



# TEST DATA OF SUS104805 SU CS104805

Regulated DC Power Supply  
Mar 25, 2005

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Tetsuo Sugimori Design Manager

Prepared by : Yoshimichi Hirokawa  
Yoshimichi Hirokawa Design Engineer

**COSEL CO.,LTD.**



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Item	Input Current (by Input Voltage)																																																																																	
Object	<u> </u>																																																																																	
1.Graph	<p>Graph showing Input Current [A] vs Input Voltage [V]. The Y-axis ranges from 0.00 to 0.50 A. The X-axis ranges from 0 to 80 V. Three curves are shown: Load 100% (solid triangles), Load 50% (dashed squares), and Load 0% (dotted circles). A slanted line indicates the rated input voltage range.</p> <table border="1"> <thead> <tr> <th>Input Voltage [V]</th> <th>Load 0% [A]</th> <th>Load 50% [A]</th> <th>Load 100% [A]</th> </tr> </thead> <tbody> <tr><td>0</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>8</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>16</td><td>0.000</td><td>0.000</td><td>0.000</td></tr> <tr><td>24</td><td>0.001</td><td>0.001</td><td>0.001</td></tr> <tr><td>29</td><td>0.014</td><td>0.207</td><td>0.407</td></tr> <tr><td>33</td><td>0.014</td><td>0.183</td><td>0.357</td></tr> <tr><td>36</td><td>0.014</td><td>0.169</td><td>0.327</td></tr> <tr><td>40</td><td>0.014</td><td>0.153</td><td>0.294</td></tr> <tr><td>48</td><td>0.014</td><td>0.131</td><td>0.246</td></tr> <tr><td>60</td><td>0.014</td><td>0.108</td><td>0.200</td></tr> <tr><td>70</td><td>0.015</td><td>0.094</td><td>0.174</td></tr> <tr><td>76</td><td>0.015</td><td>0.088</td><td>0.162</td></tr> <tr><td>80</td><td>0.016</td><td>0.084</td><td>0.155</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> </tbody> </table>			Input Voltage [V]	Load 0% [A]	Load 50% [A]	Load 100% [A]	0	0.000	0.000	0.000	8	0.000	0.000	0.000	16	0.000	0.000	0.000	24	0.001	0.001	0.001	29	0.014	0.207	0.407	33	0.014	0.183	0.357	36	0.014	0.169	0.327	40	0.014	0.153	0.294	48	0.014	0.131	0.246	60	0.014	0.108	0.200	70	0.015	0.094	0.174	76	0.015	0.088	0.162	80	0.016	0.084	0.155	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-	--	-	-	-			
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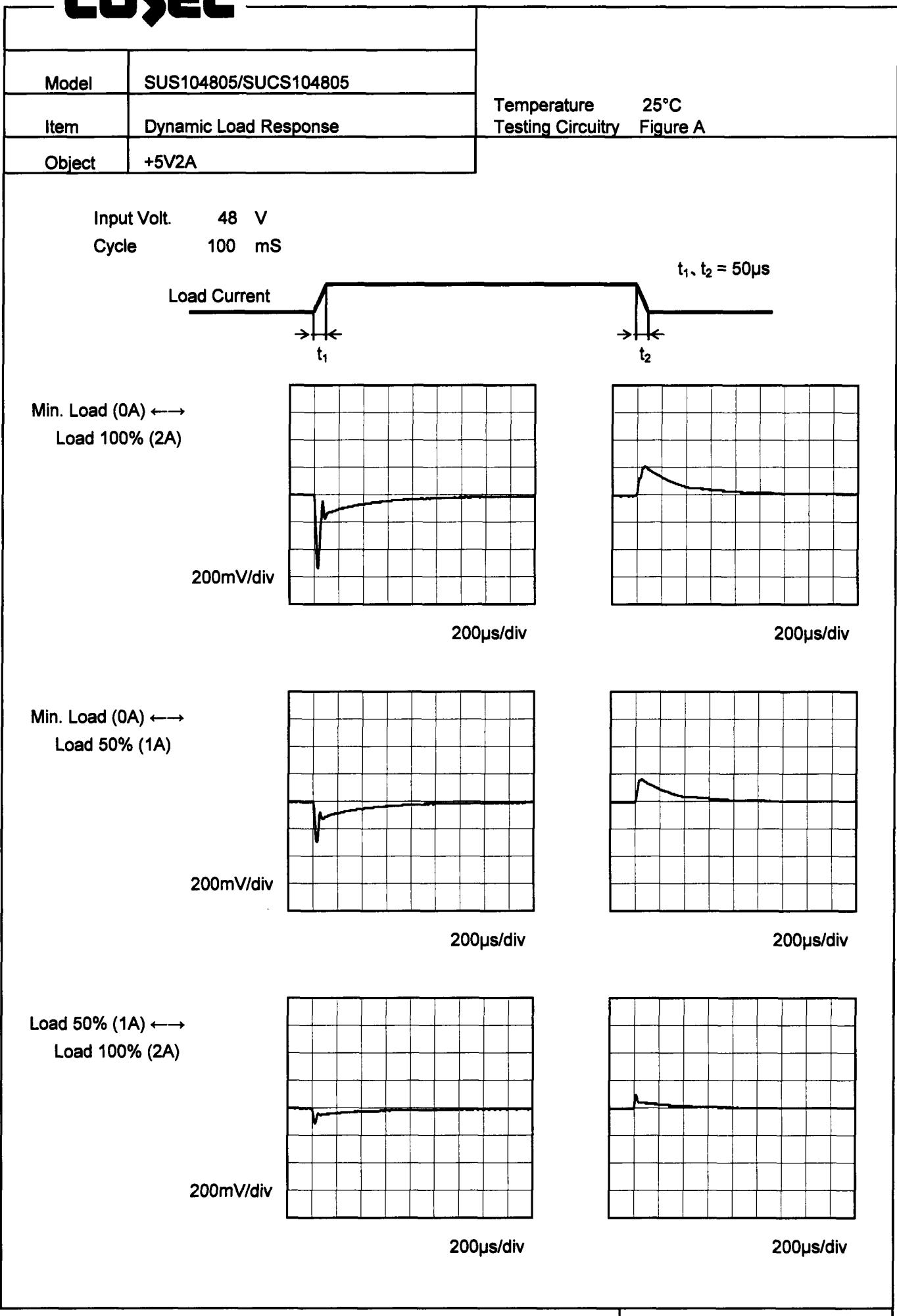
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80	5.045	5.042																																



