





TEST DATA OF LCA50S-36

Regulated DC Power Supply
Aug.11. 2004

Approved by : 
K.Shibutani Design Manager

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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)

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Model		LCA50S-36																																																				
Item		Input Current (by Load Current)																																																				
Object																																																						
1.Graph		2.Values																																																				
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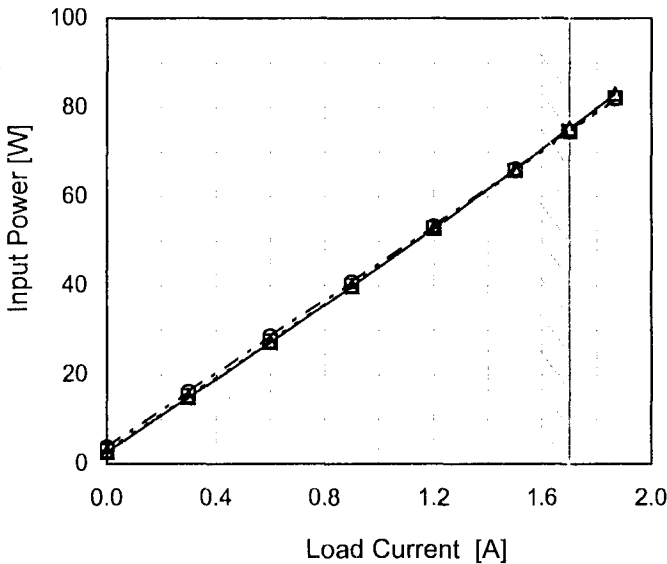
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Model		LCA50S-36		Temperature 25°C																																																				
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Model

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Item

Efficiency (by Input Voltage)

Object

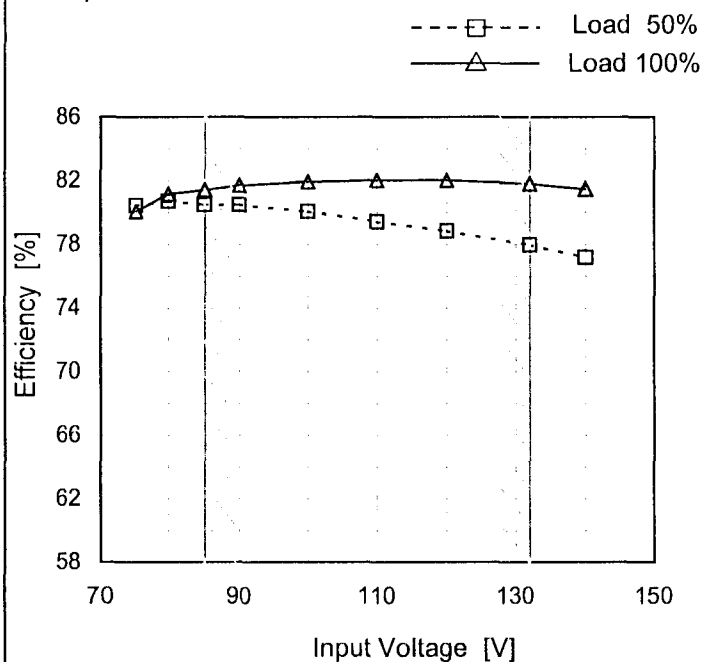
Temperature

25°C

Testing Circuitry

Figure A

1. Graph



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

2. Values

Input Voltage [V]	Efficiency [%]	
	Load 50%	Load 100%
75	80.4	80.1
80	80.7	81.2
85	80.5	81.4
90	80.5	81.7
100	80.1	81.9
110	79.4	82.0
120	78.8	82.0
132	78.0	81.8
140	77.2	81.5

