



TEST DATA OF LDA75F-18

Regulated DC Power Supply
Dec.7. 2004

Approved by : J. Uchida
J.Uchida Design Manager

Prepared by : A. Kawai
A.Kawai Design Engineer

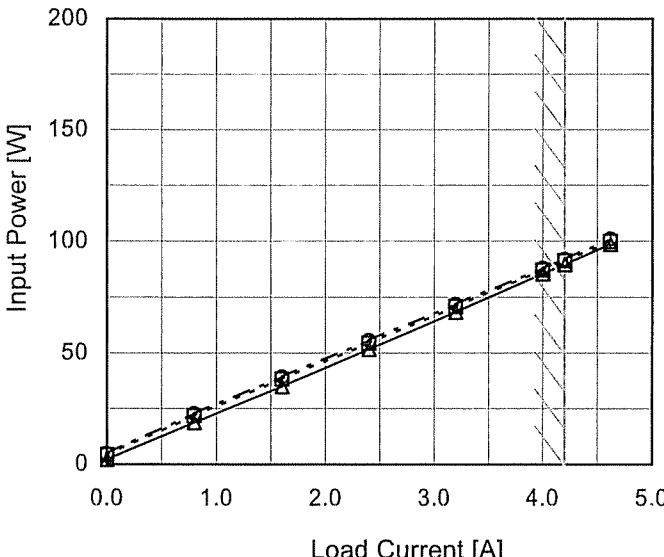
COSEL CO.,LTD.