Model	SUS104805/SUCS104805	Temperature Testing Circuitry Figure A	25°C																																																		
Item	Load Regulation																																																				
Object	+5V2A																																																				
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**COSEL**

COSEL

Model	SUS104805/SUCCS104805	Temperature	25°C																																						
Item	Ripple Voltage (by Load Current)	Testing Circuitry	Figure B																																						
Object	+5V2A																																								
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Fig.Complex Ripple Wave Form																																									

COSEL

Model SUS104805/SUCCS104805

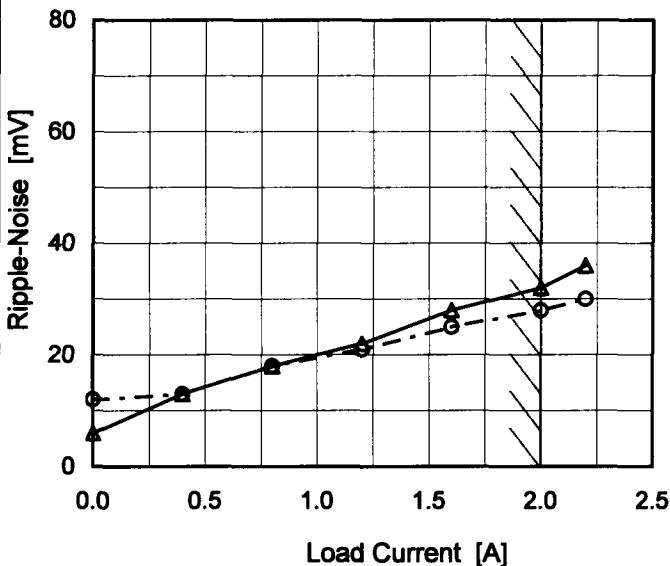
Item Ripple-Noise

Object +5V2A

Temperature 25°C  
Testing Circuitry Figure B

## 1. Graph

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



## 2. Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 36 [V]	Input Volt. 76 [V]
0.0	6	12
0.4	13	13
0.8	18	18
1.2	22	21
1.6	28	25
2.0	32	28
2.2	36	30
-	-	-
-	-	-
-	-	-
-	-	-

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.

