



TEST DATA OF SUCS34805

Regulated DC Power Supply

Mar 9, 2005

Approved by : Tetsuo Sugimori
Tetsuo Sugimori Design Manager

Prepared by : Hayato Nakatsubo Hayato Nakatsubo Design Engineer

COSEL CO.,LTD.



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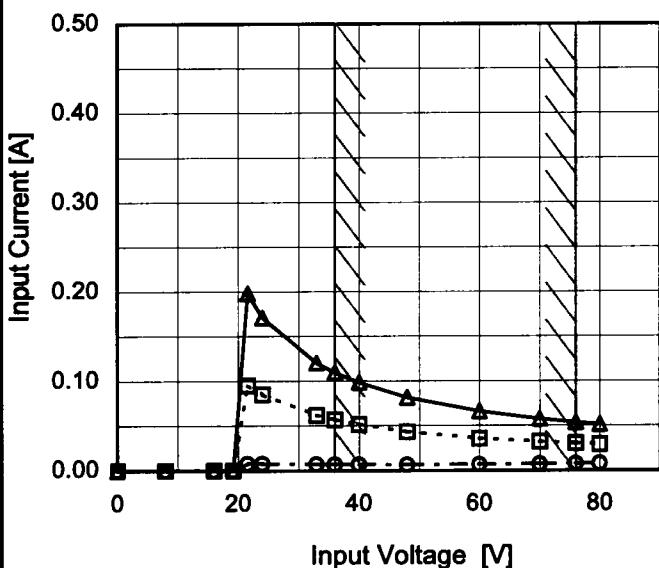
(Final Page 18)

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Model	SUCS34805
Item	Input Current (by Input Voltage)
Object	_____

1.Graph

△ Load 100%
 -□- Load 50%
 -○- Load 0%



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

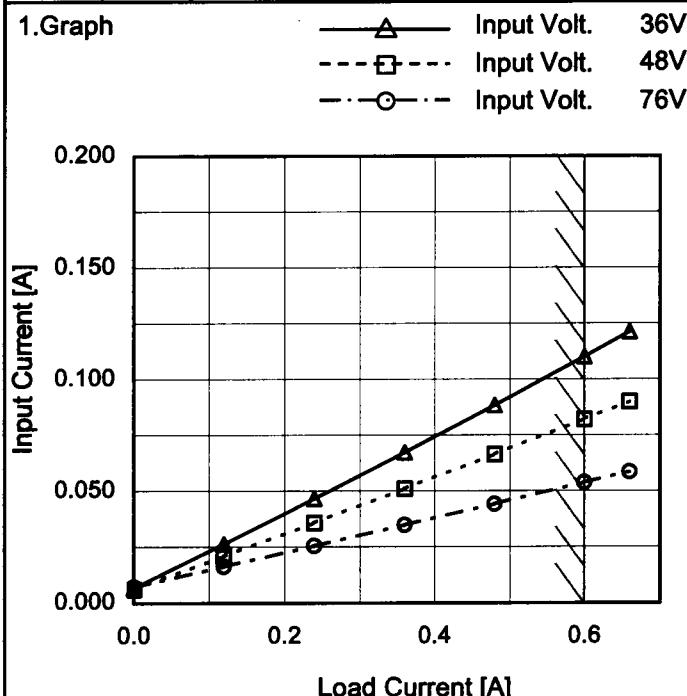
Temperature 25°C
 Testing Circuitry Figure A

2.Values

Input Voltage [V]	Input Current [A]		
	Load 0%	Load 50%	Load 100%
0.0	0.000	0.000	0.000
8.0	0.000	0.000	0.000
16.0	0.000	0.000	0.000
19.2	0.000	0.000	0.000
21.6	0.008	0.095	0.198
24.0	0.007	0.085	0.171
33.0	0.007	0.062	0.120
36.0	0.007	0.057	0.110
40.0	0.006	0.051	0.098
48.0	0.006	0.043	0.082
60.0	0.006	0.036	0.066
70.0	0.007	0.032	0.058
76.0	0.007	0.030	0.054
80.0	0.007	0.029	0.051
--	-	-	-
--	-	-	-
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COSEL

Model	SUCCS34805
Item	Input Current (by Load Current)
Object	_____



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

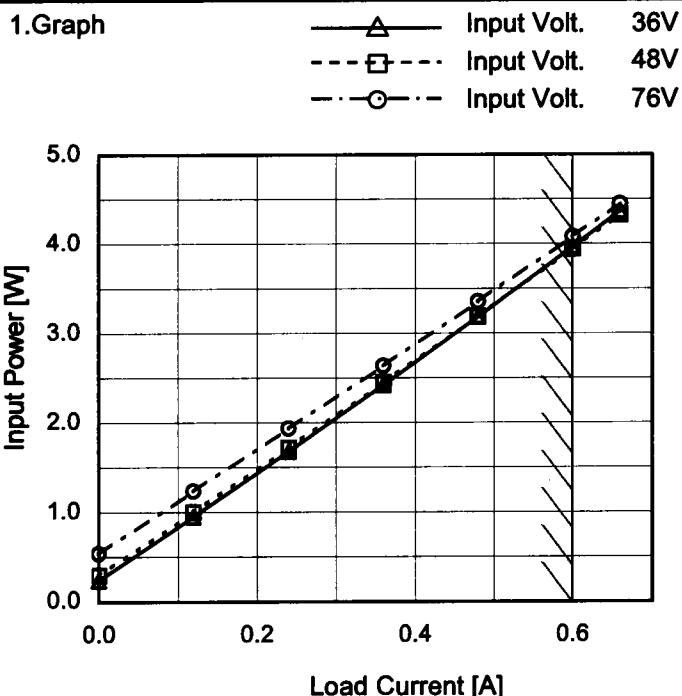
Temperature 25°C
Testing Circuitry Figure A

