



TEST DATA OF LEA75F-3R3-Y

Regulated DC Power Supply
Jan.9. 2004

Approved by : K. Shibutani
K.Shibutani Design Manager

Prepared by : J. Asano
J.Asano Design Engineer

COSEL CO.,LTD.

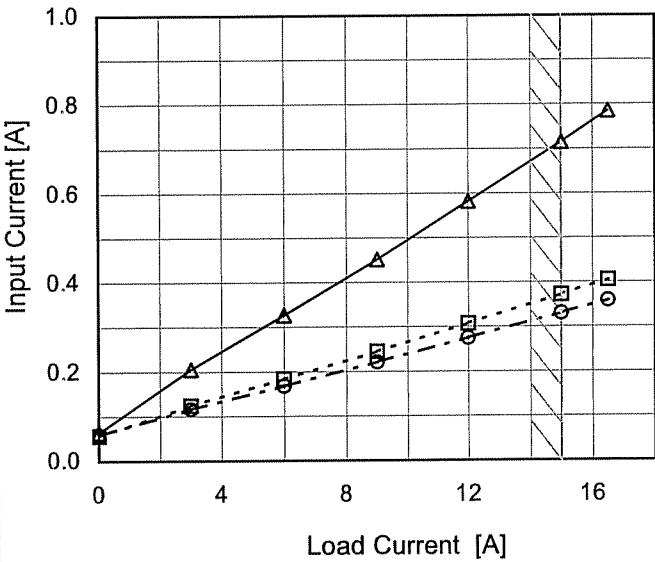


CONTENTS

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.Power Factor (by Input Voltage)	5
6.Power Factor (by Load Current)	6
7.Inrush Current	7
8.Line Regulation	8
9.Load Regulation	9
10.Ripple Voltage (by Load Current)	10
11.Ripple-Noise	11
12.Ripple Voltage (by Ambient Temperature)	12
13.Ambient Temperature Drift	13
14.Output Voltage Accuracy	14
15.Time Lapse Drift	15
16.Rise and Fall Time	16
17.Hold-Up Time	17
18.Instantaneous Interruption Compensation	18
19.Minimum Input Voltage for Regulated Output Voltage	19
20.Overcurrent Protection	20
21.Ovvervoltage Protection	21
22.Figure of Testing Circuitry	22

(Final Page 22)

COSSEL

Model	LEA75F-3R3-Y	Temperature	25°C																																																			
Item	Input Current (by Load Current)	Testing Circuitry	Figure A																																																			
Object	_____																																																					
1.Graph	—△— Input Volt. 100V - -□--- Input Volt. 200V - -○--- Input Volt. 230V																																																					
	 <p>The graph plots Input Current [A] on the y-axis against Load Current [A] on the x-axis. Three curves are shown for different input voltages: 100V (solid line with triangles), 200V (dashed line with squares), and 230V (dash-dot line with circles). All curves show a linear increase in input current with load current. A diagonal hatched line represents the rated load current range, which is approximately between 12.5A and 15.5A.</p>																																																					
2.Values	<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Input Current [A]</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>0.063</td> <td>0.056</td> <td>0.058</td> </tr> <tr> <td>3.0</td> <td>0.205</td> <td>0.124</td> <td>0.117</td> </tr> <tr> <td>6.0</td> <td>0.327</td> <td>0.184</td> <td>0.168</td> </tr> <tr> <td>9.0</td> <td>0.452</td> <td>0.245</td> <td>0.221</td> </tr> <tr> <td>12.0</td> <td>0.582</td> <td>0.307</td> <td>0.275</td> </tr> <tr> <td>15.0</td> <td>0.715</td> <td>0.372</td> <td>0.331</td> </tr> <tr> <td>16.5</td> <td>0.785</td> <td>0.405</td> <td>0.359</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>			Load Current [A]	Input Current [A]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	0.0	0.063	0.056	0.058	3.0	0.205	0.124	0.117	6.0	0.327	0.184	0.168	9.0	0.452	0.245	0.221	12.0	0.582	0.307	0.275	15.0	0.715	0.372	0.331	16.5	0.785	0.405	0.359	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Input Current [A]																																																					
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]																																																			
0.0	0.063	0.056	0.058																																																			
3.0	0.205	0.124	0.117																																																			
6.0	0.327	0.184	0.168																																																			
9.0	0.452	0.245	0.221																																																			
12.0	0.582	0.307	0.275																																																			
15.0	0.715	0.372	0.331																																																			
16.5	0.785	0.405	0.359																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
	<p>Note: Slanted line shows the range of the rated load current.</p>																																																					

COSEL

Model	LEA75F-3R3-Y	Temperature	25°C																																
Item	Input Power (by Load Current)	Testing Circuitry	Figure A																																
Object	_____	2.Values																																	
1.Graph	<p>—▲— Input Volt. 100V - - - □--- Input Volt. 200V - - ○--- Input Volt. 230V</p> <table border="1"> <caption>Data points from 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>4.62</td><td>5.00</td><td>5.20</td></tr> <tr><td>3.0</td><td>18.63</td><td>18.70</td><td>18.80</td></tr> <tr><td>6.0</td><td>30.87</td><td>30.60</td><td>30.60</td></tr> <tr><td>9.0</td><td>43.60</td><td>42.90</td><td>42.80</td></tr> <tr><td>12.0</td><td>56.70</td><td>55.50</td><td>55.30</td></tr> <tr><td>15.0</td><td>70.20</td><td>68.70</td><td>68.30</td></tr> <tr><td>16.5</td><td>77.30</td><td>75.40</td><td>74.90</td></tr> </tbody> </table>			Load Current [A]	Input Power [W] (100V)	Input Power [W] (200V)	Input Power [W] (230V)	0.0	4.62	5.00	5.20	3.0	18.63	18.70	18.80	6.0	30.87	30.60	30.60	9.0	43.60	42.90	42.80	12.0	56.70	55.50	55.30	15.0	70.20	68.70	68.30	16.5	77.30	75.40	74.90
Load Current [A]	Input Power [W] (100V)	Input Power [W] (200V)	Input Power [W] (230V)																																
0.0	4.62	5.00	5.20																																
3.0	18.63	18.70	18.80																																
6.0	30.87	30.60	30.60																																
9.0	43.60	42.90	42.80																																
12.0	56.70	55.50	55.30																																
15.0	70.20	68.70	68.30																																
16.5	77.30	75.40	74.90																																
	<p>Note: Slanted line shows the range of the rated load current.</p>																																		