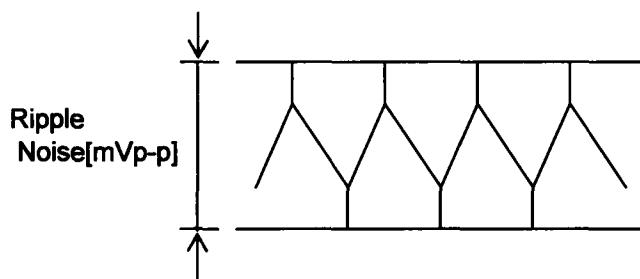


Fig.Complex Ripple Noise Wave Form

**COSEL**

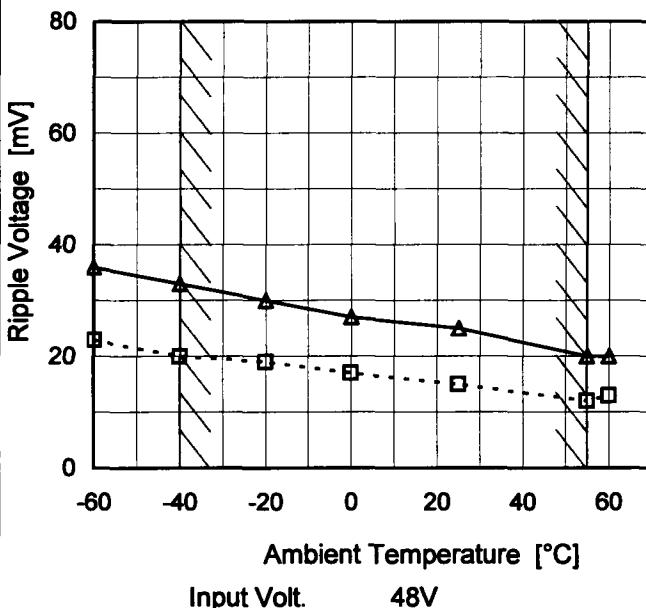
Model	SUS104805/SUCCS104805
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Item	Ripple Voltage (by Ambient Temp.)
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Object	+5V2A
--------	-------

### 1. Graph

--- □--- Load 50%  
 —△— Load 100%



Input Volt. 48V

Measured by 100 MHz Oscilloscope.

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

### Testing Circuitry Figure B

### 2. Values

Ambient Temperature [°C]	Ripple Voltage [mV]	
	Load 50%	Load 100%
-60	23	36
-40	20	33
-20	19	30
0	17	27
25	15	25
55	12	20
60	13	20
-	-	-
-	-	-
-	-	-
-	-	-



<p>Model SUS104805/SUCCS104805</p> <p>Item Ambient Temperature Drift</p> <p>Object +5V2A</p> <p>1. Graph</p> <p>— △ — Input Volt. 36V --- □ --- Input Volt. 48V -·○-· Input Volt. 76V</p> <p>Output Voltage [V]</p> <p>Ambient Temperature [°C]</p> <p>Load 100%</p>																																																				
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Model	SUS104805/SUCS104805	Testing Circuitry Figure A
Item	Output Voltage Accuracy	
Object	+5V2A	

### 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 - 2A

\* 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

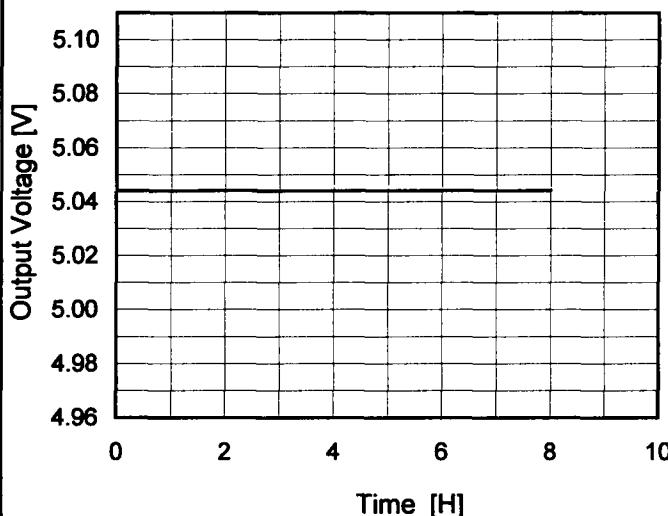
Item	Temperature [°C]	Input Voltage[V]	Output		Output Voltage Accuracy	
			Current[A]	Voltage[V]	Value [mV]	Ration [%]
Maximum Voltage	0	76	0	5.049	$\pm 7$	$\pm 0.1$
Minimum Voltage	55	36	2	5.036		