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Model		LDA75F-18		Temperature		25°C																																																				
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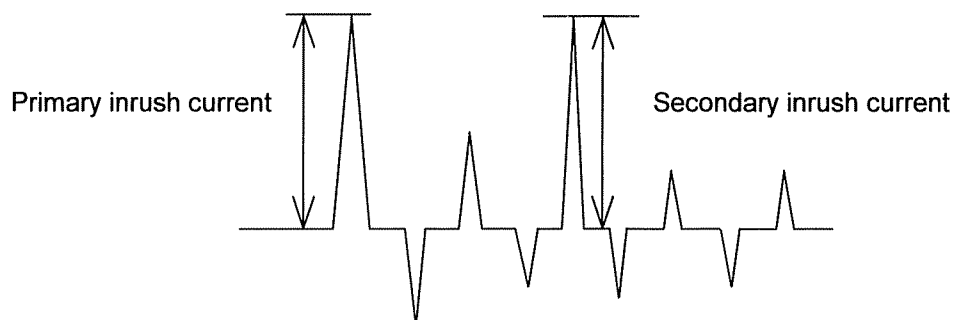
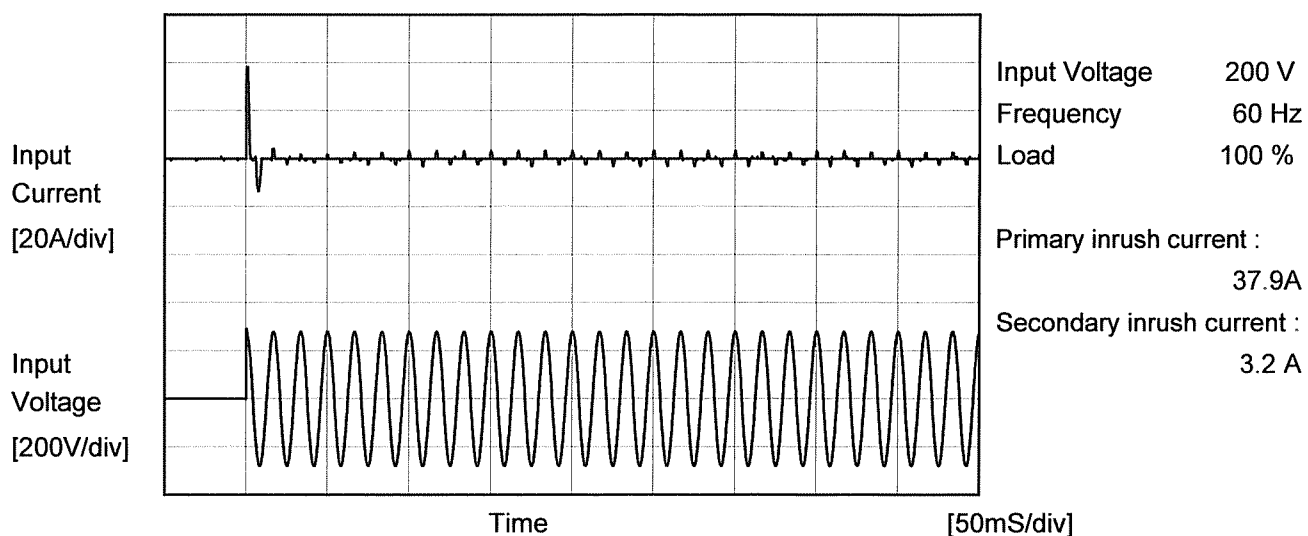
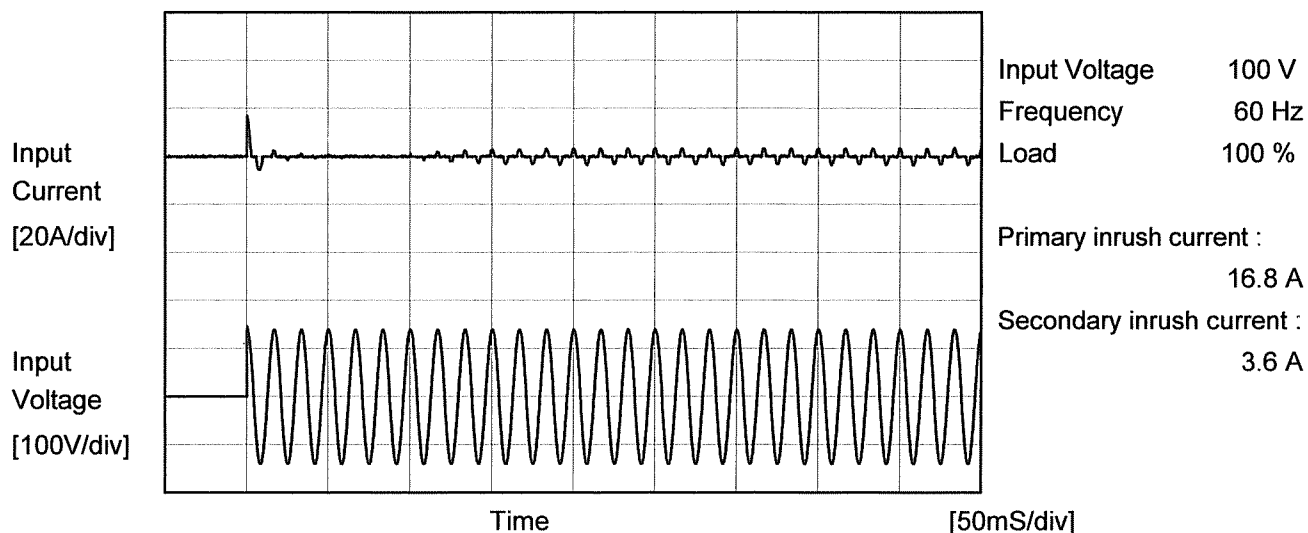
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Object	_____		