Model	LEA75F-3R3-Y																																	
Item	Efficiency (by Input Voltage)	Temperature 25°C Testing Circuitry Figure A																																
Object	_____	_____																																
1.Graph																																		
<p>Efficiency [%]</p> <p>Input Voltage [V]</p> <p>Legend: ---□--- Load 50% —△— Load 100%</p>																																		
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>66.3</td> <td>70.1</td> </tr> <tr> <td>100</td> <td>66.8</td> <td>70.8</td> </tr> <tr> <td>132</td> <td>67.5</td> <td>71.6</td> </tr> <tr> <td>170</td> <td>67.6</td> <td>71.9</td> </tr> <tr> <td>200</td> <td>67.6</td> <td>72.5</td> </tr> <tr> <td>230</td> <td>67.8</td> <td>72.7</td> </tr> <tr> <td>264</td> <td>67.8</td> <td>72.8</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	66.3	70.1	100	66.8	70.8	132	67.5	71.6	170	67.6	71.9	200	67.6	72.5	230	67.8	72.7	264	67.8	72.8	--	-	-	--	-	-
Input Voltage [V]	Efficiency [%]																																	
	Load 50%	Load 100%																																
85	66.3	70.1																																
100	66.8	70.8																																
132	67.5	71.6																																
170	67.6	71.9																																
200	67.6	72.5																																
230	67.8	72.7																																
264	67.8	72.8																																
--	-	-																																
--	-	-																																
<p>Note: Slanted line shows the range of the rated input voltage.</p>																																		

COSEL

Model	LEA75F-3R3-Y	Temperature	25°C																																																			
Item	Efficiency (by Load Current)	Testing Circuitry	Figure A																																																			
Object																																																						
1.Graph	<p>—△— Input Volt. 100V - - -□- - Input Volt. 200V - - ○- - Input Volt. 230V</p> <table border="1"> <caption>Data points estimated from Graph</caption> <thead> <tr> <th>Load Current [A]</th> <th>Efficiency [100V] (%)</th> <th>Efficiency [200V] (%)</th> <th>Efficiency [230V] (%)</th> </tr> </thead> <tbody> <tr><td>3.0</td><td>53.2</td><td>53.0</td><td>52.7</td></tr> <tr><td>6.0</td><td>64.2</td><td>64.7</td><td>64.7</td></tr> <tr><td>9.0</td><td>68.1</td><td>69.2</td><td>69.4</td></tr> <tr><td>12.0</td><td>69.9</td><td>71.4</td><td>71.6</td></tr> <tr><td>15.0</td><td>70.5</td><td>72.0</td><td>72.5</td></tr> <tr><td>16.5</td><td>70.4</td><td>72.2</td><td>72.7</td></tr> </tbody> </table>	Load Current [A]	Efficiency [100V] (%)	Efficiency [200V] (%)	Efficiency [230V] (%)	3.0	53.2	53.0	52.7	6.0	64.2	64.7	64.7	9.0	68.1	69.2	69.4	12.0	69.9	71.4	71.6	15.0	70.5	72.0	72.5	16.5	70.4	72.2	72.7	2.Values																								
Load Current [A]	Efficiency [100V] (%)	Efficiency [200V] (%)	Efficiency [230V] (%)																																																			
3.0	53.2	53.0	52.7																																																			
6.0	64.2	64.7	64.7																																																			
9.0	68.1	69.2	69.4																																																			
12.0	69.9	71.4	71.6																																																			
15.0	70.5	72.0	72.5																																																			
16.5	70.4	72.2	72.7																																																			
	<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>53.2</td><td>53.0</td><td>52.7</td></tr> <tr><td>6.0</td><td>64.2</td><td>64.7</td><td>64.7</td></tr> <tr><td>9.0</td><td>68.1</td><td>69.2</td><td>69.4</td></tr> <tr><td>12.0</td><td>69.9</td><td>71.4</td><td>71.6</td></tr> <tr><td>15.0</td><td>70.5</td><td>72.0</td><td>72.5</td></tr> <tr><td>16.5</td><td>70.4</td><td>72.2</td><td>72.7</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	53.2	53.0	52.7	6.0	64.2	64.7	64.7	9.0	68.1	69.2	69.4	12.0	69.9	71.4	71.6	15.0	70.5	72.0	72.5	16.5	70.4	72.2	72.7	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Efficiency [%]																																																					
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]																																																			
0.0	-	-	-																																																			
3.0	53.2	53.0	52.7																																																			
6.0	64.2	64.7	64.7																																																			
9.0	68.1	69.2	69.4																																																			
12.0	69.9	71.4	71.6																																																			
15.0	70.5	72.0	72.5																																																			
16.5	70.4	72.2	72.7																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
	<p>Note: Slanted line shows the range of the rated load current.</p>																																																					