# COSEL

Model	SUS104805/SUCS104805
Item	Time Lapse Drift
Object	+5V2A

Temperature 25°C  
Testing Circuitry Figure A

## 1. Graph



Input Volt. 48V  
Load 100%

## 2. Values

Time since start [H]	Output Voltage [V]
0.0	5.045
0.5	5.044
1.0	5.044
2.0	5.044
3.0	5.044
4.0	5.044
5.0	5.044
6.0	5.044
7.0	5.044
8.0	5.044

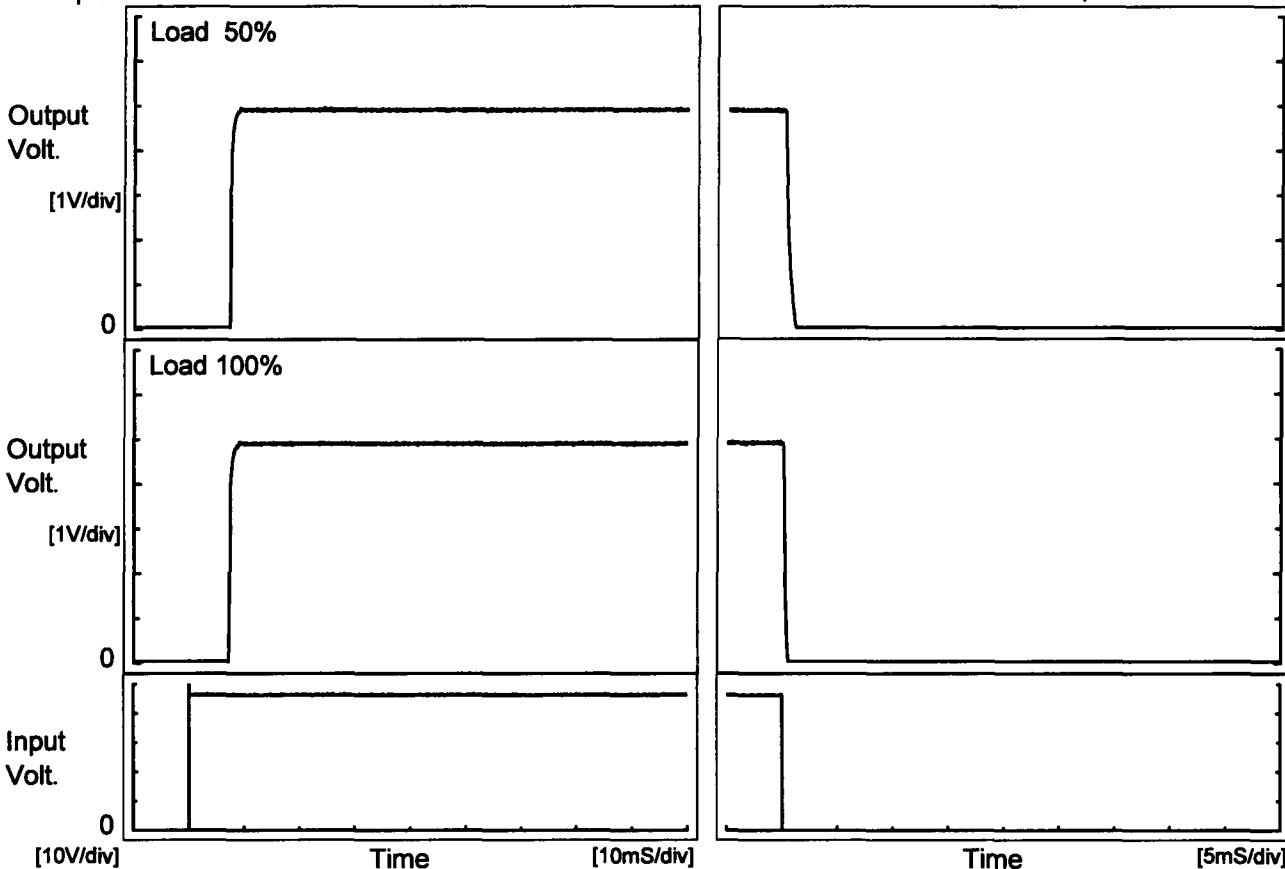
# COSEL

Model	SUS104805/SUCCS104805
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| Item | Rise and Fall Time |
| Object | +5V2A |