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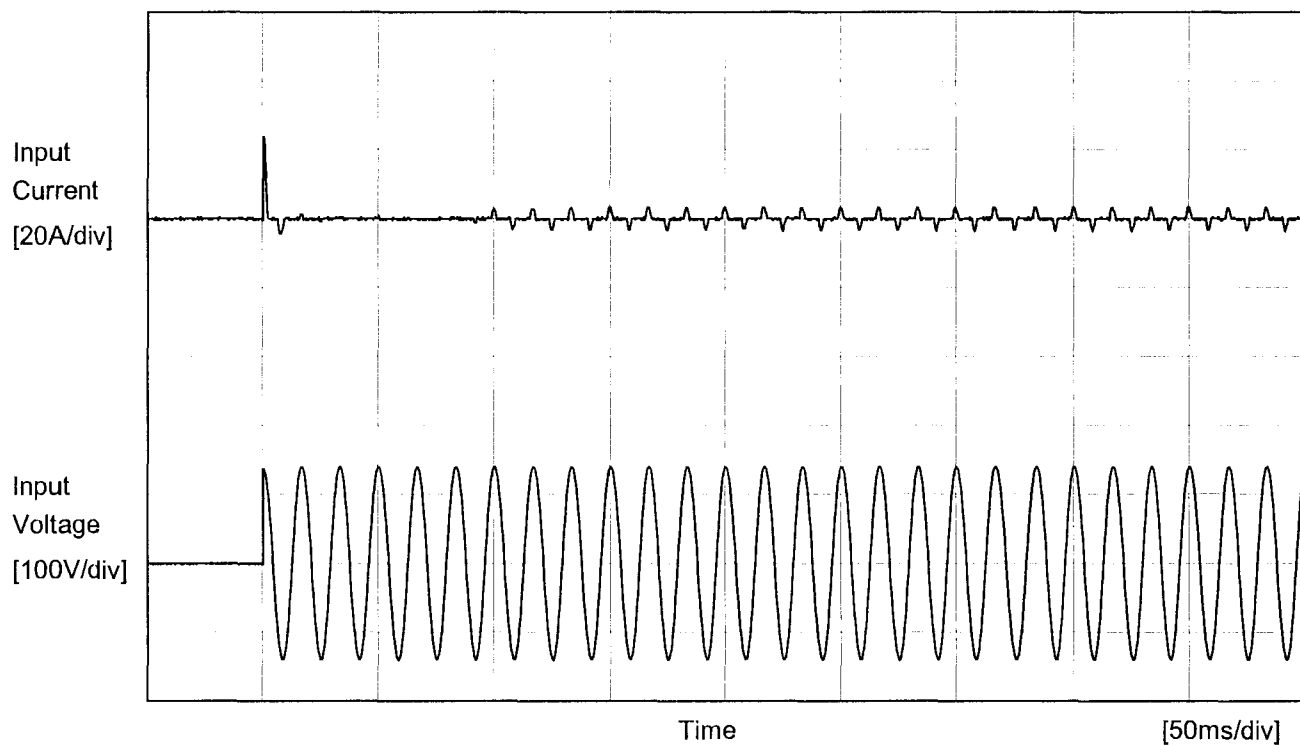
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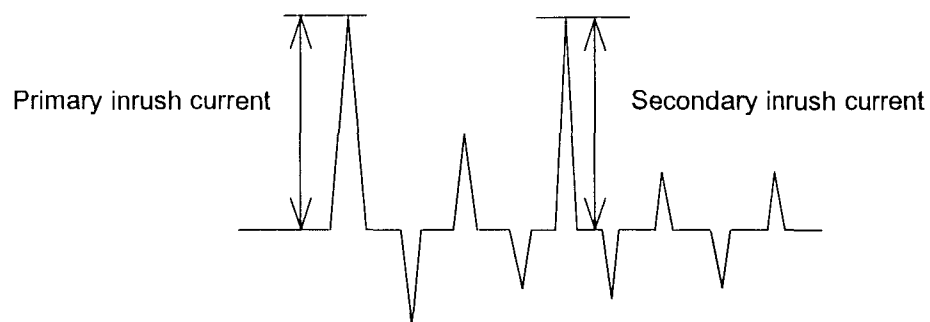
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Model	LCA50S-36	Temperature Testing Circuitry	25°C Figure A
Item	Inrush Current		
Object	_____		



Input Voltage	100 V
Frequency	60 Hz
Load	100 %

Primary inrush current	23.6 A
Secondary inrush current	3.6 A



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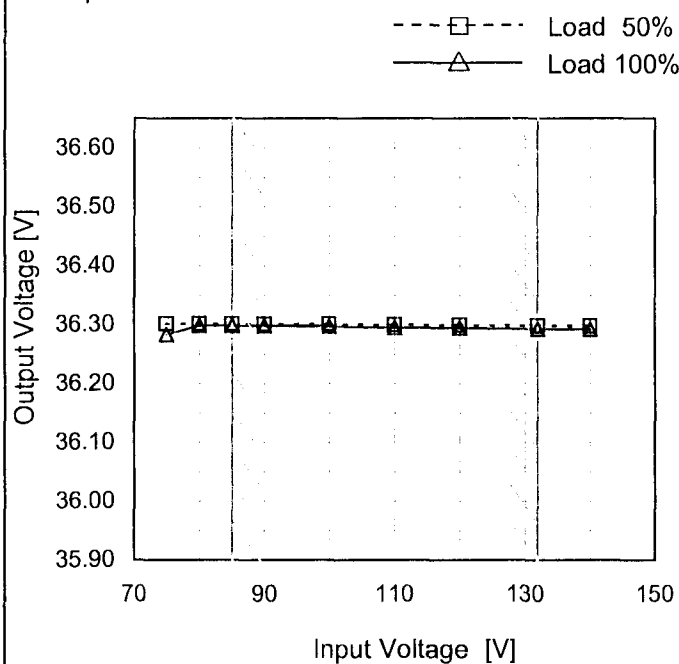
Model LCA50S-36

Item Line Regulation

Object +36V1.7A

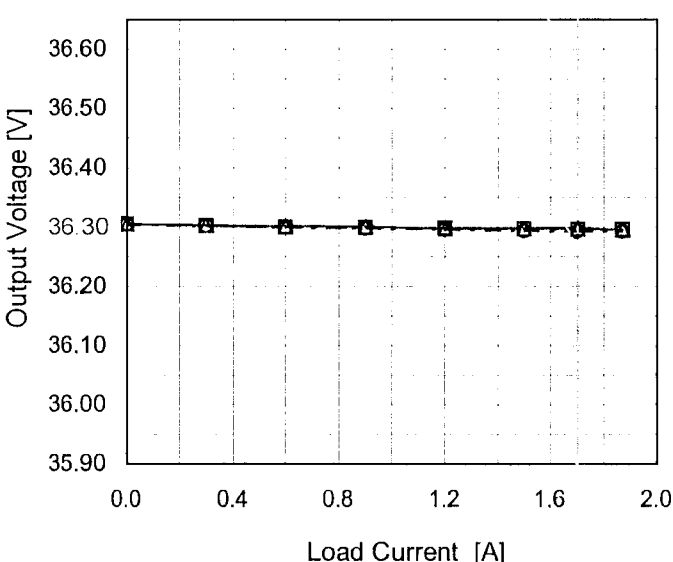
 Temperature 25°C
 Testing Circuitry Figure A