COSEL

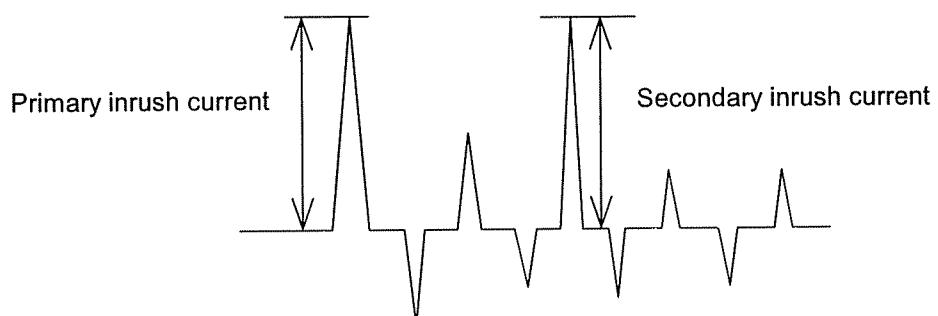
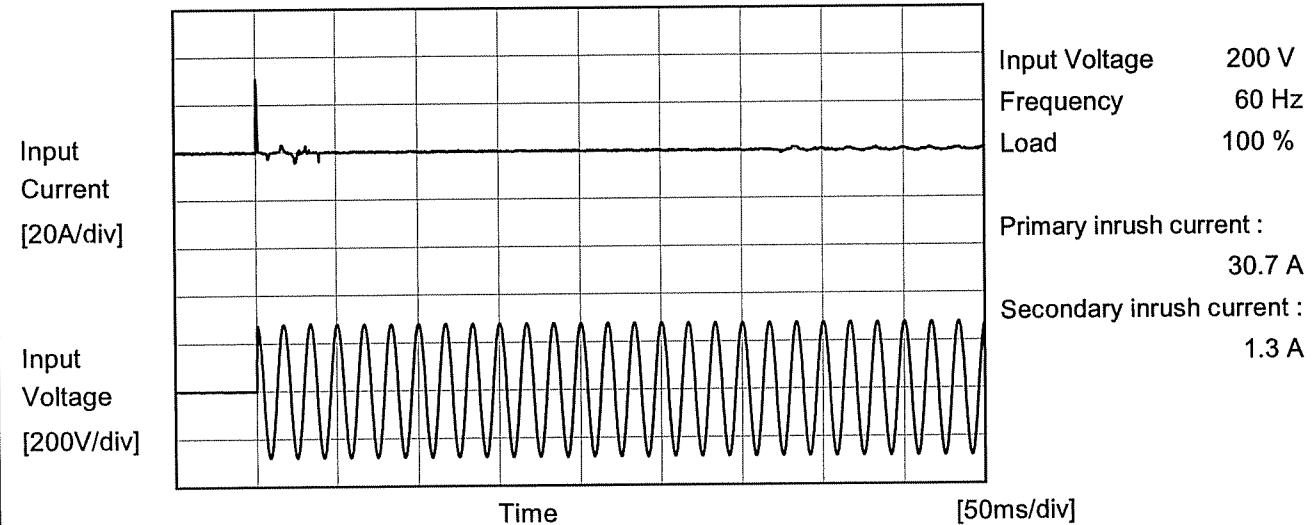
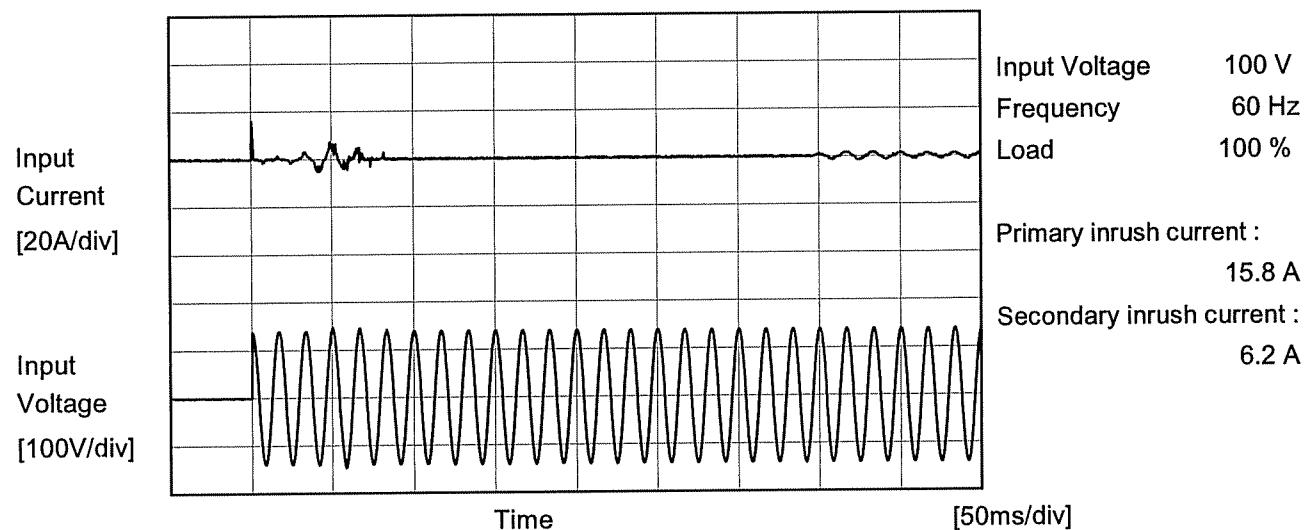
Model	LEA75F-3R3-Y																																	
Item	Power Factor (by Input Voltage)	Temperature 25°C Testing Circuitry Figure A																																
Object	_____																																	
1.Graph																																		
		2.Values																																
<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Power Factor</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr> <td>85</td><td>0.959</td><td>0.985</td></tr> <tr> <td>100</td><td>0.951</td><td>0.979</td></tr> <tr> <td>132</td><td>0.926</td><td>0.965</td></tr> <tr> <td>170</td><td>0.886</td><td>0.944</td></tr> <tr> <td>200</td><td>0.855</td><td>0.919</td></tr> <tr> <td>230</td><td>0.817</td><td>0.896</td></tr> <tr> <td>264</td><td>0.773</td><td>0.867</td></tr> <tr> <td>--</td><td>-</td><td>-</td></tr> <tr> <td>--</td><td>-</td><td>-</td></tr> </tbody> </table>		Input Voltage [V]	Power Factor		Load 50%	Load 100%	85	0.959	0.985	100	0.951	0.979	132	0.926	0.965	170	0.886	0.944	200	0.855	0.919	230	0.817	0.896	264	0.773	0.867	--	-	-	--	-	-	
Input Voltage [V]	Power Factor																																	
	Load 50%	Load 100%																																
85	0.959	0.985																																
100	0.951	0.979																																
132	0.926	0.965																																
170	0.886	0.944																																
200	0.855	0.919																																
230	0.817	0.896																																
264	0.773	0.867																																
--	-	-																																
--	-	-																																
<p>Note: Slanted line shows the range of the rated input voltage.</p>																																		

COSEL

Model	LEA75F-3R3-Y																																																					
Item	Power Factor (by Load Current)	Temperature	25°C																																																			
Object		Testing Circuitry	Figure A																																																			
1.Graph	—△— Input Volt. 100V - -□--- Input Volt. 200V - -○--- Input Volt. 230V																																																					
			2.Values																																																			
<table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="3">Power Factor</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>0.731</td><td>0.446</td><td>0.388</td></tr> <tr><td>3.0</td><td>0.907</td><td>0.754</td><td>0.701</td></tr> <tr><td>6.0</td><td>0.945</td><td>0.832</td><td>0.791</td></tr> <tr><td>9.0</td><td>0.962</td><td>0.876</td><td>0.843</td></tr> <tr><td>12.0</td><td>0.974</td><td>0.902</td><td>0.874</td></tr> <tr><td>15.0</td><td>0.980</td><td>0.922</td><td>0.898</td></tr> <tr><td>16.5</td><td>0.985</td><td>0.930</td><td>0.907</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]	Power Factor			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	0.0	0.731	0.446	0.388	3.0	0.907	0.754	0.701	6.0	0.945	0.832	0.791	9.0	0.962	0.876	0.843	12.0	0.974	0.902	0.874	15.0	0.980	0.922	0.898	16.5	0.985	0.930	0.907	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Power Factor																																																					
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]																																																			
0.0	0.731	0.446	0.388																																																			
3.0	0.907	0.754	0.701																																																			
6.0	0.945	0.832	0.791																																																			
9.0	0.962	0.876	0.843																																																			
12.0	0.974	0.902	0.874																																																			
15.0	0.980	0.922	0.898																																																			
16.5	0.985	0.930	0.907																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
<p>Note: Slanted line shows the range of the rated load current.</p>																																																						