2.Values

Load Current [A]	Input Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.00	0.007	0.006	0.007
0.12	0.026	0.021	0.016
0.24	0.047	0.036	0.026
0.36	0.067	0.051	0.035
0.48	0.088	0.066	0.044
0.60	0.110	0.082	0.054
0.66	0.121	0.090	0.059
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

COSEL

Model	SUCCS34805
Item	Input Power (by Load Current)
Object	_____



Temperature 25°C
Testing Circuitry Figure A

2. Values

Load Current [A]	Input Power [W]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
0.00	0.24	0.29	0.54
0.12	0.95	1.00	1.23
0.24	1.68	1.72	1.93
0.36	2.42	2.45	2.64
0.48	3.18	3.19	3.36
0.60	3.97	3.94	4.08
0.66	4.36	4.33	4.45
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-

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

COSEL

Model	SUCS34805	Temperature	25°C																														
Item	Efficiency (by Input Voltage)	Testing Circuitry	Figure A																														
Object	—																																
1. Graph			2. Values																														
<p>The graph plots Efficiency [%] on the y-axis (58 to 86) against Input Voltage [V] on the x-axis (20 to 80). 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>30</td><td>74.4</td><td>75.6</td></tr> <tr><td>36</td><td>73.9</td><td>76.5</td></tr> <tr><td>40</td><td>73.6</td><td>76.8</td></tr> <tr><td>48</td><td>72.8</td><td>76.9</td></tr> <tr><td>55</td><td>71.7</td><td>76.7</td></tr> <tr><td>60</td><td>70.6</td><td>76.3</td></tr> <tr><td>70</td><td>68.1</td><td>75.2</td></tr> <tr><td>76</td><td>66.3</td><td>74.4</td></tr> <tr><td>80</td><td>65.2</td><td>73.7</td></tr> </tbody> </table>				Input Voltage [V]	Efficiency Load 50% [%]	Efficiency Load 100% [%]	30	74.4	75.6	36	73.9	76.5	40	73.6	76.8	48	72.8	76.9	55	71.7	76.7	60	70.6	76.3	70	68.1	75.2	76	66.3	74.4	80	65.2	73.7
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COSEL

Model	SUCCS34805	Temperature	25°C																																																			
Item	Efficiency (by Load Current)	Testing Circuitry	Figure A																																																			
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1.Graph		—△— Input Volt. 36V - -□--- Input Volt. 48V - -○--- Input Volt. 76V																																																				
<p>The graph shows efficiency increasing with load current for all input voltages. The 36V curve is the highest, followed by 48V, and then 76V. A slanted line from the top left to the bottom right represents the rated load current range.</p> <table border="1"> <thead> <tr> <th>Load Current [A]</th> <th>36[V] (%)</th> <th>48[V] (%)</th> <th>76[V] (%)</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>0.12</td><td>63.9</td><td>60.5</td><td>49.2</td></tr> <tr><td>0.24</td><td>72.3</td><td>70.5</td><td>62.8</td></tr> <tr><td>0.36</td><td>75.1</td><td>74.3</td><td>69.0</td></tr> <tr><td>0.48</td><td>76.2</td><td>76.0</td><td>72.3</td></tr> <tr><td>0.60</td><td>76.5</td><td>76.9</td><td>74.3</td></tr> <tr><td>0.66</td><td>76.4</td><td>77.1</td><td>75.0</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]	36[V] (%)	48[V] (%)	76[V] (%)	0.00	-	-	-	0.12	63.9	60.5	49.2	0.24	72.3	70.5	62.8	0.36	75.1	74.3	69.0	0.48	76.2	76.0	72.3	0.60	76.5	76.9	74.3	0.66	76.4	77.1	75.0	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-				
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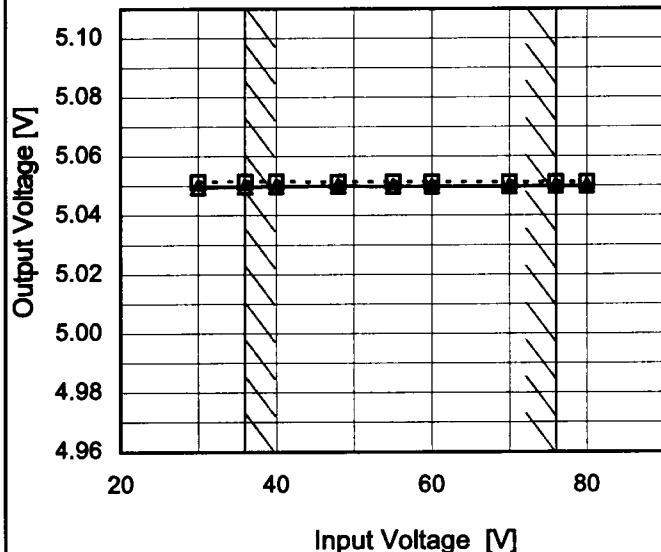
Model SUCS34805