1. Graph



2. Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
75	36.301	36.283
80	36.301	36.299
85	36.301	36.298
90	36.301	36.298
100	36.301	36.297
110	36.300	36.295
120	36.299	36.295
132	36.298	36.293
140	36.298	36.292

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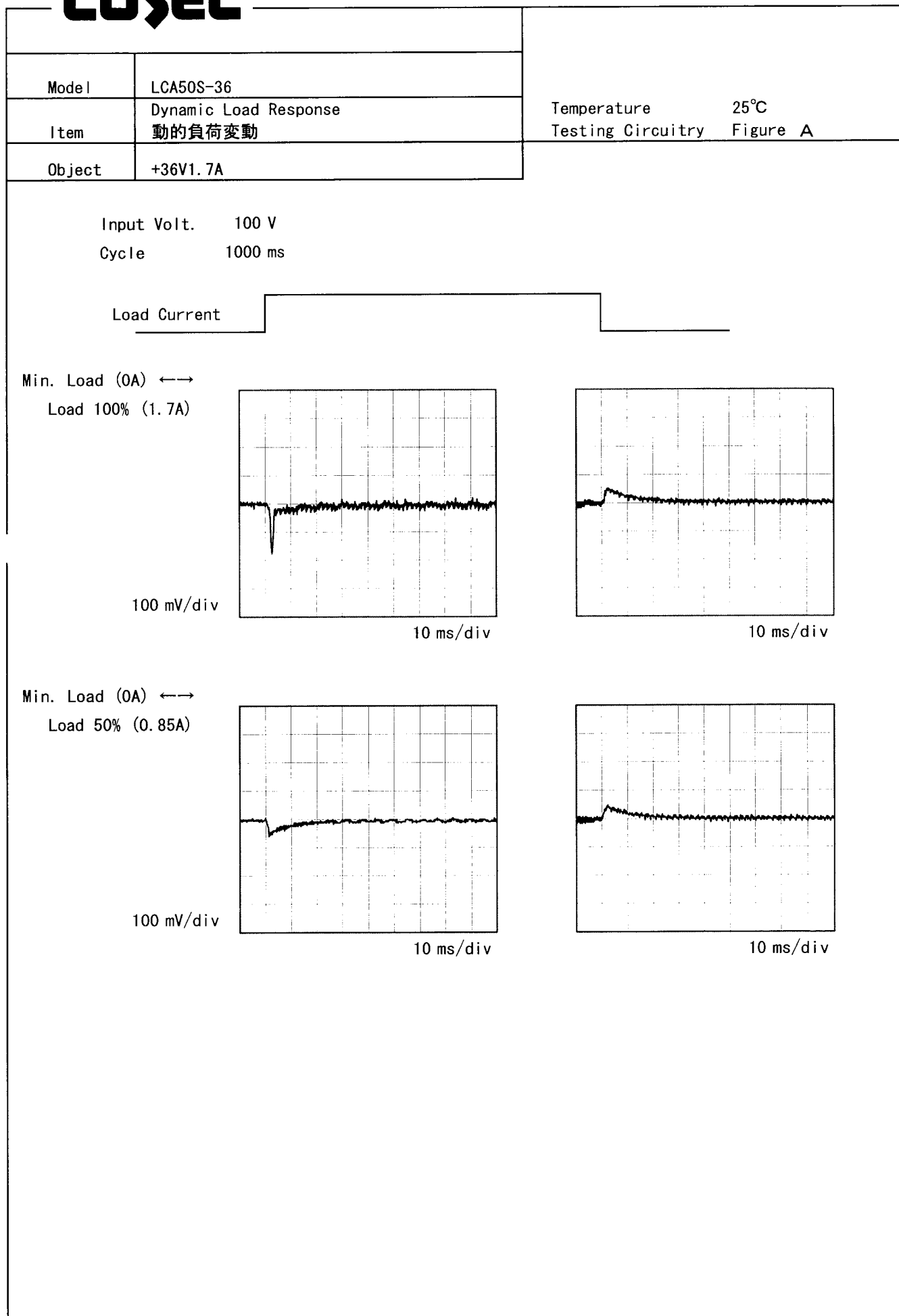
