

TEST DATA OF SFLS10482R5

Regulated DC Power Supply
Jun 29, 2007

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Isao Yasuda Design Manager

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Toshiyuki Tsuru Design Engineer

COSEL CO.,LTD.

CONTENTS

1.Input Current (by Input Voltage)	1
2.Input Current (by Load Current)	2
3.Input Power (by Load Current)	3
4.Efficiency (by Input Voltage)	4
5.Efficiency (by Load 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.Minimum Input Voltage for Regulated Output Voltage	16
17.Overcurrent Protection	17
18.Overvoltage Protection	18
19.Figure of Testing Circuitry	19

(Final Page 19)

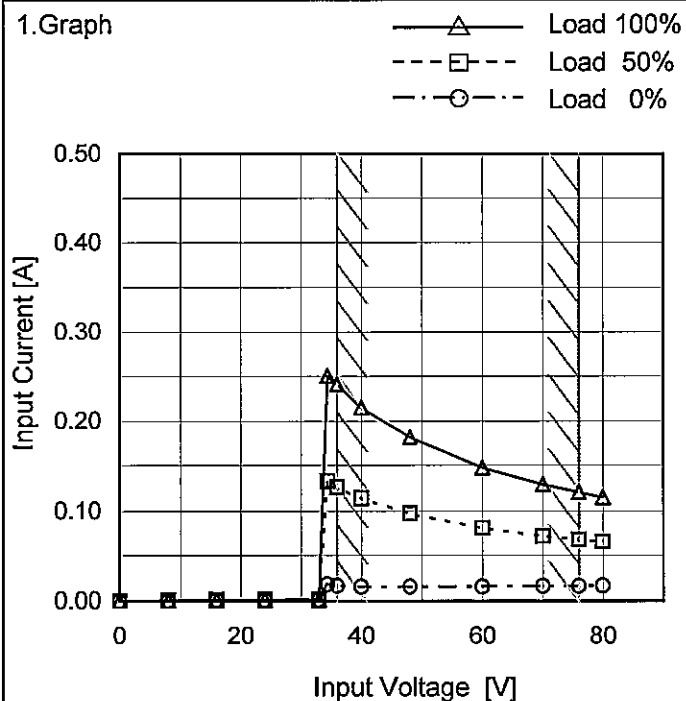
Model SFLS10482R5

Item Input Current (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]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0	0.000	0.000	0.000
8	0.001	0.001	0.001
16	0.001	0.001	0.001
24	0.001	0.001	0.001
33	0.002	0.002	0.002
34	0.018	0.133	0.250
36	0.016	0.126	0.241
40	0.015	0.114	0.215
48	0.015	0.097	0.182
60	0.016	0.081	0.148
70	0.016	0.072	0.129
76	0.016	0.068	0.121
80	0.017	0.066	0.115
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
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Model		SFLS10482R5		Temperature		25°C																																																		
Item		Input Power (by Load Current)		Testing Circuitry		Figure A																																																		
Object		_____																																																						
1.Graph		<div><div><div>—△—</div><div>---□---</div><div>-○-</div></div><div><div>Input Volt.</div><div>Input Volt.</div><div>Input Volt.</div></div><div><div>36V</div><div>48V</div><div>76V</div></div></div>		2.Values																																																				
<div><div><div>20</div><div>15</div><div>10</div><div>5</div><div>0</div></div><div><div>Input Power [W]</div></div><div><div>0.0</div><div>1.0</div><div>2.0</div><div>3.0</div></div><div><div>Load Current [A]</div></div></div>		<table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Input Power [W]</th></tr><tr><th>Input Volt. 36[V]</th><th>Input Volt. 48[V]</th><th>Input Volt. 76[V]</th></tr><tr><td>0.0</td><td>0.59</td><td>0.73</td><td>1.24</td></tr><tr><td>0.6</td><td>2.16</td><td>2.31</td><td>2.80</td></tr><tr><td>1.2</td><td>3.76</td><td>3.90</td><td>4.38</td></tr><tr><td>1.8</td><td>5.37</td><td>5.50</td><td>5.97</td></tr><tr><td>2.4</td><td>6.99</td><td>7.12</td><td>7.57</td></tr><tr><td>3.0</td><td>8.64</td><td>8.74</td><td>9.19</td></tr><tr><td>3.3</td><td>9.46</td><td>9.56</td><td>10.00</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></table>				Load Current [A]	Input Power [W]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	0.0	0.59	0.73	1.24	0.6	2.16	2.31	2.80	1.2	3.76	3.90	4.38	1.8	5.37	5.50	5.97	2.4	6.99	7.12	7.57	3.0	8.64	8.74	9.19	3.3	9.46	9.56	10.00	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
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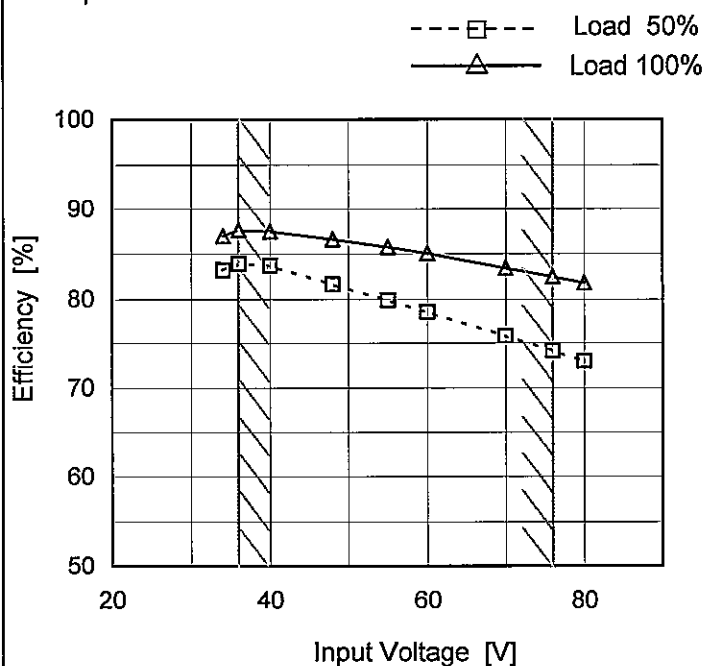
Model SFLS10482R5