Item Line Regulation

Object +5V0.6A

1.Graph

---□--- Load 50%
 —△— Load 100%



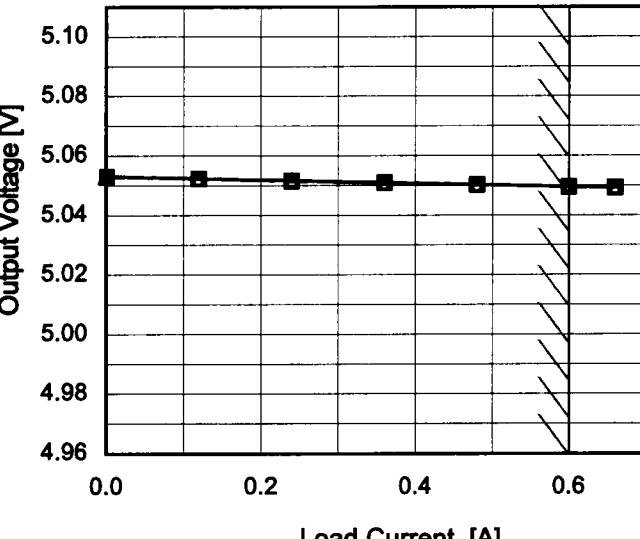
Note: Slanted line shows the range of the rated input voltage.

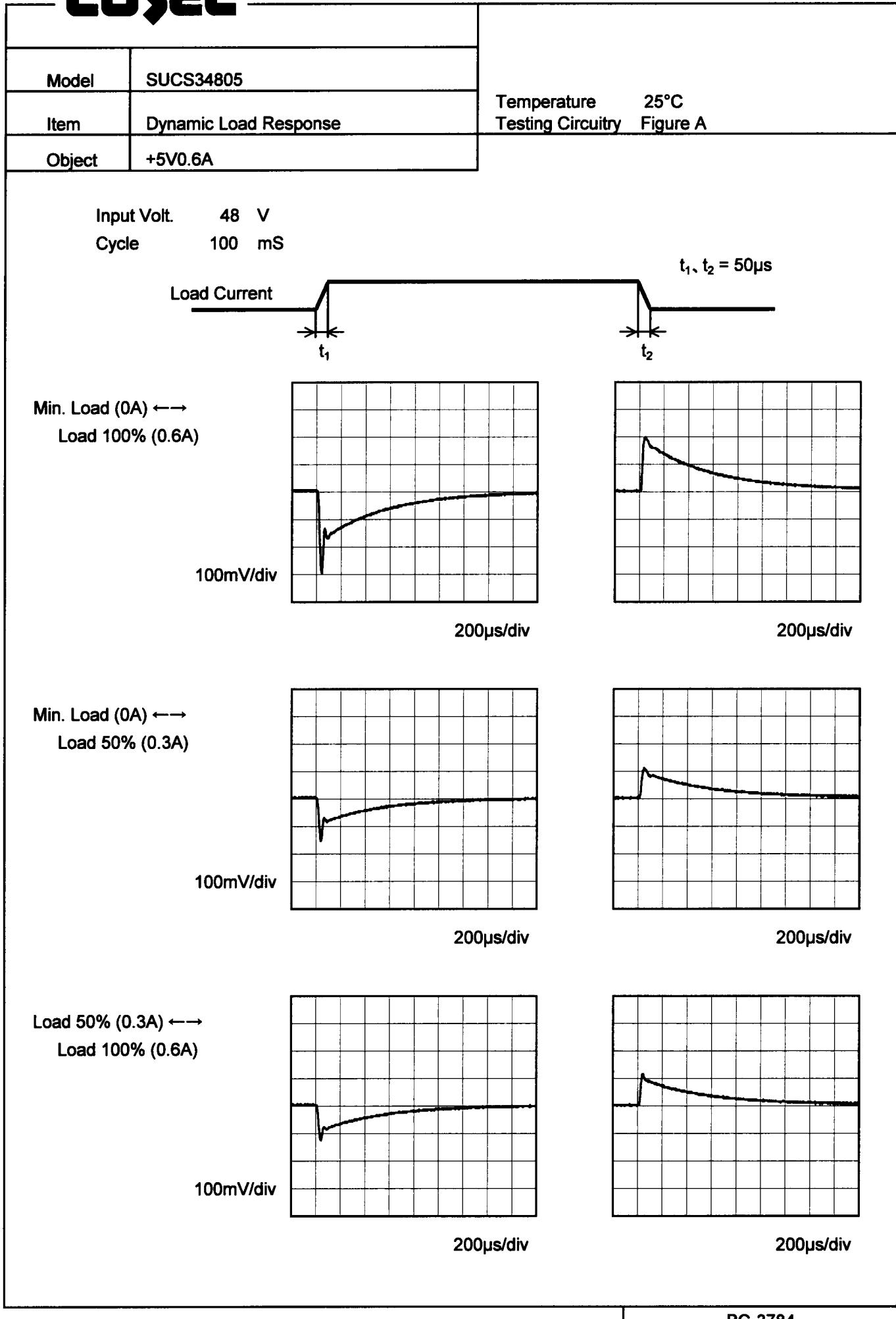
 Temperature 25°C
 Testing Circuitry Figure A