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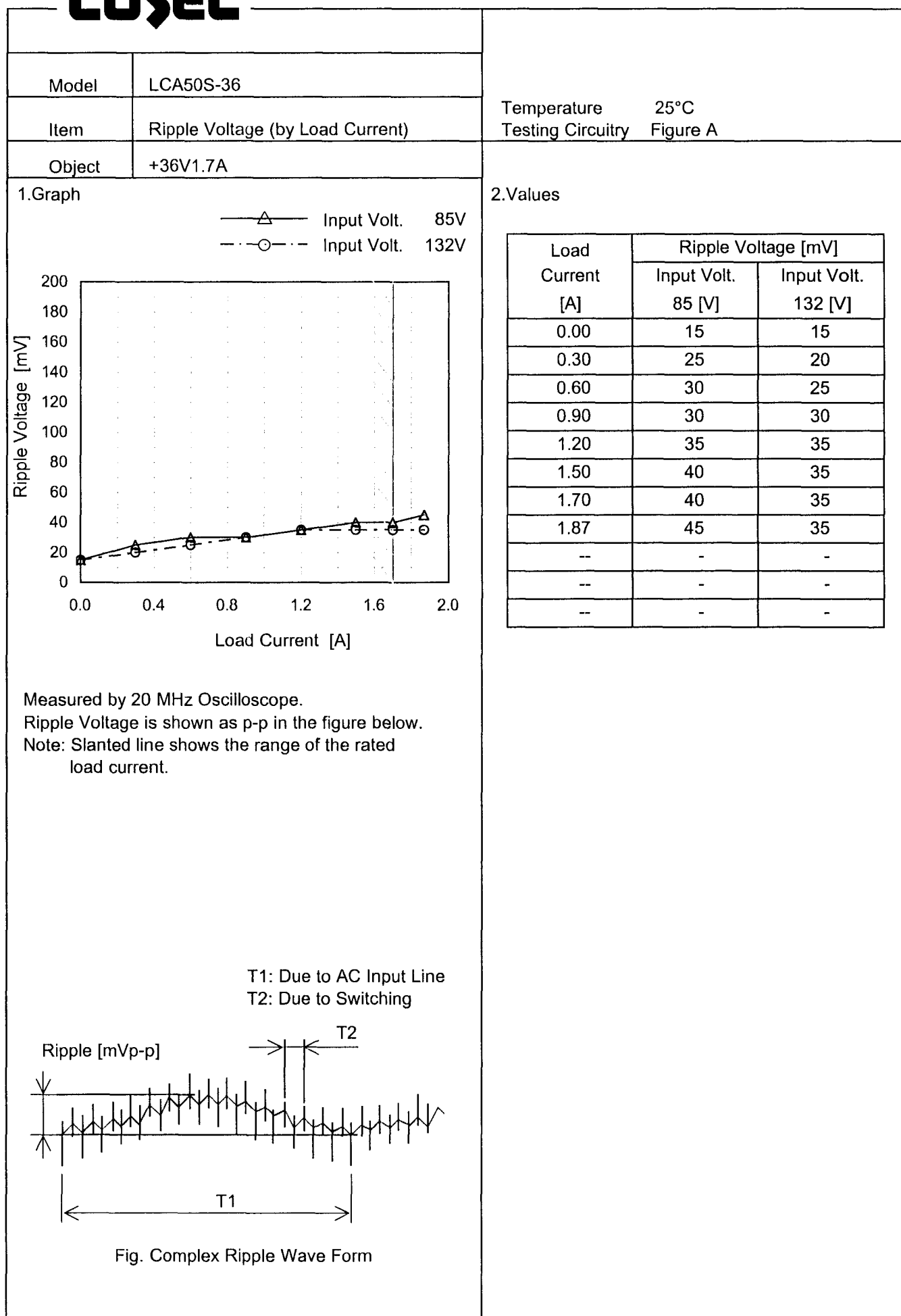
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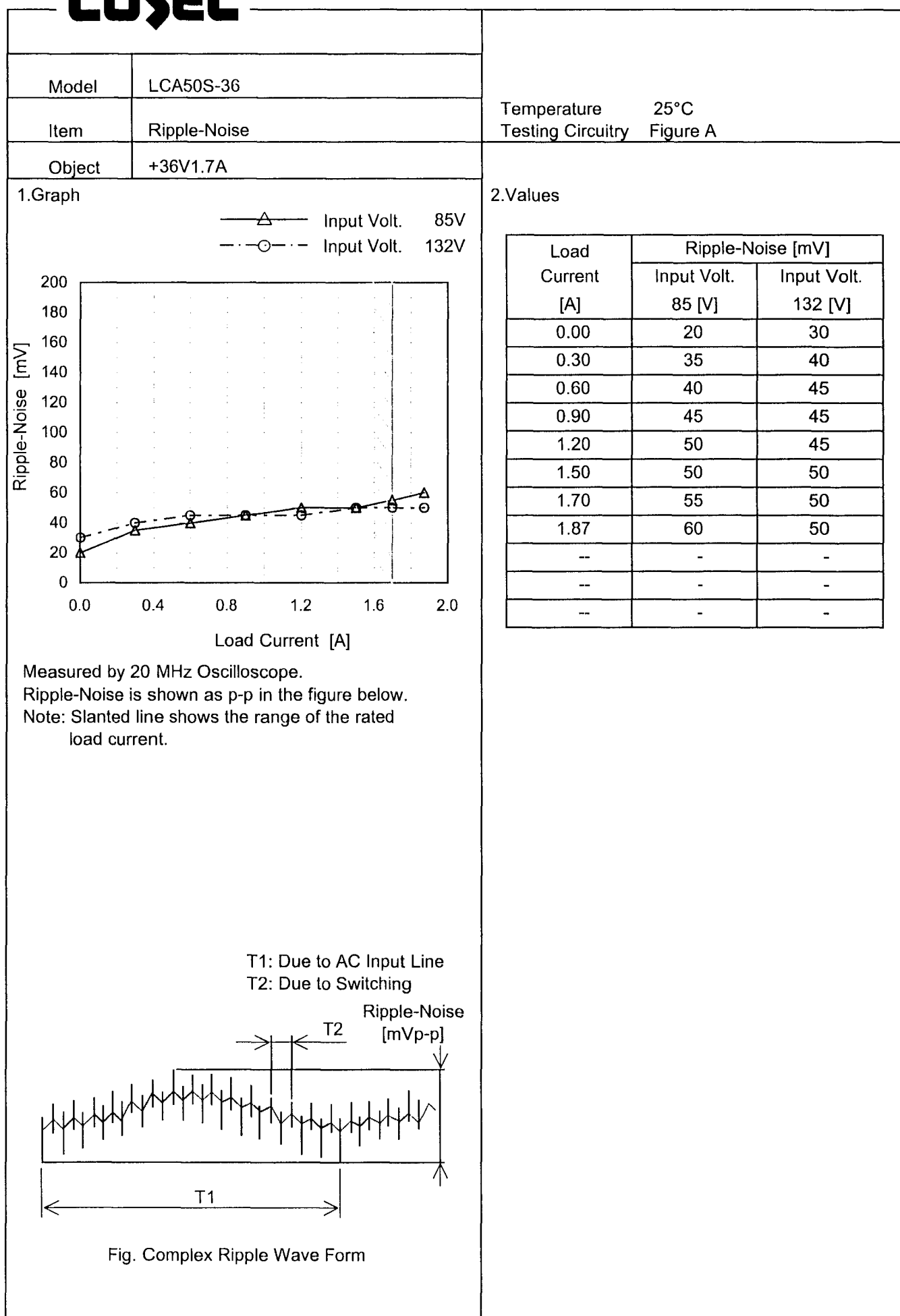
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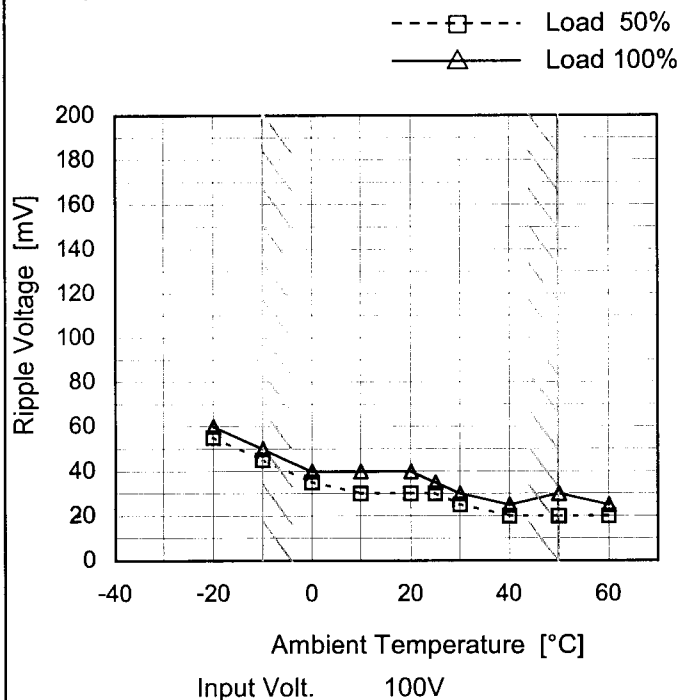
Model LCA50S-36