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%
34	83.2	87.0
36	83.9	87.6
40	83.7	87.5
48	81.6	86.6
55	79.9	85.7
60	78.6	85.0
70	75.8	83.4
76	74.1	82.5
80	73.0	81.8

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Model	SFLS10482R5																																																					
Item	Efficiency (by Load Current)	Temperature	25°C																																																			
Object		Testing Circuitry	Figure A																																																			
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<div><div>—△— Input Volt. 36V</div><div>- - □ - - Input Volt. 48V</div><div>- - ○ - - Input Volt. 76V</div></div> <p>Efficiency [%]</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">Efficiency [%]</th></tr><tr><th>Input Volt. 36[V]</th><th>Input Volt. 48[V]</th><th>Input Volt. 76[V]</th></tr><tr><td>0.0</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.6</td><td>71.3</td><td>66.8</td><td>55.0</td></tr><tr><td>1.2</td><td>81.8</td><td>78.8</td><td>70.1</td></tr><tr><td>1.8</td><td>85.5</td><td>83.4</td><td>76.9</td></tr><tr><td>2.4</td><td>87.0</td><td>85.6</td><td>80.5</td></tr><tr><td>3.0</td><td>87.6</td><td>86.6</td><td>82.5</td></tr><tr><td>3.3</td><td>87.7</td><td>86.9</td><td>83.2</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></table>		Load Current [A]	Efficiency [%]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	0.0	-	-	-	0.6	71.3	66.8	55.0	1.2	81.8	78.8	70.1	1.8	85.5	83.4	76.9	2.4	87.0	85.6	80.5	3.0	87.6	86.6	82.5	3.3	87.7	86.9	83.2	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
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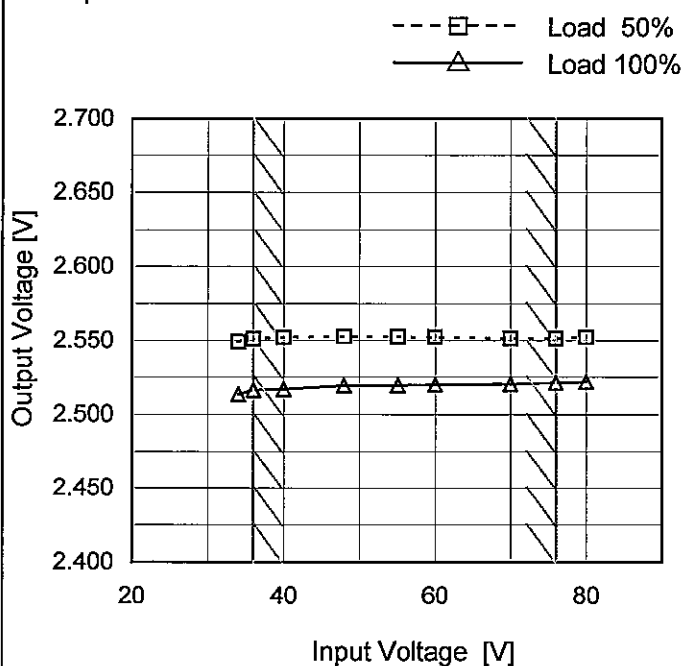
Model SFLS10482R5