2.Values

Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
30	5.051	5.050
36	5.052	5.050
40	5.052	5.050
48	5.051	5.050
55	5.051	5.050
60	5.051	5.050
70	5.051	5.050
76	5.051	5.050
80	5.051	5.050

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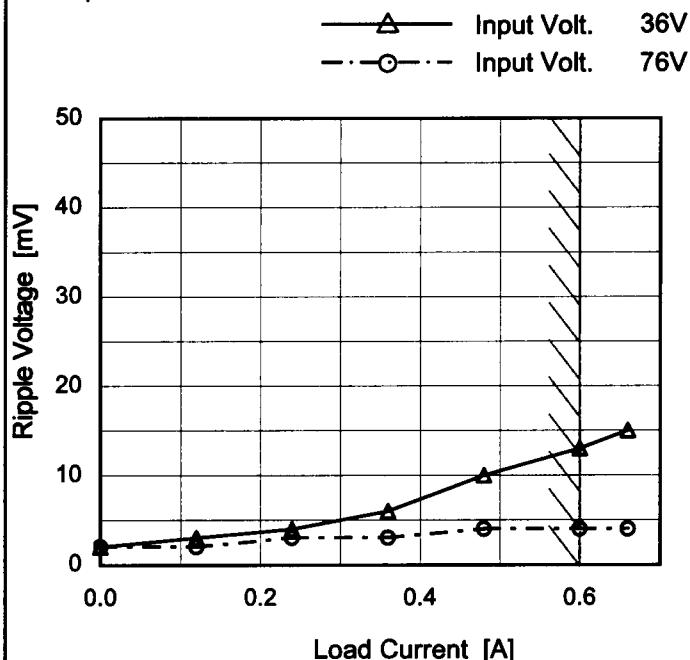
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<p>Note: Slanted line shows the range of the rated load current.</p>																																																						

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Model	SUCS34805
Item	Ripple Voltage (by Load Current)
Object	+5V0.6A

1.Graph



Measured by 100 MHz Oscilloscope.
 Ripple Voltage is shown as p-p in the figure below.
 Note: Slanted line shows the range of the rated load current.

Ripple [mVp-p]

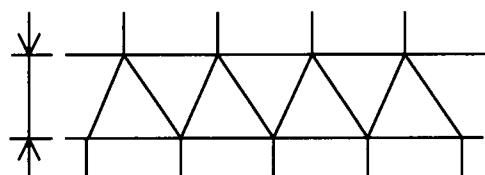


Fig.Complex Ripple Wave Form

Temperature 25°C
 Testing Circuitry Figure B

2.Values

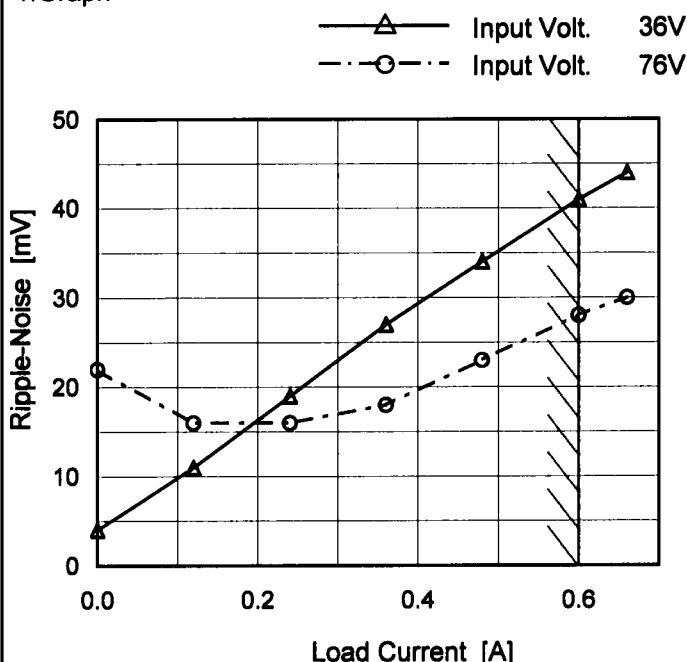
Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.00	2	2
0.12	3	2
0.24	4	3
0.36	6	3
0.48	10	4
0.60	13	4
0.66	15	4
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