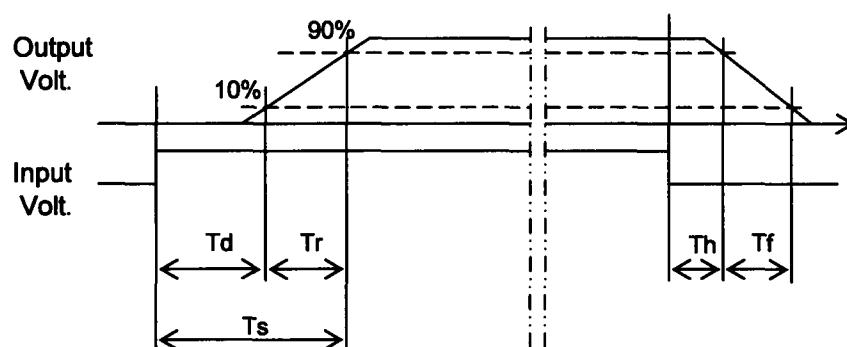
Temperature 25°C  
Testing Circuitry Figure A

## 1. Graph



## 2. Values

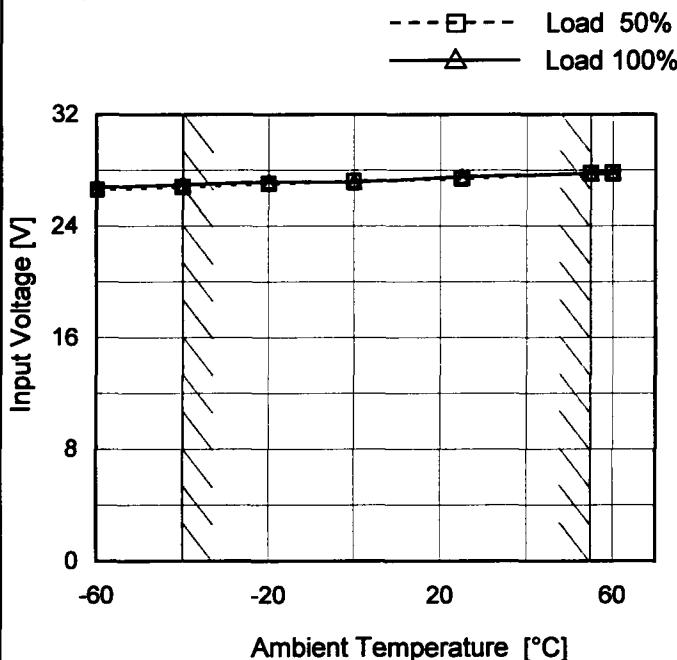
Load	Time	Td	Tr	Ts	Th	Tf	[mS]
50 %		7.3	0.7	8.0	0.2	0.7	
100 %		7.2	0.8	8.0	0.1	0.3	



**COSEL**

Model	SUS104805/SUCCS104805
Item	Minimum Input Voltage for Regulated Output Voltage
Object	+5V2A

## 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	26.7	26.8
-40	26.8	27.0
-20	27.1	27.2
0	27.3	27.2
25	27.4	27.6
55	27.8	27.8
60	27.9	27.8
-	-	-
-	-	-
--	-	-
--	-	-

**COSEL**

Model	SUS104805/SUCS104805
Item	Overcurrent Protection
Object	+5V2A
1.Graph	<p>Input Volt. 36V Input Volt. 48V Input Volt. 76V</p> <p>The graph plots Output Voltage [V] on the y-axis (0 to 6) against Load Current [A] on the x-axis (0 to 6). Three curves represent different input voltages: 36V (top), 48V (middle), and 76V (bottom). All curves show a sharp drop in output voltage as load current increases beyond a certain point. A slanted line is drawn across the graph, starting from approximately (1.5, 5.2) and ending at (4.5, 0.5), indicating the range of the rated load current.</p>
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	2.65	2.93	3.12
4.75	2.77	3.06	3.27
4.50	2.90	3.20	3.41
4.00	3.19	3.52	3.71
3.50	3.51	3.86	4.03
3.00	3.72	4.06	4.16
2.50	3.81	4.12	4.13
2.00	3.90	4.16	3.89
1.50	4.02	4.16	3.51
1.00	4.13	3.89	3.12
0.50	3.93	3.63	2.61
0.00	3.60	3.19	3.38