Item Line Regulation

Object +2.5V3A

Temperature 25°C
Testing Circuitry Figure A

1. Graph



2. Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
34	2.549	2.513
36	2.551	2.516
40	2.552	2.517
48	2.553	2.519
55	2.553	2.519
60	2.552	2.520
70	2.552	2.520
76	2.552	2.521
80	2.553	2.522

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Model	SFLS10482R5																																																					
Item	Load Regulation	Temperature	25°C																																																			
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Note: Slanted line shows the range of the rated load current.																																																						

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Model	SFLS10482R5	Temperature	25°C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	+2.5V3A		

Input Volt. 48 V
Cycle 1000 mS

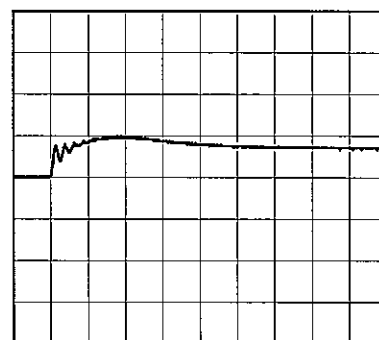
Load Current 3.0A / 200 μ sec

Min. Load (0A) \longleftrightarrow
Load 100% (3A)

100mV/div



200 μ s/div



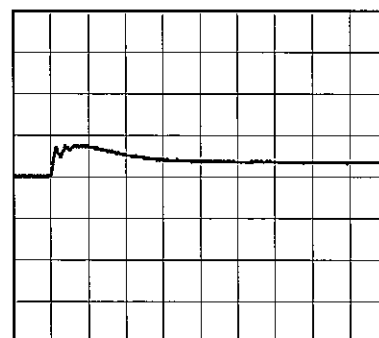
200 μ s/div

Min. Load (0A) \longleftrightarrow
Load 50% (1.5A)

100mV/div



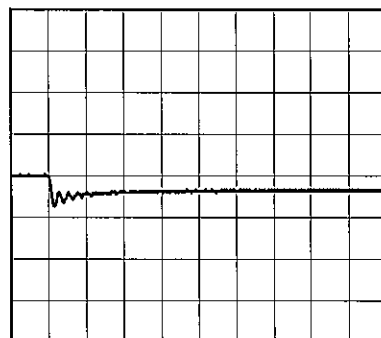
200 μ s/div



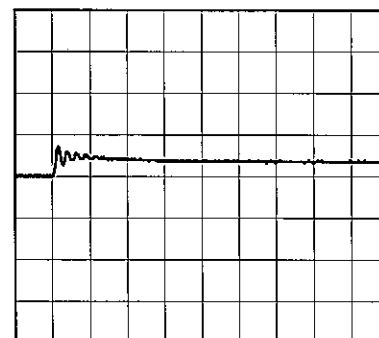
200 μ s/div

Load 50% (1.5A) \longleftrightarrow
Load 100% (3A)