Model	SUCS34805
Item	Ripple-Noise
Object	+5V0.6A

Temperature 25°C
Testing Circuitry Figure B

1. Graph



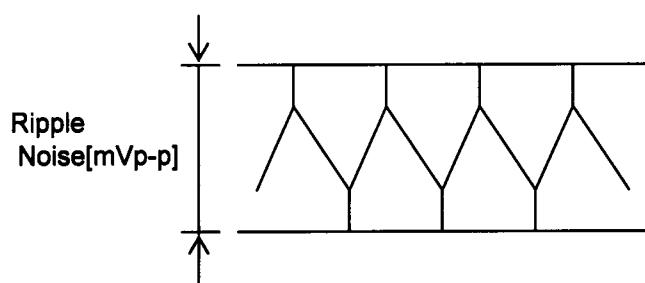
Measured by 100 MHz Oscilloscope.

Ripple-Noise is shown as p-p in the figure below.

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

2. Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.00	4	22
0.12	11	16
0.24	19	16
0.36	27	18
0.48	34	23
0.60	41	28
0.66	44	30
--	-	-
--	-	-
--	-	-
--	-	-



COSEL

Model	SUCS34805	Testing Circuitry Figure B																																							
Item	Ripple Voltage (by Ambient Temp.)																																								
Object	+5V0.6A																																								
1.Graph		2.Values																																							
<p>Input Volt. 48V</p>																																									
<p>Measured by 100 MHz Oscilloscope.</p> <p>Note: Slanted line shows the range of the rated ambient temperature.</p>		<table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="2">Ripple Voltage [mV]</th> </tr> <tr> <th>Load 50%</th> <th>Load 100%</th> </tr> </thead> <tbody> <tr> <td>-60</td><td>7</td><td>10</td> </tr> <tr> <td>-40</td><td>7</td><td>10</td> </tr> <tr> <td>-20</td><td>6</td><td>10</td> </tr> <tr> <td>0</td><td>5</td><td>9</td> </tr> <tr> <td>25</td><td>4</td><td>8</td> </tr> <tr> <td>55</td><td>3</td><td>6</td> </tr> <tr> <td>60</td><td>3</td><td>6</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>	Ambient Temperature [°C]	Ripple Voltage [mV]		Load 50%	Load 100%	-60	7	10	-40	7	10	-20	6	10	0	5	9	25	4	8	55	3	6	60	3	6	--	-	-	--	-	-	--	-	-	--	-	-	
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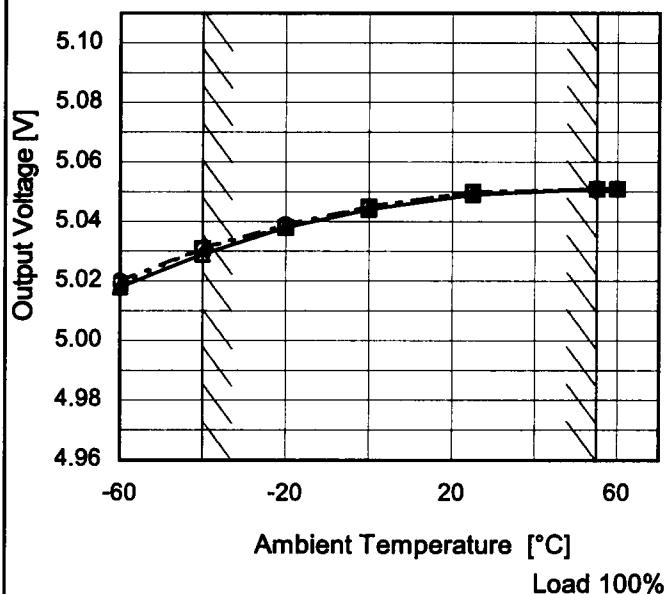
COSEL
Model SUCS34805

Item Ambient Temperature Drift

Object +5V0.6A

1.Graph

—△— Input Volt. 36V
 - -□--- Input Volt. 48V
 - -○--- Input Volt. 76V



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

Testing Circuitry Figure A
2.Values

Ambient Temperature [°C]	Output Voltage [V]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
-60	5.018	5.019	5.020
-40	5.029	5.031	5.031
-20	5.038	5.038	5.039
0	5.044	5.045	5.045
25	5.049	5.050	5.050
55	5.051	5.051	5.051
60	5.051	5.051	5.051
--	-	-	-
--	-	-	-
--	-	-	-
--	-	-	-



Model	SUCS34805	Testing Circuitry Figure A
Item	Output Voltage Accuracy	
Object	+5V0.6A	