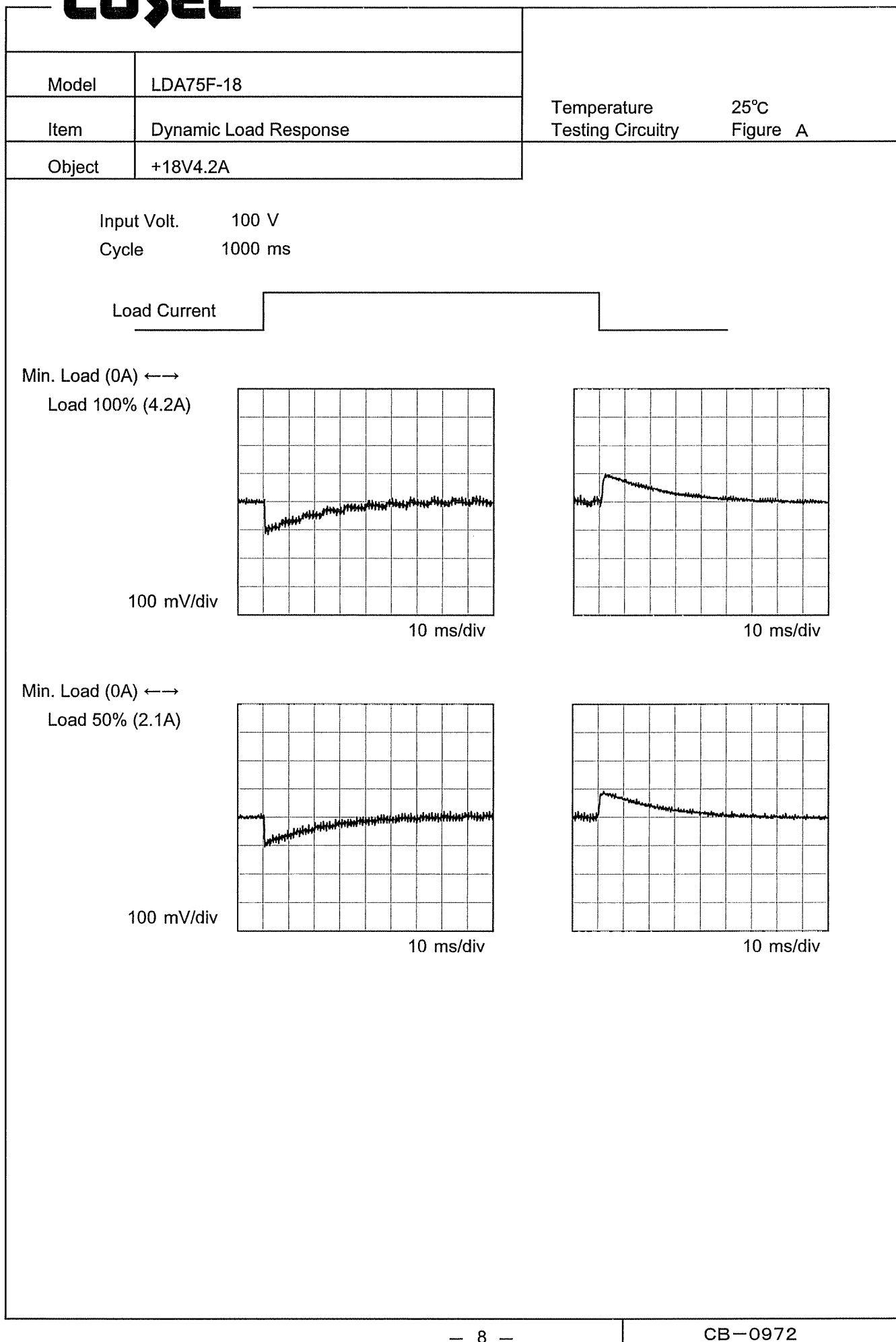


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Model	LDA75F-18	Temperature	25°C																																						
Item	Ripple Voltage (by Load Current)	Testing Circuitry	Figure A																																						
Object	+18V4.2A																																								
1.Graph		2.Values																																							
<div><div><div><div></div><div>—△—</div><div>Input Volt. 100V</div></div><div><div></div><div>- -○- -</div><div>Input Volt. 200V</div></div></div><div><div><div><div>200</div><div>180</div><div>160</div><div>140</div><div>120</div><div>100</div><div>80</div><div>60</div><div>40</div><div>20</div><div>0</div></div><div><div>0.0</div><div>1.0</div><div>2.0</div><div>3.0</div><div>4.0</div><div>5.0</div></div></div><div><div>Ripple Voltage [mV]</div><div>Load Current [A]</div></div></div></div>		<table><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><tr><td>0.00</td><td>30</td><td>30</td></tr><tr><td>0.80</td><td>30</td><td>30</td></tr><tr><td>1.60</td><td>30</td><td>30</td></tr><tr><td>2.40</td><td>35</td><td>30</td></tr><tr><td>3.20</td><td>35</td><td>40</td></tr><tr><td>4.20</td><td>35</td><td>40</td></tr><tr><td>4.62</td><td>40</td><td>45</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></table>		Load Current [A]	Ripple Voltage [mV]		Input Volt. 100 [V]	Input Volt. 200 [V]	0.00	30	30	0.80	30	30	1.60	30	30	2.40	35	30	3.20	35	40	4.20	35	40	4.62	40	45	--	-	-	--	-	-	--	-	-	--	-	-
Load Current [A]	Ripple Voltage [mV]																																								
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<div>Measured by 20 MHz Oscilloscope.</div> <div>Ripple Voltage is shown as p-p in the figure below.</div> <div>Note: Slanted line shows the range of the rated load current.</div>																																									
<div><div><div><div></div><div>T1: Due to AC Input Line</div><div>T2: Due to Switching</div></div><div><div><div><div></div><div>Ripple [mVp-p]</div></div><div><div><div></div><div>T2</div></div></div><div><div><div></div><div>T1</div></div></div></div></div></div></div>																																									
Fig. Complex Ripple Wave Form																																									

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BC-0972

Model	LDA75F-18		
Item	Ripple-Noise	Temperature	25°C