100mV/div



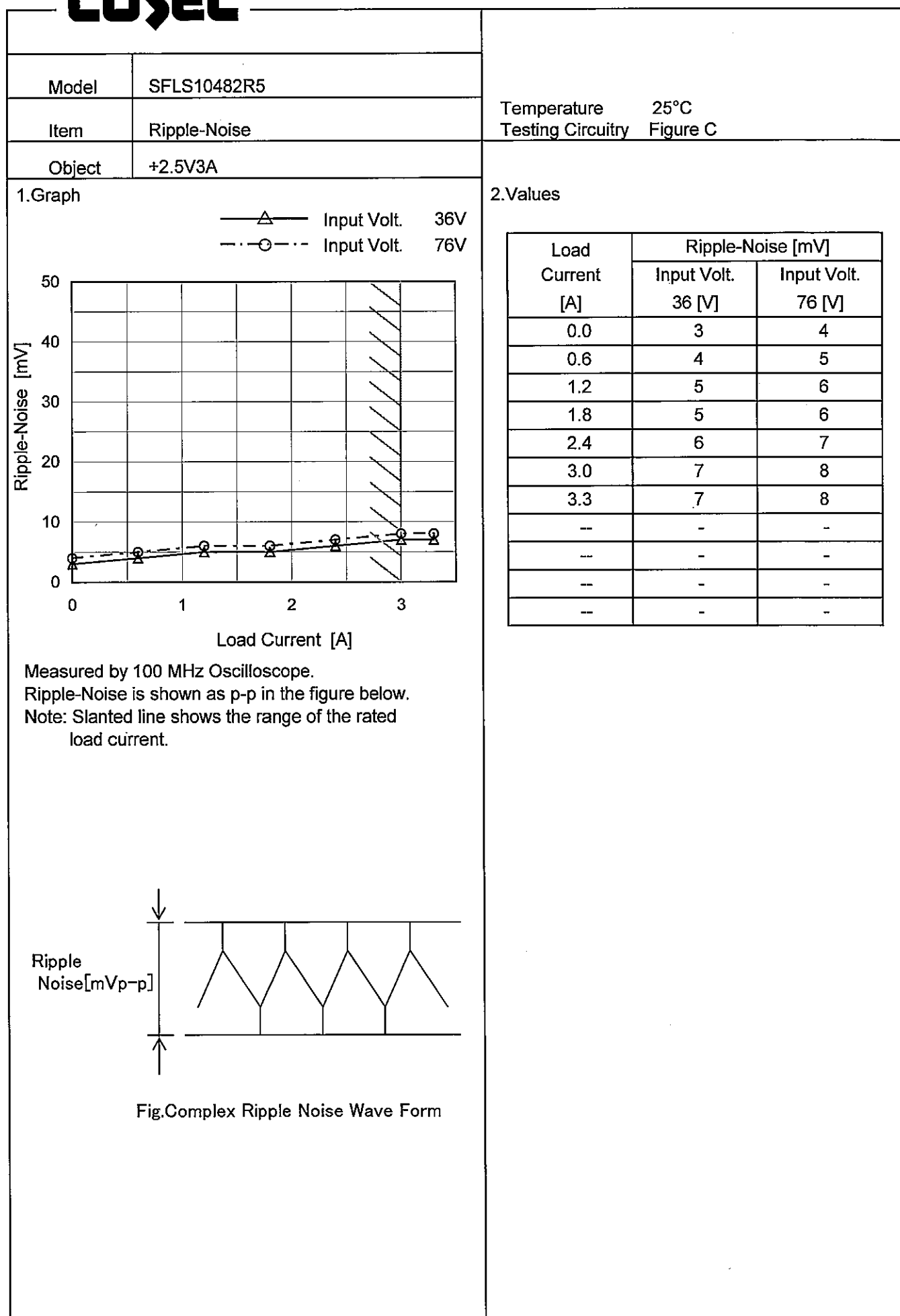
200 μ s/div

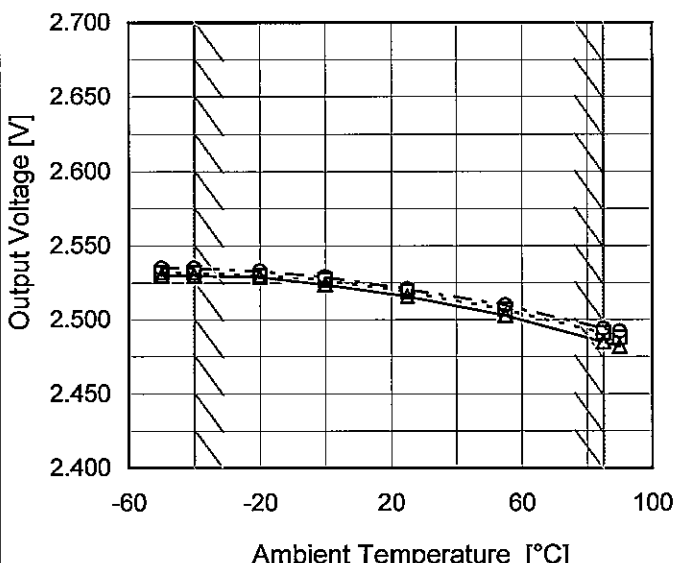


200 μ s/div

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Model		SFLS10482R5		Temperature 25°C																																							
Item		Ripple Voltage (by Load Current)		Testing Circuitry Figure C																																							
Object		+2.5V3A																																									
1.Graph				2.Values																																							
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<p>Measured by 100 MHz Oscilloscope.</p> <p>Ripple Voltage is shown as p-p in the figure below.</p> <p>Note: Slanted line shows the range of the rated load current.</p>																																											
<div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><p>Ripple [mVp-p]</p><p>Fig.Complex Ripple Wave Form</p></div></div>																																											