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 - 55°C

Input Voltage : 36 - 76V

Load Current : 0 - 0.6A

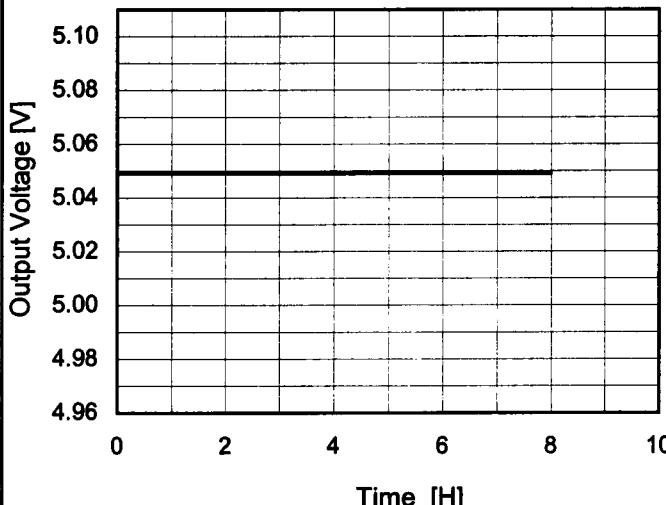
* Output Voltage Accuracy = $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

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

2. Values

Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	55	76	0	5.055	±13	±0.3
Minimum Voltage	-40	36	0.6	5.029		

COSEL

Model	SUCS34805	Temperature	25°C																						
Item	Time Lapse Drift	Testing Circuitry	Figure A																						
Object	+5V0.6A																								
1.Graph			2.Values																						
 <p>Output Voltage [V]</p> <p>Time [H]</p> <p>Input Volt. 48V 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>5.048</td></tr> <tr><td>0.5</td><td>5.049</td></tr> <tr><td>1.0</td><td>5.049</td></tr> <tr><td>2.0</td><td>5.049</td></tr> <tr><td>3.0</td><td>5.049</td></tr> <tr><td>4.0</td><td>5.049</td></tr> <tr><td>5.0</td><td>5.049</td></tr> <tr><td>6.0</td><td>5.049</td></tr> <tr><td>7.0</td><td>5.049</td></tr> <tr><td>8.0</td><td>5.049</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	5.048	0.5	5.049	1.0	5.049	2.0	5.049	3.0	5.049	4.0	5.049	5.0	5.049	6.0	5.049	7.0	5.049	8.0	5.049
Time since start [H]	Output Voltage [V]																								
0.0	5.048																								
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7.0	5.049																								
8.0	5.049																								

