

TEST DATA OF MGFS304805

Regulated DC Power Supply
January 6, 2011

Approved by : *Kazunari Asano*
Kazunari Asano Design Manager

Prepared by : *Masashi Ueda*
Masashi Ueda Design Engineer

COSEL CO.,LTD.

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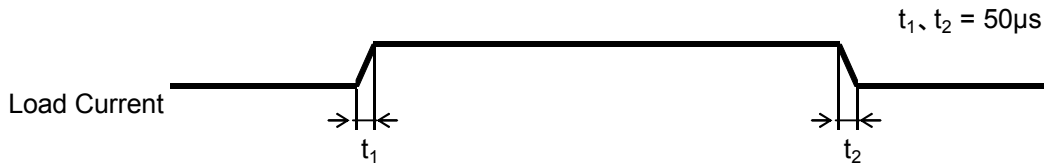


COSEL																																																																																			
Model	MGFS304805	Temperature 25°C Testing Circuitry Figure A																																																																																	
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Object	+5V6A																																																																																		
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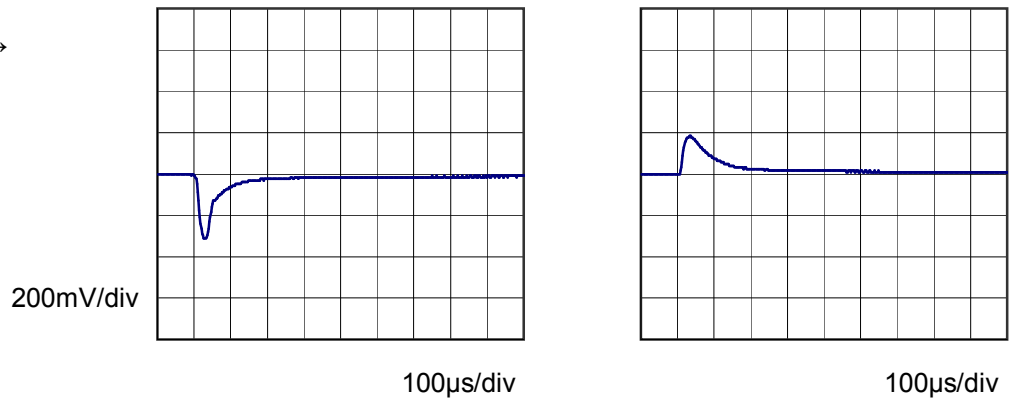


Model	MGFS304805	Temperature	25°C
Item	Dynamic Load Response	Testing Circuitry	Figure A
Object	+5V6A		