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Model		SFLS10482R5																																																				
Item		Ambient Temperature Drift																																																				
Object		+2.5V3A																																																				
1.Graph		<div><div><div>—△—</div><div>Input Volt.</div><div>36V</div></div><div><div>---□---</div><div>Input Volt.</div><div>48V</div></div><div><div>-·-○-·-</div><div>Input Volt.</div><div>76V</div></div></div>  <p>Output Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 100%</p> <p>Note: Slanted line shows the range of the rated ambient temperature.</p>																																																				
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		Testing Circuitry Figure A
Model	SFLS10482R5	
Item	Output Voltage Accuracy	
Object	+2.5V3A	

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 : -40 - 85°C

Input Voltage : 36 - 76V

Load Current : 0 - 3A

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

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

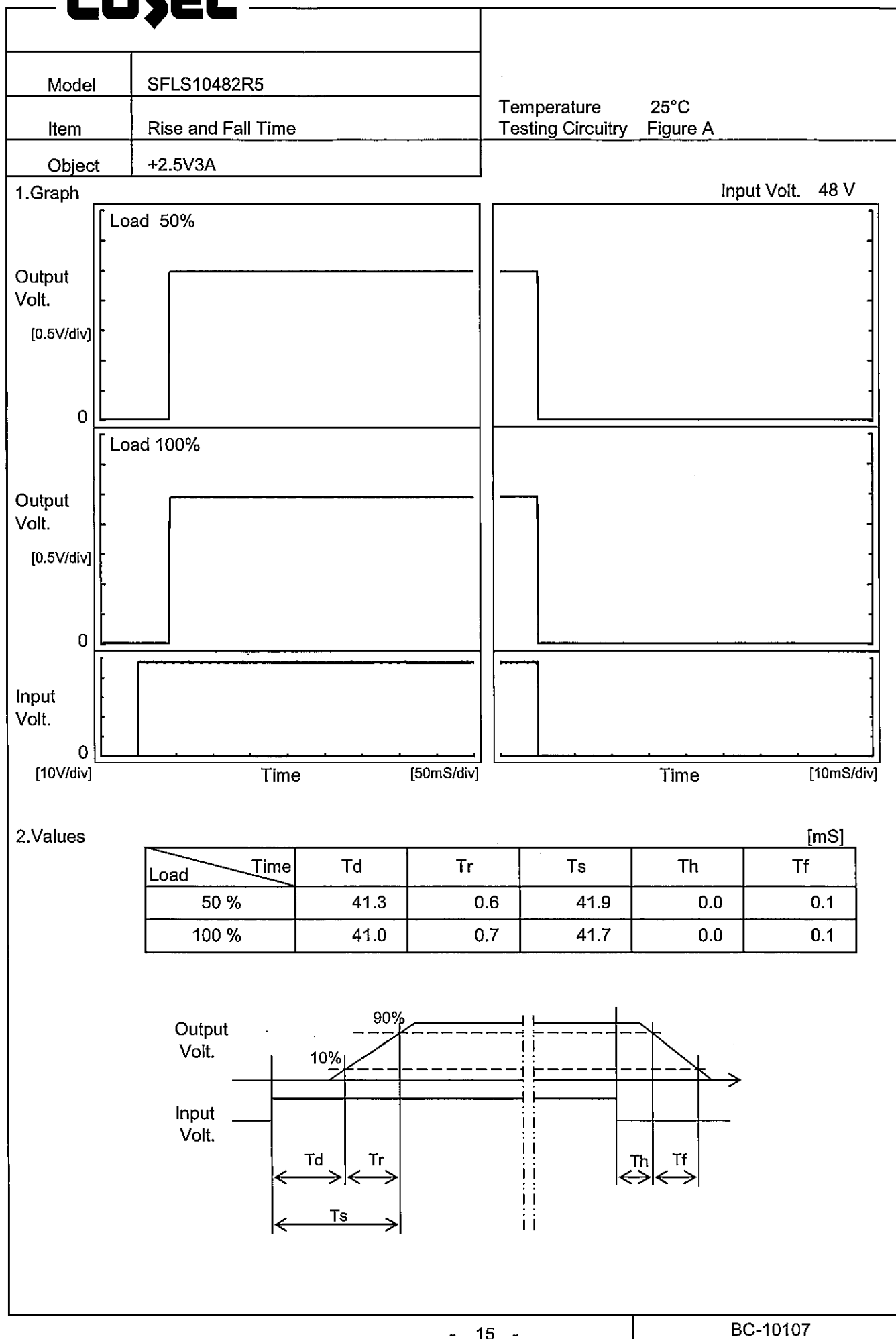
2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	0	48	0	2.589	±52	±2.1
Minimum Voltage	85	36	3	2.485		