COSEL

Model SUCS34805

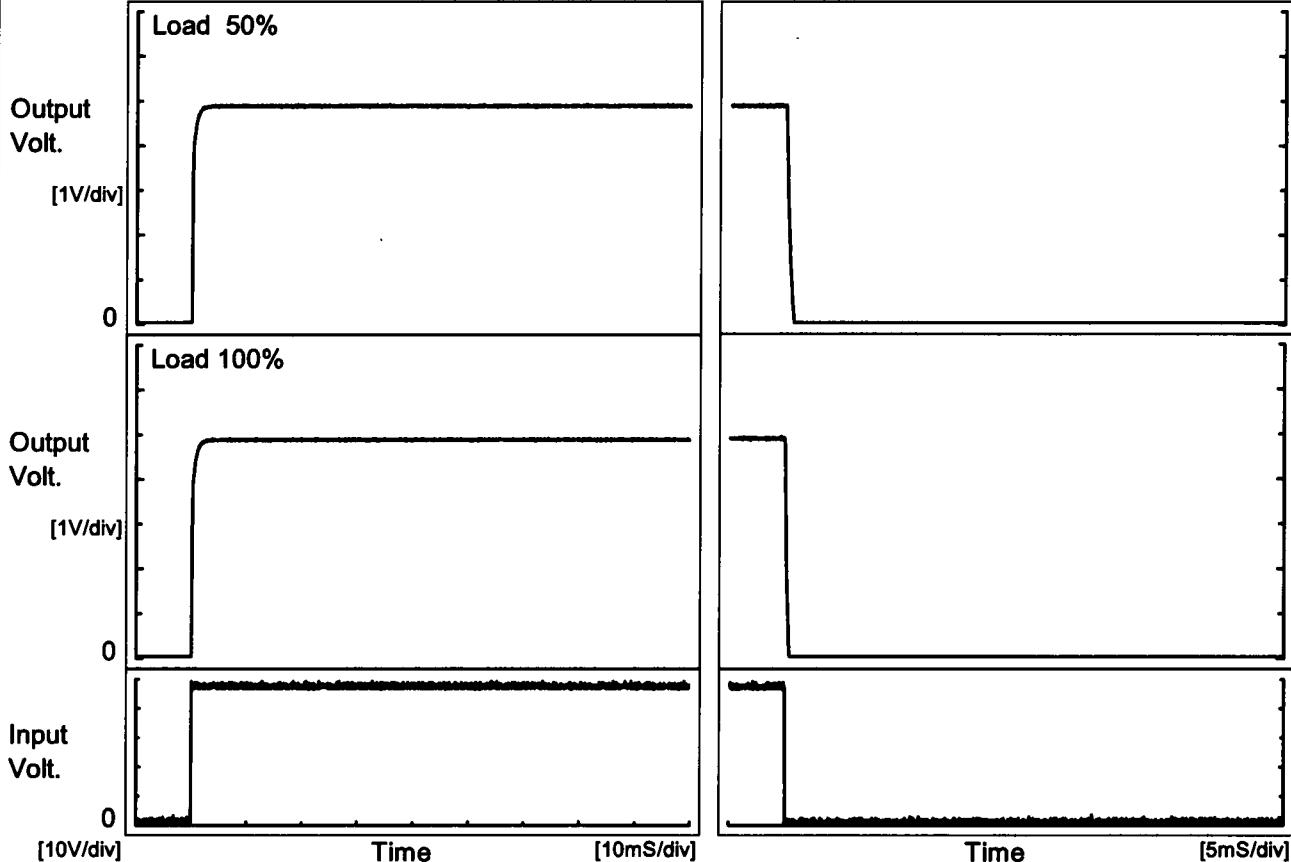
Item Rise and Fall Time

Object +5V0.6A

Temperature 25°C
Testing Circuitry Figure A

1. Graph

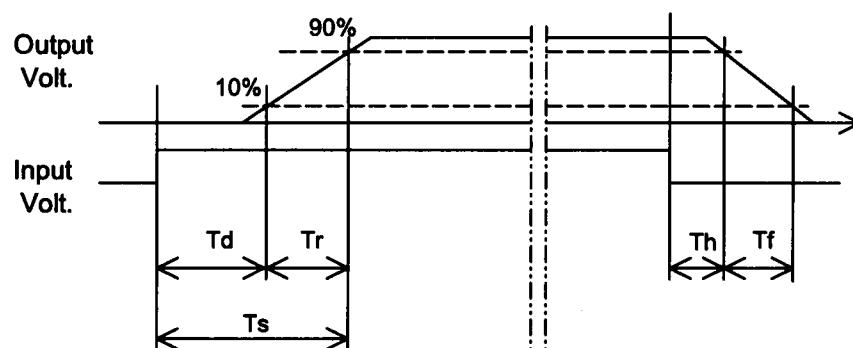
Input Volt. 48 V



2. Values

[mS]

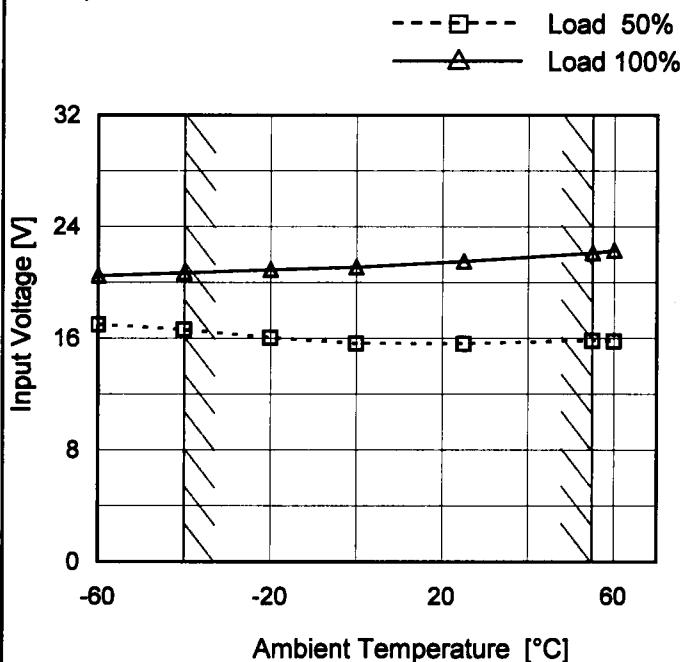
Load	Time	Td	Tr	Ts	Th	Tf
50 %		0.1	0.8	0.9	0.1	0.6
100 %		0.1	1.0	1.1	0.1	0.3



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Model	SUCS34805
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+5V0.6A

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%
-60	17.0	20.5
-40	16.7	20.7
-20	16.1	21.0
0	15.7	21.1
25	15.7	21.6
55	15.9	22.2
60	15.8	22.3
--	-	-
--	-	-
--	-	-
--	-	-

COSEL

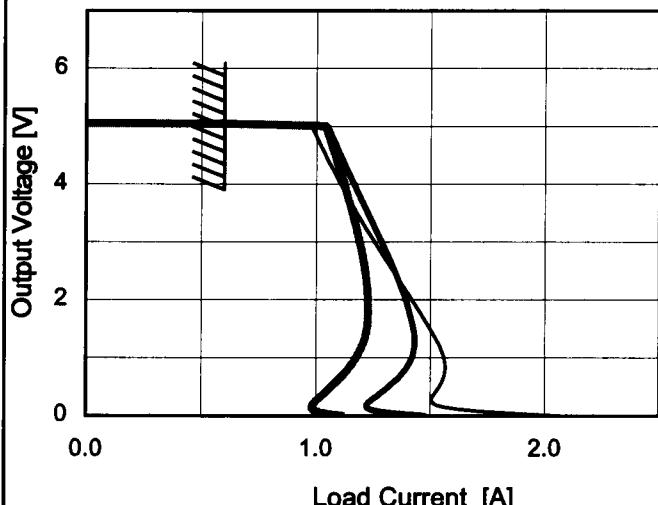
Model SUCS34805

Item Overcurrent Protection

Object +5V0.6A

1.Graph

— Input Volt. 36V
 — Input Volt. 48V
 — Input Volt. 76V



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

Temperature 25°C
 Testing Circuitry Figure A

2.Values

Output Voltage [V]	Load Current [A]		
	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
5.00	0.60	0.60	0.60
4.75	1.01	1.08	1.06
4.50	1.04	1.11	1.08
4.00	1.11	1.17	1.12
3.50	1.18	1.22	1.16
3.00	1.25	1.29	1.19
2.50	1.34	1.34	1.21
2.00	1.42	1.39	1.23
1.50	1.50	1.43	1.22
1.00	1.56	1.42	1.18
0.50	1.54	1.33	1.06
0.00	2.05	1.47	1.12