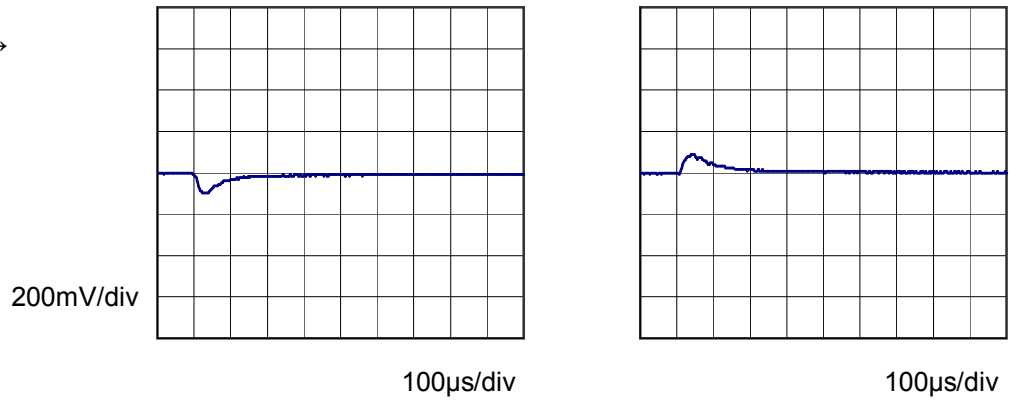
Input Volt. 48 V
 Cycle 1000 ms



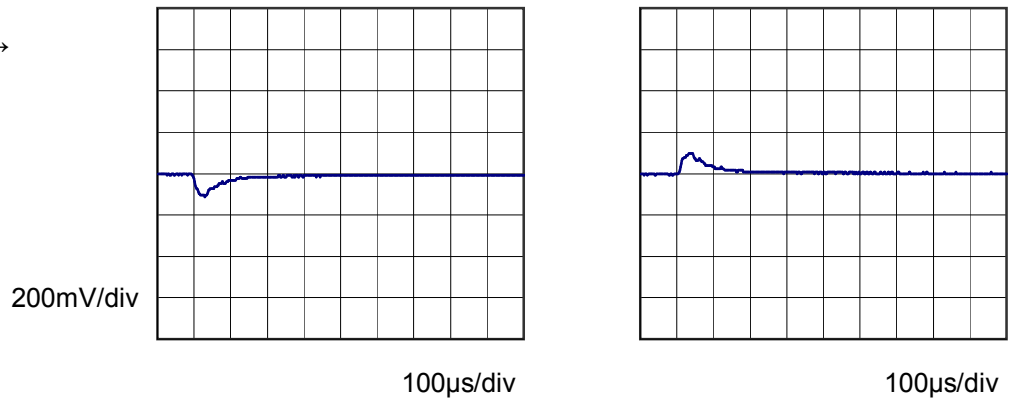
Min. Load (0A) ←→
 Load 100% (6A)



Min. Load (0A) ←→
 Load 50% (3A)

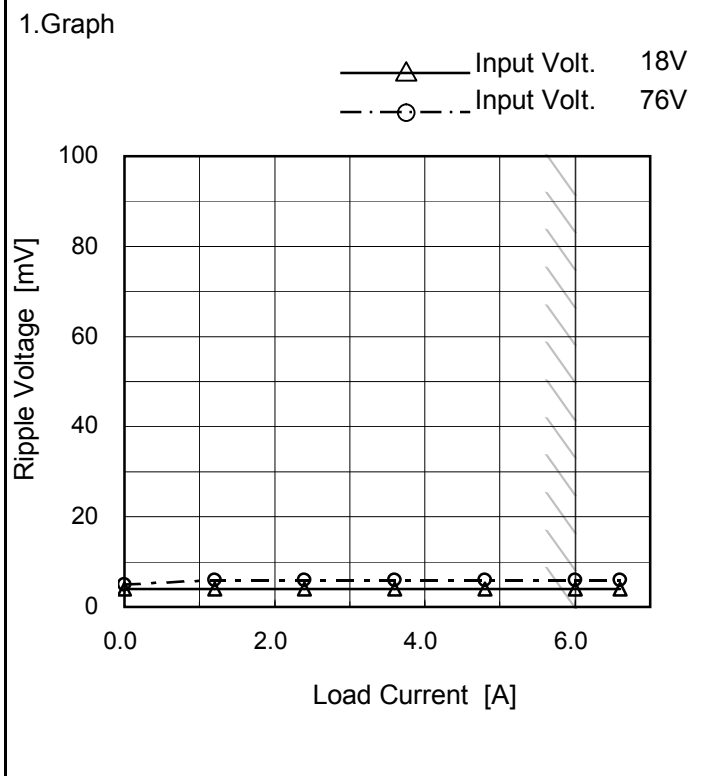


Load 50% (3A) ←→
 Load 100% (6A)





Model	MGFS304805	Temperature	25°C
Item	Ripple Voltage (by Load Current)	Testing Circuitry	Figure B
Object	+5V6A		



2.Values

Load Current [A]	Ripple Voltage [mV]	
	Input Volt. 18 [V]	Input Volt. 76 [V]
0.0	4	5
1.2	4	6
2.4	4	6
3.6	4	6
4.8	4	6
6.0	4	6
6.6	4	6
--	-	-
--	-	-
--	-	-
--	-	-