COSEL

Model	LEA75F-3R3-Y	Temperature	25°C
Item	Inrush Current	Testing Circuitry	Figure A
Object	_____		



COSEL

Model	LEA75F-3R3-Y	Temperature	25°C																																
Item	Line Regulation	Testing Circuitry	Figure A																																
Object	+3.3V15A																																		
1.Graph		2.Values																																	
<p>Output Voltage [V]</p> <p>Input Voltage [V]</p> <p>Legend:</p> <ul style="list-style-type: none"> Load 50% (Dashed line with squares) Load 100% (Solid line with triangles) 		<table border="1"> <thead> <tr> <th rowspan="2">Input Voltage [V]</th> <th colspan="2">Output Voltage [V]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr> <td>85</td> <td>3.310</td> <td>3.309</td> </tr> <tr> <td>100</td> <td>3.310</td> <td>3.309</td> </tr> <tr> <td>132</td> <td>3.310</td> <td>3.309</td> </tr> <tr> <td>170</td> <td>3.310</td> <td>3.308</td> </tr> <tr> <td>200</td> <td>3.310</td> <td>3.308</td> </tr> <tr> <td>230</td> <td>3.310</td> <td>3.308</td> </tr> <tr> <td>264</td> <td>3.310</td> <td>3.308</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> </tr> </tbody> </table>		Input Voltage [V]	Output Voltage [V]		Load 50%	Load 100%	85	3.310	3.309	100	3.310	3.309	132	3.310	3.309	170	3.310	3.308	200	3.310	3.308	230	3.310	3.308	264	3.310	3.308	--	-	-	--	-	-
Input Voltage [V]	Output Voltage [V]																																		
	Load 50%	Load 100%																																	
85	3.310	3.309																																	
100	3.310	3.309																																	
132	3.310	3.309																																	
170	3.310	3.308																																	
200	3.310	3.308																																	
230	3.310	3.308																																	
264	3.310	3.308																																	
--	-	-																																	
--	-	-																																	

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

COSEL

Model	LEA75F-3R3-Y	Temperature 25°C Testing Circuitry Figure A																																																					
Item	Load Regulation																																																						
Object	+3.3V15A																																																						
1.Graph	<p>Output Voltage [V]</p> <p>Load Current [A]</p> <p>Legend:</p> <ul style="list-style-type: none"> Input Volt. 100V Input Volt. 200V Input Volt. 230V 																																																						
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>3.309</td> <td>3.309</td> <td>3.310</td> </tr> <tr> <td>3.0</td> <td>3.309</td> <td>3.309</td> <td>3.309</td> </tr> <tr> <td>6.0</td> <td>3.308</td> <td>3.309</td> <td>3.309</td> </tr> <tr> <td>9.0</td> <td>3.308</td> <td>3.308</td> <td>3.308</td> </tr> <tr> <td>12.0</td> <td>3.307</td> <td>3.308</td> <td>3.308</td> </tr> <tr> <td>15.0</td> <td>3.307</td> <td>3.308</td> <td>3.308</td> </tr> <tr> <td>16.5</td> <td>3.307</td> <td>3.308</td> <td>3.307</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	3.309	3.309	3.310	3.0	3.309	3.309	3.309	6.0	3.308	3.309	3.309	9.0	3.308	3.308	3.308	12.0	3.307	3.308	3.308	15.0	3.307	3.308	3.308	16.5	3.307	3.308	3.307	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Output Voltage [V]																																																						
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]																																																				
0.0	3.309	3.309	3.310																																																				
3.0	3.309	3.309	3.309																																																				
6.0	3.308	3.309	3.309																																																				
9.0	3.308	3.308	3.308																																																				
12.0	3.307	3.308	3.308																																																				
15.0	3.307	3.308	3.308																																																				
16.5	3.307	3.308	3.307																																																				
--	-	-	-																																																				
--	-	-	-																																																				
--	-	-	-																																																				
--	-	-	-																																																				
Note:	Slanted line shows the range of the rated load current.																																																						

COSEL

Model	LEA75F-3R3-Y																																							
Item	Ripple Voltage (by Load Current)	Temperature 25°C Testing Circuitry Figure A																																						
Object	+3.3V15A																																							
1.Graph																																								
<p style="text-align: center;"> —▲— Input Volt. 100V ---○--- Input Volt. 200V </p>																																								
2.Values																																								
<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>40</td> <td>40</td> </tr> <tr> <td>6.0</td> <td>40</td> <td>40</td> </tr> <tr> <td>9.0</td> <td>40</td> <td>40</td> </tr> <tr> <td>12.0</td> <td>40</td> <td>40</td> </tr> <tr> <td>15.0</td> <td>40</td> <td>40</td> </tr> <tr> <td>16.5</td> <td>40</td> <td>40</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	40	40	6.0	40	40	9.0	40	40	12.0	40	40	15.0	40	40	16.5	40	40	--	-	-	--	-	-	--	-	-	--	-	-
Load Current [A]	Ripple Voltage [mV]																																							
	Input Volt. 100 [V]	Input Volt. 200 [V]																																						
0.0	20	20																																						
3.0	40	40																																						
6.0	40	40																																						
9.0	40	40																																						
12.0	40	40																																						
15.0	40	40																																						
16.5	40	40																																						
--	-	-																																						
--	-	-																																						
--	-	-																																						
--	-	-																																						
<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 style="text-align: center;">Fig. Complex Ripple Wave Form</p>																																								

COSEL

Model	LEA75F-3R3-Y																																						
Item	Ripple-Noise	Temperature 25°C Testing Circuitry Figure A																																					
Object	+3.3V15A																																						
1. Graph																																							
		2. Values																																					
<p>—△— Input Volt. 100V —○— Input Volt. 200V</p> <table border="1"> <thead> <tr> <th rowspan="2">Load Current [A]</th> <th colspan="2">Ripple-Noise [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>30</td><td>30</td></tr> <tr><td>3.0</td><td>50</td><td>50</td></tr> <tr><td>6.0</td><td>55</td><td>55</td></tr> <tr><td>9.0</td><td>55</td><td>55</td></tr> <tr><td>12.0</td><td>60</td><td>60</td></tr> <tr><td>15.0</td><td>60</td><td>60</td></tr> <tr><td>16.5</td><td>60</td><td>60</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-Noise [mV]		Input Volt. 100 [V]	Input Volt. 200 [V]	0.0	30	30	3.0	50	50	6.0	55	55	9.0	55	55	12.0	60	60	15.0	60	60	16.5	60	60	--	-	-	--	-	-	--	-	-	--	-	-
Load Current [A]	Ripple-Noise [mV]																																						
	Input Volt. 100 [V]	Input Volt. 200 [V]																																					
0.0	30	30																																					
3.0	50	50																																					
6.0	55	55																																					
9.0	55	55																																					
12.0	60	60																																					
15.0	60	60																																					
16.5	60	60																																					
--	-	-																																					
--	-	-																																					
--	-	-																																					
--	-	-																																					
<p>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.</p>																																							
<p>Fig. Complex Ripple Wave Form</p>																																							