Object	+18V4.2A	Testing Circuitry	Figure A
1.Graph		2.Values	
<div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> 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Model	LDA75F-18																																								
Item	Ripple Voltage (by Ambient Temp.)	Testing Circuitry Figure A																																							
Object	+18V4.2A																																								
1.Graph		2.Values																																							
<div><div><div>---□---</div><div>Input Volt. 100V</div></div><div><div>—△—</div><div>Input Volt. 200V</div></div></div> <p>Ripple Voltage [mV]</p> <p>Ambient Temperature [°C]</p> <p>Load 100 %</p> <p>Measured by 20 MHz Oscilloscope. Note: Slanted line shows the range of the rated ambient temperature.</p>		<table><tr><th rowspan="2">Ambient Temperature [°C]</th><th colspan="2">Ripple Voltage [mV]</th></tr><tr><th>Input Volt. 100 [V]</th><th>Input Volt. 200 [V]</th></tr><tr><td>-20</td><td>60</td><td>80</td></tr><tr><td>-10</td><td>60</td><td>65</td></tr><tr><td>0</td><td>50</td><td>60</td></tr><tr><td>10</td><td>50</td><td>50</td></tr><tr><td>25</td><td>45</td><td>50</td></tr><tr><td>30</td><td>40</td><td>45</td></tr><tr><td>40</td><td>35</td><td>40</td></tr><tr><td>50</td><td>30</td><td>35</td></tr><tr><td>60</td><td>30</td><td>30</td></tr><tr><td>--</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td></tr></table>		Ambient Temperature [°C]	Ripple Voltage [mV]		Input Volt. 100 [V]	Input Volt. 200 [V]	-20	60	80	-10	60	65	0	50	60	10	50	50	25	45	50	30	40	45	40	35	40	50	30	35	60	30	30	--	-	-	--	-	-
Ambient Temperature [°C]	Ripple Voltage [mV]																																								
	Input Volt. 100 [V]	Input Volt. 200 [V]																																							
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-10	60	65																																							
0	50	60																																							
10	50	50																																							
25	45	50																																							
30	40	45																																							
40	35	40																																							
50	30	35																																							
60	30	30																																							
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		Testing Circuitry Figure A
Model	LDA75F-18	
Item	Output Voltage Accuracy	
Object	+18V4.2A	