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

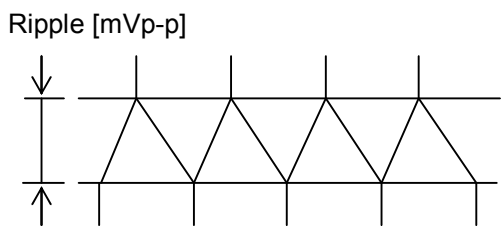
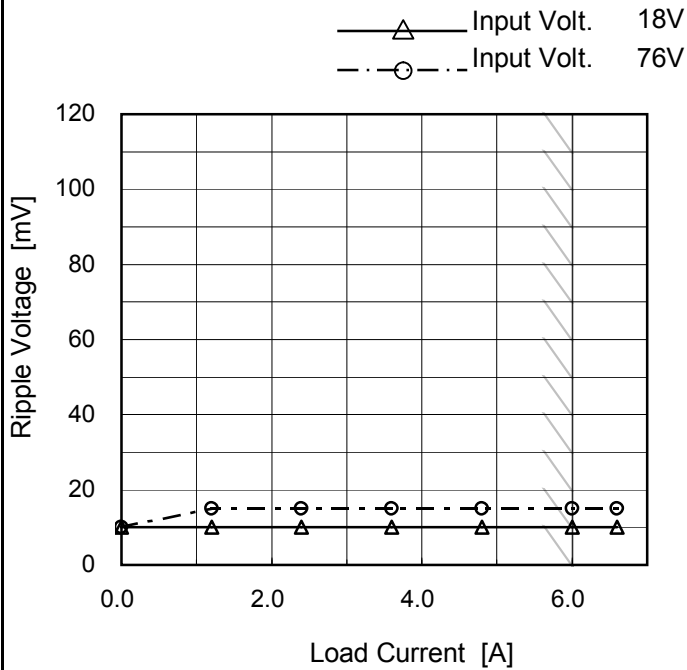


Fig.Complex Ripple Wave Form



Model	MGFS304805	Temperature	25°C
Item	Ripple-Noise	Testing Circuitry	Figure B
Object	+5V6A		

1.Graph



2.Values

Load Current [A]	Ripple-Noise [mV]	
	Input Volt. 18 [V]	Input Volt. 76 [V]
0.0	10	10
1.2	10	15
2.4	10	15
3.6	10	15
4.8	10	15
6.0	10	15
6.6	10	15
--	-	-
--	-	-
--	-	-
--	-	-

Ripple-Noise is shown as p-p in the figure below.
 Note: Slanted line shows the range of the rated load current.

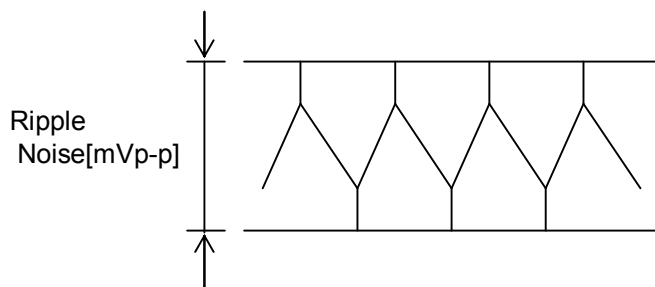


Fig.Complex Ripple Noise Wave Form



Model		MGFS304805																																							
Item		Ripple Voltage (by Ambient Temp.)																																							
Object		+5V6A																																							
1.Graph		Testing Circuitry Figure B																																							
<p>100 80 60 40 20 0</p> <p>Ripple Voltage [mV]</p> <p>---□--- Load 50% —△— Load 100%</p> <p>-80 -40 0 40 80</p> <p>Ambient Temperature [°C]</p> <p>Input Volt. 48V</p>		2.Values																																							
		<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>16</td><td>16</td></tr> <tr><td>-40</td><td>13</td><td>13</td></tr> <tr><td>-20</td><td>9</td><td>9</td></tr> <tr><td>0</td><td>8</td><td>8</td></tr> <tr><td>25</td><td>6</td><td>6</td></tr> <tr><td>60</td><td>4</td><td>4</td></tr> <tr><td>65</td><td>4</td><td>4</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	16	16	-40	13	13	-20	9	9	0	8	8	25	6	6	60	4	4	65	4	4	--	-	-	--	-	-	--	-	-	--	-	-
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<p>Measured by 100 MHz Oscilloscope.</p> <p>Note: Slanted line shows the range of the rated ambient temperature.</p>																																									