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Model	SFLS10482R5																								
Item	Time Lapse Drift	Temperature	25°C																						
		Testing Circuitry	Figure A																						
Object	+2.5V3A																								
1.Graph		2.Values																							
<div><div><div>2.700</div><div>2.650</div><div>2.600</div><div>2.550</div><div>2.500</div><div>2.450</div><div>2.400</div></div><div><div>0</div><div>2</div><div>4</div><div>6</div><div>8</div><div>10</div></div><div><div>Output Voltage [V]</div><div>Time [H]</div></div></div> <div><div>Input Volt.</div><div>48V</div><div>Load</div><div>100%</div></div>		<table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>2.521</td></tr><tr><td>0.5</td><td>2.518</td></tr><tr><td>1.0</td><td>2.518</td></tr><tr><td>2.0</td><td>2.518</td></tr><tr><td>3.0</td><td>2.518</td></tr><tr><td>4.0</td><td>2.518</td></tr><tr><td>5.0</td><td>2.518</td></tr><tr><td>6.0</td><td>2.518</td></tr><tr><td>7.0</td><td>2.518</td></tr><tr><td>8.0</td><td>2.518</td></tr></table>		Time since start [H]	Output Voltage [V]	0.0	2.521	0.5	2.518	1.0	2.518	2.0	2.518	3.0	2.518	4.0	2.518	5.0	2.518	6.0	2.518	7.0	2.518	8.0	2.518
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COSEL



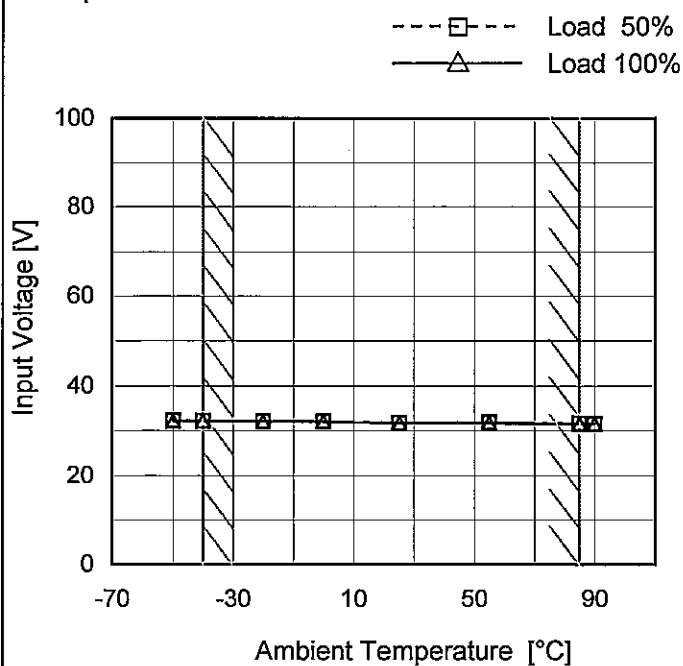
Model SFLS10482R5

Item Minimum Input Voltage
for Regulated Output Voltage

Object +2.5V3A

Testing Circuitry Figure A

1. Graph



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

2. Values

Ambient Temperature [°C]	Input Voltage [V]	
	Load 50%	Load 100%
-50	32.3	32.2
-40	32.2	32.2
-20	32.1	32.1
0	32.1	32.1
25	31.8	31.8
55	31.9	31.8
85	31.6	31.6
90	31.6	31.6
--	-	-
--	-	-
--	-	-