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 - 4.2A

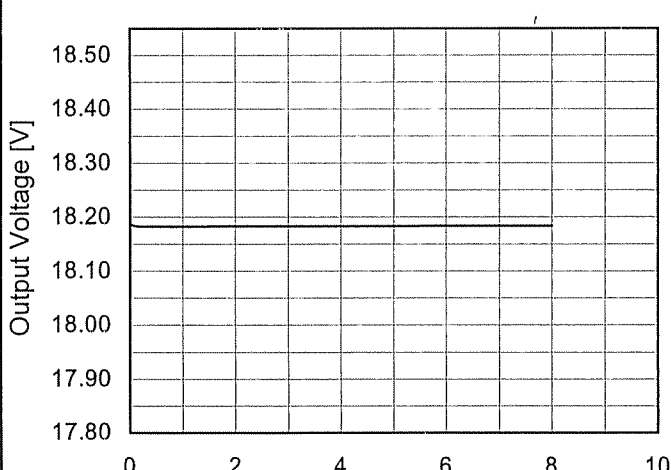
* Output Voltage Accuracy = $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

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

2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ratio [%]
Maximum Voltage	-10	85	0	18.208	±15	±0.1
Minimum Voltage	50	85	4.2	18.178		

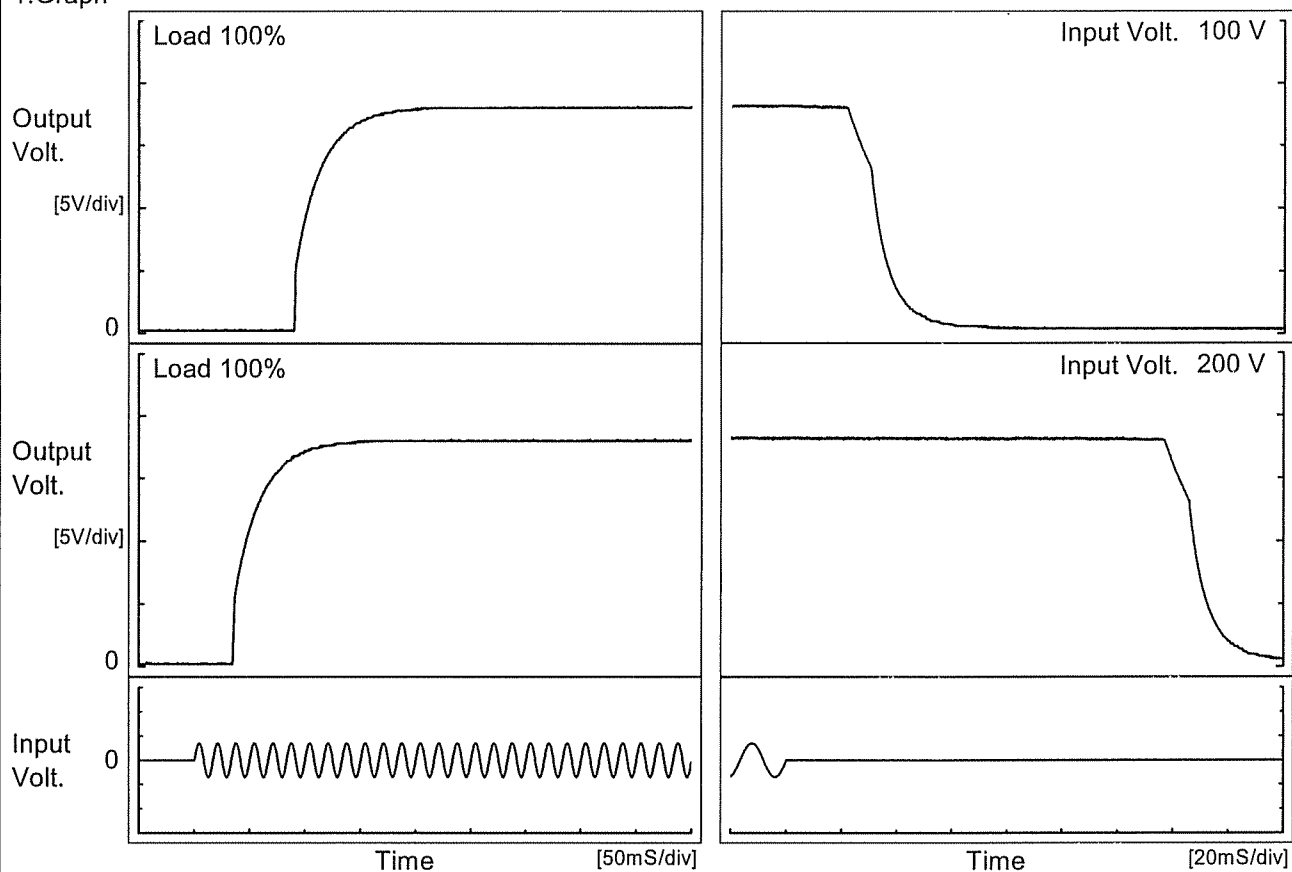
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Model	LDA75F-18																								
Item	Time Lapse Drift	Temperature	25°C																						
Object	+18V4.2A	Testing Circuitry	Figure A																						
1.Graph		2.Values																							
<div><p>Output Voltage [V]</p><p>Time [H]</p><p>Input Volt. 100V</p><p>Load 100%</p></div>		<table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>18.190</td></tr><tr><td>0.5</td><td>18.183</td></tr><tr><td>1.0</td><td>18.183</td></tr><tr><td>2.0</td><td>18.183</td></tr><tr><td>3.0</td><td>18.183</td></tr><tr><td>4.0</td><td>18.183</td></tr><tr><td>5.0</td><td>18.184</td></tr><tr><td>6.0</td><td>18.184</td></tr><tr><td>7.0</td><td>18.184</td></tr><tr><td>8.0</td><td>18.184</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	18.190	0.5	18.183	1.0	18.183	2.0	18.183	3.0	18.183	4.0	18.183	5.0	18.184	6.0	18.184	7.0	18.184	8.0	18.184
Time since start [H]	Output Voltage [V]																								
0.0	18.190																								
0.5	18.183																								
1.0	18.183																								
2.0	18.183																								
3.0	18.183																								
4.0	18.183																								
5.0	18.184																								
6.0	18.184																								
7.0	18.184																								
8.0	18.184																								
* The characteristic of AC200V is equal.																									