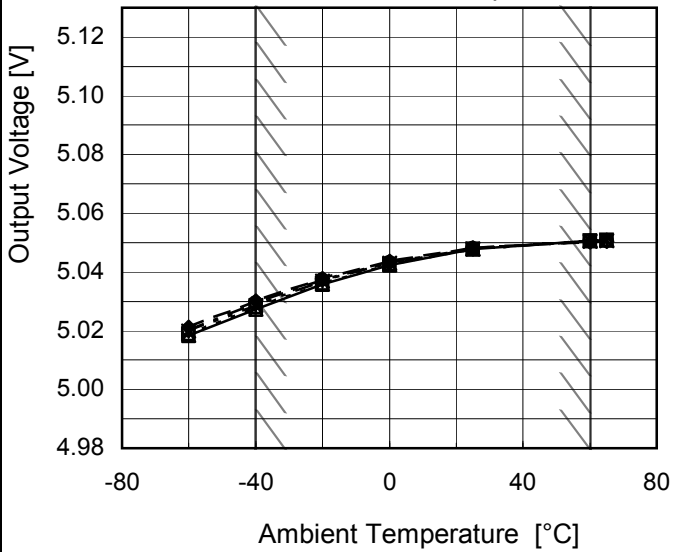


Model	MGFS304805
Item	Ambient Temperature Drift
Object	+5V6A

Testing Circuitry Figure A

1. Graph

- △— Input Volt. 18V
- Input Volt. 24V
- *--- Input Volt. 36V
- Input Volt. 48V
- ◇--- Input Volt. 76V



Load 100%

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

2. Values

Ambient Temperature [°C]	Output Voltage [V]				
	Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]
-60	5.018	5.019	5.020	5.020	5.021
-40	5.027	5.028	5.029	5.029	5.030
-20	5.036	5.036	5.037	5.037	5.038
0	5.042	5.043	5.043	5.043	5.044
25	5.048	5.048	5.048	5.048	5.048
60	5.051	5.051	5.051	5.051	5.050
65	5.051	5.051	5.051	5.051	5.050
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-
--	-	-	-	-	-



COSEL		
Model	MGFS304805	
Item	Output Voltage Accuracy	Testing Circuitry Figure A
Object	+5V6A	

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 - 60°C

Input Voltage : 18 - 76V

Load Current : 0 - 6A

* 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	60	18	0	5.053	±13	±0.3
Minimum Voltage	-40	18	6	5.027		