COSEL

Model	LEA75F-3R3-Y																																							
Item	Ripple Voltage (by Ambient Temp.)																																							
Object	+3.3V15A																																							
1.Graph																																								
<p>Graph showing Ripple Voltage [mV] vs Ambient Temperature [°C]. The Y-axis ranges from 0 to 200 mV, and the X-axis ranges from -40 to 60 °C. Two data series are plotted: Input Volt. 100V (dashed line with open squares) and Input Volt. 200V (solid line with solid squares). Both series show a decreasing trend as temperature increases. A slanted line indicates the rated ambient temperature range.</p> <table border="1"> <thead> <tr> <th>Ambient Temperature [°C]</th> <th>Ripple Voltage [mV] (Input Volt. 100V)</th> <th>Ripple Voltage [mV] (Input Volt. 200V)</th> </tr> </thead> <tbody> <tr><td>-10</td><td>85</td><td>85</td></tr> <tr><td>0</td><td>60</td><td>60</td></tr> <tr><td>10</td><td>50</td><td>50</td></tr> <tr><td>20</td><td>45</td><td>45</td></tr> <tr><td>25</td><td>45</td><td>45</td></tr> <tr><td>30</td><td>45</td><td>45</td></tr> <tr><td>40</td><td>40</td><td>40</td></tr> <tr><td>50</td><td>35</td><td>35</td></tr> <tr><td>60</td><td>35</td><td>35</td></tr> </tbody> </table>		Ambient Temperature [°C]	Ripple Voltage [mV] (Input Volt. 100V)	Ripple Voltage [mV] (Input Volt. 200V)	-10	85	85	0	60	60	10	50	50	20	45	45	25	45	45	30	45	45	40	40	40	50	35	35	60	35	35									
Ambient Temperature [°C]	Ripple Voltage [mV] (Input Volt. 100V)	Ripple Voltage [mV] (Input Volt. 200V)																																						
-10	85	85																																						
0	60	60																																						
10	50	50																																						
20	45	45																																						
25	45	45																																						
30	45	45																																						
40	40	40																																						
50	35	35																																						
60	35	35																																						
2.Values																																								
<table border="1"> <thead> <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> </thead> <tbody> <tr><td>-10</td><td>85</td><td>85</td></tr> <tr><td>0</td><td>60</td><td>60</td></tr> <tr><td>10</td><td>50</td><td>50</td></tr> <tr><td>20</td><td>45</td><td>45</td></tr> <tr><td>25</td><td>45</td><td>45</td></tr> <tr><td>30</td><td>45</td><td>45</td></tr> <tr><td>40</td><td>40</td><td>40</td></tr> <tr><td>50</td><td>35</td><td>35</td></tr> <tr><td>60</td><td>35</td><td>35</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> <tr><td>--</td><td>-</td><td>-</td></tr> </tbody> </table>			Ambient Temperature [°C]	Ripple Voltage [mV]		Input Volt. 100 [V]	Input Volt. 200 [V]	-10	85	85	0	60	60	10	50	50	20	45	45	25	45	45	30	45	45	40	40	40	50	35	35	60	35	35	--	-	-	--	-	-
Ambient Temperature [°C]	Ripple Voltage [mV]																																							
	Input Volt. 100 [V]	Input Volt. 200 [V]																																						
-10	85	85																																						
0	60	60																																						
10	50	50																																						
20	45	45																																						
25	45	45																																						
30	45	45																																						
40	40	40																																						
50	35	35																																						
60	35	35																																						
--	-	-																																						
--	-	-																																						
<p>Measured by 20 MHz Oscilloscope. Note: Slanted line shows the range of the rated ambient temperature.</p>																																								



Model	LEA75F-3R3-Y	Testing Circuitry Figure A																																																					
Item	Ambient Temperature Drift																																																						
Object	+3.3V15A																																																						
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	<table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</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>-20</td> <td>3.313</td> <td>3.313</td> <td>3.312</td> </tr> <tr> <td>-10</td> <td>3.312</td> <td>3.312</td> <td>3.311</td> </tr> <tr> <td>0</td> <td>3.311</td> <td>3.311</td> <td>3.311</td> </tr> <tr> <td>10</td> <td>3.310</td> <td>3.310</td> <td>3.310</td> </tr> <tr> <td>20</td> <td>3.309</td> <td>3.308</td> <td>3.308</td> </tr> <tr> <td>25</td> <td>3.308</td> <td>3.308</td> <td>3.308</td> </tr> <tr> <td>30</td> <td>3.308</td> <td>3.308</td> <td>3.307</td> </tr> <tr> <td>40</td> <td>3.307</td> <td>3.306</td> <td>3.306</td> </tr> <tr> <td>50</td> <td>3.306</td> <td>3.305</td> <td>3.305</td> </tr> <tr> <td>60</td> <td>3.305</td> <td>3.304</td> <td>3.304</td> </tr> <tr> <td>--</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>				Ambient Temperature [°C]	Output Voltage [V]			Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]	-20	3.313	3.313	3.312	-10	3.312	3.312	3.311	0	3.311	3.311	3.311	10	3.310	3.310	3.310	20	3.309	3.308	3.308	25	3.308	3.308	3.308	30	3.308	3.308	3.307	40	3.307	3.306	3.306	50	3.306	3.305	3.305	60	3.305	3.304	3.304	--	-	-	-
Ambient Temperature [°C]	Output Voltage [V]																																																						
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]																																																				
-20	3.313	3.313	3.312																																																				
-10	3.312	3.312	3.311																																																				
0	3.311	3.311	3.311																																																				
10	3.310	3.310	3.310																																																				
20	3.309	3.308	3.308																																																				
25	3.308	3.308	3.308																																																				
30	3.308	3.308	3.307																																																				
40	3.307	3.306	3.306																																																				
50	3.306	3.305	3.305																																																				
60	3.305	3.304	3.304																																																				
--	-	-	-																																																				
Note:	Slanted line shows the range of the rated ambient temperature.																																																						