Item Ripple Voltage (by Ambient Temp.)

Object +36V1.7A

Testing Circuitry Figure A

1.Graph



Measured by 20 MHz Oscilloscope.

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

2.Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-20	55	60
-10	45	50
0	35	40
10	30	40
20	30	40
25	30	35
30	25	30
40	20	25
50	20	30
60	20	25
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Model		LCA50S-36																																																				
Item		Ambient Temperature Drift																																																				
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- 12 -

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		Testing Circuitry Figure A
Model	LCA50S-36	
Item	Output Voltage Accuracy	
Object	+36V1.7A	

1. Output Voltage Accuracy

This is defined as the value of the output voltage, regulation load, ambient temperature and input voltage varied at random in the range as specified below.

Temperature : -10 - 50°C

Input Voltage : 85 - 132V

Load Current : 0 - 1.7A

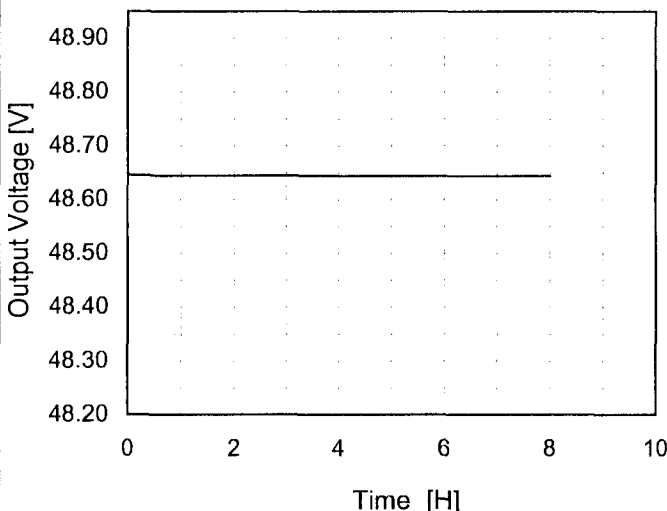
* Output Voltage Accuracy = $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