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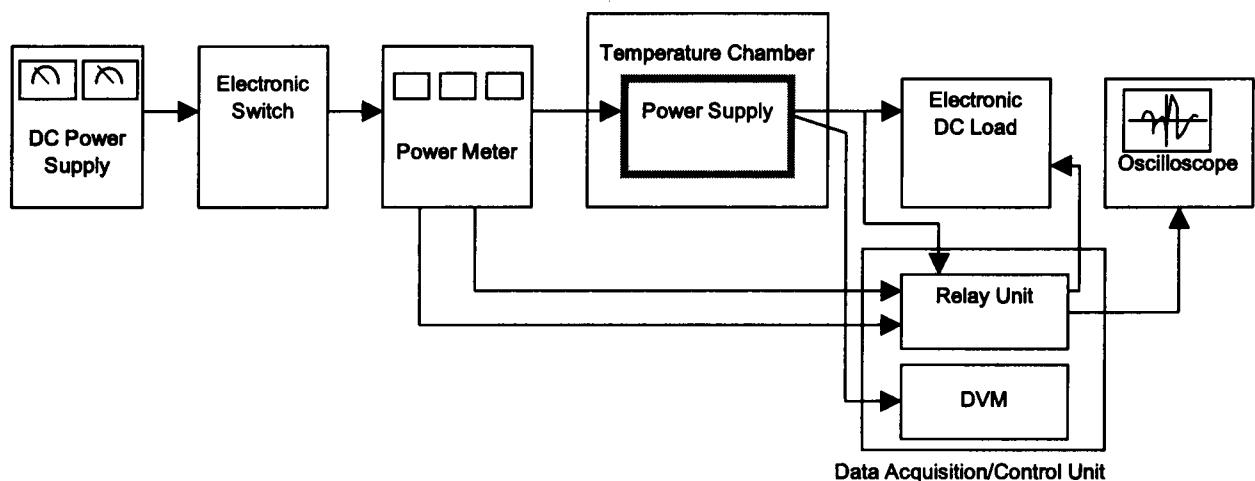


Figure A

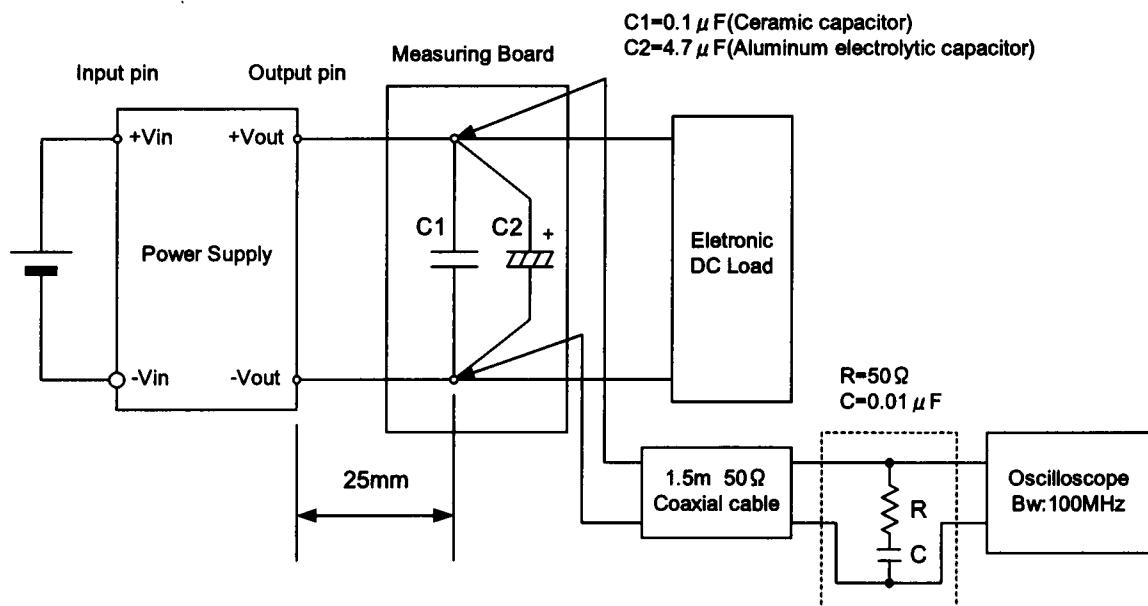


Figure B (Ripple and Ripple noise Characteristic)