COSEL

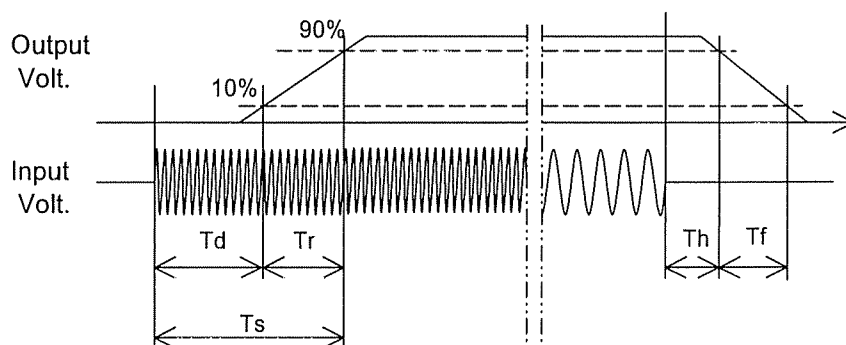
Model	LDA75F-18	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+18V4.2A		

1.Graph



2.Values

Input Volt. \ Time	Td	Tr	Ts	Th	Tf
100 V	90.8	48.8	139.6	24.2	20.9
200 V	35.3	48.5	83.8	139.5	21.3



BC-0972

Model	LDA75F-18																																																						
Item	Instantaneous Interruption Compensation	Temperature	25°C																																																				
Object	+18V4.2A	Testing Circuitry	Figure A																																																				
1.Graph		2.Values																																																					
<div><div>—△—</div><div>Input Volt.</div><div>100V</div></div> <div><div>---□---</div><div>Input Volt.</div><div>200V</div></div> <div><div>-○-</div><div>Input Volt.</div><div>230V</div></div> <p>Instantaneous Compensation Time [ms]</p> <p>Load Current [A]</p> <p>Note: Slanted line shows the range of the rated load current.</p>		<table><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><tr><td>0.00</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.80</td><td>120</td><td>647</td><td>856</td></tr><tr><td>1.60</td><td>63</td><td>355</td><td>478</td></tr><tr><td>2.40</td><td>42</td><td>247</td><td>331</td></tr><tr><td>3.20</td><td>35</td><td>185</td><td>250</td></tr><tr><td>4.00</td><td>24</td><td>148</td><td>205</td></tr><tr><td>4.20</td><td>22</td><td>145</td><td>190</td></tr><tr><td>4.62</td><td>20</td><td>126</td><td>173</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></table>			Load Current [A]	Time [ms]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	0.00	-	-	-	0.80	120	647	856	1.60	63	355	478	2.40	42	247	331	3.20	35	185	250	4.00	24	148	205	4.20	22	145	190	4.62	20	126	173	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Time [ms]																																																						
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Model		LDA75F-18
Item		Minimum Input Voltage for Regulated Output Voltage
Object		+18V4.2A