* 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	48.725	±101	±0.3
Minimum Voltage	50	132	1.3	48.523		

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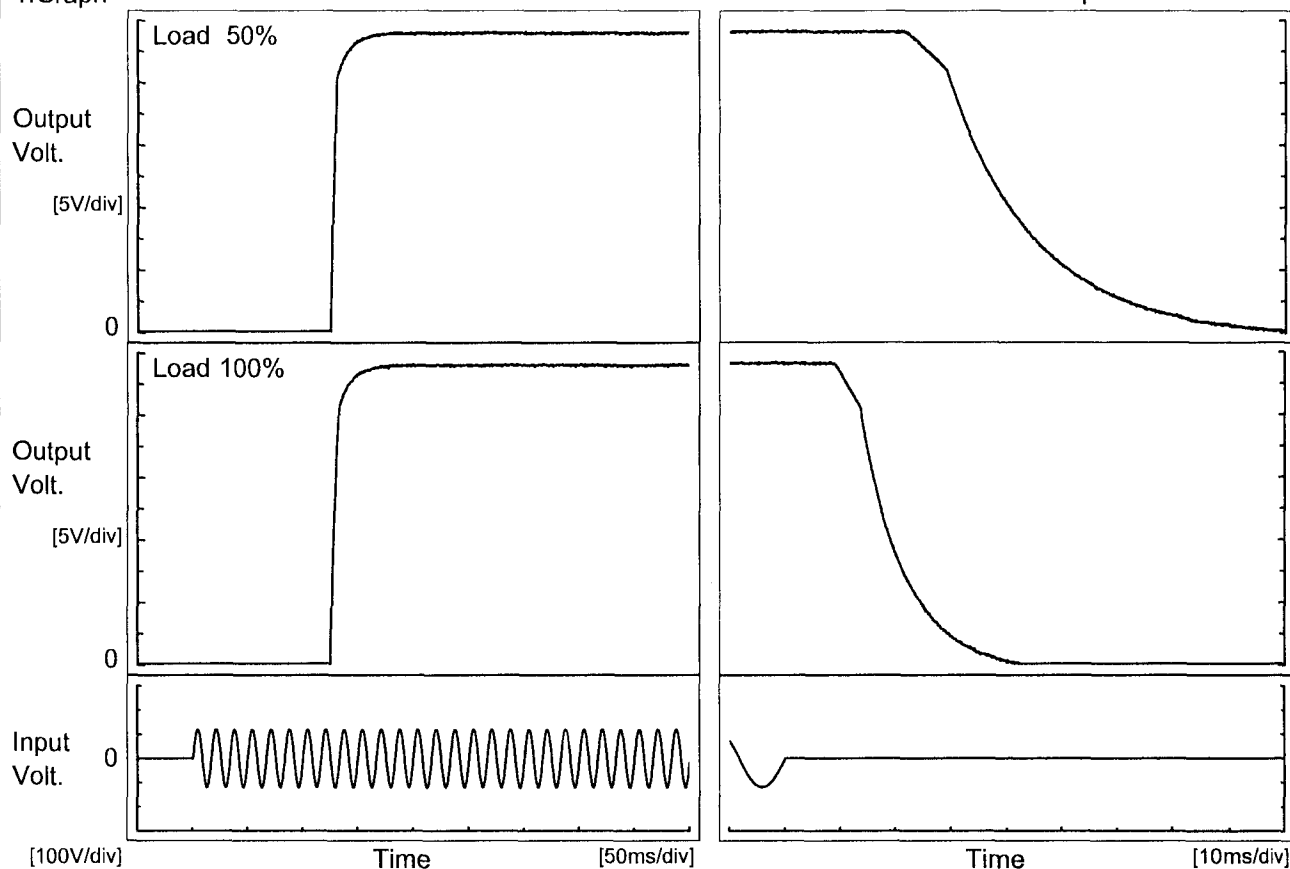
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Item	Time Lapse Drift	Temperature	25°C																						
Object	+36V1.7A	Testing Circuitry	Figure A																						
1.Graph		2.Values																							
<div><p>Output Voltage [V]</p><p>Time [H]</p><p>Input Volt. 100V</p><p>Load 100%</p></div>		<table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>48.645</td></tr><tr><td>0.5</td><td>48.644</td></tr><tr><td>1.0</td><td>48.644</td></tr><tr><td>2.0</td><td>48.644</td></tr><tr><td>3.0</td><td>48.644</td></tr><tr><td>4.0</td><td>48.644</td></tr><tr><td>5.0</td><td>48.643</td></tr><tr><td>6.0</td><td>48.643</td></tr><tr><td>7.0</td><td>48.643</td></tr><tr><td>8.0</td><td>48.643</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	48.645	0.5	48.644	1.0	48.644	2.0	48.644	3.0	48.644	4.0	48.644	5.0	48.643	6.0	48.643	7.0	48.643	8.0	48.643
Time since start [H]	Output Voltage [V]																								
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1.0	48.644																								
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5.0	48.643																								
6.0	48.643																								
7.0	48.643																								
8.0	48.643																								