COSEL

Model	SFLS10482R5																																																													
Item	Overcurrent Protection	Temperature	25°C																																																											
Object	+2.5V3A	Testing Circuitry	Figure A																																																											
1.Graph		2.Values																																																												
<div><div><div></div><div></div><div></div></div><div><div>Input Volt. 36V</div><div>Input Volt. 48V</div><div>Input Volt. 76V</div></div></div> <p>Note: Slanted line shows the range of the rated load current.</p> <p>When the output voltage fell to less than 2.33V ,the unit shuts off the output by operating low voltage protection .</p>		<table><tr><th rowspan="2">Output Voltage [V]</th><th colspan="3">Load Current [A]</th></tr><tr><th>Input Volt. 36[V]</th><th>Input Volt. 48[V]</th><th>Input Volt. 76[V]</th></tr><tr><td>2.50</td><td>3.09</td><td>3.61</td><td>3.19</td></tr><tr><td>2.38</td><td>3.64</td><td>3.66</td><td>3.61</td></tr><tr><td>2.25</td><td>3.67</td><td>3.70</td><td>3.68</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><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><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table>		Output Voltage [V]	Load Current [A]			Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	2.50	3.09	3.61	3.19	2.38	3.64	3.66	3.61	2.25	3.67	3.70	3.68	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-
Output Voltage [V]	Load Current [A]																																																													
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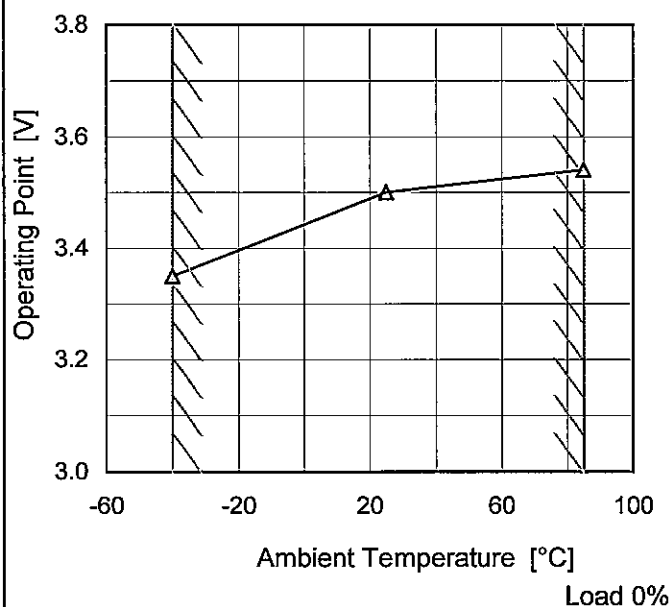
Model SFLS10482R5

Item Overvoltage Protection

Object +2.5V3A

Testing Circuitry Figure A

1. Graph —△— Input Volt. 48V



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

2. Values

Ambient Temperature [°C]	Operating Point [V]		
	Input Volt. 48[V]	Input Volt.	Input Volt.
-40	3.35	-	-
25	3.50	-	-
85	3.54	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-
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--	-	-	-
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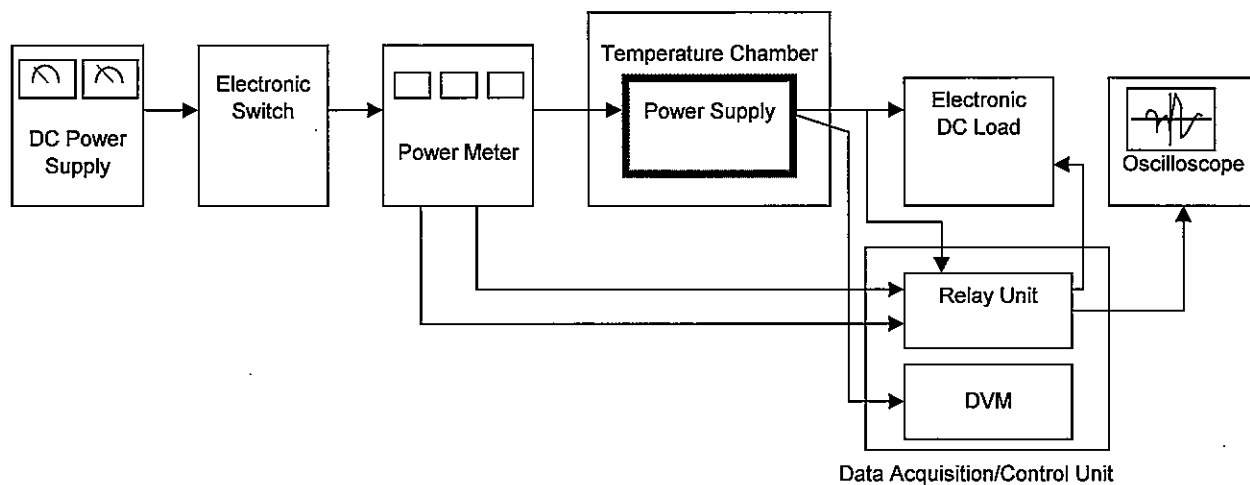