1.Graph

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Model	LDA75F-18	Temperature Testing Circuitry	25°C Figure A																																									
Item	Overcurrent Protection																																											
Object	+18V4.2A																																											
1.Graph		2.Values																																										
<div><div><div></div>Input Volt. 100V</div><div><div></div>Input Volt. 200V</div></div> <p>Note: Slanted line shows the range of the rated load current.</p>		<table><tr><th rowspan="2">Output Voltage [V]</th><th colspan="2">Load Current [A]</th></tr><tr><th>Input Volt. 100[V]</th><th>Input Volt. 200[V]</th></tr><tr><td>18.0</td><td>5.18</td><td>5.27</td></tr><tr><td>17.1</td><td>5.19</td><td>5.31</td></tr><tr><td>16.2</td><td>5.21</td><td>5.35</td></tr><tr><td>14.4</td><td>5.26</td><td>5.42</td></tr><tr><td>12.6</td><td>5.32</td><td>5.49</td></tr><tr><td>10.8</td><td>5.40</td><td>5.55</td></tr><tr><td>9.0</td><td>5.46</td><td>5.62</td></tr><tr><td>7.2</td><td>5.54</td><td>5.69</td></tr><tr><td>5.4</td><td>5.60</td><td>5.76</td></tr><tr><td>3.6</td><td>5.67</td><td>5.74</td></tr><tr><td>1.8</td><td>5.66</td><td>5.40</td></tr><tr><td>0.0</td><td>5.08</td><td>5.04</td></tr></table>		Output Voltage [V]	Load Current [A]		Input Volt. 100[V]	Input Volt. 200[V]	18.0	5.18	5.27	17.1	5.19	5.31	16.2	5.21	5.35	14.4	5.26	5.42	12.6	5.32	5.49	10.8	5.40	5.55	9.0	5.46	5.62	7.2	5.54	5.69	5.4	5.60	5.76	3.6	5.67	5.74	1.8	5.66	5.40	0.0	5.08	5.04
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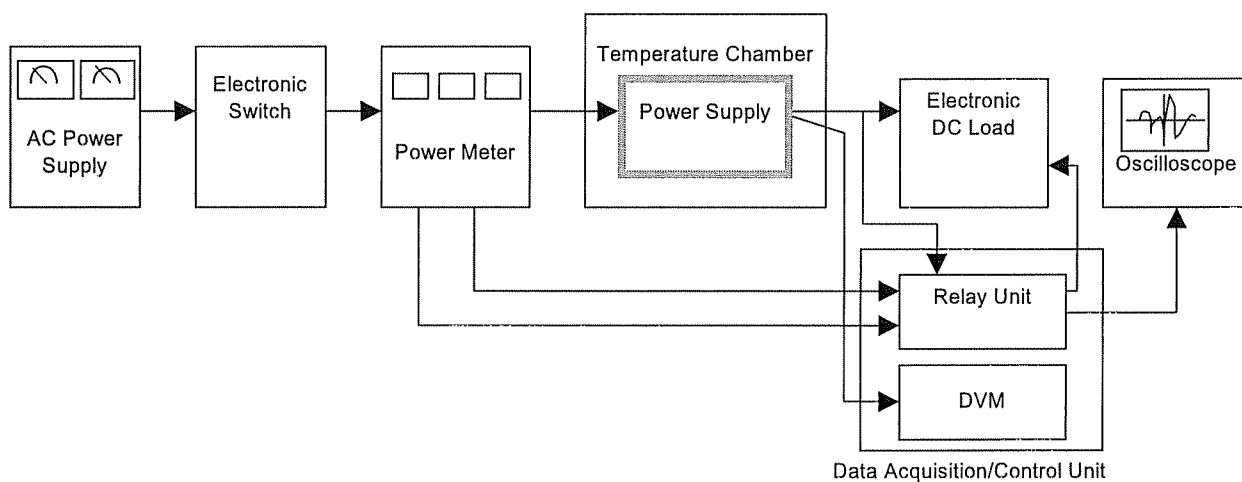