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Model	LCA50S-36	Temperature	25°C
Item	Rise and Fall Time	Testing Circuitry	Figure A
Object	+36V1.7A		

1.Graph

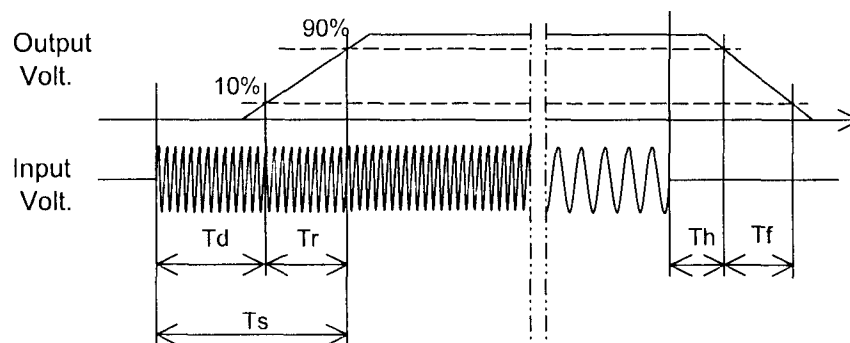
Input Volt. 100 V



2.Values

[ms]

Load \ Time	Td	Tr	Ts	Th	Tf
50 %	125.5	11.0	136.5	27.6	34.1
100 %	125.5	11.8	137.3	12.1	17.2



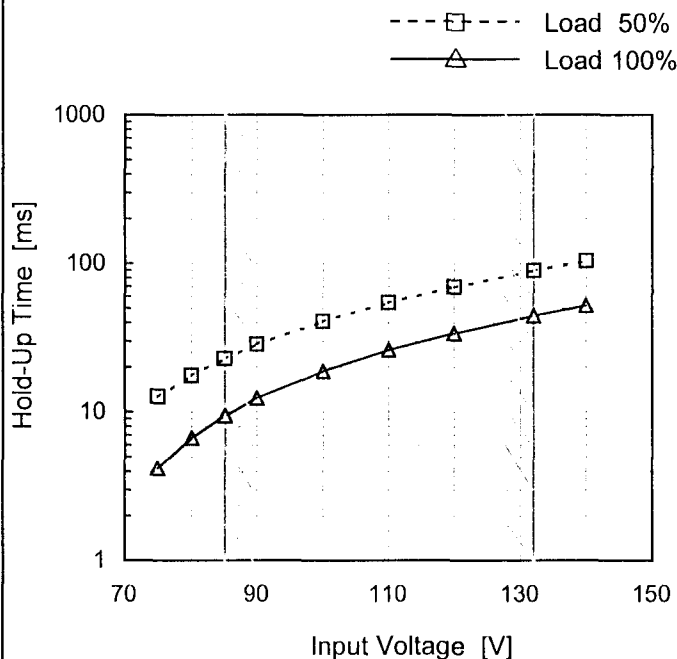
Model LCA50S-36

Item Hold-Up Time

Object +36V1.7A

Temperature 25°C
Testing Circuitry Figure A

1. Graph



This duration covers from Shut-off of input voltage to the moment when output voltage descends to the rated range of voltage accuracy.
Note: Slanted line shows the range of the rated input voltage.

2. Values

Input Voltage [V]	Hold-Up Time [ms]	
	Load 50%	Load 100%
75	13	4
80	18	7
85	23	9
90	29	12
100	41	19
110	54	26
120	69	34
132	89	44
140	104	52

Model		LCA50S-36	
Item		Instantaneous Interruption Compensation	
Object		+36V1.7A	

1.Graph

△

Input Volt.

85V

□

Input Volt.

100V

○

Input Volt.

132V

Instantaneous Compensation Time [ms]

1000

100

10

1

0.0

0.4

0.8

1.2

1.6

2.0

Load Current [A]