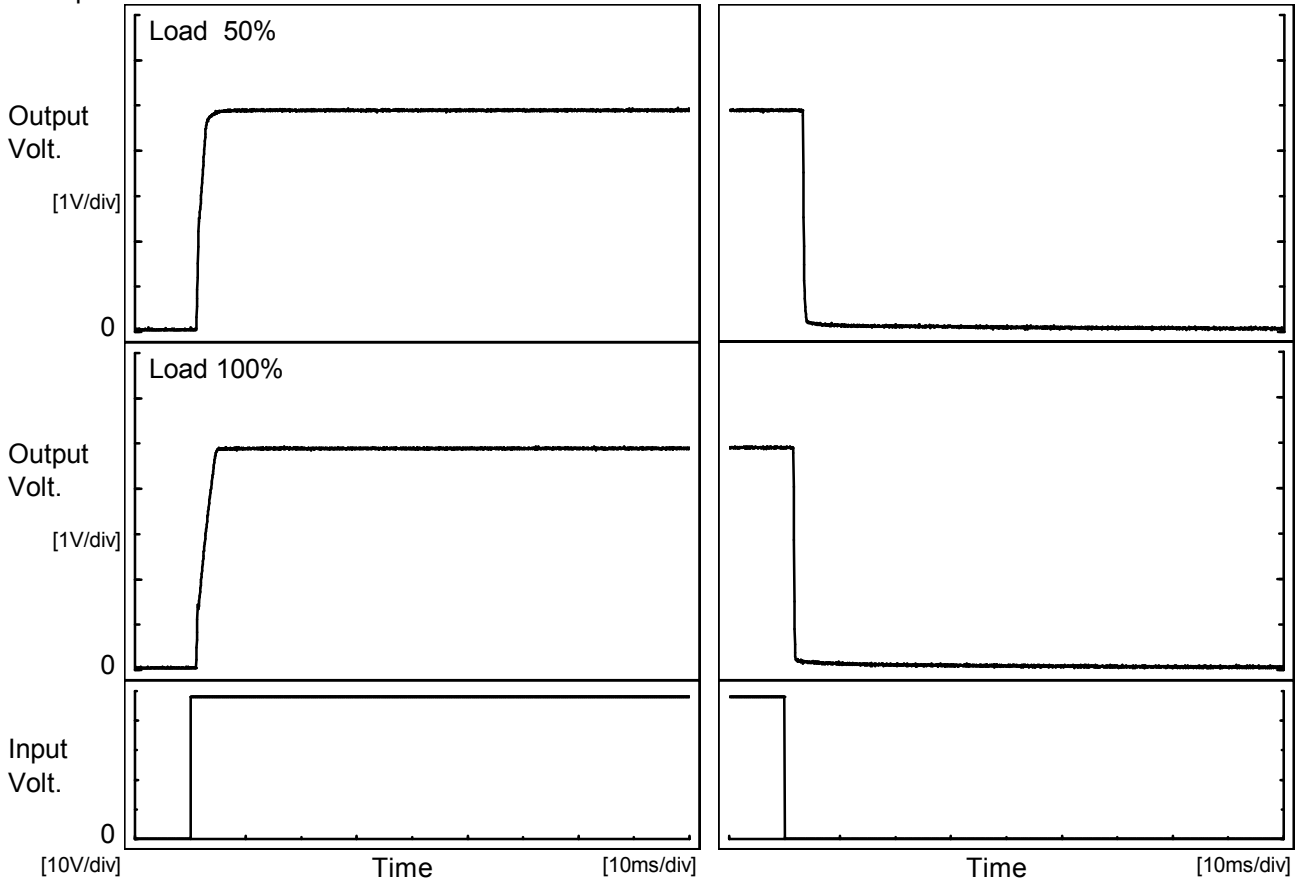
COSEL																								
Model	MGFS304805																							
Item	Time Lapse Drift	Temperature 25°C Testing Circuitry Figure A																						
Object	+5V6A																							
<p>1.Graph</p> <p style="text-align: center;">Time [H]</p> <p>Input Volt. 48V Load 100%</p>		<p>2.Values</p> <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>5.053</td></tr> <tr><td>0.5</td><td>5.057</td></tr> <tr><td>1.0</td><td>5.057</td></tr> <tr><td>2.0</td><td>5.057</td></tr> <tr><td>3.0</td><td>5.057</td></tr> <tr><td>4.0</td><td>5.057</td></tr> <tr><td>5.0</td><td>5.057</td></tr> <tr><td>6.0</td><td>5.057</td></tr> <tr><td>7.0</td><td>5.057</td></tr> <tr><td>8.0</td><td>5.057</td></tr> </tbody> </table>	Time since start [H]	Output Voltage [V]	0.0	5.053	0.5	5.057	1.0	5.057	2.0	5.057	3.0	5.057	4.0	5.057	5.0	5.057	6.0	5.057	7.0	5.057	8.0	5.057
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Model		MGFS304805	Temperature	25°C
Item		Rise and Fall Time	Testing Circuitry	Figure A
Object		+5V6A		

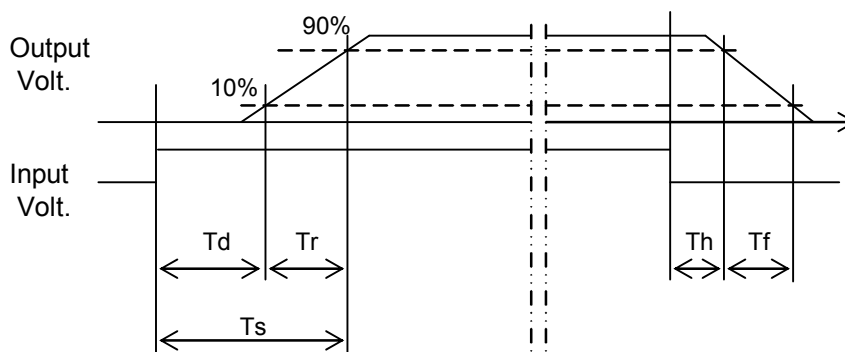
1. Graph

Input Volt. 48 V



2. Values

		[ms]				
Load \ Time	Time	Td	Tr	Ts	Th	Tf
50 %		1.2	1.7	2.9	3.2	0.4
100 %		1.2	3.2	4.4	1.6	0.3





COSEL																																								
Model	MGFS304805																																							
Item	Minimum Input Voltage for Regulated Output Voltage	Testing Circuitry Figure A																																						
Object	+5V6A																																							
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<p>Note: Slanted line shows the range of the rated ambient temperature.</p>																																								