COSEL

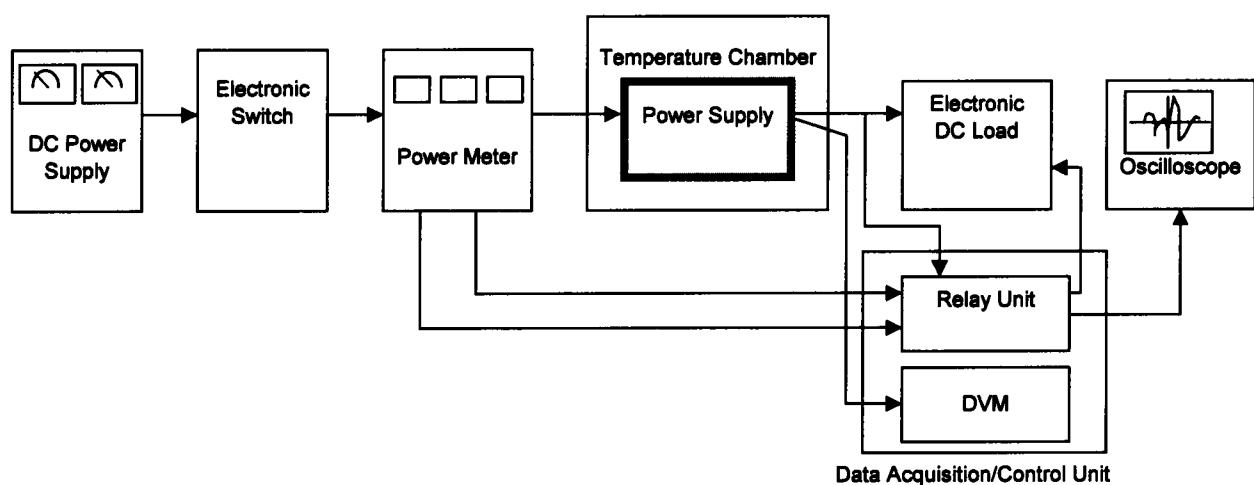


Figure A

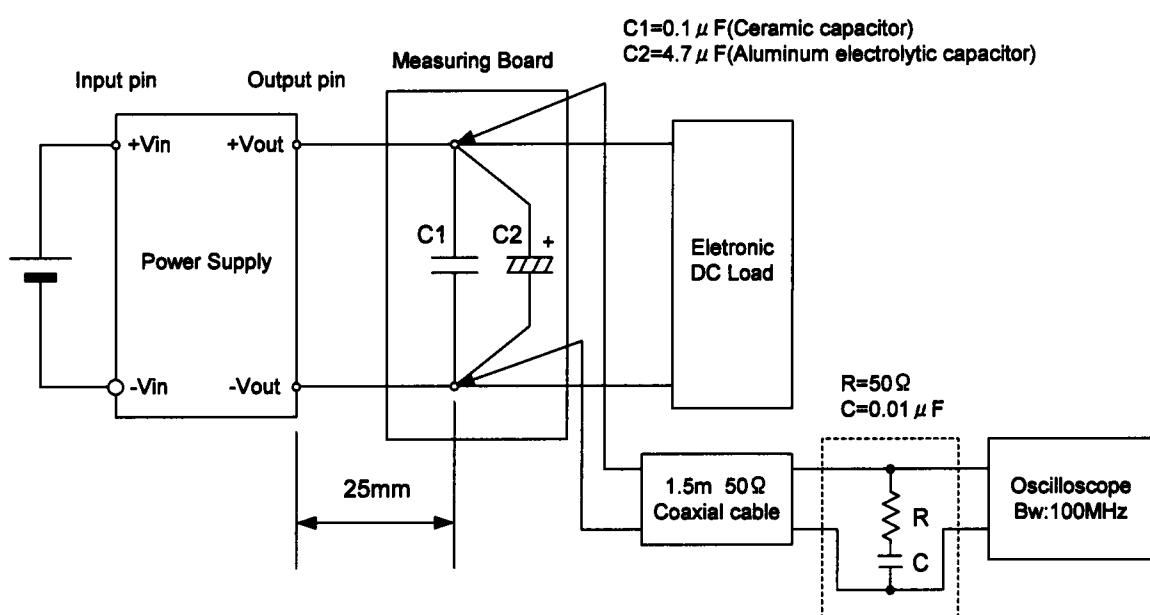


Figure B (Ripple and Ripple noise Characteristic)