Model	LEA75F-3R3-Y	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+3.3V15A	

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

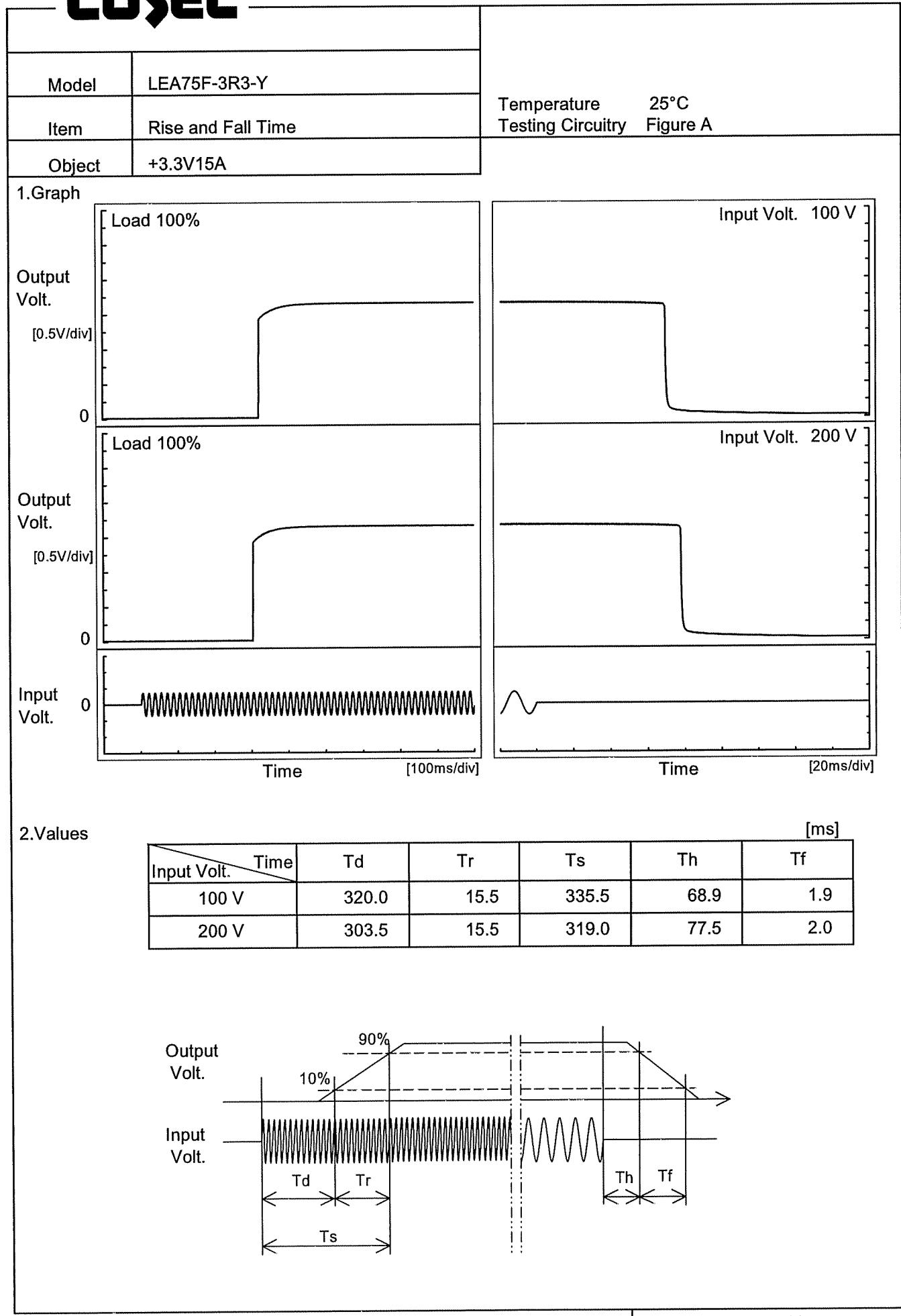
$$\text{* Output Voltage Accuracy (Ratio)} = \frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$$

2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	-10	264	0	3.314	±5	±0.2
Minimum Voltage	50	264	15	3.304		

COSEL

Model	LEA75F-3R3-Y	Temperature	25°C																						
Item	Time Lapse Drift	Testing Circuitry	Figure A																						
Object	+3.3V15A																								
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>3.310</td></tr> <tr><td>0.5</td><td>3.306</td></tr> <tr><td>1.0</td><td>3.306</td></tr> <tr><td>2.0</td><td>3.306</td></tr> <tr><td>3.0</td><td>3.306</td></tr> <tr><td>4.0</td><td>3.306</td></tr> <tr><td>5.0</td><td>3.306</td></tr> <tr><td>6.0</td><td>3.306</td></tr> <tr><td>7.0</td><td>3.306</td></tr> <tr><td>8.0</td><td>3.306</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	3.310	0.5	3.306	1.0	3.306	2.0	3.306	3.0	3.306	4.0	3.306	5.0	3.306	6.0	3.306	7.0	3.306	8.0	3.306
Time since start [H]	Output Voltage [V]																								
0.0	3.310																								
0.5	3.306																								
1.0	3.306																								
2.0	3.306																								
3.0	3.306																								
4.0	3.306																								
5.0	3.306																								
6.0	3.306																								
7.0	3.306																								
8.0	3.306																								
<p>* The characteristic of AC200V is equal.</p>																									