<p>Model MGFS304805</p> <p>Item Overcurrent Protection</p> <p>Object +5V6A</p>		<p>Temperature 25°C</p> <p>Testing Circuitry Figure A</p>																																																																																			
<p>1. Graph</p> <div style="display: flex; align-items: flex-start;"> <div style="margin-right: 20px;"> <p>—△ Input Volt. 18V</p> <p>—□ Input Volt. 24V</p> <p>—* Input Volt. 36V</p> <p>—○ Input Volt. 48V</p> <p>—◇ Input Volt. 76V</p> </div> </div> <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 overcurrent protection is activated.</p>		<p>2. Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Output Voltage [V]</th> <th colspan="5">Load Current [A]</th> </tr> <tr> <th>Input Volt. 18[V]</th> <th>Input Volt. 24[V]</th> <th>Input Volt. 36[V]</th> <th>Input Volt. 48[V]</th> <th>Input Volt. 76[V]</th> </tr> </thead> <tbody> <tr> <td>5.00</td> <td>7.856</td> <td>7.866</td> <td>7.979</td> <td>7.853</td> <td>7.604</td> </tr> <tr> <td>4.75</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>4.50</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>4.00</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>3.50</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>3.00</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>2.50</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>2.00</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>1.50</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>1.00</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>0.50</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>0.00</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	Output Voltage [V]	Load Current [A]					Input Volt. 18[V]	Input Volt. 24[V]	Input Volt. 36[V]	Input Volt. 48[V]	Input Volt. 76[V]	5.00	7.856	7.866	7.979	7.853	7.604	4.75	-	-	-	-	-	4.50	-	-	-	-	-	4.00	-	-	-	-	-	3.50	-	-	-	-	-	3.00	-	-	-	-	-	2.50	-	-	-	-	-	2.00	-	-	-	-	-	1.50	-	-	-	-	-	1.00	-	-	-	-	-	0.50	-	-	-	-	-	0.00	-	-	-	-	-
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4.75	-	-	-	-	-																																																																																
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<p>1. Graph</p> <div style="text-align: right;"> <p>—△— Input Volt. 48V</p> <p>---□--- Input Volt. 76V</p> </div> <p style="text-align: center;">Ambient Temperature [°C]</p> <p style="text-align: right;">Load 0%</p> <p>Note: Slanted line shows the range of the rated ambient temperature.</p>		<p>2. Values</p> <table border="1"> <thead> <tr> <th rowspan="2">Ambient Temperature [°C]</th> <th colspan="2">Operating Point [V]</th> </tr> <tr> <th>Input Volt. 48[V]</th> <th>Input Volt. 76[V]</th> </tr> </thead> <tbody> <tr><td>-60</td><td>6.89</td><td>6.91</td></tr> <tr><td>-40</td><td>6.87</td><td>6.89</td></tr> <tr><td>-20</td><td>6.86</td><td>6.88</td></tr> <tr><td>0</td><td>6.85</td><td>6.87</td></tr> <tr><td>25</td><td>6.85</td><td>6.87</td></tr> <tr><td>60</td><td>6.85</td><td>6.87</td></tr> <tr><td>65</td><td>6.85</td><td>6.87</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]	Operating Point [V]		Input Volt. 48[V]	Input Volt. 76[V]	-60	6.89	6.91	-40	6.87	6.89	-20	6.86	6.88	0	6.85	6.87	25	6.85	6.87	60	6.85	6.87	65	6.85	6.87	--	-	-	--	-	-	--	-	-	--	-	-
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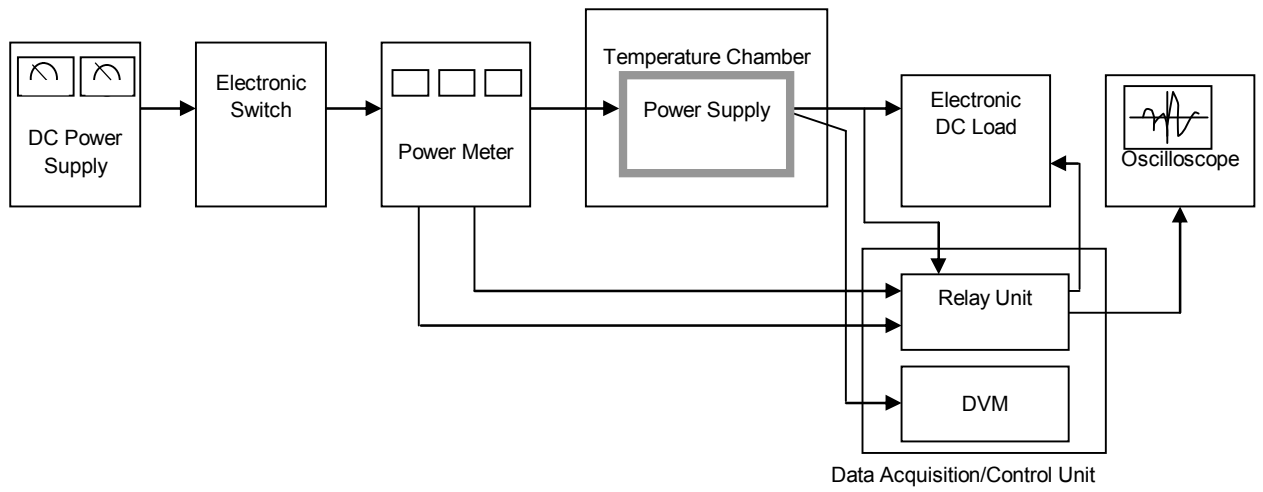