Model	LCA50S-36																																								
Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A																																							
Object	+36V1.7A																																								
1.Graph		2.Values																																							
<div><div>---□--- Load 50%</div><div>—△— Load 100%</div></div> <p>Input Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Note: Slanted line shows the range of the rated ambient temperature.</p>		<table><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><tr><td>-20</td><td>62</td><td>72</td></tr><tr><td>-10</td><td>62</td><td>72</td></tr><tr><td>0</td><td>62</td><td>71</td></tr><tr><td>10</td><td>61</td><td>71</td></tr><tr><td>25</td><td>62</td><td>72</td></tr><tr><td>40</td><td>62</td><td>71</td></tr><tr><td>50</td><td>61</td><td>72</td></tr><tr><td>60</td><td>62</td><td>72</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>		Ambient Temperature [°C]	Input Voltage [V]		Load 50%	Load 100%	-20	62	72	-10	62	72	0	62	71	10	61	71	25	62	72	40	62	71	50	61	72	60	62	72	--	-	-	--	-	-	--	-	-
Ambient Temperature [°C]	Input Voltage [V]																																								
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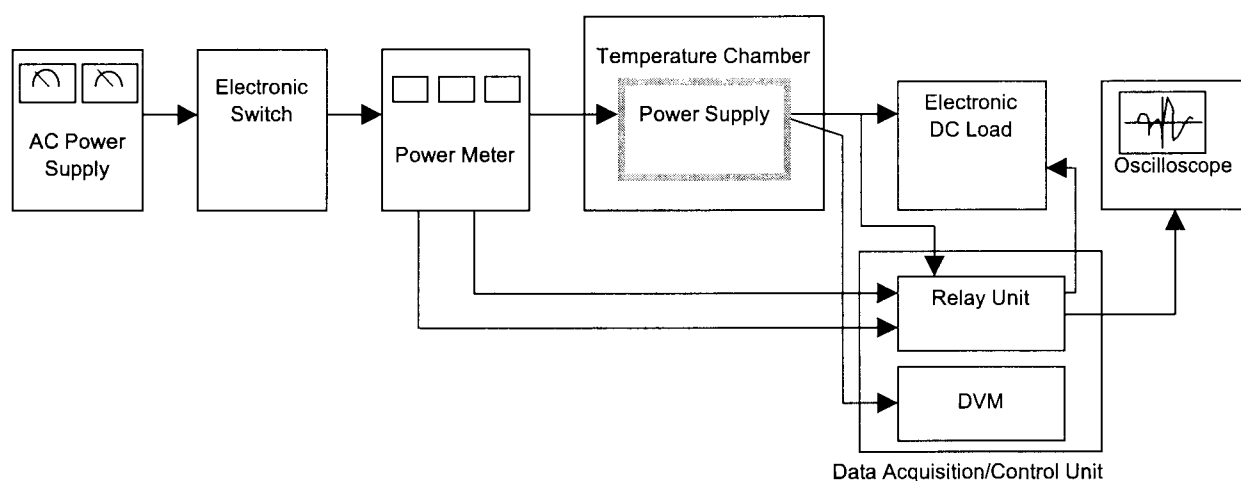


Figure A

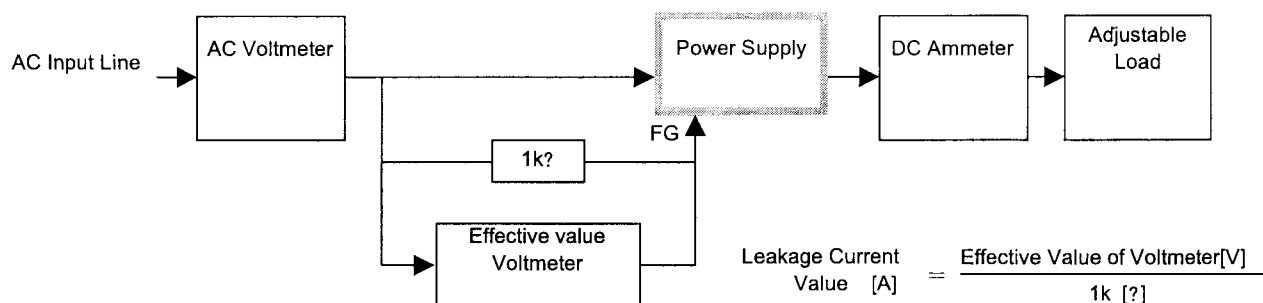


Figure B (DEN-AN)

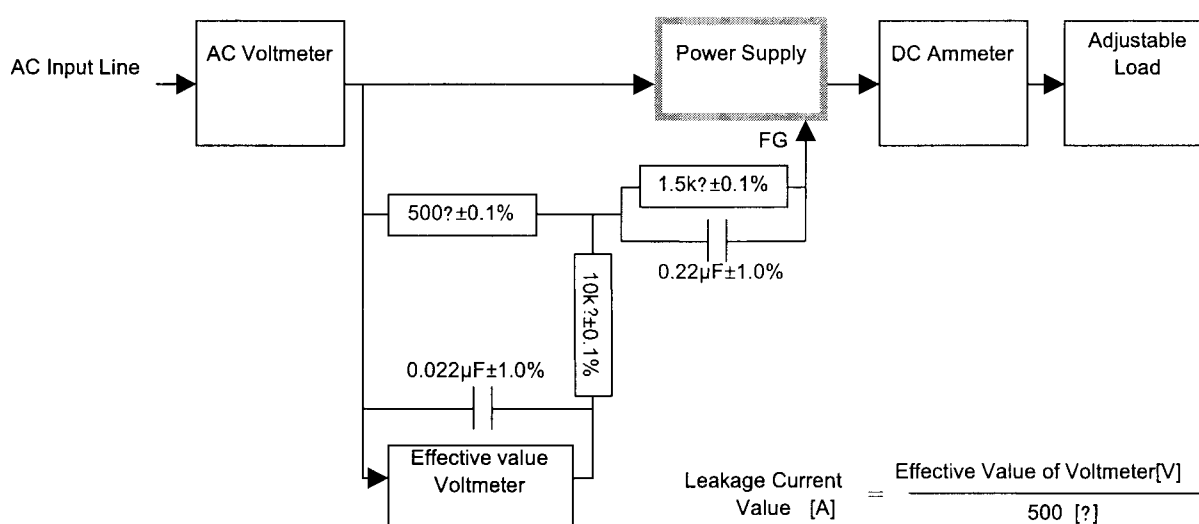


Figure B (IEC60950)