Figure A

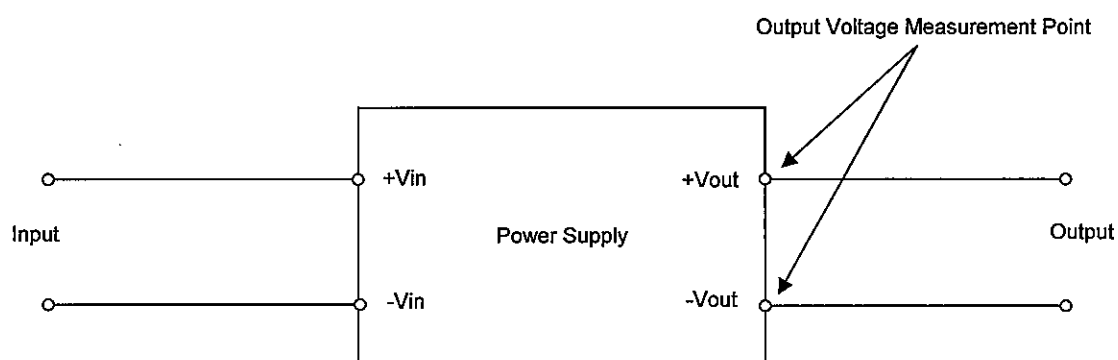


Figure B (General Electric Characteristic)

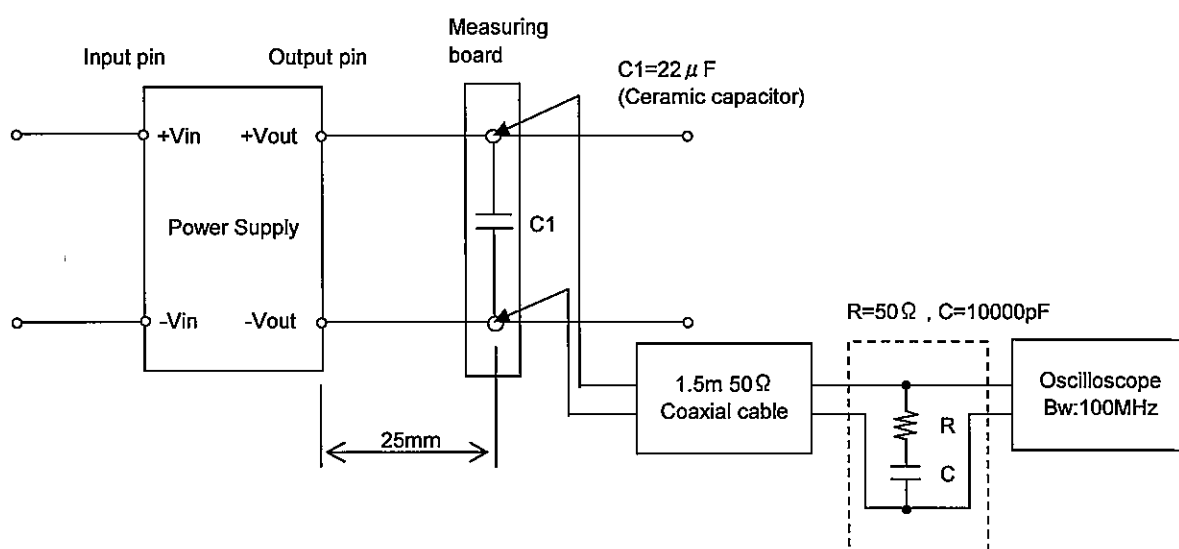


Figure C (Ripple and Ripple noise Characteristic)