Figure A

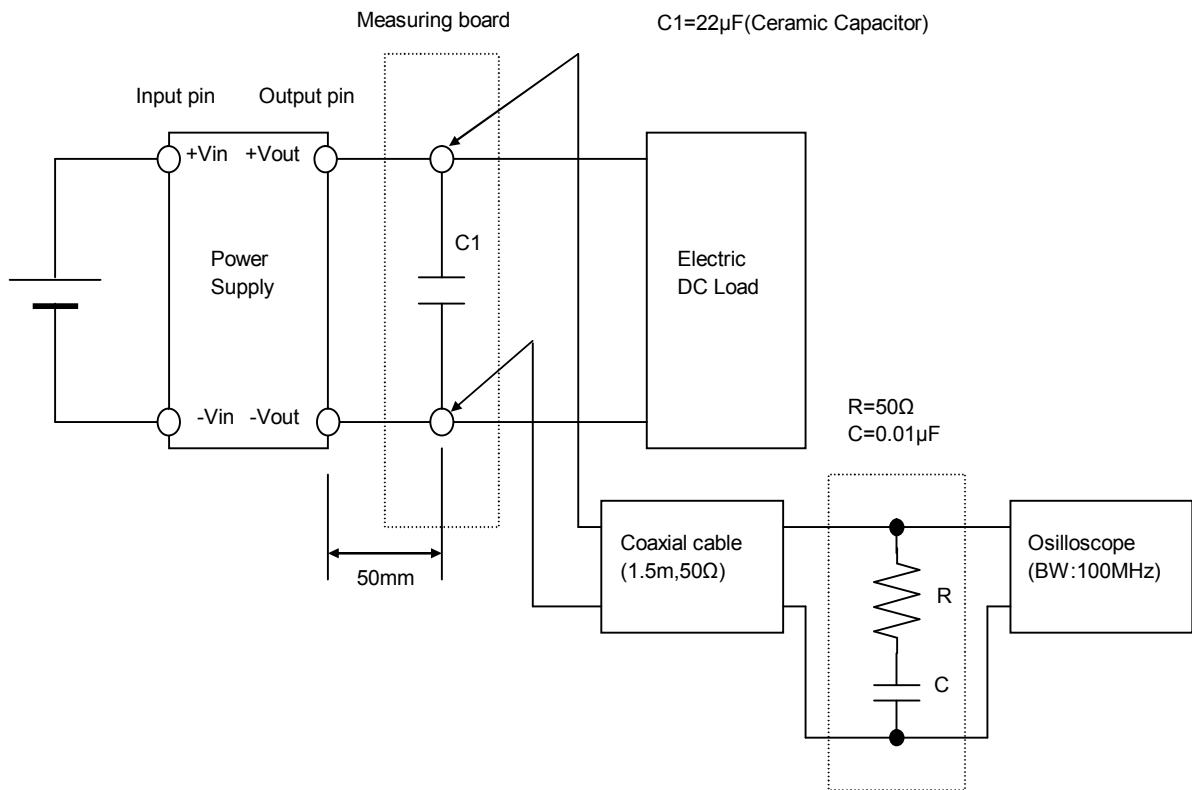


Figure B (Ripple and Ripple noise Characteristic)