COSEL



Model	LEA75F-3R3-Y	Temperature Testing Circuitry	25°C Figure A																																
Item	Hold-Up Time																																		
Object	+3.3V15A																																		
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>139</td><td>60</td> </tr> <tr> <td>100</td><td>144</td><td>65</td> </tr> <tr> <td>132</td><td>149</td><td>69</td> </tr> <tr> <td>170</td><td>153</td><td>72</td> </tr> <tr> <td>200</td><td>154</td><td>74</td> </tr> <tr> <td>230</td><td>156</td><td>75</td> </tr> <tr> <td>264</td><td>157</td><td>75</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	139	60	100	144	65	132	149	69	170	153	72	200	154	74	230	156	75	264	157	75	--	-	-	--	-	-
Input Voltage [V]	Hold-Up Time [ms]																																		
	Load 50%	Load 100%																																	
85	139	60																																	
100	144	65																																	
132	149	69																																	
170	153	72																																	
200	154	74																																	
230	156	75																																	
264	157	75																																	
--	-	-																																	
--	-	-																																	
<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	LEA75F-3R3-Y	Temperature	25°C																																																			
Item	Instantaneous Interruption Compensation	Testing Circuitry	Figure A																																																			
Object	+3.3V15A																																																					
1.Graph	<p>—△— Input Volt. 100V - - -□- - Input Volt. 200V - - ○- - Input Volt. 230V</p> <table border="1"> <caption>Data points estimated from Graph</caption> <thead> <tr> <th>Load Current [A]</th> <th>100[V] [ms]</th> <th>200[V] [ms]</th> <th>230[V] [ms]</th> </tr> </thead> <tbody> <tr><td>3.0</td><td>297</td><td>321</td><td>322</td></tr> <tr><td>6.0</td><td>171</td><td>189</td><td>190</td></tr> <tr><td>9.0</td><td>113</td><td>130</td><td>131</td></tr> <tr><td>12.0</td><td>80</td><td>97</td><td>98</td></tr> <tr><td>15.0</td><td>56</td><td>75</td><td>79</td></tr> <tr><td>16.5</td><td>47</td><td>68</td><td>70</td></tr> </tbody> </table>			Load Current [A]	100[V] [ms]	200[V] [ms]	230[V] [ms]	3.0	297	321	322	6.0	171	189	190	9.0	113	130	131	12.0	80	97	98	15.0	56	75	79	16.5	47	68	70																							
Load Current [A]	100[V] [ms]	200[V] [ms]	230[V] [ms]																																																			
3.0	297	321	322																																																			
6.0	171	189	190																																																			
9.0	113	130	131																																																			
12.0	80	97	98																																																			
15.0	56	75	79																																																			
16.5	47	68	70																																																			
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>297</td><td>321</td><td>322</td></tr> <tr><td>6.0</td><td>171</td><td>189</td><td>190</td></tr> <tr><td>9.0</td><td>113</td><td>130</td><td>131</td></tr> <tr><td>12.0</td><td>80</td><td>97</td><td>98</td></tr> <tr><td>15.0</td><td>56</td><td>75</td><td>79</td></tr> <tr><td>16.5</td><td>47</td><td>68</td><td>70</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	297	321	322	6.0	171	189	190	9.0	113	130	131	12.0	80	97	98	15.0	56	75	79	16.5	47	68	70	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Load Current [A]	Time [ms]																																																					
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]																																																			
0.0	-	-	-																																																			
3.0	297	321	322																																																			
6.0	171	189	190																																																			
9.0	113	130	131																																																			
12.0	80	97	98																																																			
15.0	56	75	79																																																			
16.5	47	68	70																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
--	-	-	-																																																			
Note:	Slanted line shows the range of the rated load current.																																																					

COSEL

Model	LEA75F-3R3-Y	Testing Circuitry Figure A																																						
Item	Minimum Input Voltage for Regulated Output Voltage																																							
Object	+3.3V15A																																							
1.Graph																																								
			2.Values																																					
<table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="2">Input Voltage [V]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr> <td>-20</td><td>75</td><td>75</td></tr> <tr> <td>-10</td><td>75</td><td>75</td></tr> <tr> <td>0</td><td>75</td><td>75</td></tr> <tr> <td>10</td><td>75</td><td>75</td></tr> <tr> <td>20</td><td>75</td><td>75</td></tr> <tr> <td>25</td><td>75</td><td>75</td></tr> <tr> <td>30</td><td>75</td><td>75</td></tr> <tr> <td>40</td><td>75</td><td>75</td></tr> <tr> <td>50</td><td>75</td><td>75</td></tr> <tr> <td>60</td><td>75</td><td>75</td></tr> <tr> <td>--</td><td>-</td><td>-</td></tr> </tbody> </table>			Ambient Temperature [°C]	Input Voltage [V]		Load 50%	Load 100%	-20	75	75	-10	75	75	0	75	75	10	75	75	20	75	75	25	75	75	30	75	75	40	75	75	50	75	75	60	75	75	--	-	-
Ambient Temperature [°C]	Input Voltage [V]																																							
	Load 50%	Load 100%																																						
-20	75	75																																						
-10	75	75																																						
0	75	75																																						
10	75	75																																						
20	75	75																																						
25	75	75																																						
30	75	75																																						
40	75	75																																						
50	75	75																																						
60	75	75																																						
--	-	-																																						
Note: Slanted line shows the range of the rated ambient temperature.																																								



<p>Model LEA75F-3R3-Y</p> <p>Item Overcurrent Protection</p> <p>Object +3.3V15A</p>	<p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p>																																												
	<p>2.Values</p>																																												
	<table border="1"> <thead> <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> </thead> <tbody> <tr> <td>3.300</td><td>15.91</td><td>17.32</td></tr> <tr> <td>3.135</td><td>19.25</td><td>19.34</td></tr> <tr> <td>2.970</td><td>19.31</td><td>19.39</td></tr> <tr> <td>2.640</td><td>19.45</td><td>19.46</td></tr> <tr> <td>2.310</td><td>19.68</td><td>19.70</td></tr> <tr> <td>--</td><td>-</td><td>-</td></tr> </tbody> </table>		Output Voltage [V]	Load Current [A]		Input Volt. 100[V]	Input Volt. 200[V]	3.300	15.91	17.32	3.135	19.25	19.34	2.970	19.31	19.39	2.640	19.45	19.46	2.310	19.68	19.70	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-	--	-	-	--	-
Output Voltage [V]	Load Current [A]																																												
	Input Volt. 100[V]	Input Volt. 200[V]																																											
3.300	15.91	17.32																																											
3.135	19.25	19.34																																											
2.970	19.31	19.39																																											
2.640	19.45	19.46																																											
2.310	19.68	19.70																																											
--	-	-																																											
--	-	-																																											
--	-	-																																											
--	-	-																																											
--	-	-																																											
--	-	-																																											
--	-	-																																											
--	-	-																																											
<p>1.Graph</p> <p>Output Voltage [V]</p> <p>Load Current [A]</p> <p>Note: Slanted line shows the range of the rated load current.</p>																																													
<p>Intermittent operation occurs when the output voltage is from 2.31V to 0V.</p>																																													

