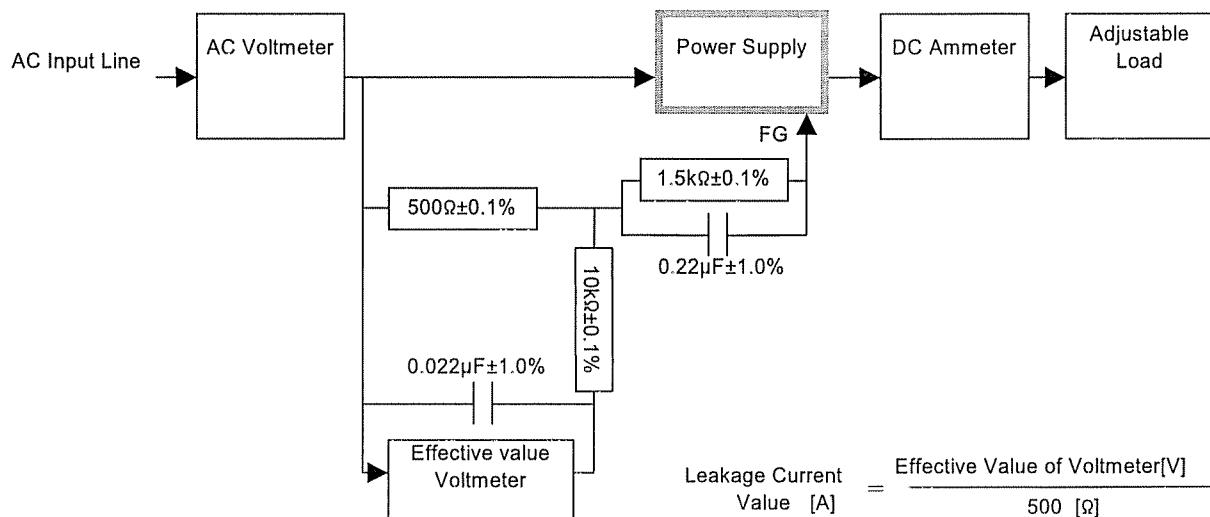


Figure B (IEC60950)