Figure A

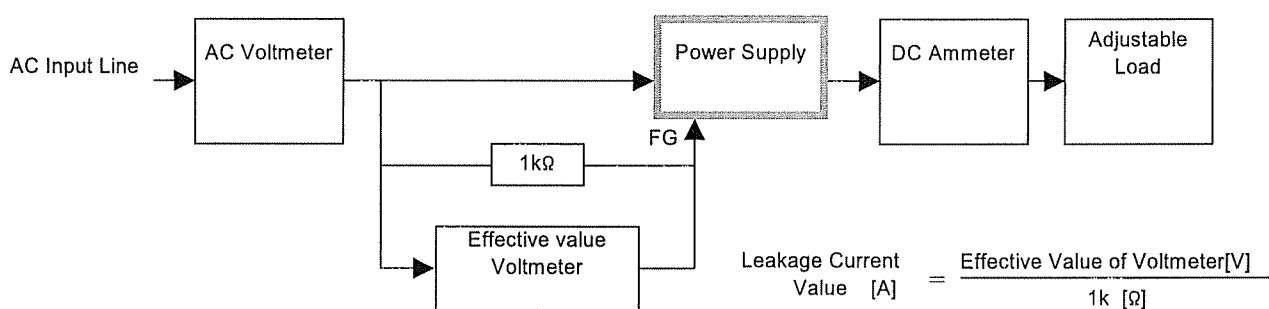


Figure B (DEN-AN)

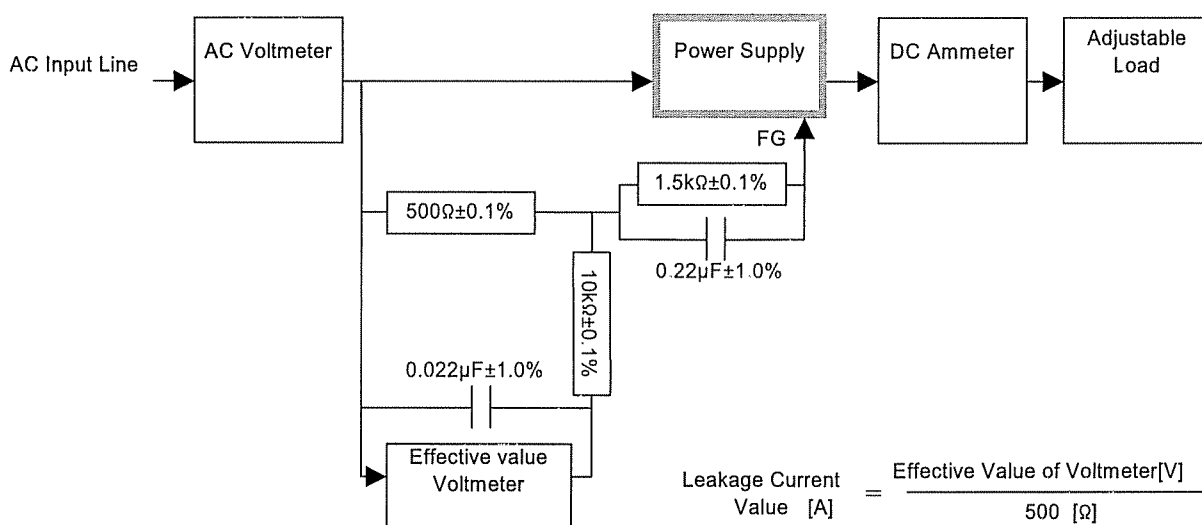


Figure B (IEC60950)