COSEL

Model	LEA75F-3R3-Y	Testing Circuitry Figure A																																						
Item	Overvoltage Protection																																							
Object	+3.3V15A																																							
1.Graph																																								
			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. 100[V]</th> <th>Input Volt. 200[V]</th> </tr> </thead> <tbody> <tr> <td>-20</td><td>4.76</td><td>4.87</td> </tr> <tr> <td>-10</td><td>4.76</td><td>4.81</td> </tr> <tr> <td>0</td><td>4.76</td><td>4.75</td> </tr> <tr> <td>10</td><td>4.70</td><td>4.75</td> </tr> <tr> <td>20</td><td>4.65</td><td>4.70</td> </tr> <tr> <td>25</td><td>4.65</td><td>4.64</td> </tr> <tr> <td>30</td><td>4.58</td><td>4.64</td> </tr> <tr> <td>40</td><td>4.58</td><td>4.63</td> </tr> <tr> <td>50</td><td>4.52</td><td>4.58</td> </tr> <tr> <td>60</td><td>4.52</td><td>4.51</td> </tr> <tr> <td>--</td><td>-</td><td>-</td> </tr> </tbody> </table>			Ambient Temperature [°C]	Operating Point [V]		Input Volt. 100[V]	Input Volt. 200[V]	-20	4.76	4.87	-10	4.76	4.81	0	4.76	4.75	10	4.70	4.75	20	4.65	4.70	25	4.65	4.64	30	4.58	4.64	40	4.58	4.63	50	4.52	4.58	60	4.52	4.51	--	-	-
Ambient Temperature [°C]	Operating Point [V]																																							
	Input Volt. 100[V]	Input Volt. 200[V]																																						
-20	4.76	4.87																																						
-10	4.76	4.81																																						
0	4.76	4.75																																						
10	4.70	4.75																																						
20	4.65	4.70																																						
25	4.65	4.64																																						
30	4.58	4.64																																						
40	4.58	4.63																																						
50	4.52	4.58																																						
60	4.52	4.51																																						
--	-	-																																						

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

COSEL

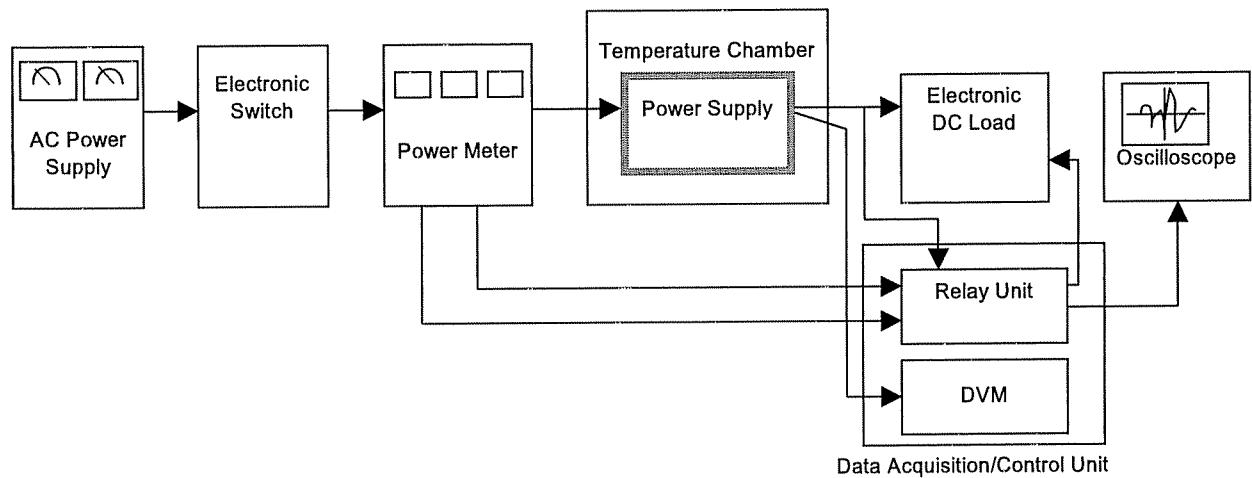


Figure A

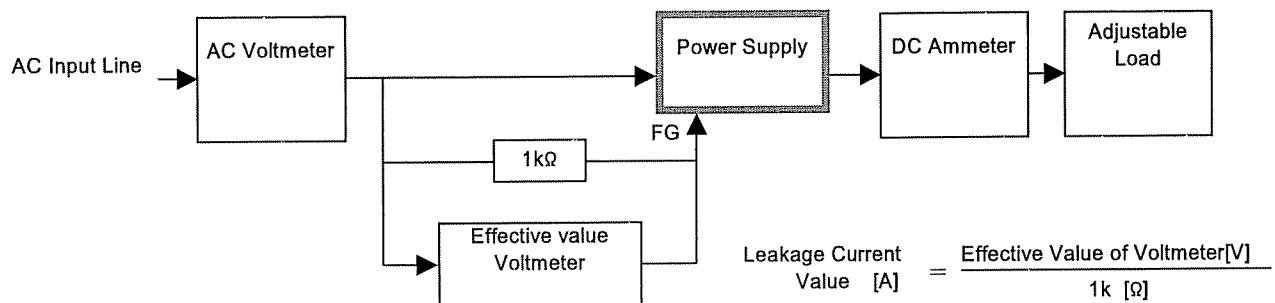


Figure B (DEN-AN)

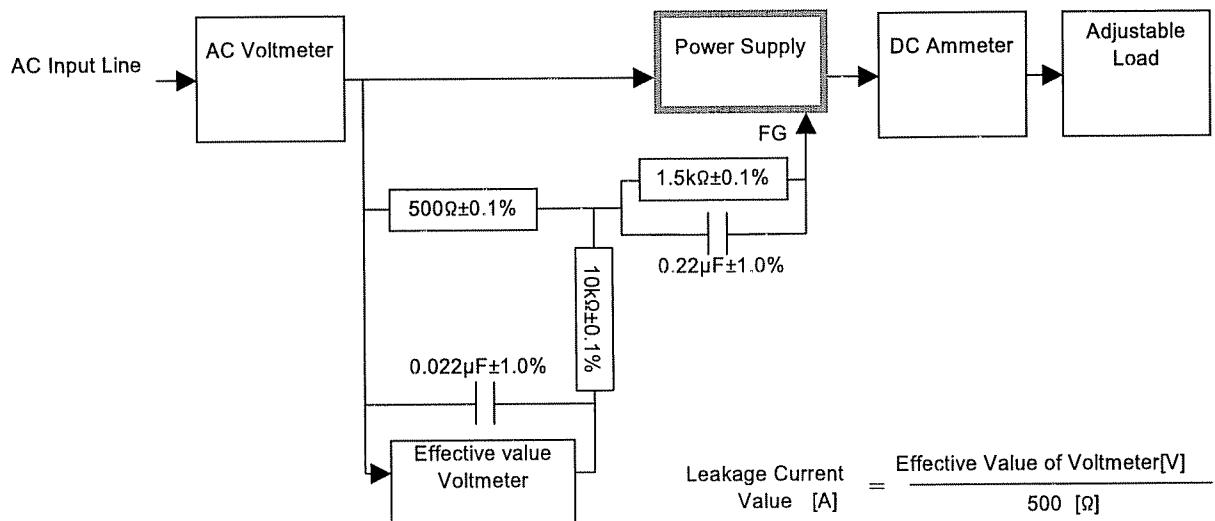


Figure B (IEC60950)